Consultation Document

Old Barn & New Barn, Manor Farm Barns, Steeple Aston

5 November 2002

Alastair Binnie Architecture & Environment

for
Sustainable Property Group Ltd

Contents

Appendices

Section 1 – Executive Summary

The Sustainable Property Group Ltd purchased the Manor Farm Barns site in Steeple Aston on 24th October 2002 from Roy and Edwina Kinch. Prior to the sale, Mr & Mrs Kinch had retained Architects Sutton, Griffin and Morgan to design the conversion of their farm buildings to four dwellings. Plans were approved by Cherwell District Council on 4th January 2002 (Ref: 01/00719/F). The approved design was of course prepared for sale, with no particular developer or end user in mind

The Sustainable Property Group is an environmentally responsible property and building company. They felt that several aspects of the approved design could be improved, in line with their particular objectives:

- sympathetic reuse of historic buildings
- minimising energy use and environmental impact
- increased occupant health and comfort

The Sustainable Property Group approached Alastair Binnie Architecture and Environment to develop a new design for the 'Old Barn' and 'New Barn' elements of the scheme. One which was sympathetic to the existing structures, whilst maximising the opportunity for utilising solar energy and incorporating sustainable design features.

We feel that the design presented to you on the following pages is a significant improvement on the existing design in function, aesthetics and environmental responsibility. This design has been developed with consultation from the Planning Department at Bodicote House, and we have discussed the new proposals with Joanne Hollingdale in meetings held on 23rd September and 24th October 2002.

This is a final consultation exercise before we submit the designs formally in a new planning application.

Company Profiles

Sustainable Property Group Ltd
The Sustainable Property Group Ltd was initially formed in October 2001. Before this date the Technical Director, Stuart Anderson, spent over 15 years renovating period properties and carrying out barn conversions. The Sustainable Property Group specialise in incorporating sustainability principles into new build or property conversions.

The project team includes an architect, property developer and a qualified environmental consultant. The Sustainable Property Group is a member of The Construction Industry Environmental Forum (CIEF) and the Association for Environment Conscious Building.

Alastair Binnie Architecture and Environment
Alastair Binnie Architecture and Environment has specialised in energy efficiency, the use of renewable resources, low environmental impact and sustainability in the built environment, since the practice was established in 1992.

We act consultants in this field through the Building Research Establishment and the Carbon Trust. We are members of the Parliamentary Renewable and Sustainable Energy Group (Praseg).

Further information on both companies is provided in Appendix A.

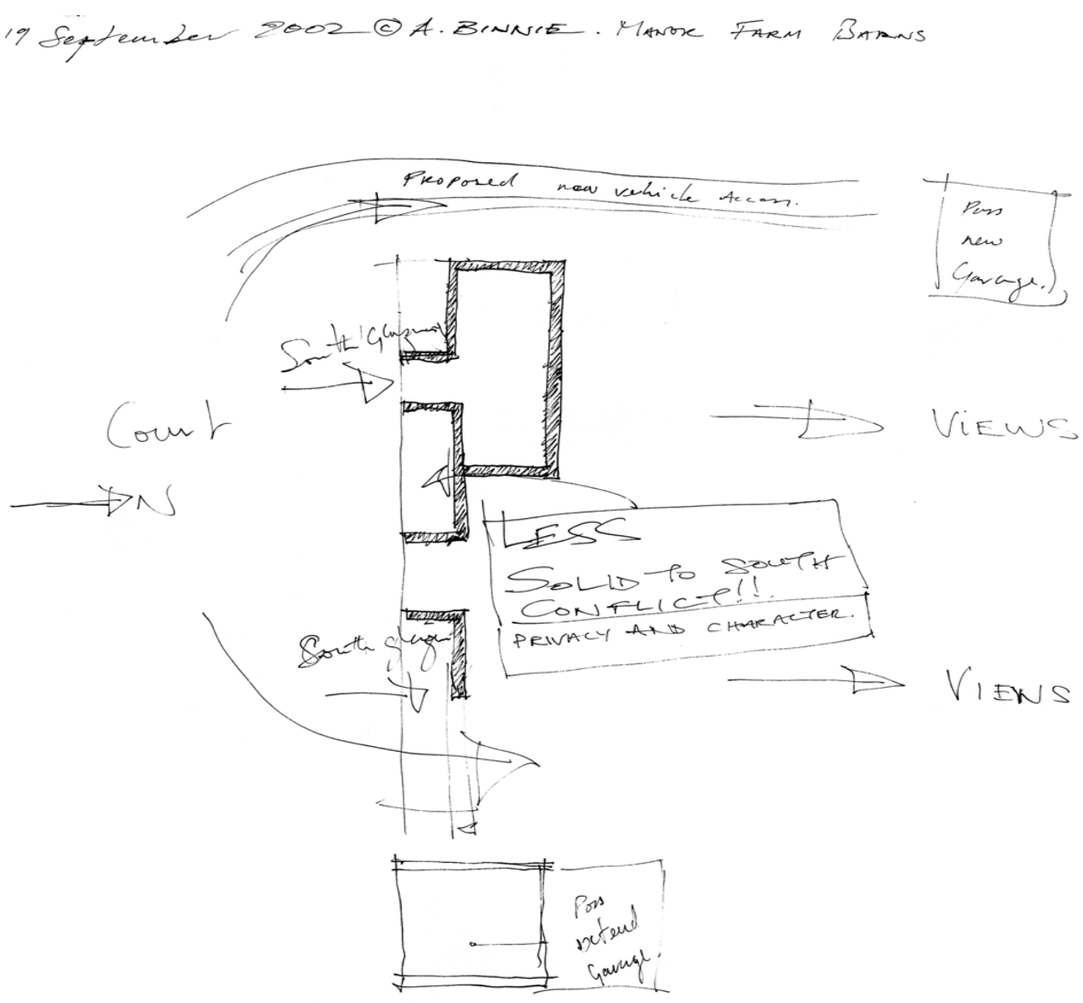
Section 2 – Introduction

Existing Plans

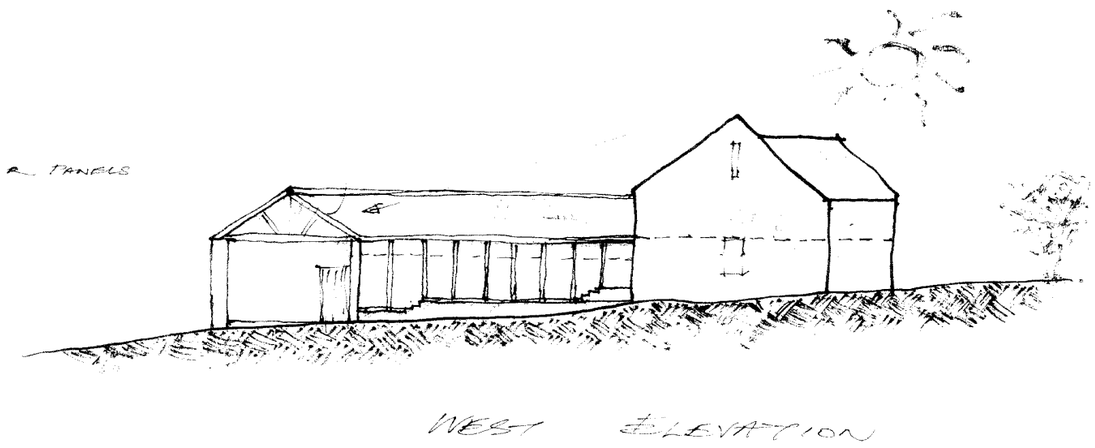
The existing plans and elevations as approved on 04/01/02 are provided in Appendix B.

The principal difficulties with the existing design are:

- The unresolved conflict between the need to preserve the historic character of the Old and New barns (particularly the courtyard façade) and the need to create pleasant living spaces within. Generally, there are few openings on the south (courtyard) side. The problem is particularly marked on the first floor where rather cell-like bedrooms only have north facing rooflights, providing limited daylight and a view only of the sky. The problem persists on the ground floor to varying degrees.
- The need to preserve the historic character gives no scope within the existing design for increasing the proportion of south facing glazing, in order to improve the solar contribution to space heating and natural lighting. Good solar orientation, with optimum wall/roof/glazing proportions can reduce energy use by 25%.
- The need to preserve the historic character of the courtyard, and its contribution to the setting of the adjacent, listed Manor Farmhouse, restricts the use of solar panels, which normally require a southerly orientation. Thereby limiting further the potential for minimising energy use (and consequently CO_2 emissions), related to the new development.
- The demolition of part the old south wall of the original barn to provide vehicle access to the rear of the Old Barn (the 'undercroft') detracts from the historic character, and appears unnecessary.
- The currently proposed two storey extension to the New Barn (northwards) is not entirely sympathetic in character. The 'tall, thin' proportions (viewed from the north) and the fenestration to the east elevation feel wrong (see drawings GA07 & GA08, Appendix B).



Initial sketch analysis of the main issues



Section 3 – Design Submission

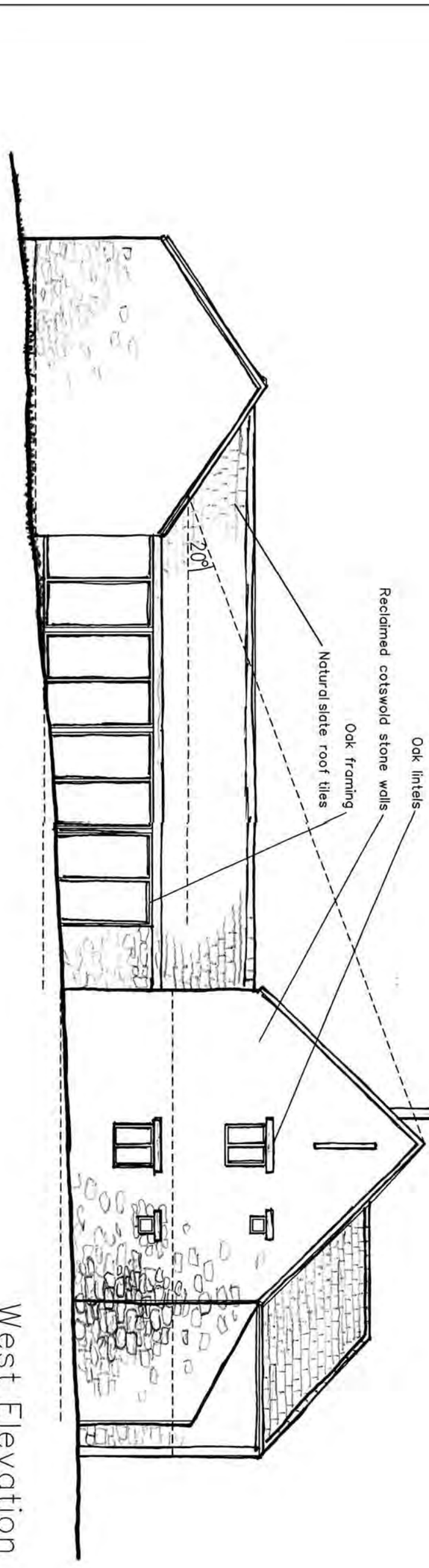
The proposed solution leaves the original form and character of both barns intact, whilst a new single storey range, around rear courts, discreetly allows good daylight and solar energy contribution to all areas of the buildings.

The proposed arrangement has precedent in the existing rear court, formed between barn and stables

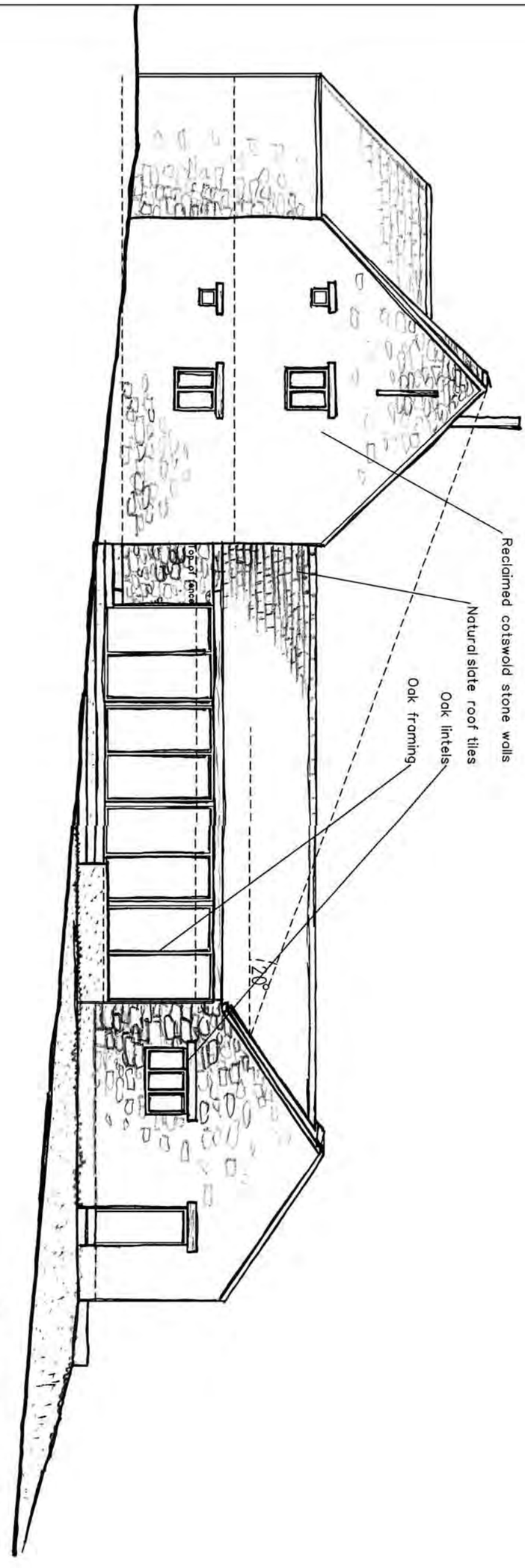
Placing the proposed new range some distance north of the main barns will avoid undue shading by the barns, and coincides with the position of the historic stables.

Existing court to north of barns – the historic stables (left) extended further east prior to insertion of the modern agricultural building (rear).

Existing stables from the north west



West Elevation



East Elevation

Drawing Title: East and west elevations

Drawing Number: 028/006	Scale: 1:100	Date: 31.10.2002

Project: Manor Farm Barns, Steeple Aston
Sustainable Property Group

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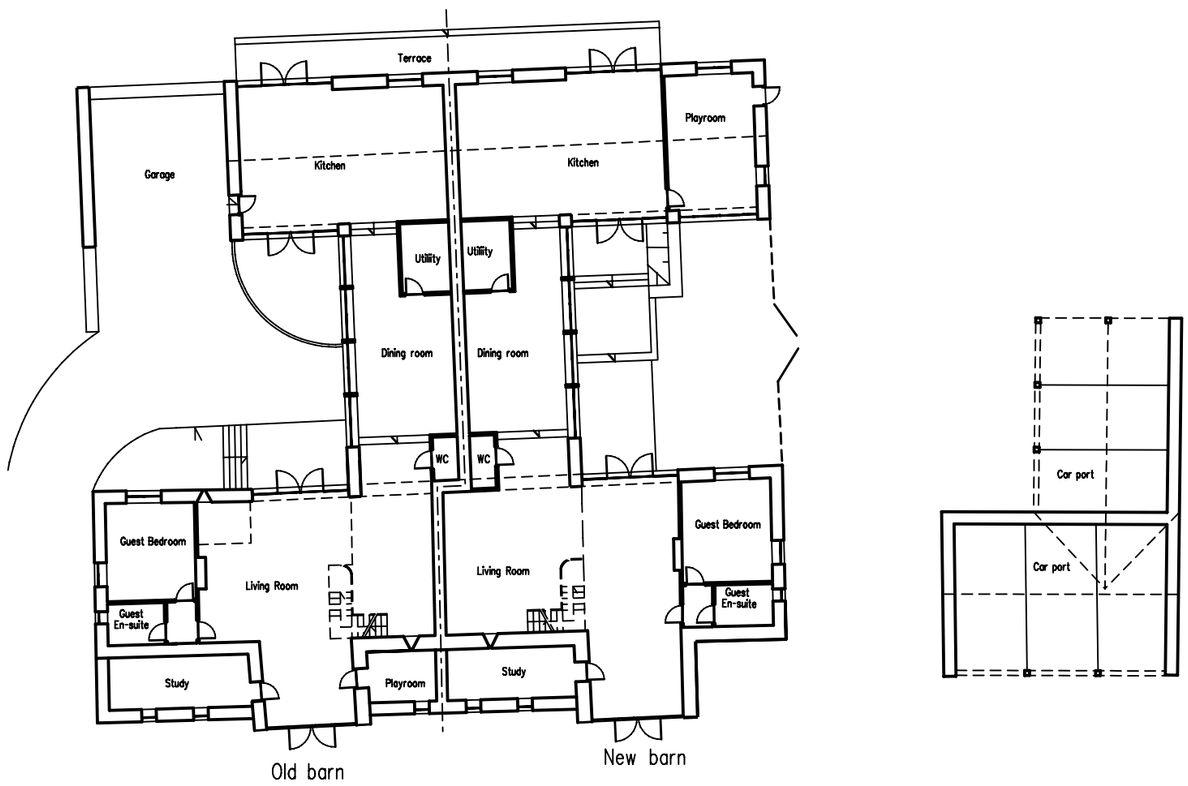

Drawing Title: Proposed ground floor

Drawing Number: 028/008 | **Scale:** 1:250 | **Date:** 05.11.2002

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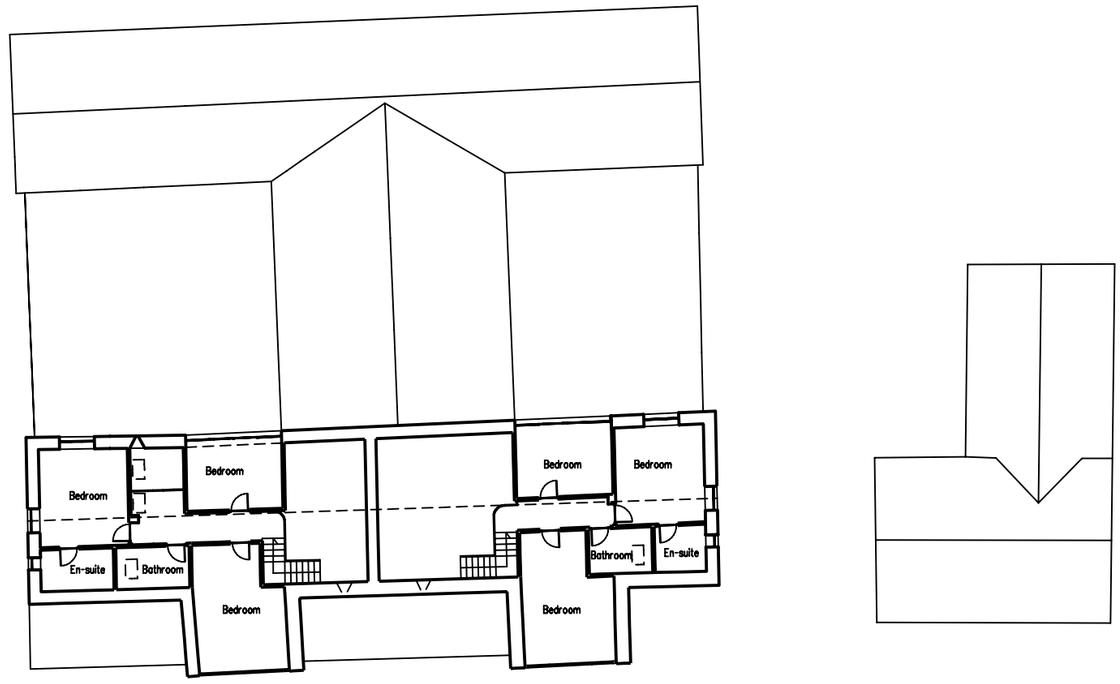

Drawing Title: Proposed first floor

Drawing Number: 028/09	**Scale:** 1:250	**Date:** 05.11.2002

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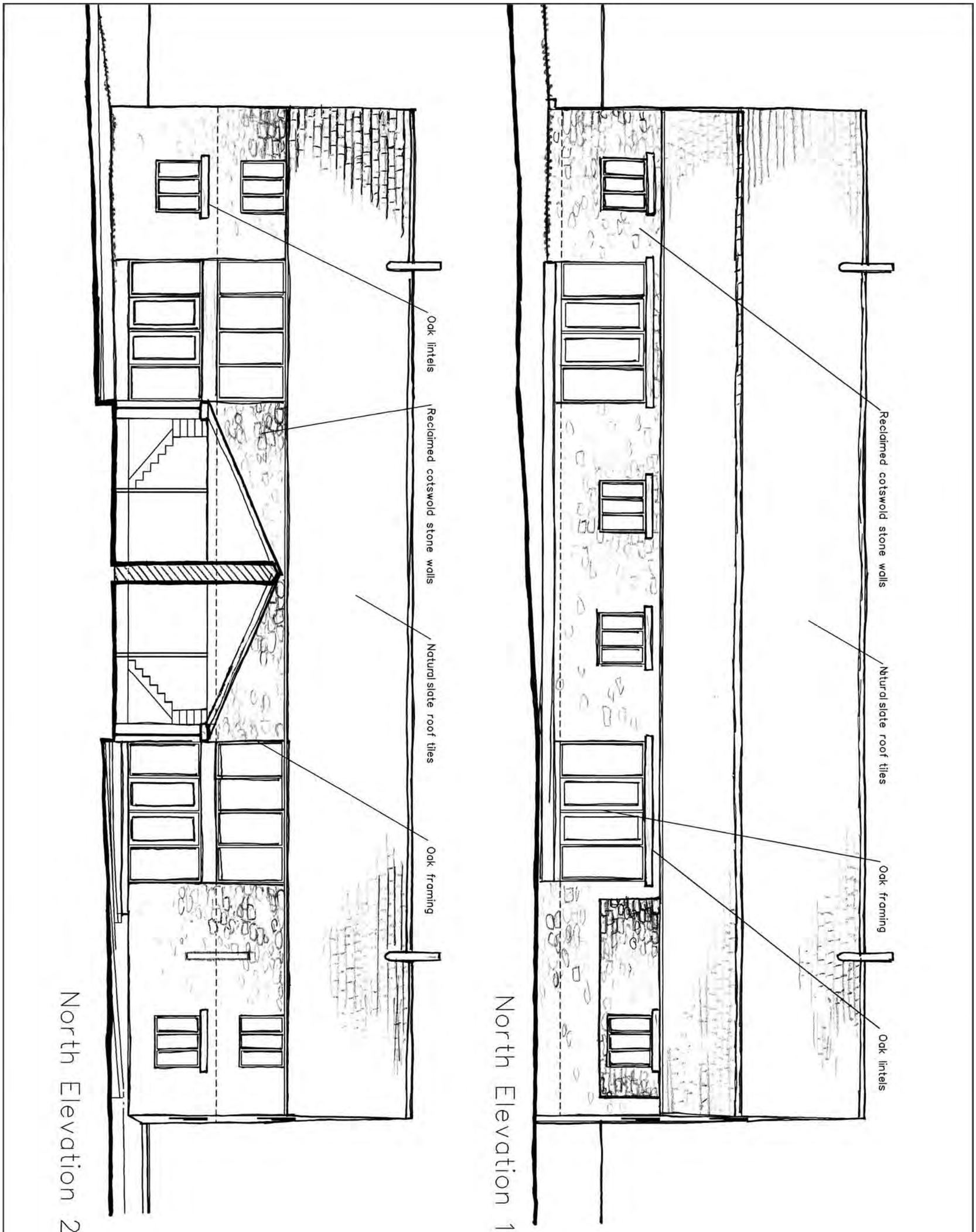

Drawing Title: ENorth elevations

Drawing Number: 028/004 | Scale: 1:100 | Date: 31.10.2002

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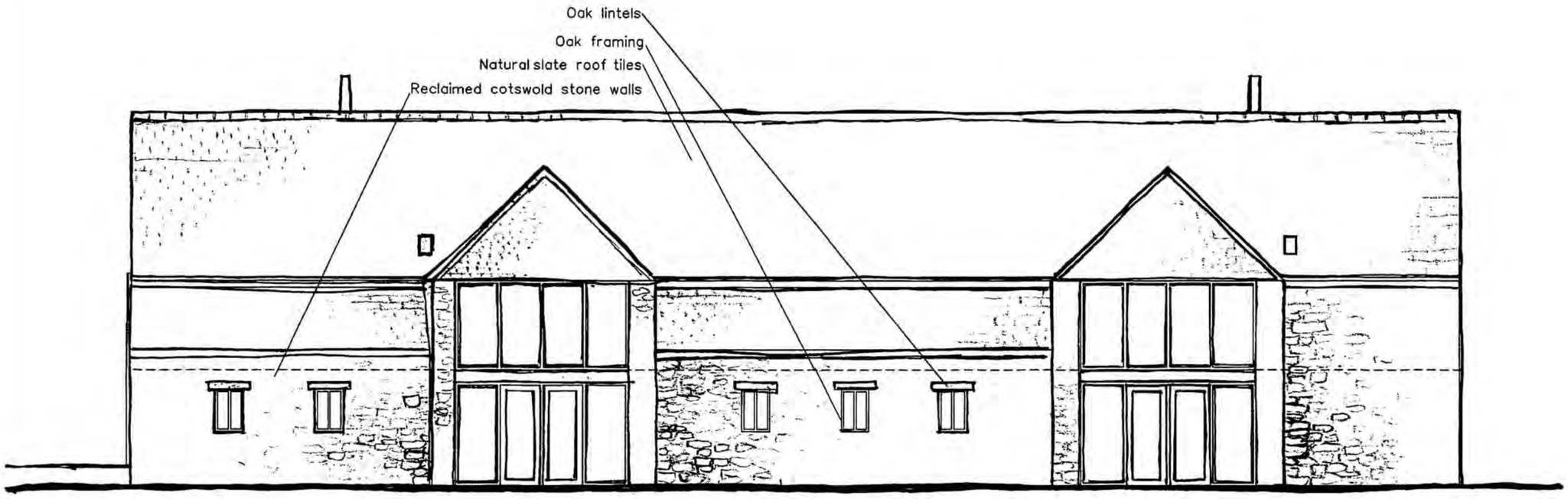
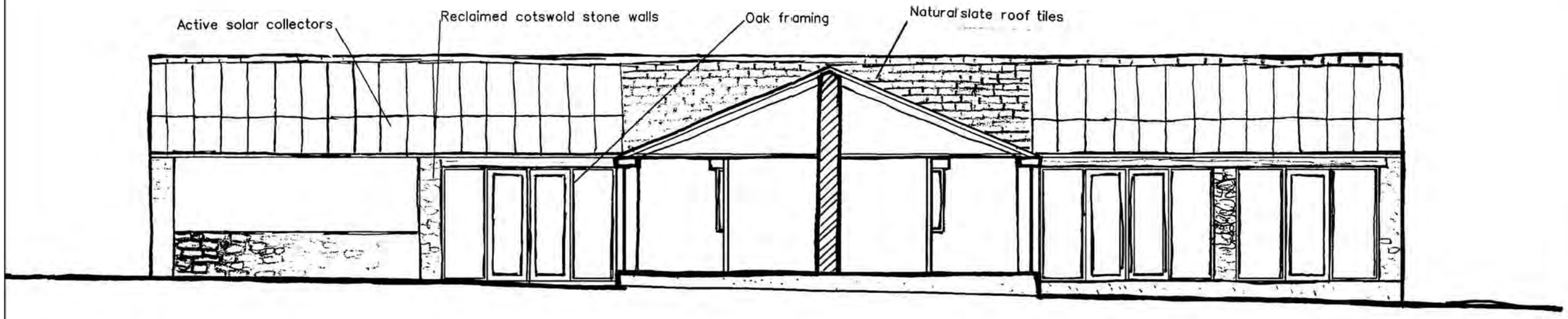


South Elevation 1



South Elevation 2

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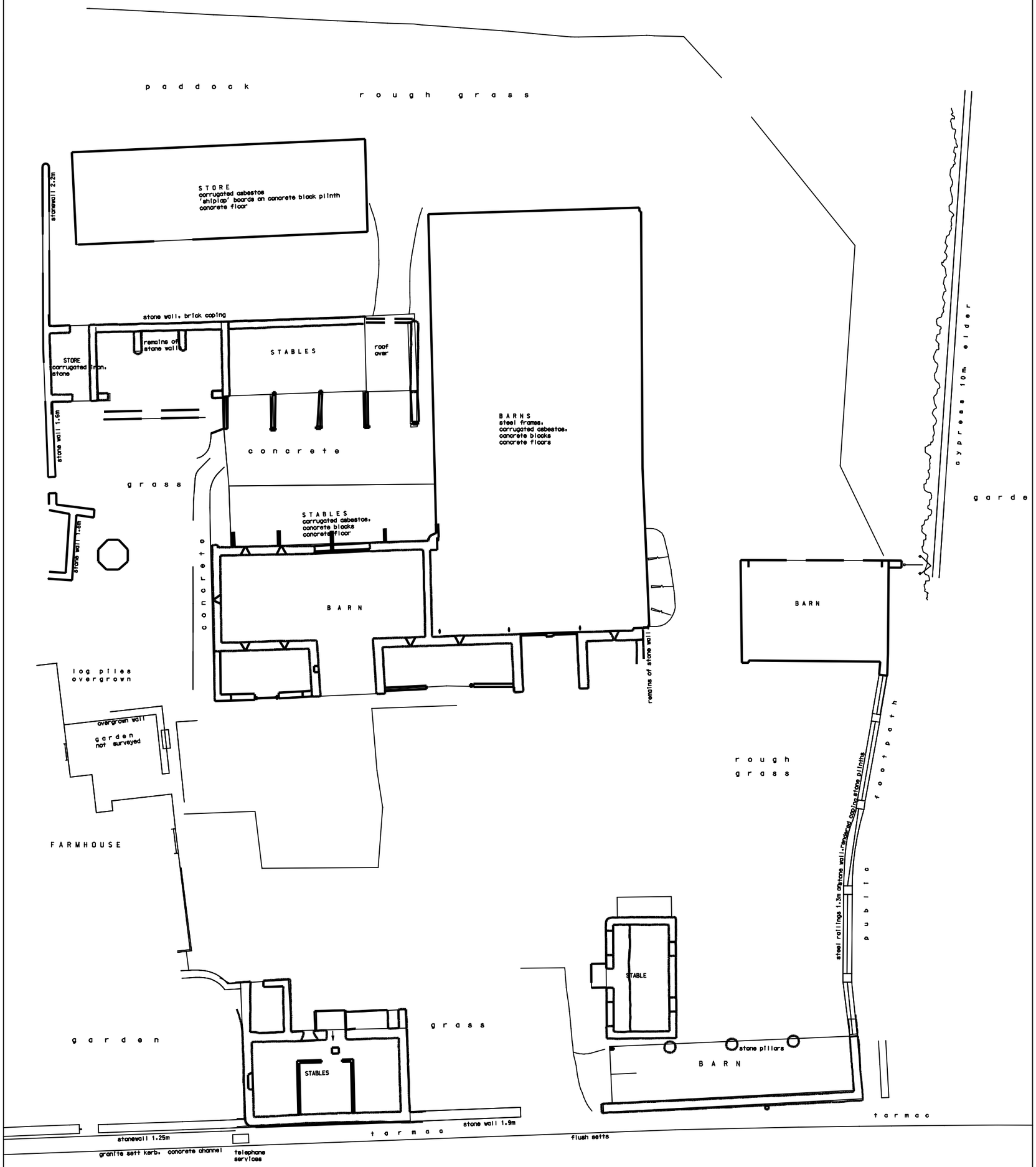
Drawing Title: South Elevations

Drawing Number: 028/005 | **Scale:** 1:100 | **Date:** 31.10.2002

Project: Manor Farm Barns, Steeple Aston
Sustainable Property Group



Drawing Title: Existing buildings		
Drawing Number: 028/001	**Scale:** 1:250	**Date:** 31.10.2002
Project: Manor Farm Barns, Steeple Aston Sustainable Property Group		

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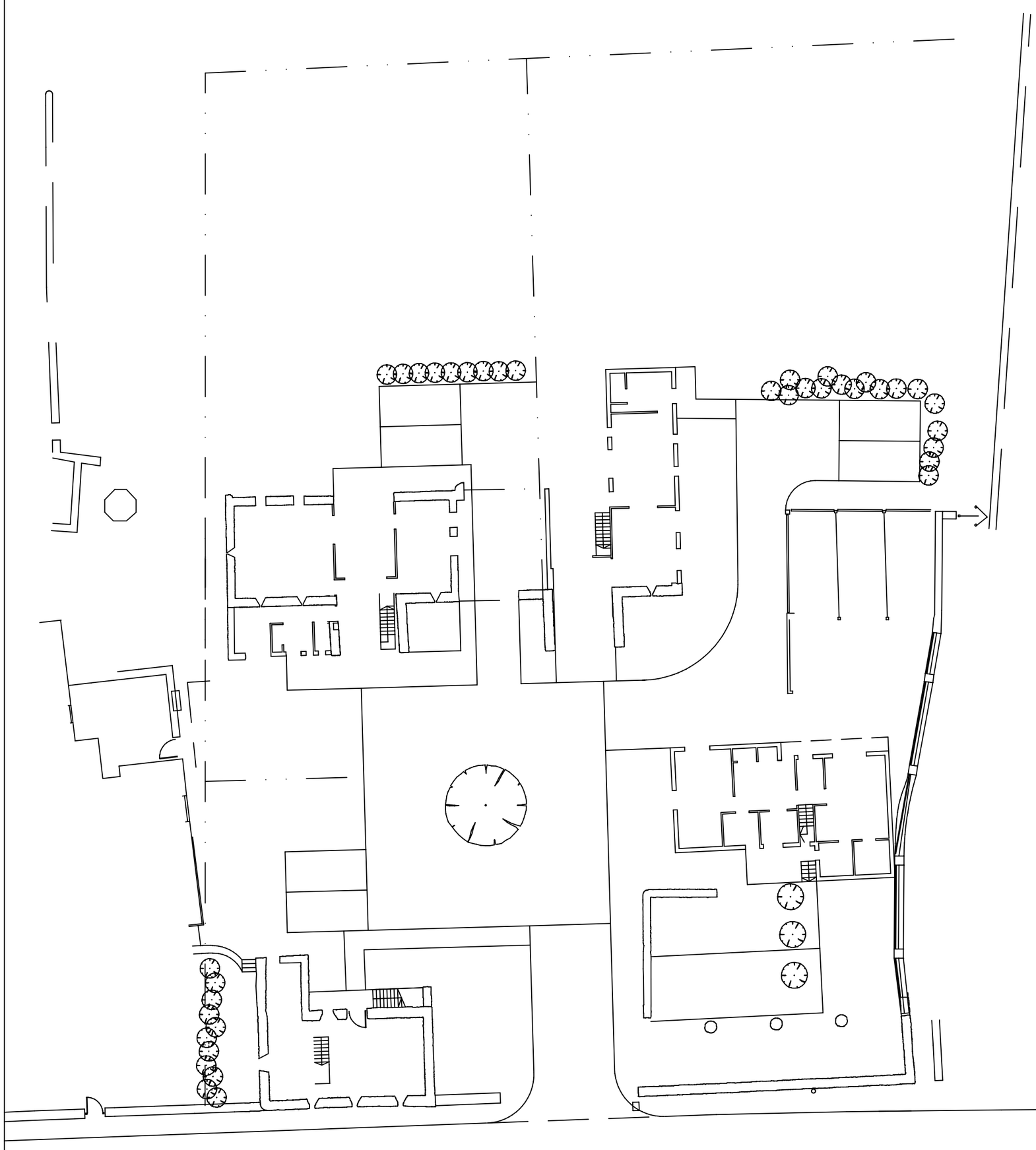

Drawing Title: Approved scheme
Planning application number 01/00719/F

Drawing Number: 028/002 **Scale:** 1:250 **Date:** 31.10.2002

Project: Manor Farm Barns, Steeple Aston
Sustainable Property Group

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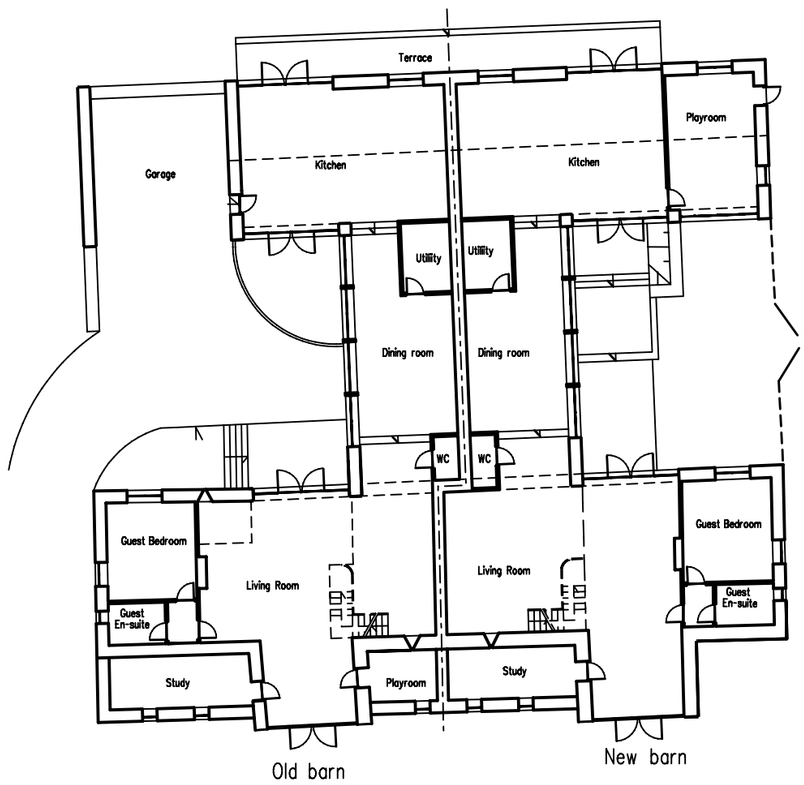

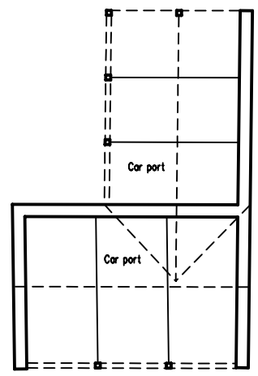

Drawing Title: Proposed scheme

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Project: Manor Farm Barns, Steeple Aston
Sustainable Property Group

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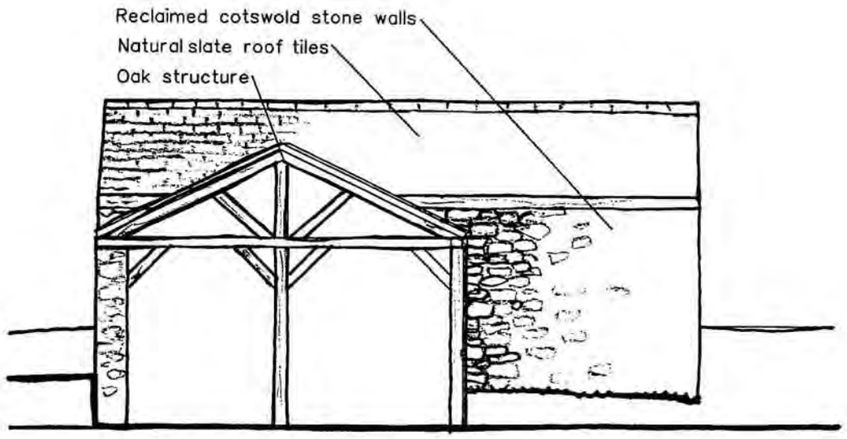
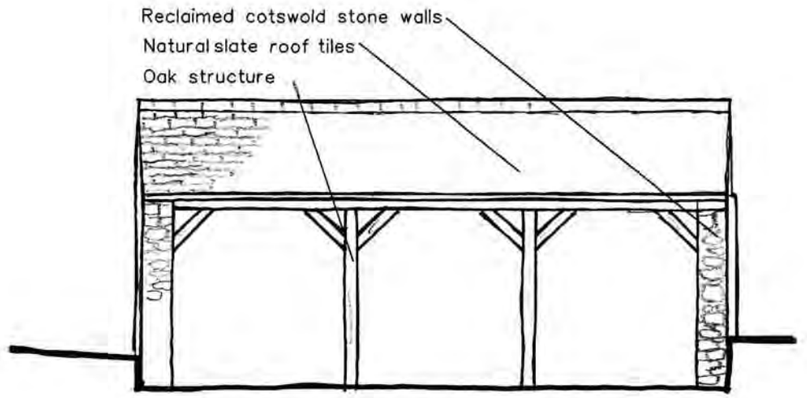
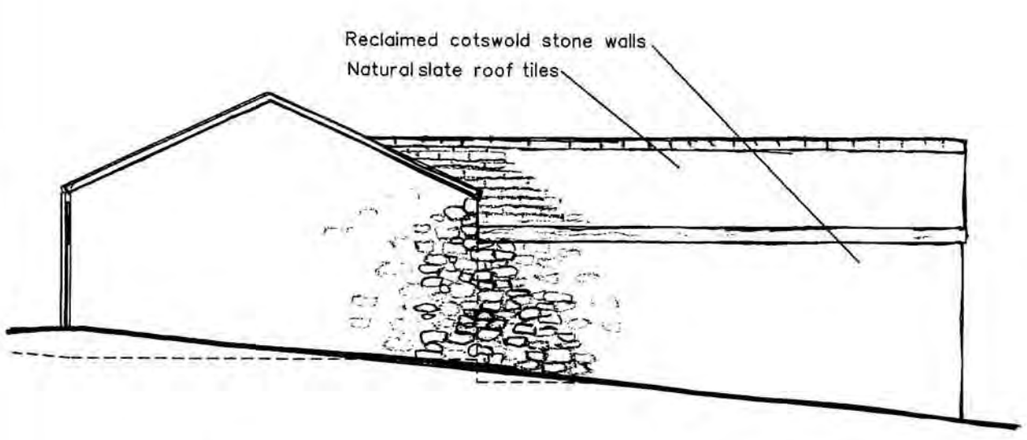


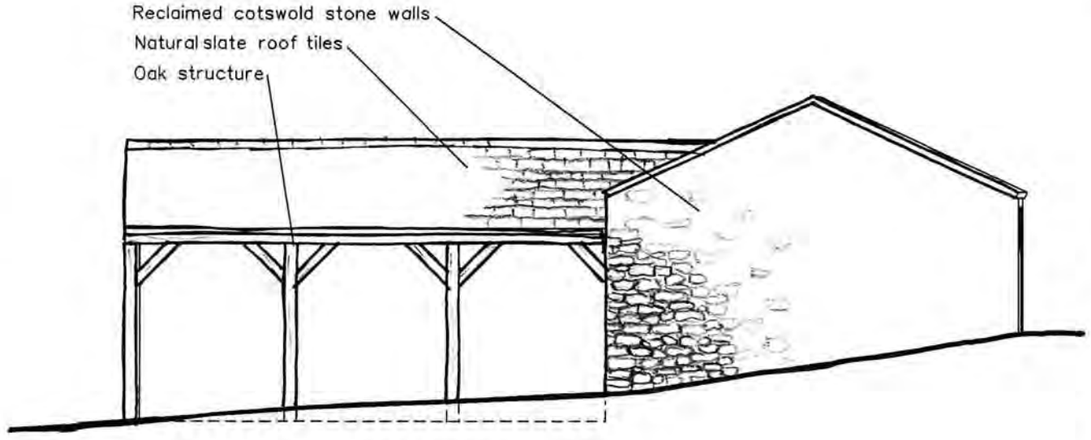
North Elevation



South Elevation



East Elevation



West Elevation

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Drawing Title: Garage elevations

Drawing Number: 028/007 | Scale: 1:100 | Date: 02.11.2002

Project: Manor Farm Barns, Steeple Aston
Sustainable Property Group

Summary of key benefits of proposed design over existing

- Highly energy efficient design (above and beyond new Building Regulations, Part L requirements) with a reduction in greenhouse gas emissions.
- Increased occupant comfort and health.
- More original features of the buildings are retained in the courtyard aspect
- The layout of the new design closely matches the layout of existing structures on site (stables etc.)
- The proposed design maximises the use of natural sunlight and solar energy to provide good light transmission to all areas of the property and also to provide space heating
- Renewable energy systems are to be incorporated into the fabric of the building and not retro-fitted at a later date
- Rainwater recycling/harvesting systems are to be utilised
- The materials of construction are to be as environmentally friendly as practicable.
- Oak roofs are to be added to the new and old barn buildings in keeping with traditional roofing techniques
- All new buildings to be faced in natural limestone (reclaimed where possible)
- The roof areas have fewer window openings, retaining more of the character and appearance of the traditional barns

Appendix A – Company Profiles

Company Profile

The Sustainable Property Group specialises in incorporating sustainability principles into new build or property conversions/extensions. Sustainability is about achieving the right balance of environmental, social and economic objectives. In the context of properties, the focus is on the whole life cycle of the building from conceptual design through to the end of use.

The project team includes an architect, property developer and a qualified environmental consultant. The Sustainable Property Group is a member of The Construction Industry Environmental Forum (CIEF) and the Association for Environment Conscious Building.

The Sustainable Property Group was initially formed in October 2001. Before this date the Technical Director, Stuart Anderson, spent over 15 years renovating period properties and carrying out barn conversions. Many of these projects have successfully incorporated sound sustainability principles, and examples of previous project experience are provided in the sections below.

Sustainable Properties is the contract build part of the Sustainable Property Group, and the activities of this experienced team of building professionals is co-ordinated by Stuart Anderson. Many of these professionals have worked with Stuart for a considerable time and have knowledge of a diverse range of specialist building techniques.

Project Experience

Ashendon Farm Barns

This hilltop site comprised a collection of very dilapidated farm buildings that had, for a long time, suffered from inappropriate works using incompatible and hazardous materials.

Two of the buildings were converted to homes with fairly minimal rebuilding work required. The remaining buildings were totally dismantled, with the salvaged materials being used in the construction of three new but traditionally styled homes. These homes were designed around the barns that occupied the site two hundred years ago and incorporate high levels of energy efficiency and reclaimed materials throughout.

Cowley Farm

The Cowley Farm development included a fairly degenerated farm building, cottage and barns. The farm building was renovated and the barns converted to several different purposes including another dwelling. The farm building features the following sustainable features:

- Existing cold roof converted to a highly insulated warm roof with living space
- Under floor heating used throughout the building
- Energy efficient water heating
- Maximum use of reclaimed materials (bricks, stone, oak timbers etc)
- Enhanced biodiversity through the addition of a landscaped natural pond feature and woodland management

Bacres Barn

This project involved converting a redundant brick and flint range of barns, situated within the Chilterns Area of Outstanding Natural Beauty (AONB).

Reclaimed materials were used throughout, comprising of, but not limited to, bricks, flint, slates and flooring with new oak flooring incorporated in some areas. An extensive rainwater harvesting and recycling system was installed. Warm water under floor heating was used throughout, giving practical and economic space heating in all rooms (some of which were vaulted with over seven metres of height to the ridge).

ALASTAIR BINNIE ARCHITECTURE & ENVIRONMENT - OUR APPROACH TO SUSTAINABILITY

In broad terms, we believe that sustainable development is a global issue, and that it needs to be implemented in that way if long term success is to be achieved. More and more people, including governments and international bodies, are producing pollution and/or quality of life indexes, indicating that the old idea of comparing purely economic data is no longer the only way of judging people's well-being.

Obviously, high economic benefits can arise from high energy consumption, but (with the exception of the current US government) it is now generally agreed that best economic performance allied to lowest practical energy use and pollution is the way forward.

At this point, sustainability starts to become relevant to ordinary daily life. We can all, as individuals, make a difference by pursuing the most sustainable solutions appropriate to the circumstances involved.

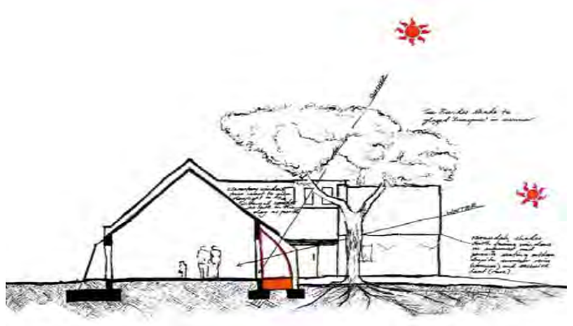
This is what we, as a practice, are committed to. Our objective is to tailor the physical environment to peoples' needs, rather than producing buildings at all costs. And whatever the project, we aim to use the most practical eco-friendly means to complete it, though again, not at all costs.

Some important areas to consider when designing in sustainable (and cost saving) benefits are:

- The local production and use of economic and efficient energy
- Renewable energy technologies, and the potential for local area heating systems and other infrastructure improvements.
- Solar orientation of buildings - passive solar design can reduce building energy consumption by 20% with no increase in capital cost.
- Demolition of existing structures and the recycling of materials
- Reuse of existing buildings - evaluation methods, integration of cultural heritage
- Transport, inter-relation with land use planning and energy use.
- Green spaces and the connections between them, wildlife corridors and bio-diversity
- Treatment and reuse of surface and waste water, efficient use of water
- Waste reduction, recycling and disposal
- Indoor and outdoor air quality and health
-

Last but not least, a wide range of independent studies have shown that almost 90% of the population prefer buildings with good natural light and natural ventilation - i.e. sustainable ones.

EXAMPLE PROJECT - **NORTHMOOR VILLAGE HALL**



Incorporating an innovative new solar heating system for Village Halls and Community Centres. The south facing glazed sun space not only allows an attractive view, but also acts like a greenhouse in trapping solar energy. The heat involved can be taken up directly by the building, or stored for later use. This works best in the spring and autumn, but even winter sun keeps the interior warmer than the outside air. To avoid overheating in summer, the building was positioned to allow an ash tree to shade the sun space.

This glazing and the large windows behind let in much daylight and low winter sun, reducing the need for artificial lighting. Energy use is further reduced by the use of highly economical low-energy lighting and water heating systems.

Overall, the building produces only one quarter of the volume of carbon dioxide of its conventional equivalent, and is estimated to use only half the energy. This of course reduces running costs and the level of charges to users.

Local materials were specified wherever possible. Aggregates are produced nearby, and used in the manufacture of the concrete, concrete blocks and external rendering, which also harmonises with other local buildings. Transport is minimised, and the local economy benefits.

We applied for, and successfully obtained, funding for the hall from the Millennium Commission and Shell Better Britain. We also gave detailed advice and assistance to the Village Hall Committee in their applications to the District and County Councils, for funds, also successful. The Rural Development Commission (now integrated into SEEDA) granted more than twice their normal contribution, due to the sustainable ideas.

Appendix B – Existing Planning Drawings

LISTED MANOR FARM HOUSE
TO BE RETAINED

EXISTING GATEWAY TO BE RETAINED

EXISTING STONE OUT BUILDING TO BE RETAINED

EXISTING ASBESTOS SHEET CLAD CHICKEN SHED TO BE DEMOLISHED.

NEW SITE BOUNDARY

NOTE:
HATCHING INDICATES BUILDINGS TO BE RETAINED

ENTRANCE

EXISTING STONE STEPS TO BE RETAINED AND REFURBISHED

CONCRETE

EXISTING STONE BARN TO BE RETAINED AND EXISTING CORRUGATED ROOF TO BE REPLACED

EXISTING BLOCKWORK LEAN-TO TO BE DEMOLISHED

EXISTING BLOCKWORK PARTITIONED STRUCTURE TO BE DEMOLISHED. ANY STONE TO BE RECLAIMED FOR USE ELSEWHERE

ENTRANCE

THE OLD BARN
TO BE RETAINED

THE OLD STABLES
TO BE RETAINED

EXISTING STONE WALL TO BE RETAINED

GRASS

SOUTH SIDE

EXISTING SITE ENTRANCE RETAINED

TARMAC

MANOR FARM COURTYARD

RUBBLE HEAPS

EXISTING STEEL FRAME AND CORRUGATED ASBESTOS ROOF BARN, TO BE DEMOLISHED

DERELICT REMAINS OF SECOND PORCH TO BARN, TO BE REBUILT

THE NEW BARN
TO BE REBUILT

THE OLD WORKSHOPS

TO BE DEMOLISHED

WORKSHOP BUILDING TO BE DEMOLISHED

HARDCORE

EXISTING STONE BARN WITH ROUND STONE COLUMNS TO BE RETAINED AS EXISTING

ROUGH CONCRETE

EXISTING BARN STONE WALLS RETAINED

ROUGH GRASS

EXISTING RAILINGS AND STONE COLUMN WALL TO BE RETAINED

PUBLIC FOOTPATH RETAINED

TEMPORARY FENCE TO BE DEMOLISHED

OVERGROWN RUBBLE HEAP

PUBLIC FOOTPATH RETAINED

EXISTING GATE TO BE RETAINED

NEW SITE BOUNDARY

PADDOCK AREA
ROUGH GRASS

NEW SITE BOUNDARY

REDUCED COPY

A SECTION LINES ADDED IB
CODE DESCRIPTION INITIAL
REVISIONS

MR R KINCH
CLIENT

BARN CONVERSIONS
MANOR FARM, STEEPLE ASTON
BICESTER OX25 4RT
PROJECT

EXISTING SITE PLAN PLAN
DRAWING

PROJECT NUMBER 3359 DRAWING NUMBER GA 01 A
SCALE 1:100 DATE 14.03.01 DRAWN IB CHECKED

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SUTTON GRIFFIN & MORGAN
Chartered Architects
Project Managers . Planners . Interior Designers . Landscape Designers

LISTED MANOR FARM HOUSE

OLD STABLES COURTYARD GARDEN

NEW STEPS THROUGH EXISTING STONE WALL

BEDROOM 2

W

W/C

BATHROOM

UP

C'PD

BEDROOM 3

HALL

BEDROOM 1

THE OLD STABLES

GRAVEL PATHWAYS

MANOR FARM COURTYARD

ASPHALT ENTRANCE

GRAVEL COURTYARD

SOUTH SIDE

THE OLD WORKSHOPS

EXISTING STONE BARN WITH ROUND STONE COLUMNS TO BE RETAINED AS EXISTING

TERRACED COURTYARD GARDEN

BEDROOM 2

BATH

A/C

C'PD

UTILITY

LAUNDRY

UP

HALL

ENTRANCE

STUDY

BEDROOM 3

ENSUITE

NEW CLOSE BOARDED TIMBER FENCE PANELS FIXED BEHIND EXISTING RAILINGS AND BETWEEN STONE COLUMNS

PUBLIC FOOTPATH RETAINED

STUDY

A/C

LAUNDRY

W/C

LOUNGE

HALL

DINING ROOM

UP

OLD BARN

FAMILY ROOM

KITCHEN

ENTRANCE

GRAVEL PATHWAYS

NEW GATE IN NEW UNDERCROFT

NEW BOUNDARY

HALL

DINING ROOM

UP

THE NEW BARN

LOUNGE

FAMILY ROOM

KITCHEN

LAUNDRY

C

W/C

NEW BOUNDARY

NEW BOUNDARY

NEW BOUNDARY

CAR PORT 3 SPACES

1 2 3 4 7 8 9

A B C D E F G

N

REDUCED COPY

CODE	DESCRIPTION	INITIAL
A	Old Workshop Unit revised in accordance with planners recommendations	IB 28.09.01

REVISIONS

MR R KINCH

CLIENT

BARN CONVERSIONS
MANOR FARM, STEEPLE ASTON
BICESTER OX25 4RT

PROJECT

PROPOSED GROUND FLOOR PLAN

DRAWING

PROJECT NUMBER 3359 | DRAWING NUMBER GA 04 | A

SCALE 1:100 | DATE 14.03.01 | DRAWN IB | CHECKED

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SUTTON GRIFFIN & MORGAN

Chartered Architects
Project Managers . Planners . Interior Designers . Landscape Designers

LISTED MANOR FARM HOUSE

N

NEW BOUNDARY

DINING ROOM

KITCHEN

LOUNGE

EXISTING WINDOW RETAINED.

STONE STEPS RETAINED. NEW DOOR TO EXISTING OPENING

THE OLD STABLES

THE OLD BARN

BEDROOM 2

BEDROOM 3

BEDROOM 4

LANDING

VOID

BATH

ENSUITE

BEDROOM 1

NEW GATE IN NEW UNDERCROFT

MANOR FARM COURTYARD

NEW BOUNDARY

VOID

STUDY

BEDROOM 2

LANDING

THE NEW BARN

BEDROOM 4

BEDROOM 3

BATH

ENSUITE

BEDROOM 1

WARDROBE

ENTRANCE TO NEW BUILD UNIT AT FIRST FLOOR LEVEL HERE

THE OLD WORKSHOPS

TERRACED COURTYARD GARDEN

BATH

BEDROOM 1

WARD-ROBE

KITCHEN

SUN LOUNGE

LOUNGE

DINING ROOM

CAR PORT 3 SPACES

NEW CLOSE BOARDED TIMBER FENCE PANELS FIXED BEHIND EXISTING RAILINGS AND BETWEEN STONE COLUMNS

PUBLIC FOOTPATH RETAINED

REDUCED COPY

CODE	DESCRIPTION	INITIAL
A	Old Workshop revised in accordance with planners recommendations	IB 28.09.01

REVISIONS

MR R KINCH

CLIENT

BARN CONVERSIONS
MANOR FARM, STEEPLE ASTON
BICESTER OX25 4RT

PROJECT

PROPOSED FIRST FLOOR PLAN

DRAWING

PROJECT NUMBER 3359 | DRAWING NUMBER GA 05

SCALE 1:100 | DATE 14.03.01 | DRAWN IB | CHECKED

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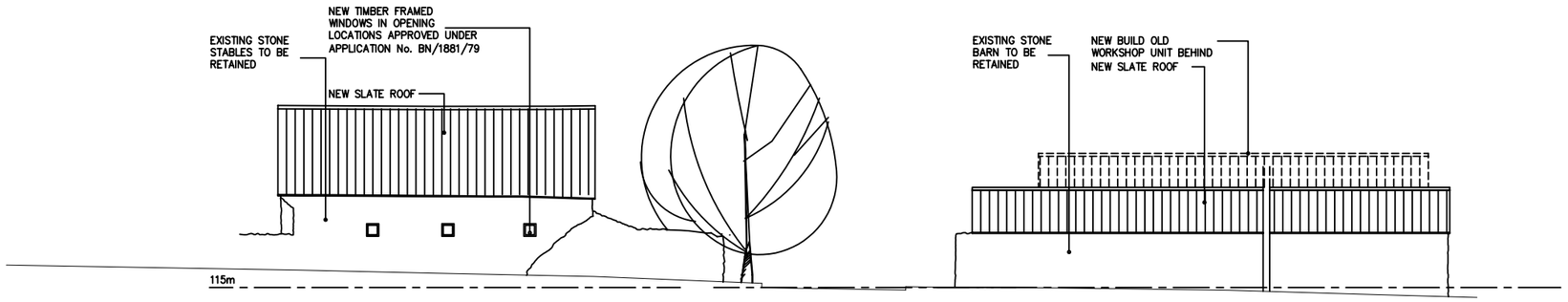
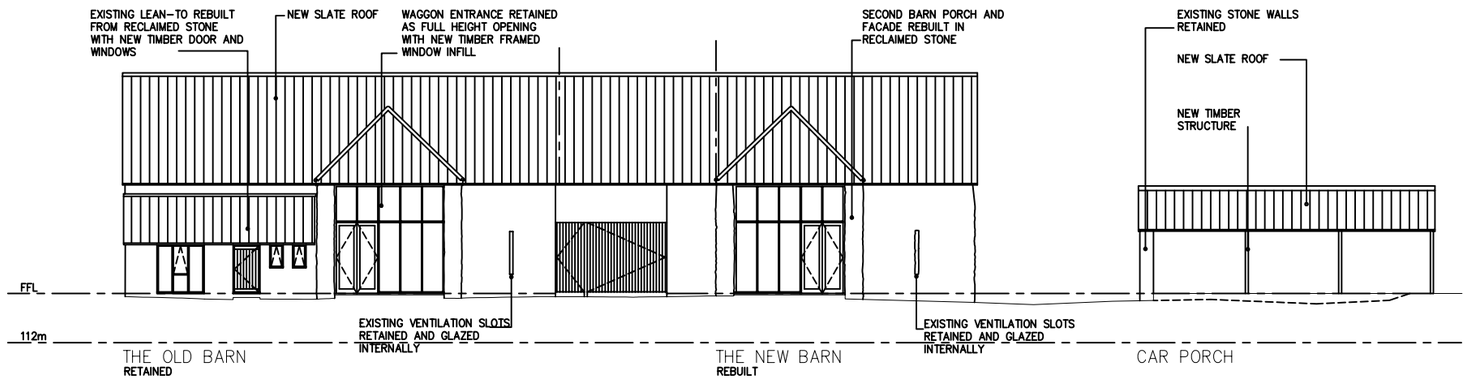


ELEVATION AA



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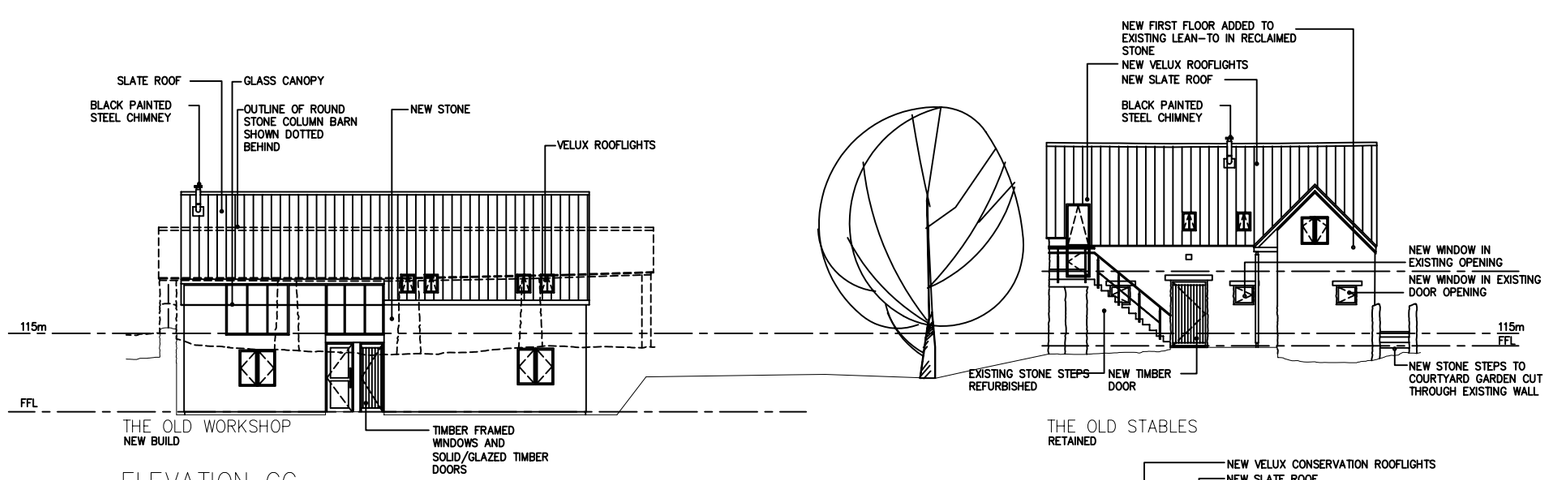

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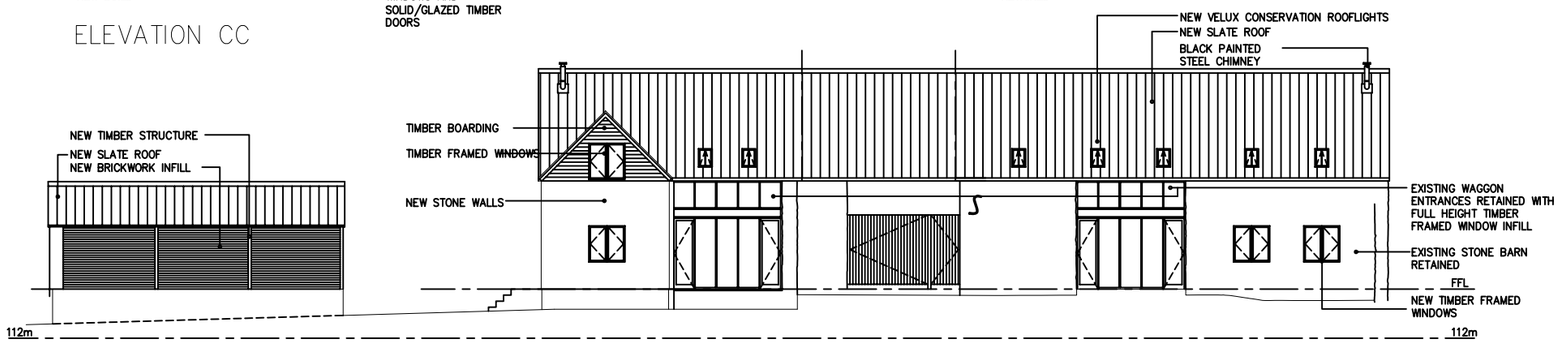

ELEVATION DD

REDUCED COPY

A Forestry Stables & Old Workshop IB 28.2.01
revised in accordance with planners recommendations

CODE | DESCRIPTION | INITIAL
REVISIONS

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BARN CONVERSIONS
MANOR FARM, STEEPLE ASTON
BICESTER OX25 4RT

PROJECT

PROPOSED ELEVATIONS 1

DRAWING

PROJECT NUMBER 3359 | DRAWING NUMBER GA 07 | A

SCALE 1:100 | DATE 14.03.01 | DRAWN IB | CHECKED

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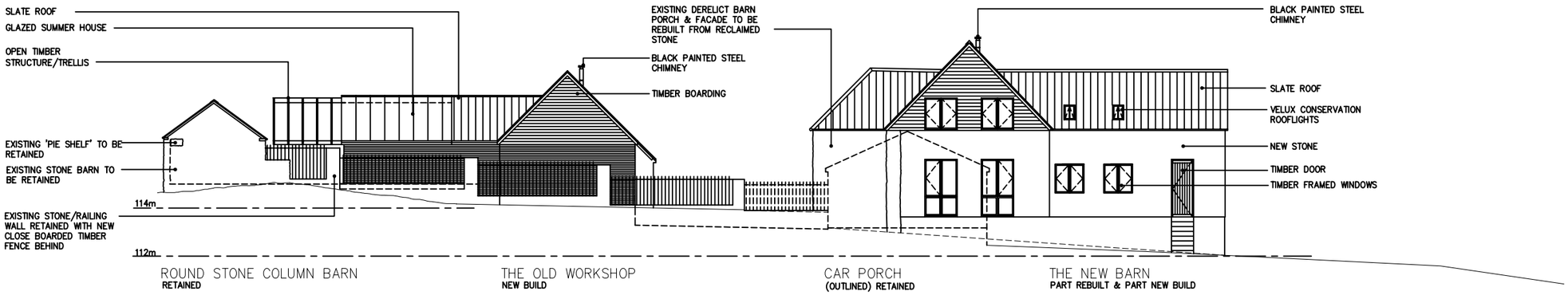

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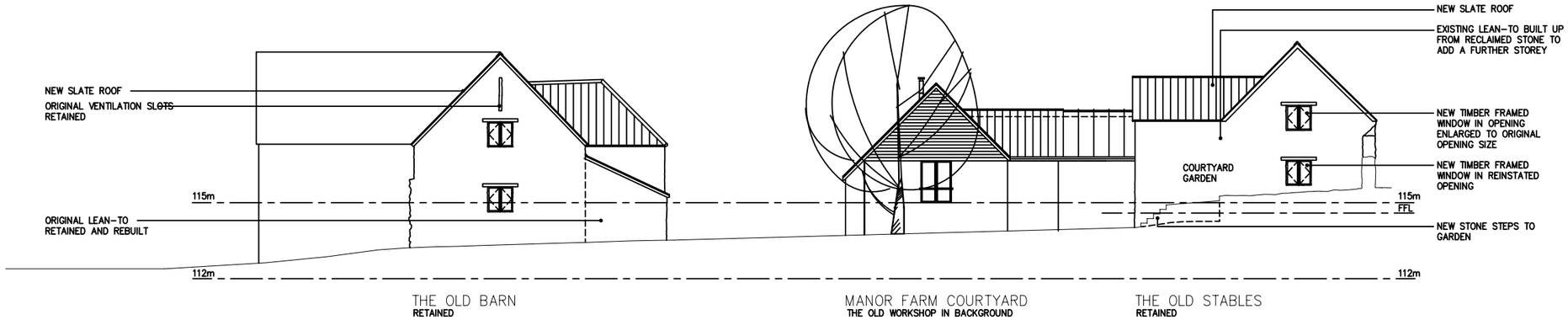

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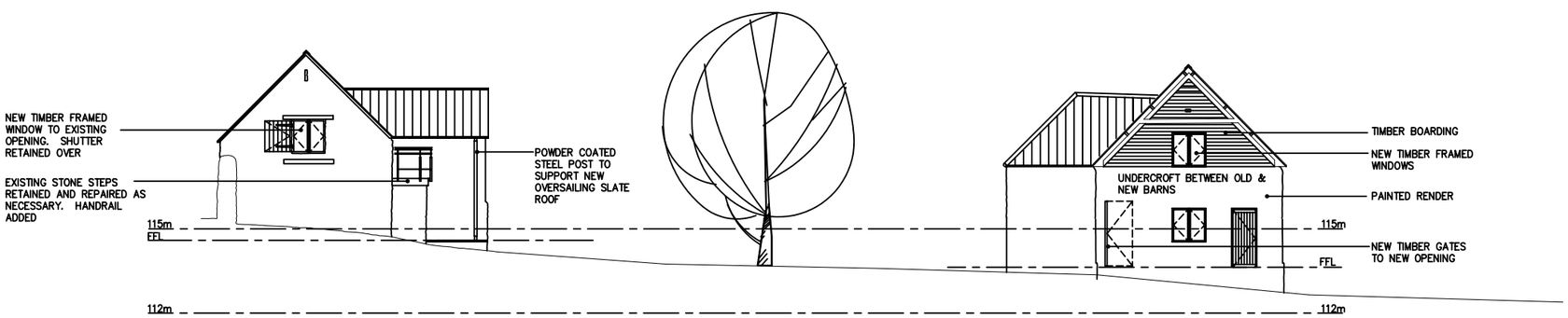

ELEVATION GG

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A Old Workshop & fenestration revised in IB 28.09.01 accordance with planners recommendations

CODE | DESCRIPTION | INITIAL

REVISIONS

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BARN CONVERSIONS
MANOR FARM, STEEPLE ASTON
BICESTER OX25 4RT

PROJECT

PROPOSED ELEVATIONS 2

DRAWING

PROJECT NUMBER 3359 | DRAWING NUMBER GA 08j | A

SCALE 1:100 | DATE 14.03.01 | DRAWN IB | CHECKED

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Appendix C – Documentation on Active Solar Water Heating

CADDET IEA OECD
renewable energy

Integration of Solar Collectors into the Building Process

Summary

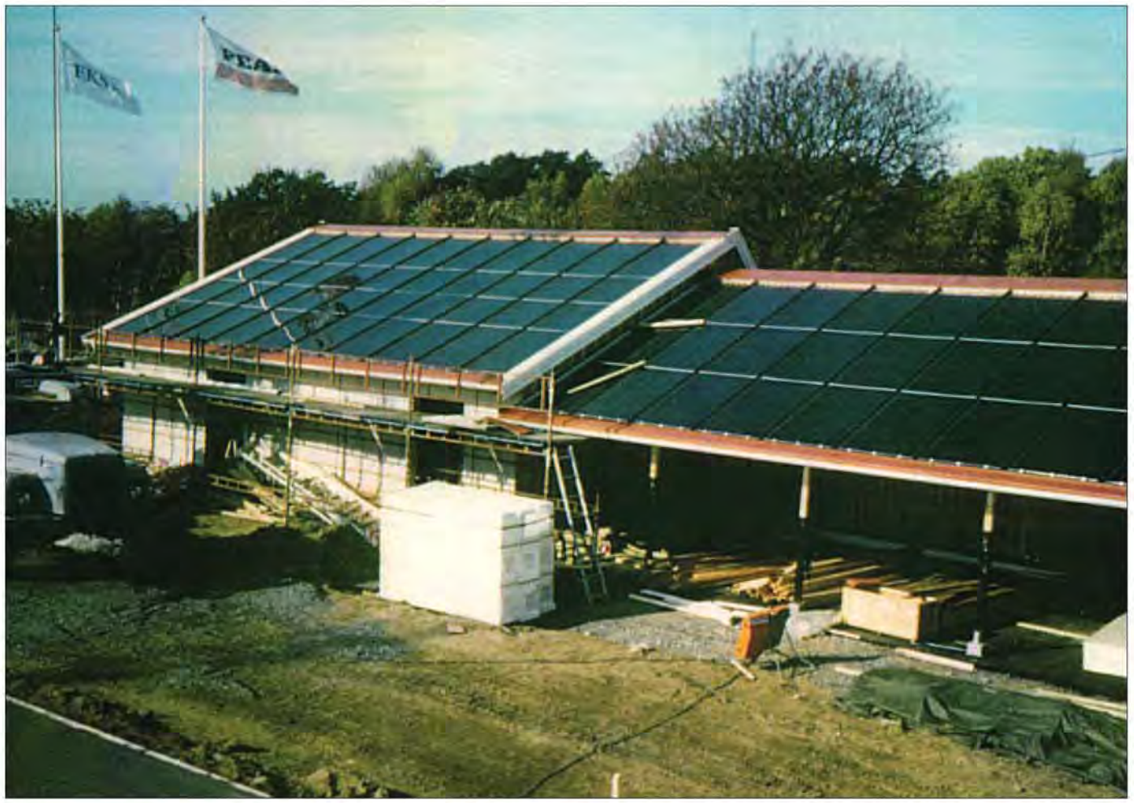
A new type of prefabricated solar collector roof module has been used in a small new residential building area in Onsala, south of Gothenburg, Sweden.

This development has resulted in a better integration of solar collectors into the building process, together with reduced investment cost and improved thermal performance compared to previous designs.

Highlights

- **Considerably simplified building process**
- **Lower investment cost**
- **Improved performance**

Installing the roof module collectors at Onsala, Sweden.



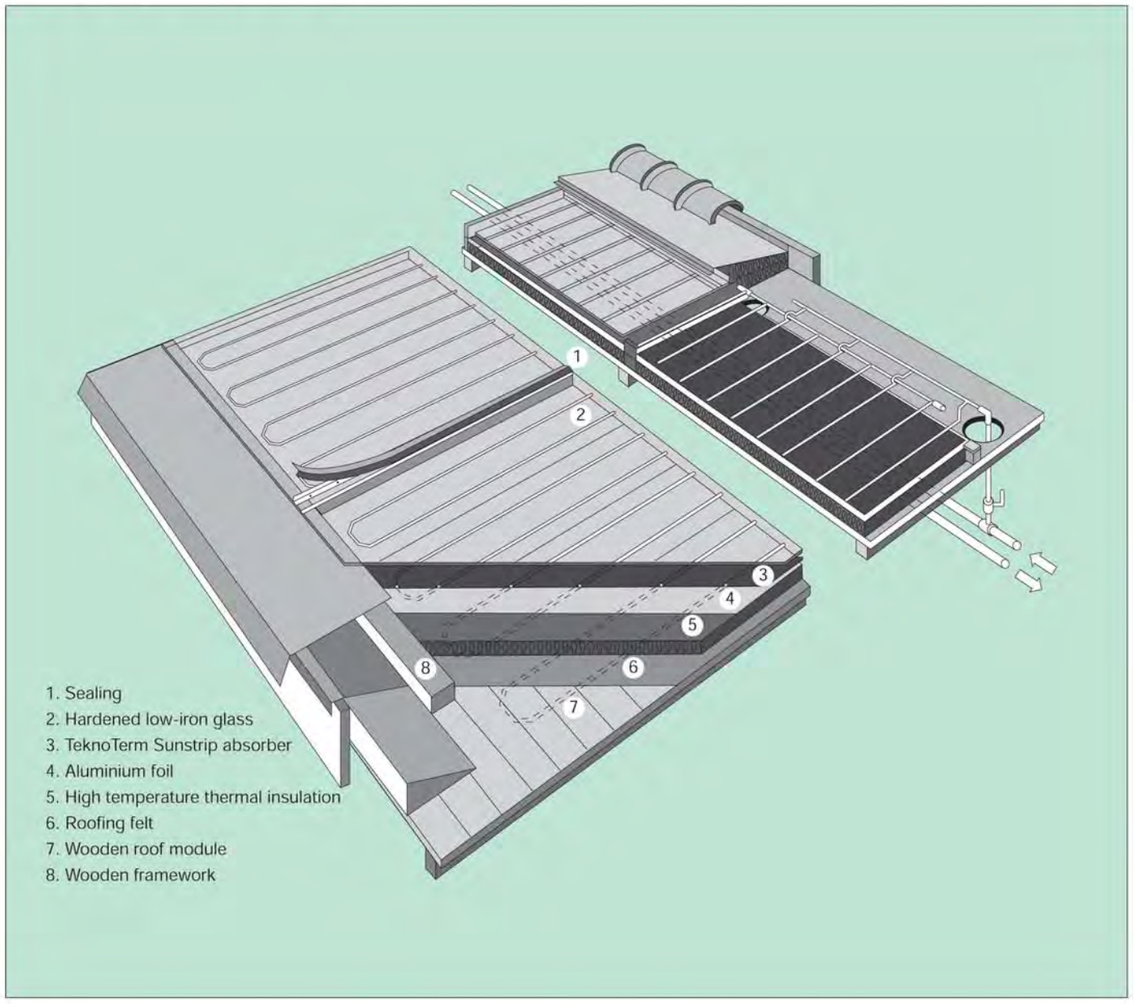
Project Background

Derome AB has developed a prefabricated roof module with an integrated solar collector. The design is based on a prefabricated roof module which includes the basic components of a solar collector; ie insulation, absorber and transparent cover. The roof module is 2,400 mm wide and is designed to be mounted directly onto roof trusses spaced 1,200 mm apart. Additional work on site only involves joining up connecting pipes and cover plates.

This new design is superior to previous types of roof-integrated collectors in several respects. The roof module is prefabricated using mainly traditional building materials resulting in better quality and lower costs. Marketing and manufacturing have been transferred to a building contractor, able to offer the complete roof construction as part of the normal building work.

The new solar collector roof module was tested and approved at the National Institute for Testing and Research in 1994. The development was supported by the Council for Building Research and carried out in co-operation with Building

Diagram of the roof module collector.



1. Sealing
2. Hardened low-iron glass
3. TeknoTerm Sunstrip absorber
4. Aluminium foil
5. High temperature thermal insulation
6. Roofing felt
7. Wooden roof module
8. Wooden framework

Services Engineering, Chalmers University of Technology and TeknoTerm, manufacturer of the absorber used in the collector.

Derome AB is the manufacturer of the roof module collector. The housing company, EKSTA Bostads AB, started to use solar assisted heating plants in the early 1980s and has now installed about 6,000 m² of roof-integrated collectors in about 10 residential building areas. For several years the company has used a combination of wood (70%), solar (20%) and oil or electricity (10%) for heating in all new building areas.

The Project

The new collector module has been used in a small new housing development in Onsala, south of Gothenburg. The building area comprises 36 apartments in 9 blocks with about 2,600 m² heated floor area. Roof collector modules with an area of 220 m² are connected to a central heating plant with an 18 m³ water storage tank and supplementary boilers.

The buildings are built of wood, are well insulated and have floor heating systems and simple exhaust ventilation systems. Heat and domestic hot water are supplied to the buildings from the central heating plant via underground pipes. The solar system is designed to cover about 25% of the total heating demand; ie to give energy savings of the order of 25 kWh/m² heated floor area.

The collector modules are installed on the south roofs of the heating plant building and an adjacent carport. The prefabricated modules have a standard width of 2,400 mm, are mounted directly on the roof trusses and connected in the same way as ordinary roof modules. In order to increase the available roof area, both the heating plant building and the car port were designed with an asymmetric roof with a longer slope to the south.

Extra Investment Costs Associated with the Solar Collectors

Solar heating system	SEK	SEK/m²
Roof module collectors	185,300	838
Connecting pipes	47,000	213
Tank 18 m³	60,000	
Heating plant equipment	98,500	
Sub-total	390,800	1,768
VAT (25%)	97,700	
Total	488,500	2,210

Performance

Building work commenced in August 1995, the roof modules were installed in September 1995 and the tenants moved into their apartments in May 1996. Monitoring started in March 1996 and the results are in agreement with the estimates. The estimated average solar yield is 60 MWh/year.

Economics

The extra cost (shown in the table) for the solar system is based on actual contracts from November 1995. The new roof collector modules show a cost reduction of around 30%, related to the costs of previous plants with roof-integrated collectors.

The cost of an ordinary tiled roof is estimated to be SEK 95,000 (where SEK is the Swedish krona) but the total cost for the roof with solar collector modules is SEK 280,300 giving an extra cost of SEK 185,300 associated with the solar collectors. The total cost of the water storage tank is SEK 120,000. The tank replaces part of the domestic hot water system and is used in connection with the boiler, and only 50% is dedicated to the solar system. The total heating plant cost is SEK 395,000 and the part needed for the solar collectors is estimated to be 25%.

An estimated average solar yield of 60 MWh/year and an annuity of 0.08 results in a solar cost of SEK 0.60/kWh. Equivalent prices for other summer heating options are: electricity SEK 0.65/kWh and oil SEK 0.45/kWh. The total cost for the building area amounts to SEK 9,000/m² heated floor area, which means that the extra investment cost for the solar system, ie SEK 180/m², amounts to only 2% of the total building cost.

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