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environmental consultants

Project	**Bat survey report of the Church of Ireland Anglican Church, Macroom, Co. Cork.**		
Client	Cork County Council		
Project ref	**Report no**	**Client ref**	
21109	21109	-	

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Date	**Rev**	**Status**	**Prepared by**	
25/11/2021	1	1st draft sent	Carl Dixon MSc	
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1. Introduction

It is proposed to carry out works at the disused Church of Ireland Anglican Church in Macroom, Co. Cork. The development will consist of the refurbishment of the protected structure St. Coleman's, the former Church of Ireland, Castle Street Macroom (NIAH 20852022, CO071-050002) into a community and enterprise facility, as well as the retention of partially completed 1994 rear extension.

The proposals include works to the outside and inside structure and the main elements of the work include the following:

- Ground floor: entrance and multi-purpose room associated with community and enterprise uses, with the potential to facilitate recitals and events; ancillary facilities including toilets, storage, new stairs to both tower and rear extension.
- First and second floor: café/tea station and meeting area in rear extension with mezzanine to large open nave space, provision of a new staircase in the tower to offer viewing landing area with a view to the town centre to the south and east, town park and the River Sullane to the west.
- Provision for all vertical and horizontal circulation, stairs, ramps etc. Ancillary services areas to provide storage, plant, toilets and general circulation.
- Site development works to surrounding recorded monument and burial ground (CO071-050001) include minimal external hard and soft landscaping to allow for the sensitive installation of universal accessible ramp with level threshold access entrance to main entrance, lighting, and all associated site services above and below ground. On street bike parking spaces and bin storage to Church gate entrance. Associated Foul/Fresh Water & ESB Connections and Fibre Optic Communications Connections.

Details of the proposed development are provided as **Appendix 1.**

This report was prepared by Carl Dixon MSc. (Ecology). Carl Dixon MSc (Ecology) is a senior ecologist who has over 20 years' experience in ecological and water quality assessments with particular expertise in freshwater ecology. He also has experience in mammal surveys, invasive species surveys and ecological supervision of large-scale projects. Projects in recent years include the Waste to Energy Facility Ringaskiddy, Shannon LNG Project, supervision of the Fermoy Flood Relief Scheme, Skibbereen Flood Relief Scheme, Douglas Flood Relief Scheme and Great Island Gas Pipeline.

2. Site location

The church is located approximately 45m west of the Sullane River on an elevated site above the river. The main street of Macroom town is located to the east of the site and the church and graveyard which surround it are accessed from the national route N22 to the south. To the north of the church there is an extensive area of woodland on the banks of the Sullane River and areas of grassland. St Colmans Graveyard is located to the south of the church. The development boundary consists of both protected structure and recorded burial grounds. The location of the site is indicated below in **Figure 1.**

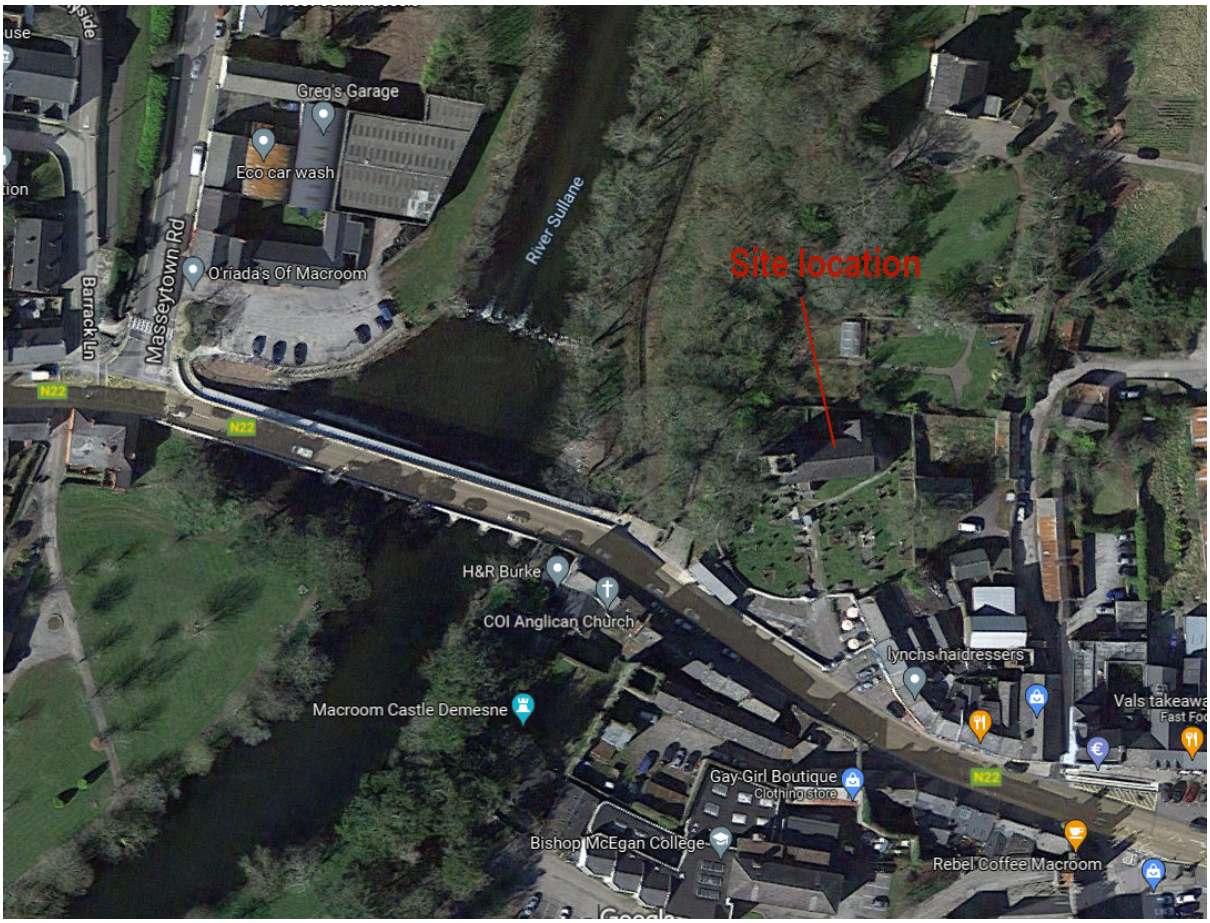

Figure 1. Site location

St. Colmans church (CO071-050002-) is described as follows by the National Inventory of Architectural Heritage:

Freestanding double-height Gothic-Revival Church of Ireland church, built 1825, having five-bay nave with three-stage entrance bell tower to side (west), gable-fronted porch to front (south) of nave, bowed three-bay chancel to east, added 1869, and recent extension to rear (north) of nave. Interior remodelled 1898. Pitched slate roof with ceramic ridge cresting, having uPVC clad eaves and uPVC rainwater goods. Carved limestone corner pinnacles, crenellations and cornice to tower. Bowed hipped slate roof to chancel. Tooled limestone gabled parapet with corner pinnacles to porch. Dressed mixed stone walls with tooled limestone quoins to tower, having tooled limestone string courses separating stages. Engaged tooled limestone blocking buttresses to tower corners, having helmed coping and trefoil-headed panels. Carved limestone buttresses with pinnacles to porch. Pointed arch window openings with tooled limestone sills to nave, having cut limestone block-and-start surrounds and hood mouldings. Bipartite lead-lined stained glass windows within reticulated tooled limestone tracery to front elevation window openings. Single-light pointed arch lead-lined stained glass windows to rear elevation and western bay of front elevation. Pointed arch window openings with tooled limestone sills to chancel, having tooled limestone hood mouldings and block-and-start surrounds. Lead-lined stained glass windows to tooled limestone ogee headed tracery. Pointed arch window openings with tooled limestone sills to third stage of tower, having block-and-start limestone surrounds and hood mouldings, openings blocked with timber panelling. Square-headed window opening with tooled limestone

sill and label moulding with carved label stops to second stage of tower, having tooled limestone mullion and cast-iron quarry-glazing. Pointed arch door with tooled limestone hood surround and hood moulding with carved label stops to tower, having chamfered diminishing reveal, timber panelled door and tooled limestone steps. Pointed arch entrance opening with tooled limestone surround and hood moulding with carved label stops to porch, having tooled limestone stepped approach. Square-headed door opening to interior of porch having replacement double-leaf timber battened doors. Square-profile rendered piers to front of site with cast-iron gates. Set within graveyard.

3. Bats in Ireland

In Ireland, nine species of bat are currently known to be resident with the residency of the tenth recorded species yet to be proven. These are classified into two Families: the Rhinolophidae (Horseshoe bats) and the Vespertilionidae (Common bats). The Lesser Horseshoe Bat *Rhinolophus hipposideros* is the only representative of the former Family in Ireland. All the other Irish bat species are of the latter Family and these include three pipistrelle species: common *Pipistrellus pipistrellus*, soprano *Pipistrellus pygmaeus* and Nathusius' *Pipistrellus nathusii*, four Myotids: Natterer's *Myotis nattereri*, Daubenton's *Myotis daubentonii,* whiskered *Myotis mystacinus*, Brandt's *Myotis brandtii* and brown long-eared *Plecotus auritus* and Leisler's *Nyctalus leisleri* bats.

Bats that use buildings can generally be divided into four categories, although there is regional variation, and some species can occupy more than one category.

- Crevice-dwelling bats (which tend to be hidden from view) include the Common Pipistrelle, Soprano Pipistrelle, Nathusius' pipistrelle, Brandt's bat and whiskered bat.
- Roof-void dwelling bats (that may be visible on roof timbers) are Leisler's bat and Daubenton's bat.
- Bats that need flight space in certain types of roost are Natterer's bat, and brown long-eared bat.
- Bats that need flight space and flying access into the roost include the Lesser Horseshoe Bat.

Bats generally require a variety of elements, that need to be taken into consideration when roosting within a building, these range from temperature and humidity regime within the roost, aspect and orientation of the roost, size of roost, access points, lighting, materials and perching points. Important roosting sites for bats in buildings include crevices in stonework of old and modern structures, crevices in brick work of chimneys, attics of buildings – old and modern buildings – often behind roofing felt, under ridge tiles or in wall cavities and underground structures associated with older buildings (**Figure 2**).

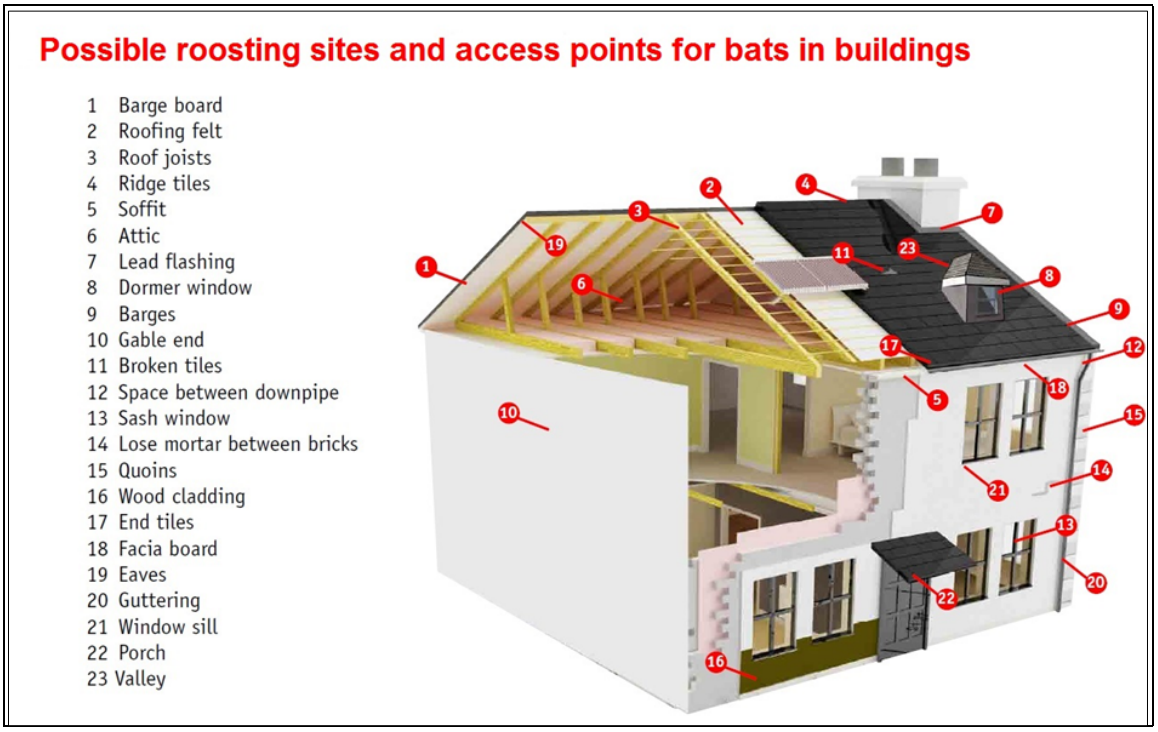

Figure 2. Possible roosting sites for bats in buildings.

To maximise warmth, maternity roosts for example are often located on the south and west of houses or close to sources of heat such as chimneys and boilers. Most species prefer to roost in quite small spaces and are not usually found in open draughty areas like barns. Common and Soprano Pipistrelles for example are generally found in the inaccessible parts of the roof structure and around its edges and rarely enter the loft space. Where bats are seen in buildings during the winter, they tend to be alone or in small, scattered groups, hidden in crevices or under slates and away from sources of heat.

Bats will also often use features such as hedgerows, treelines, woodland edges and waterways as commuting pathways between roosts and foraging areas. Sheltering vegetation, such as treelines, not only acts as cover from potential predators and the weather, but also provides structure for acoustic orientation and navigation. Sheltered areas also allow insects to gather and therefore support bat forging. Activities which affect these bat flyways are likely to have consequences for bats.

4. Desktop review and legislation

Whiskered and Natterer's bats are listed as 'Threatened in Ireland', while the other species are listed as 'Internationally Important' in the Irish Red Data Book 2: Vertebrates (Whilde, 1993). The population status of both Whiskered and Natterer's bats was considered 'indeterminate' because of the small numbers known of each, a few hundred and approximately a thousand respectively. Ireland is considered to be an international stronghold for Leisler's bat, whose global status is described as being at 'low risk, near threatened' (LR; nt) by the IUCN (Hutson, *et al*., 2001).

Near threatened status is applied to those taxa that are close to being listed as vulnerable (facing a high risk of extinction in the wild in the medium-term future on the basis of a range of criteria defined by the IUCN). The Irish population of the Lesser Horseshoe Bat is estimated

at 14,000 individuals and is considered of International Importance because it has declined dramatically and become extinct in many other parts of Europe. Data collected shows that the species increased significantly between from the early 1990's to present.

A review of existing bat records within grid square W37 (the hectad which overlaps with the proposed development) showed that Daubentons Bat, Brown Long eared Bat, Leislers Bat, Common Pipistrelle and Soprano Pipistrelle have been recorded within this grid square (sourced from National Biodiversity Ireland (NBDC)). It is noted that although other bat species have not been included within this database, this does not exclude their occurrence. Lesser Horseshoe Bat is the only species of bat listed on Annex II of the Habitats Directive (Directive 92/43/EEC) and is not listed from this square, however this species could potentially occur. No roosts of Lesser Horseshoe Bat are known to occur within Macroom town and no significant bat roosts have been recorded previously in proximity to the church (Conor Kelleher pers. comm).

5. Protection of bats

All bat species are protected under the Wildlife Acts (1976 & 2000) which make it an offence to wilfully interfere with or destroy the breeding or resting place of all species; however, the Acts permit limited exemptions for certain kinds of development. All species of bats in Ireland are listed in Schedule 5 of the 1976 Act and are therefore subject to the provisions of Section 23 which make it an offence to:

- Intentionally kill, injure or take a bat
- Possess or control any live or dead specimen or anything derived from a bat
- Wilfully interfere with any structure or place used for breeding or resting by a bat
- Wilfully interfere with a bat while it is occupying a structure or place which it uses for that purpose

In addition to domestic legislation, bats are also protected under the EU Habitats Directive (92/43/EEC) with all bat species listed in Annex IV of the Directive. The Irish government is also a signatory to the 1979 Bonn convention (Convention on the conservation of migratory species of wild animals) and the 1982 Bern convention (The convention on the conservation of European wildlife and natural habitats) and has a commitment to the 1991 Eurobats agreement (Agreement on the conservation of bats in Europe).

6. Site surveys

6.1 Building surveys

An internal and external inspection of the building was conducted during daylight hours to look for possible emergence points and bat presence. The presence of bats is often shown by grease staining, droppings, urine marks, corpses, feeding signs such as invertebrate prey remains and/or the presence of bat fly *Nycteribiidae* spp. pupae, although direct observations are also occasionally made. Bat droppings are often identifiable to species-level based on their size, shape and content for example Brown Long-eared and Lesser Horseshoe Bats, are very distinctive and unmistakable.

The church consists of three distinct elements, namely the existing tower which is partially accessible, the main church and an unfinished extension which is accessible from the church but is unfinished. Only the lower part of the tower was accessible during the survey, however based on a review of available photography it is drafty with few suitable cracks and crevices for bats.

The stained-glass windows in the church are intact. They do not provide access points and the doors are well sealed with plywood. The most obvious access point into the overall complex for bat is via gaps in the walls of the unfinished extension. There is also a potential access point to the upper part of the tower via a partially blocked window at the front of the church. The presence of large volumes of pigeon dropping and corpses indicates significant usage has occurred in the past, although no birds were recorded during the internal survey. The roof of the church is wooden but overall the interior of the church is open and drafty and is unlikely to provide high value bat roosting habitat.

The church is located close to the Sullane River which provides high value foraging habitat for bats. There are a large number of dwellings and other structures within the town which could potentially provide bat roosts and mature trees in this general area could also be utilised. The graveyard and grounds of the church provides some potential foraging habitat but is not considered of particular value as light levels are high.

No signs of bats were recorded during searches of the interior of the building, which is considered of low to moderate suitability as bat roosts under the guidelines set out in '*Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn*)' (Collins 2016).

Photograph 1. Main body of church front view

Photograph 2. Tower with potential access point at window evident

Photo 3. Rear of church with modern extension

Photograph 3. Interior of church with wooden ceiling.

Photograph 4. Interior of tower (photo not taken by author).

6.2 Emergence survey results

A bat emergence survey was carried out on by two surveyors on the 22nd September 2021 using a Batbox Duet bat detector and Echo Meter Touch 2 PRO bat detector. This survey followed the guidelines set out in *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins 2016). Weather conditions were suitable with bright dry conditions and suitable temperatures (12^0C). It is noted that although the survey was carried out late in the survey season, weather conditions were suitable on the night of the survey and in weeks preceding it.

No bats were recorded emerging from any of the structures or trees within the site boundary, however some foraging activity was recorded by a small number of Soprano Pipistrelle bats. One to two individuals were recorded foraging consistently in the darker areas at the back of the church. However activity levels dropped away quite quickly. There was also sporadic signals of overflying Leisler's and Soprano Pipistrelle which probably represents bats from roosts to the east, within the town, overflying the site to reach the primary foraging areas along the Sullane River. One possible Lesser Horseshoe Bat signal was detected. However it was faint and at distance and identification was uncertain.

7. Mitigation

During the site works, general mitigation measures for bats will follow the National Road Authority's 'Guidelines for the Treatment of Bats during the Construction of National Road Schemes' NRA (2005c) and 'Bat Mitigation Guidelines for Ireland: Irish Wildlife Manuals, No. 25' (Kelleher, C. & Marnell, F. (2006)). These documents outline the requirements that will be met in the pre-construction (site clearance) stage to minimise negative effects on roosting bats, or prevent avoidable effects resulting from significant alterations to the immediate landscape.

Works will be supervised by a suitably qualified ecologist. If bats are recorded by the bat specialist within the structure works will halt and no works will proceed without a relevant derogation licence from the NPWS.

During construction directional lighting will be employed to minimise light spill onto adjacent areas. No directional lighting will be focused towards riparian habitat along the Sullane River and cowling and focusing lights downwards will be utilised to minimise light spillage.

8. Conclusions

No bat emergence was recorded during the site survey and the building is not considered of high value as a potential roost. Some limited foraging activity by Soprano Pipistrelle was recorded in proximity to the church and overall the site is considered of local value for foraging bats.

9. References

Altringham J 2003. British Bats. Collins New Naturalist Series No 93, Harper Collins, London

Bat Conservation Ireland (2010) Bats & Lighting; Guidance Notes for: Planners, engineers, architects and developers.

Bat Conservation Trust. http://www.bats.org.uk/pages/uk_bats.html. Accessed 02/11/21

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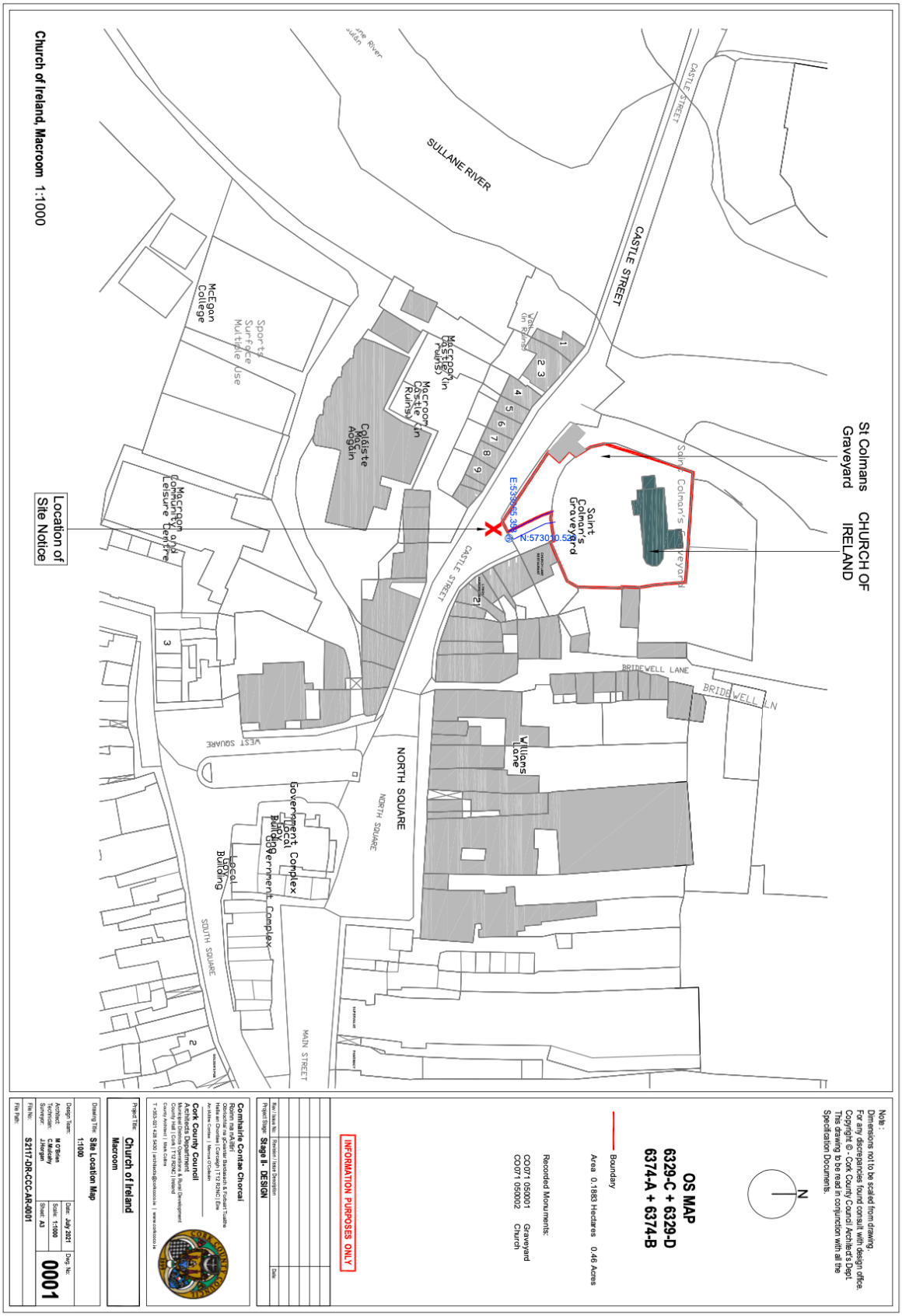
Entwistle A, Racey P & Speakman J 1997. Roost selection by the brown long-eared bat (Plecotus auritus). Journal of Applied Ecology

Lundy MG, Aughney T, Montgomery WI, Roche N (2011) Landscape conservation for Irish bats & species specific roosting characteristics. Bat Conservation Ireland.

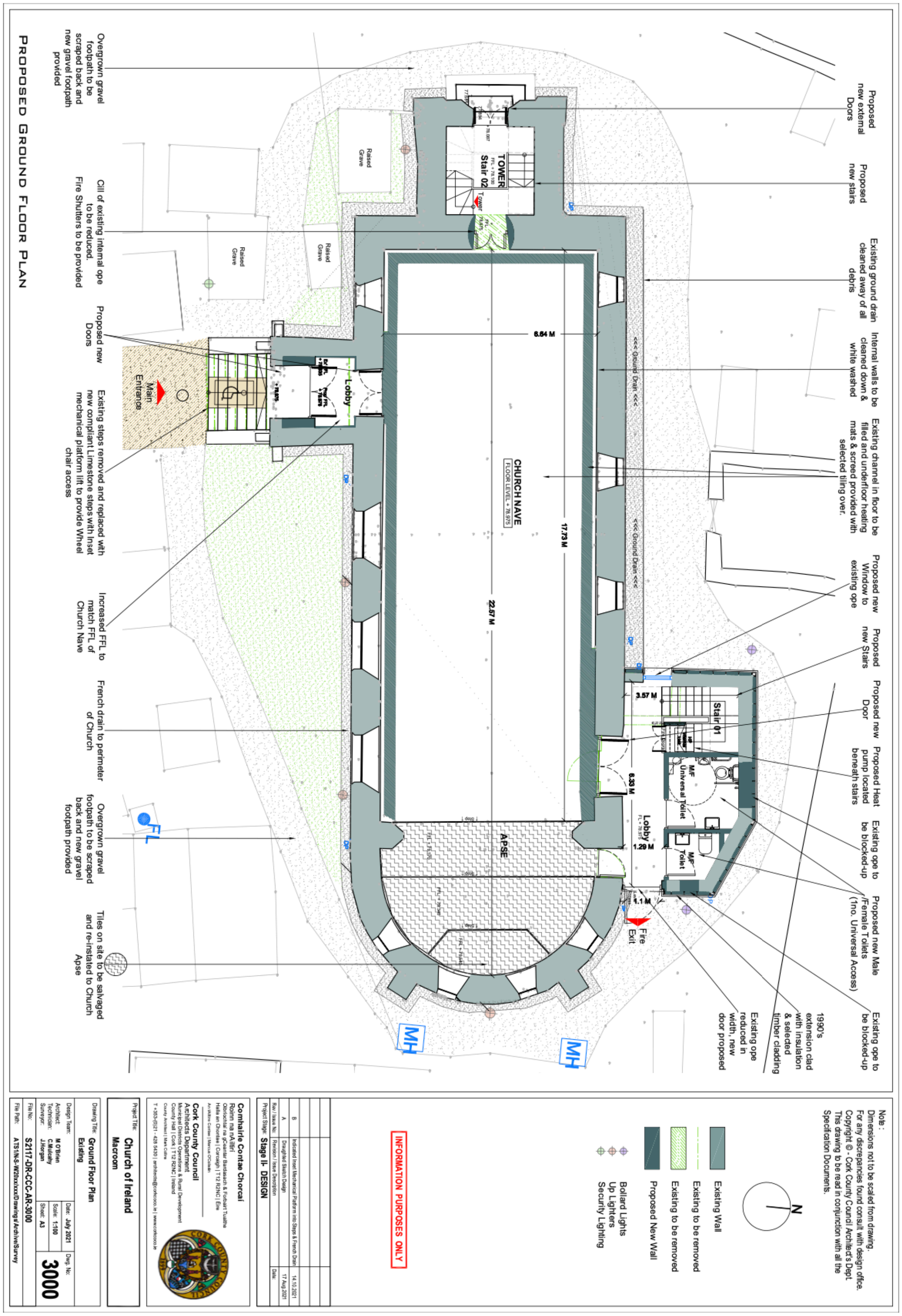
McAney, K. (2006) A conservation plan for Irish vesper bats. Irish Wildlife Manuals, No. 20. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

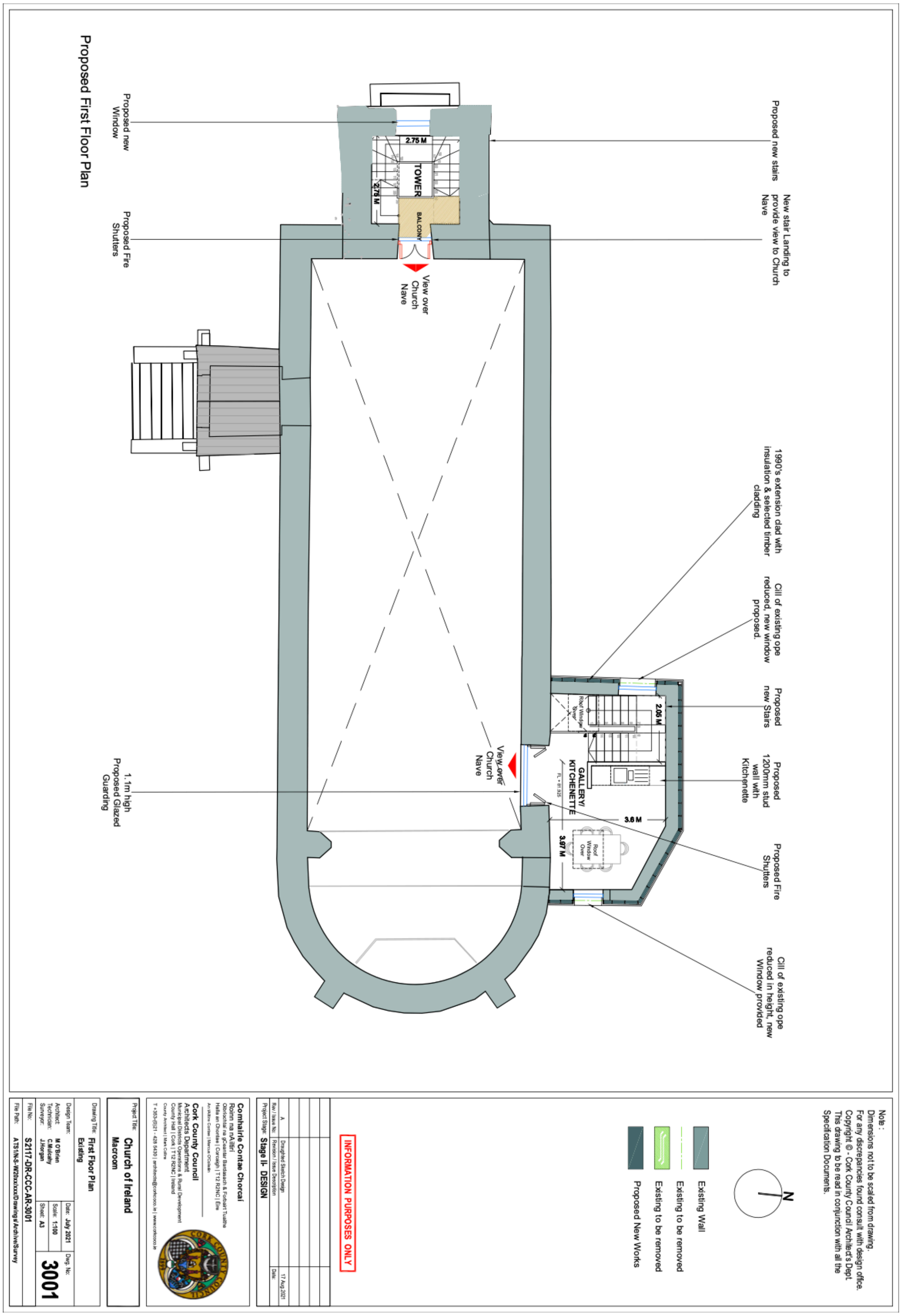
National Biodiversity Ireland (NBDC). Accessed 01/11/21

Appendix 1. Site drawings




Proposed Site Layout
SULLANE RIVER
CASTLE STREET BRIDGE
Wall (in Ruins)
Proposed Bin Storage
Proposed New Bike Stands
Existing footpath resurfaced with selected gravel on polypropylene gravel stabilising sheets with metal trim edging.
Proposed Inset Mechanical Platform into Stepsto provide level access to Church
CASTLE STREET
CHURCH LANE RESTAURANT
Main Entrance
N:573010.520
Existing overgrown gravel footpath around Church to be scraped and new gravel provided.
Proposed French drain around perimeter of Church
Church of Ireland
Saint Colmans Graveyard
Note :
Dimensions not to be scaled from drawing.
For any discrepancies found consult with design office.
Copyright © - Cork County Council Architect's Dept.
This drawing to be read in conjunction with all the Specification Documents.
N
Boundary
Area 0.1883 Hectares 0.46 Acres
1990's Extension
Pre 2007 Extension, Planning Retention not required
Bollard Lights
Up Lighters
Security Lighting
INFORMATION PURPOSES ONLY
Stage II - DESIGN
Comhairle Contae Chorcaí
Cork County Council
Project Title: Church of Ireland Macroom
Drawing Title: Site Layout Proposed
Date: July 2021
Scale: 1:500
Sheet: A3
S2117-DR-CCC-AR-0030
0030


PROPOSED GROUND FLOOR PLAN
Proposed new external Doors
Proposed new stairs
Existing ground drain cleaned away of all debris
Internal walls to be cleaned down & white washed
Existing channel in floor to be filled and underfloor heating mats & screed provided with selected tiling over.
Proposed new Window to existing ope
Proposed new Stairs
Proposed new Door
Proposed Heat pump located beneath stairs
Existing ope to be blocked-up
Proposed new Male /Female Toilets (Inc. Universal Access)
Existing ope to be blocked-up
1990's extension clad with insulation & selected timber cladding
Existing ope reduced in width, new door proposed
Overgrown gravel footpath to be scraped back and new gravel footpath provided
Cill of existing internal ope to be reduced. Fire Shutters to be provided
Proposed new Doors
Existing steps removed and replaced with new compliant Limestone steps with inset mechanical platform lift to provide Wheel chair access
Increased FFL to match FFL of Church Nave
French drain to perimeter of Church
Overgrown gravel footpath to be scraped back and new gravel footpath provided
Tiles on site to be salvaged and re-instated to Church Apse
TOWER
Stair 02
Raised Grave
Main Entrance
Lobby
CHURCH NAVE
APSE
Stair 01
Universal Toilet
Fire Exit
MH
6.64 M
17.73 M
22.57 M
3.57 M
6.33 M
1.29 M
1.1 M
Note :
Dimensions not to be scaled from drawing.
For any discrepancies found consult with design office.
Copyright © - Cork County Council Architect's Dept.
This drawing to be read in conjunction with all the Specification Documents.
N
Existing Wall
Existing to be removed
Proposed New Wall
Bollard Lights
Up Lighters
Security Lighting
INFORMATION PURPOSES ONLY
Project Stage: Stage II- DESIGN
Comhairle Contae Chorcaí
Cork County Council
Project Title: Church of Ireland Macroom
Drawing Title: Ground Floor Plan Existing
Date: July 2021
Scale: 1:100
Sheet: A3
File No: S2117-DR-CCC-AR-3000
Dwg. No: 3000


Proposed First Floor Plan
Proposed new Window
Proposed Fire Shutters
TOWER
BALCONY
2.75 M
View over Church Nave
Proposed new stairs
New stair Landing to provide view to Church Nave
1990's extension clad with insulation & selected timber cladding
Cill of existing ope reduced, new window proposed.
Proposed new Stairs
Proposed 1200mm stud wall with Kitchenette
Proposed Fire Shutters
Cill of existing ope reduced in height, new Window provided
1.1m high Proposed Glazed Guarding
GALLERY/ KITCHENETTE
2.05 M
3.6 M
3.97 M
Note :
Dimensions not to be scaled from drawing.
For any discrepancies found consult with design office.
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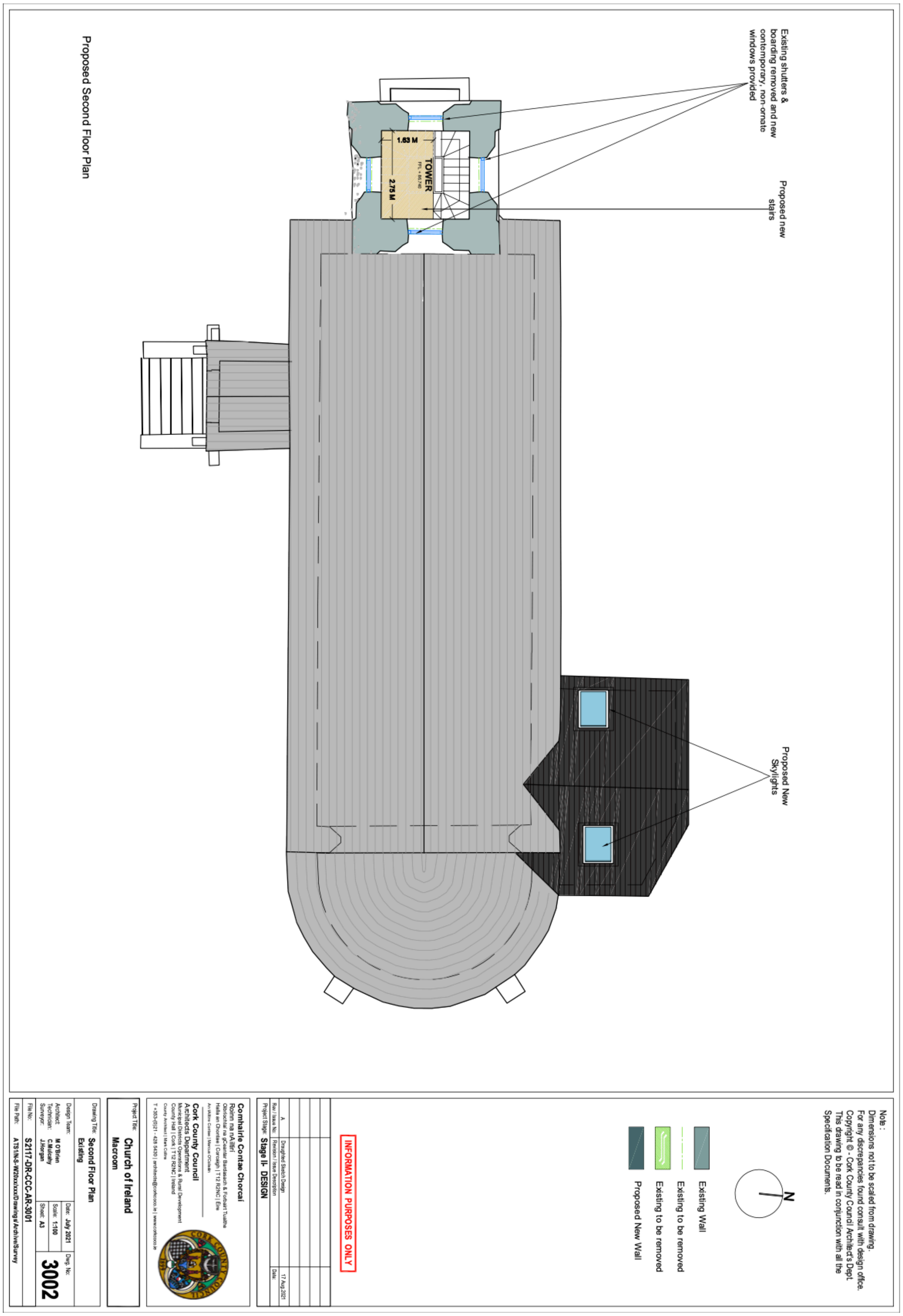
N
Existing Wall
Existing to be removed
Proposed New Works
INFORMATION PURPOSES ONLY
Stage II- DESIGN
Comhairle Contae Chorcaí
Cork County Council
Architects Department
Church of Ireland Macroom
First Floor Plan Existing
Date: July 2021
Scale: 1:100
Sheet: A3
3001
S2117-DR-CCC-AR-3001


Proposed Second Floor Plan
Existing shutters & boarding removed and new contemporary, non-ornate windows provided
Proposed new stairs
TOWER
1.63 M
2.75 M
Proposed New Skylights
Note :
Dimensions not to be scaled from drawing.
For any discrepancies found consult with design office.
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This drawing to be read in conjunction with all the Specification Documents.
N
Existing Wall
Existing to be removed
Proposed New Wall
INFORMATION PURPOSES ONLY
Project Stage: Stage II- DESIGN
Comhairle Contae Chorcaí
Cork County Council
Project Title: Church of Ireland Macroom
Drawing Title: Second Floor Plan Existing
Date: July 2021
Scale: 1:100
Sheet: A3
3002
S2117-DR-CCC-AR-3001