

# **TECHNICAL APPENDIX 5.4: ENVIRONMENTAL COLOUR STUDY**

## 5.1 Introduction

### Purpose

- 5.1.1 This Environmental Colour Study has been prepared by horner + maclennan Landscape Architects on behalf of Scottish and Southern Electricity Networks – Transmission (SSEN-T) (the Applicant) in accordance with the guidance and advice provided in the Landscape Institute Environmental Colour Assessment (ECA) – Technical Information Note 04/2018 (TIN 04/18)<sup>1</sup>. The RAL K5 Classic<sup>2</sup> and National Colour System<sup>3</sup> (NCS) palettes of colours have also been utilised.
- 5.1.2 ECA is an objective, landscape-led iterative process which helps to inform many of the issues associated with colour selection and specification, especially in the external environment. Its use can lead to significant landscape and visual enhancements associated with a proposed development, from effectively camouflaging or minimising the visual appearance of a utilitarian building within its surrounding landscape, to emphasising the distinctive character and qualities of a place through architecture, expressed in colour, form and massing. ECA is consequently concerned with the application of colour to developments in the context to how they sit and are seen in relation to both natures and manmade colours, forms and shapes.
- 5.1.3 The main objective of this study is to produce a palette of colours that can be used to inform and guide colour selection and choices in relation to the introduction of colours on the structures of the Proposed Development and associated hard and soft surfaces when seen within its particular landscape context where these are relevant within the views available. This supports, through appropriate and considered colour selection, the LVIA objective of seeking to avoid or minimise advise visual impacts in relation to the introduction of the Proposed Development.

### **Proposed Development**

- 5.1.4 The Proposed Development is a large-scale complex of electrical substations, HVDC Converter Stations and Switching Stations, located in an undesignated rural landscape to the west of Stornoway, in a landscape predominantly characterised by large-scale gently undulating peat moorlands interspersed with numerous large and small lochs and often edged with coniferous and deciduous woodlands.
- 5.1.5 The Proposed Development would be static, with no movement, and consists of architecture which is large in scale and simple in form although surrounded by various smaller scale, more detailed elements and equipment. There would be a network of roads connecting the buildings and other elements throughout the Proposed Development site with large areas of hardstanding between roads and buildings and also between roads and the boundary security fence.
- 5.1.6 The visual impact of the Proposed Development would be mitigated by a landscape design strategy informed by a detailed landscape and visual impact assessment. Areas of earth bunding and woodland planting would be introduced around the edges of the development to reduce its visibility from the surrounding landscape. However, given the scale and height of the Proposed Development, it will remain visible in certain views and consequently, further consideration to reduce the visual impact of the development is needed through the careful selection of the use of colour suited to the local landscape context within which the Proposed Development would be seen.
- 5.1.7 This study seeks to develop a proposed colour palette which aims to mitigate the visual impact of the Proposed Development and integrate it into its landscape setting through the adoption of a considered colour strategy based on analysis of colours present in the local surroundings and specific views, allied with other design considerations. Where practical, the colour strategy will be based on a standard colour palette/range from a SSEN approved supplier.

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<sup>&</sup>lt;sup>1</sup> The Landscape Institute. 2018 Environmental Colour Assessment Technical Information Note 04/2018. London: The Landscape Institute

<sup>&</sup>lt;sup>2</sup> RAL. 2014 RAL K5 Colour Chart. Sankt Augustin, Germany: RAL-Colours

<sup>&</sup>lt;sup>3</sup> NCS 2024 National Colour System 2050. Stockholm: NCS



## Approach, Terminology and Methodology

- 5.1.8 The most important principle upon which ECA is based is that a single colour is rarely if ever seen in isolation: it is seen within, or against, a wider context of other colours. Externally, those colours derive from land, vegetation, water, sky, and built form. Thus, it is essential to understand this wider colour context, so that the most appropriate colours for what is proposed can be identified.
- 5.1.9 Another important consideration in ECA (and design generally) is light, since this has a profound effect on our perception of colour, and how it 'behaves'. Colour and light should always be considered together, as they are essentially inseparable elements. Also, the interplay of light and materials affects how colour is perceived even black surfaces which are reflective can appear to be bright white in certain light conditions. Light in the context of the specific northern location of the proposed development, with significant contrasts between summer and winter light conditions and intensities, will therefore be an important consideration.
- 5.1.10 Colour and material choices also need to be informed by the background texture of the landscape setting. This requires analysis of local building materials, finishes and detailing, as well as the dominant vegetation and ground finishes to understand the depth of relief, play of light and shade and range of tactile surfaces. These observations will help determine appropriate colours, finishes and textures for a development.
- 5.1.11 Although the term 'colour' is used on a day-to-day basis, when carrying out ECAs it is necessary to understand the difference between 'hue' and 'tonality' (or 'value').
- 5.1.12 Tonality is a particularly relevant factor in ECA. Whilst the nature of hue alters with distance, tonal contrasts between built form and landscape remain largely constant. Also, the difference in tone between a building or structure and its surroundings is probably the most important factor contributing to recognition of its form. It is therefore the tonal qualities of the colour rather than the hue of the colour that will help to achieve a desired design objective, such as camouflaging, integrating, or accenting a building, structure or surface within its landscape setting.
- 5.1.13 Therefore, if a development will be visible from afar and the objective is to 'lose' it in the landscape, tones are typically selected which match, or are slightly darker than, the tonality of the landscape background/context colours against which the development would be viewed (which of course vary from viewpoint to viewpoint). Conversely, if the intention is to create a landmark structure which is visible from long distances, much lighter tones than are present in the visual landscape context should be selected.
- 5.1.14 Although ECAs can be carried out throughout the year, experience has shown that the winter months are likely to give the best results. In winter, the landscape is at its most elemental and bare-boned, more clearly exposing its structure, underlying rocks and soils, patterns and forms. Also, foliage and the play of light and shade in leaf canopies does not distract the eye or screen interrelated views, as they may in the summer. As there may be little leaf-cover in the landscape for up to six months of the year in many parts of the UK, and specifically given the northerly location of the Proposed Development, new development has to respond to this context as well as during the summer months. Whilst the incidence, proportions and visibility of colour will vary through the seasons, there will usually be a consistency of colours present throughout the year. Therefore, colours selected from a winter palette will always be relevant to informing the ECA.
- 5.1.15 The approach adopted for this assessment adopts the following steps:
  - Identify key views from publicly accessible locations for a range of visual receptors which represent different ways in which the Proposed Development would be seen in relation to backdrop and skyline.
  - For each viewpoint, understand the context of how the Proposed Development would be seen in terms of its relationship to backdrop, horizon, skyline or sky and how its overall massing, form and shape would be perceived.
  - From the selected viewpoints, identify the range of colours present in each of the views during different seasons and weather conditions.
  - Identify and review colours adopted for other large-scale traditional and contemporary buildings in the surrounding area.



- Research similar precedent projects which have developed a colour strategy to inform an approach to colour selection for the Proposed Development.
- Test, evaluate and review a range of colour strategies for the Proposed Development for their suitability to the surrounding landscape, using selected viewpoint photography in summer and winter conditions with coloured renditions from a 3D model of the Proposed Development inserted.
- Identify a proposed colour palette for the Proposed Development based on conclusions reached from the application of the colour strategies with associated recommendations for further detailed review and design development.
- 5.1.16 For practical reasons, it would be desirable to select colours from manufacturers standard colour ranges for materials to be used on the proposed development where these are considered a reasonably close and acceptable match to the preferred colours proposed.

## **Design Principles related to Colour Selection**

- 5.1.17 This section outlines some generally accepted design principles which will apply in the majority of cases when considering colour selection for large-scale building developments. The application of colour on the external envelope of large-scale structures is one of the simplest and most cost-effective methods for transforming their appearance, reducing their visual impact and enhancing their contribution to their setting.
- 5.1.18 Colour selection will be primarily informed by if the building is seen backclothed against the land/sea or seen skylined against the sky, as both conditions influence how the building will be perceived by viewers.
- 5.1.19 Use of varying shades of both the same and different colours, or colours related to each other in hue and tone, can break down the solidity of the large-scale mass of building complexes.
- 5.1.20 Darker colours at the base of buildings can assist in 'grounding' the building with lighter colours at the top producing less visual contrast against the sky. Alternatively, lighter colours at the base of a building can assist in reducing the apparent height of the building, with upper levels appearing to 'float' above the site.
- 5.1.21 An occasional contrast or highlight colour on individual buildings, part of a building or smaller elements can be used to draw attention away from ground clutter or to distract from viewing the overall larger massing of a development, and therefore lessen its perceived scale. This one colour can act as a focal point against a backdrop of more neutral colours. It is not necessary for this colour to comprise of a primary colour, only that it should be of modest scale and sufficiently stand out against its background to draw attention to it and away from the backdrop.
- 5.1.22 Pattern can be used as a method of fragmenting and visually disrupting the form and mass of a building and breaking up the silhouette of the building outline, where strong non-orthogonal patterns in contrasting colours can effectively fragment and confuse the perception of the outline of a structure.
- 5.1.23 Buildings do not necessarily need to be 'hidden' or faithfully 'mimic' what is there in the surrounding context colours can be used not just to camouflage or visually integrate structures into their surroundings but to accent them without causing visual 'conflict'.
- 5.1.24 Primary or high contrast colours can help to define entrances and break up the monotony of large-scale elevations.
- 5.1.25 Where large groups of buildings are proposed in close proximity to each other, and which visually merge into a larger-scale mass, using a small selection of closely related colours for each individual building rather than treating each building with the same colour assists in breaking down the overall visual scale and mass of the development.
- 5.1.26 Treating elevations, gables and roofs on individual buildings in different colour shades or colour combinations can often meet design objectives of merging the development into its landscape context.
- 5.1.27 Expressing the horizontality of long buildings allows them to establish a strong connection with the ground plane and can be especially effective in wide open landscapes.



- 5.1.28 Consideration will require to be given to the colour treatment of large areas of hardstanding which are not roads, especially where these are visible from viewpoints on higher elevations looking down towards a proposed development.
- 5.1.29 The colour of boundary fencing can have a considerable influence on the perceptibility of a large-scale development, particularly where galvanised barbed wire is used along the top of the fence and which tends to highlight its alignment.

## 5.2 Landscape Analysis

## The Site and Surroundings

5.2.1 The Proposed Development site lies to the south-west of Stornoway, beyond the dense woodlands of Lews Castle and on the eastern edge of an extensive sweep of boggy open rolling moorland which extends across much of the central and northern hinterland of Lewis. Patchy bands of coniferous trees and small groups of coniferous and deciduous trees along minor watercourses contain the site although the landscape character is predominantly open with expansive views across an undulating moorland landscape interspersed with large and small lochans. Settlement is sparse with only a few isolated croft houses and the Creed Enterprise Park to the south-west. The Lochside Arena is the only nearby building of any similar scale to the individual buildings which comprise the Proposed Development.

### **Development and Views**

- 5.2.2 The Proposed Development site lies in a gently undulating open landscape. Expansive views are available from the surrounding area to the west and south whilst the dense woodlands of Lews Castle generally contain views to the north and east. Whilst relatively close, views to Stornoway are partially restricted by intervening high ground and woodlands.
- 5.2.3 The Proposed Development would be partly screened by a combination of existing landform and vegetation with newly introduced naturalistic rolling landforms and belts of new tree planting. Collectively, these would screen much of the lower parts of the proposed development and its associated infrastructure in views from most directions, although the higher sections of proposed buildings would remain visible in the long term.
- 5.2.4 The Landscape and Visual Impact Assessment (LVIA) (**Chapter 5, EIAR Volume 2**) undertaken for the Proposed Development identified a series of representative viewpoints, located at different distances, orientations and elevations from the Proposed Development site to assess the visual impact on sensitive visual receptors. Four of these viewpoints have been chosen for analysis in this study to assist in informing the identification of colours present in the local landscape during different seasonal, light and weather conditions. The selected viewpoints used in this study and using their viewpoint references from the LVIA, are:
  - Viewpoint B3 Lower Sandwick;
  - Viewpoint Ro2– A859;
  - Viewpoint REC4 Cnoc na Croic; and
  - Viewpoint REC7 Marybank picnic benches.
- 5.2.5 It is recognised that from each of the selected viewpoints, the Proposed Development would be seen in different landscape contexts and therefore different colour strategies may need to be developed in response to each selected viewpoint. However, it is noted that some elevations and roofs of the Proposed Development would be likely to be visible against the sky from certain viewpoints whilst from other viewpoints they would be seen against the land. Consequently, balancing potentially competing colour approaches between different viewpoints will be an inherent part of the developing the colour palette for the proposed Development.



## Viewpoint B 3 – Lower Sandwick

5.2.6 The Proposed Development would be visible as a new skyline feature, with a considerable number of the buildings being visible above the skyline. The Proposed Development would appear as two separate but closely related groupings of buildings, with large-scale gables forming much of the visible components of each grouping. Some smaller scale buildings set against or beyond the major gables would assist in reducing the vertical edge profile of the larger buildings.



## Figure 5.4.1 Proposed Development from Lower Sandwick

## Viewpoint Ro2 – A859

5.2.7 The Proposed Development would be visible as a new skyline feature with the upper sections of large-scale buildings appearing above the horizon, with their roofscape partly screened by an intervening coniferous plantation. The various buildings would appear collectively as two separate but closely aligned groupings, with buildings overlapping and backclothing each other to create a large-scale visual mass of buildings. One grouping of buildings would appear predominantly as a long elevation whilst the other grouping would comprise of a more diverse collection of elevations and gables grouped together with smaller scale buildings partly forming a foreground to larger buildings beyond.



## Figure 5.4.2 Proposed Development from A859

Viewpoint REC 4 – Cnoc na Croic

5.2.8 The Proposed Development would be visible as a new large-scale skyline feature, with buildings seen predominantly to their full height and in combination with associated infrastructure above the skyline. A large number of individual buildings would coalesce into an overall large-scale single composition, with a mix of elevations and gables being visible facing different directions. Some smaller scale buildings would form foreground features or edges to the larger composition of buildings.



Figure 5.4.3 Proposed Development from Cnoc na Croic



## Viewpoint REC 7 – Marybank Picnic Benches

5.2.9 The Proposed Development would be visible to its full extent as a large-scale collection of buildings and associated infrastructure seen backclothed against higher landform beyond. The majority of buildings would be grouped into a large-scale single visual mass comprising of a collection of elevations and gables at different orientations, and with smaller scale buildings forming foreground elements. Three individual buildings would sit to one side of the larger collection and would be predominantly perceived as separate visual components.



### Figure 5.4.4 Proposed Development from Marybank picnic benches

### 5.3 Viewpoint Colour Analysis (Figures 5.4.5 -5.4.9)

### Introduction

- 5.3.1 The following viewpoint colour analysis identifies the existing tones and hues which are characteristic in the local landscape of each of the selected viewpoints during different seasons, light and weather conditions. Photographs taken in September and November 2024 were used to consider how these tones and hues change during different seasonal and light conditions. Photographs taken in September have been used to represent 'summer' conditions as they were taken during hot, dry, sunny conditions and provide a useful contrast to those taken in November.
- 5.3.2 For each selected viewpoint, representative colours considered to be present in the view during summer and winter conditions were identified from the RAL K5 Classic<sup>2</sup> colour chart and added as colour swatches to photographs taken from the viewpoints.
- 5.3.3 This analysis helps to inform the identification of a representative colour palette from the existing landscape which can be used to test different colour strategies for the Proposed Development. Colours which were identified for each viewpoint are presented using their RAL K5 Classic<sup>4</sup> reference with the nearest equivalent NCS 2050<sup>5</sup> colour match where available as identified on the e-paint colour comparison chart. It should be noted that some equivalent NCS 2050 colours are classified as 'different/slightly different' to the RAL colour identified. Where the NCS 2050 equivalent colour is classified as 'noticeably different', this has been classed as 'no equivalent'.

### **Proposed Colour Palette**

- 5.3.4 In winter, the landscape is generally dominated by dullish colours, with shades of brown and dark green stretching across the terrain. However, on bright days with a low sun angle, colours tend to be highlighted and appear more intense. On the skyline, the landscape components tend to blur into a greyish hue, creating a muted scene.
- 5.3.5 In contrast, summer brings a more vibrant transformation to the landscape with brighter colours of specific plants and crops introduced which add more warmth to the scene. The skyline becomes more defined which tends to highlight the distinct features of the season.
- 5.3.6 Colours selected in this study need to be able to adapt to both scenarios, so that they integrate with and relate to both the more muted tones of winter with the more vibrant hues of summer.

<sup>&</sup>lt;sup>4</sup> RAL. 2014 RAL K5 Colour Chart. Sankt Augustin, Germany: RAL-Colours

 $<sup>^5</sup>$  NCS 2024 National Colour System 2050. Stockholm: NCS



5.3.7 From the colour analysis undertaken at each viewpoint, the range of colours identified for each viewpoint in Figures 5.4.5 – 5.4.8 have been collated into an overall viewpoint colour palette which is representative of the total range of colours experienced during both summer and winter conditions for all 4 viewpoints. This palette has then been rationalised down into those colours which are the most frequently occurring through all of the viewpoint colour analyses and supplemented with other specific colours which form the predominant colour range at each viewpoint. This rationalisation has identified the proposed colour palette for the Proposed Development shown in Figure 5.4.9.



## Figure 5.4.5: Viewpoint B 3 - Lower Sandwick, Colour Analysis

Panorama - Winter



## Colour swatches

 
 RAL K5 Classic 6008
 RAL K5 Classic 8003
 RAL K5 Classic 6003
 RAL K5 Classic 5007

 Brown Green
 Clay Brown
 Olive Green
 Brilliant Blue

 NCS 2050 S 8502-Y
 NCS 2050 S 630-Y40R
 NCS 2050 S 7010-G70Y
 No equivalent
 RAL K5 Classic 7021 Black Grey NCS 2050 S 8502- B



 RAL K5 Classic 9022
 RAL K5 Classic 1034
 RAL K5 Classic 1017

 Pearl Light Grey
 Pastel Yellow
 Saffron Yellow

 No equivalent
 NCS 2050 S 2050-Y30R
 NCS 2050 S 1050-Y30R

Panorama - Summer



## Colour swatches













 RAL K5 Classic 6006
 RAL K5 Classic 7022
 RAL K5 Classic 7022
 RAL K5 Classic 2013
 RAL K5 Classic 7008
 RAL K5 Classic 1019
 RAL K5 Classic 1017
 RAL K5 Classic 6011
 RAL K5 Classic 5024
 RAL K5 Classic 7035
 RAL K5 Classic 7037
 RAL K5 Classic 7037<







## Figure 5.4.6: Viewpoint B 6 - A859 Near Arena, Colour Analysis

Panorama - Winter



## Colour swatches





RAL K5 Classic 1033 Dahlia Yellow No equivalent



Panorama - Summer



## Colour swatches



RAL K5 Classic 6008RAL K5 Classic 6002RAL K5 Classic 6037RAL K5 Classic





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## Figure 5.4.7: Viewpoint REC4 - Footpath Below Cnoc Na Croic, Colour Analysis





## Colour swatches







RAL K5 Classic 8016RAL K5 Classic 3005RAL K5 Classic 3009RAL K5 Classic 6003RAL K5 Classic 6008RAL K5 Classic 6010RAL K5 Classic 6011RAL K5 Classic 2011RAL K5 Classic 2011RAL K5 Classic 2011RAL K5 Classic 1002Mahogany Brown/<br/>NCS 2050 S 8010-Y70RWine Red<br/>NcS 2050 S 6030-Y80ROlive GreenBrown Green<br/>NCS 2050 S 7010-G70YBrown Green<br/>NCS 2050 S 8502-YRAL K5 Classic 6010RAL K5 Classic 6011RAL K5 Classic 2011RAL K5 Classic 2011RAL K5 Classic 1002No equivalentntNcS 2050 S 6030-Y80RNcS 2050 S 7010-G70YNcS 2050 S 8502-YNcS 2050 S 5040-G30YNcS 2050 S 5020-G30YNo equivalentNcS 2050 S 2030-Y20I

Sand Yellow NCS 2050 S 2030-Y20R



## Colour swatches











RAL K5 Classic 3028RAL K5 Classic 7026RAL K5 Classic 6006RAL K5 Classic 6003RAL K5 Classic 6002RAL K5 Classic 6010RAL K5 Classic 6018RAL K5 Classic 1006RAL K5 Classic 1001RAL K5 Classic







## Figure 5.4.8: Viewpoint REC 7 - Marybank, Colour Analysis

Panorama - Winter



## Colour swatches

AL K5 Classic 6007	RAL K5 Classic 6009	RAL K5 Classic 7026
ottle Green	Fir Green	Granite Grey
CS 2050 S 8010-G50Y	NCS 2050 S 8010-G10Y	No equivalent



 RAL K5 Classic 7003
 RAL K5 Classic 8011
 RAL K5 Classic 8002
 RAL K5 Classic 1034
 RAL K5 Classic 1017
 RAL K5 Classic 7001
 RAL K5 Classic 7002

 Moss Grey
 Nut Brown
 Signal Brown
 Pastel Yellow
 Saffron Yellow
 Silver Grey
 Traffic Grey A

 NCS 2050 6005-G80Y
 NCS 2050 S 7020-Y60R
 NCS 2050 S 6020-Y70R
 NCS 2050 S 2050-Y30R
 NCS 2050 S 1050-Y30R
 NCS 2050 S 4005-R80B
 NCS 2050 S 4052-R80B

Panorama - Summer



## Colour swatches























## Figure 5.4.9: Viewpoint Colour Analysis

	RAL K5 Classic 1001 Beige NCS 2050 S 2020-Y20R	RAL K5 Classic 1002 Sand Yellow NCS 2050 S 2030-Y20R	RAL K5 Classic 1006 Maize Yellow No equivalent	RAL K5 Classic 1013 Oyster White NCS 2050 S 1005-Y30R	RAL K5 Classic 1014 Ivory NCS 2050 S 1515-Y20R	RAL K5 Classic 1015 Light Ivory NCS 2050 S 1010-Y20R
	RAL K5 Classic 1035	RAL K5 Classic 2011	RAL K5 Classic 2013	RAL K5 Classic 3005	RAL K5 Classic 3009	RAL K5 Classic 3028
	Pearl Beige No equivalent	Deep Orange No equivalent	Pearl Orange No equivalent	Wine Red No equivalentnt	Oxide Red NCS 2050 S 6030-Y80R	Pure Red NCS 2050 S 1580-Y80R
	NCS 2050 S 7010-G70Y	RAL KS Classic 6006 Grey Olive NCS 2050 S 8005-G80Y	RAL KS Classic 6007 Bottle Green NCS 2050 S 8010-G50Y	RAL KS Classic 6008 Brown Green NCS 2050 S 8502-Y	RAL KS Classic 6009 Fir Green NCS 2050 S 8010-G10Y	Grass Green NCS 2050 S 5040-G30Y
	RAL K5 Classic 6021 Pale Green No equivalent	RAL K5 Classic 6037 Pure Green No equivalent	RAL K5 Classic 7001 Silver Grey NCS 2050 S 4005-R80B	RAL K5 Classic 7002 Olive Grey NCS 2050 S 5010-G90Y	RAL K5 Classic 7003 Moss Grey NCS 2050 6005-G80Y	RAL K5 Classic 7008 Khaki Grey NCS 2050 S 6020-Y
	RAL K5 Classic 7035 Light Grey NCS 2050 S 2002-G50Y	RAL K5 Classic 7040 Window Grey NCS 2050 S 3502-B	RAL K5 Classic 7042 Traffic Grey A NCS 2050 S 4502-G	RAL K5 Classic 7047 Telegrey 4 NCS 2050 S 2000-N	RAL K5 Classic 8000 Green Brown NCS 2050 S 5030-Y10R	RAL K5 Classic 8001 Ochre Brown No equivalent
Viewpoint Colour Palette						
	RAL K5 Classic 8029 Pearl Copper No equivalent	RAL K5 Classic 9011 Graphite Black NCS 2050 S 8500-N	RAL K5 Classic 9018 Papyrus White NCS 2050 S 2002-G50Y	RAL K5 Classic 9022 Pearl Light Grey No equivalent		
	RAL K5 Classic 1001 Beige NCS 2050 S 2020-Y20R	RAL K5 Classic 1002 Sand Yellow NCS 2050 S 2030-Y20R	RAL K5 Classic 1015 Light Ivory NCS 2050 S 1010-Y20R	RAL K5 Classic 1017 Saffron Yellow NCS 2050 S1050-Y30R	RAL K5 Classic 1019 Grey Beige NCS 2050 S 4010-Y30R	RAL K5 Classic 1034 Pastel Yellow NCS 2050 S 2050-Y30R
Proposed Colour Palette						
	RAL K5 Classic 6011 Reseda Green NCS 2050 S 5020-G30Y	RAL K5 Classic 6014 Yellow Olive NCS 2050 S 8005-Y20R	RAL K5 Classic 7001 Silver Grey NCS 2050 S 4005-R80B	RAL K5 Classic 7002 Olive Grey NCS 2050 S 5010-G90Y	RAL K5 Classic 7003 Moss Grey NCS 2050 6005-G80Y	RAL K5 Classic 7034 Yellow Grey NCS 2050 S 5010-G90Y



1015 RAL K5 Classic 1017 Saffron Yellow



D-Y80R



Brilliant Blue No equivalent



RAL K5 Classic 6011 
 Reseda Green
 Yellow Olive
 Yellow Green

 0-G30Y
 NCS 2050 S 5020-G30Y
 NCS 2050 S 8005-Y20R
 No equivalent



RAL K5 Classic 7021 Black Grey NCS 2050 S 8502- B



RAL K5 Classic 8002





 Ocean Blue
 Pastel Blue

 NCS 2050 S 6530-B30G
 NCS 2050 S3030-B



RAL K5 Classic 6014





RAL K5 Classic 5024





RAL K5 Classic 7026 Granite Grey No equivalent



![](_page_11_Picture_34.jpeg)

RAL K5 Classic 1034 Pastel Yellow NCS 2050 S 2050-Y30R

![](_page_11_Picture_36.jpeg)

Leaf Green No equivalent

![](_page_11_Picture_38.jpeg)

RAL K5 Classic 6020 Chrome Green NCS 2050 S 8010-G30Y

![](_page_11_Picture_40.jpeg)

RAL K5 Classic 7034 Yellow Grey NCS 2050 S 5010-G90Y

![](_page_11_Picture_42.jpeg)

RAL K5 Classic 8016 
 Signal Brown
 Clay Brown
 Nut Brown
 Mahogany Brown

 NCS 2050 S 6020-Y70R
 NCS 2050 S 6030-Y40R
 NCS 2050 S 7020-Y60R
 NCS 2050 S 8010-Y70R

![](_page_11_Picture_44.jpeg)

RAL K5 Classic 8003

![](_page_11_Picture_46.jpeg)

![](_page_11_Picture_47.jpeg)

0-Y30R

![](_page_11_Picture_49.jpeg)

/034

![](_page_11_Picture_51.jpeg)

RAL K5 Classic 1035 Pearl Beige No equivalent

![](_page_11_Picture_53.jpeg)

![](_page_11_Picture_55.jpeg)

 RAL K5 Classic 3009
 RAL K5 Classic 6003
 RAL K5 Classic 6008

 Oxide Red
 Olive Green
 Brown Green

 NCS 2050 S 6030-Y80R
 NCS 2050 S 7010-G70Y
 NCS 2050 S 8502-Y

![](_page_11_Picture_57.jpeg)

![](_page_11_Picture_59.jpeg)

![](_page_11_Picture_61.jpeg)

RAL K5 Classic 8002 RAL K5 Classic 9018

RAL K5 Classic 7047 Telegrey 4 0-G90Y NCS 2050 S 2000-N

RAL K5 Classic 8000 
 Green Brown
 Signal Brown
 Papyrus White

 NCS 2050 S 5030-Y10R
 NCS 2050 S 6020-Y70R
 NCS 2050 S 2002-G50Y

![](_page_12_Picture_0.jpeg)

## 5.4 Colours used in Existing Large-Scale Buildings in the Surroundings and other Precedents

### Introduction

- 5.4.1 Precedent is an important consideration when developing a colour strategy for a large-scale industrial building. Historically, the design of large-scale industrial buildings has a long tradition of architectural innovation as a result of them often embodying leading edge technologies and scale of operation. Precedent study often identifies recurring fundamental design strategies which are employed to mitigate the scale of development proposed.
- 5.4.2 A tour of the local and wider area around the Proposed Development site was undertaken to identify existing large-scale buildings, predominantly in rural locations, to establish to what extent, if any, their approach to the use of colour might help inform the colour strategy for the Proposed Development. This involved reviewing how colour had been applied to buildings, either as an individual colour, or as combinations of colours related to specific components such as walls, roofs and entrances. An analysis was undertaken of how these buildings were generally viewed in relation to their landscape context and how their use of colour affected their perceptibility in the landscape. Additionally, other large-scale developments which have adopted specific colour strategies were reviewed.

### Examples

### Example 1 – Lochside Arena

5.4.3 This is a large-scale mono colour shed set within an open predominantly moorland landscape. When seen from the south on the A859, it appears as a long linear roofscape backclothed against a mix of moorland, tree groups and buildings. The roof has a geometric pattern of rooflights which assist in breaking up the scale of the roof as well as providing some degree of small-scale highlights. The brown roof and elevation generally merges well with its backcloth although side lighting of the building gable results in the cladding material appearing much lighter in colour and therefore has a greater visual contrast against its darker backdrop. The galvanised columns and guttering of the southern projecting roof provide a small-scale highlight of light colour and geometric form seen against the larger mass of the building.

![](_page_12_Picture_9.jpeg)

Figure 5.4.10 View of The Arena from the South

![](_page_12_Picture_11.jpeg)

Figure 5.4.11 Closer view of The Arena from the A859

![](_page_13_Picture_0.jpeg)

Example 2 - Stornoway Power Station and industrial sheds at Newton marina

5.4.4 When seen from Lower Sandwick, the complex pattern of predominantly light coloured buildings are set against the dark backdrop of the Lews Castle woodlands, creating a strong visual contrast of colour between buildings and landscape which highlights and accentuates the visual prominence of the buildings. The dark caps to the tops of the power station chimneys do little to reduce the perception of their overall height. By contrast, the brown red stonework of Lews Castle allows the building to effectively merge with its backdrop and considerably reduces its perceptibility in the view.

![](_page_13_Picture_3.jpeg)

Figure 5.4.12: Stornoway Power Station highlighted against its wooded backdrop

Example 3 – Arnish Fabrication Yard

5.4.5 On the approach to Newton Marina, this simple composition of large-scale buildings is seen backclothed against higher topography behind. Darker tones for a large building have been used which reduces its perceptibility against the darker backdrop although light hitting the roof makes this appear much lighter in colour and therefore has a greater visual contrast against its backdrop. Lighter coloured buildings in the foreground help to visually reduce the overall size of the larger building beyond and draw the eye away from its overall scale. The light colour of the roof on the larger building is less successful in merging against its darker backdrop from this direction. The white lighthouse of Rubha Airinis is seen fully skylined and set apart from the fabrication yard buildings so has little effect in drawing the eye away from the fabrication yard buildings.

![](_page_13_Picture_7.jpeg)

### Figure 5.4.13: Arnish fabrication yard seen against its backdrop of hills

Example 4 – Arnish Fabrication Yard

5.4.6 When viewed from Lower Sandwick, this large-scale building is seen partially skylined and predominantly backclothed. The two-tone colour of darker elevation and lighter colour roof assists in transitioning between the darker colour of the backdrop and the lighter sky. Smaller scale foreground buildings in a lighter colour and a roof with bands of rooflights helps to reduce the overall scale of the large building beyond and reduces its apparent mass. The white lighthouse of Rubha Airinis creates a highlight feature in the view which draws the eye away from the main building complex due to its close position in the view from this location.

![](_page_14_Picture_0.jpeg)

![](_page_14_Picture_1.jpeg)

![](_page_14_Picture_2.jpeg)

Figure 5.4.14: Arnish fabrication yard seen from Lower Sandwick

Example 5 – HMCG Stornoway Air Wing Hanger, Stornoway Airport

5.4.7 Seen from Steinis set within a flat landscape of wide horizons, the buildings dark green tone contrasts against the extensive foreground of lighter colour grassland of the airport and the lighter distant backcloth. Smaller adjacent buildings partially help to reduce the overall scale of the building. The curved roof helps reduce/blur the clearly defined edges between the elevations, roof and ridgeline which occur on pitched roof buildings.

![](_page_14_Picture_6.jpeg)

Figure 5.4.15: Air Wing Hanger in contrast with its foreground

![](_page_14_Picture_8.jpeg)

Figure 5.4.16: Curved roof of the Air Wing Hanger reduces is defined edges

Example 6 – Stornoway Substation, A859

When seen from Marybank, the building and its associated infrastructure are seen fully backclothed against a block of coniferous woodland and a foreground of moorland. The colours of the building considerably assist in effectively merging it into its surroundings and reducing its perceptibility.

![](_page_14_Picture_12.jpeg)

Figure 5.4.17: The colours of Stornoway sub-station merge it into its backdrop of coniferous woodland

![](_page_15_Picture_0.jpeg)

## **Other Precedents**

5.4.8 Several other colour design strategies adopted on similar large-scale industrial buildings were reviewed to establish if they would be appropriate to consider for the Proposed Development.

Inch Cape Substation, Cockenzie, East Lothian

5.4.9 This development has adopted of a range of colour banding gradations on building elevations seeking to form a colour transition from the darker colours of the 'land' to the lighter colours of the 'sky'. Additionally, fragmenting the colour banding from a series of constant uniform horizontal banding to a more random stepped arrangement based on cladding module sizes offered further possibilities in breaking down the scale of the large-scale surfaces of the structures.

![](_page_15_Picture_5.jpeg)

Figure 5.4.18: Varied colour banding to break down scale of building

SSEN Transmission Warehouse, Inverness

5.4.10 This large-scale storage facility adopts a tonal range of related colours informed by other buildings in the local area and applied simply to the building in a sequence of horizontal colour bands. These bands transition from the darkest colour at the base of the building to the lightest at the top, with the intention for the building to merge into the skyline when seen from the surrounding area. This approach is relatively effective when the building is seen predominantly skylined but when seen against a backdrop of coniferous woodland, the strategy is less effective as the lighter colours on the upper section of the building visually contrast against the dark forest backdrop and emphasise the building's outline.

![](_page_15_Picture_9.jpeg)

Figure 5.4.19: Warehouse seen skylined where colour banding is relatively effective

![](_page_15_Picture_11.jpeg)

Figure 5.4.20: Warehouse is more perceptible against a darker backdrop

![](_page_16_Picture_0.jpeg)

### Norbord Mill, Dalcross

5.4.11 This development adopts a strategy of a limited range of cladding colours inspired by the local landscape interspersed with smaller areas of more translucent materials to create the illusion of 'voids' in the facades. This approach allied with a very simple colour banding arrangement successfully breaks down the overall scale of the building. Large areas of single colour are also broken down in scale by using different smaller scale panel sizes orientated in different directions to achieve another more detailed level of articulation of the building façade. A light colour band to the base of building further breaks down the height of the building and gives the impression of the upper sections 'floating' above the ground.

![](_page_16_Picture_3.jpeg)

Figure 5.4.21: Effective use of simple colour banding breaks down scale of building

## 5.5 Colour Strategies (Figures 5.4.22 – 5.4.33)

### Approach

- 5.5.1 Given that the Proposed Development would be seen within a range of different landscape contexts, and that from certain locations it would appear predominantly skylined whilst from others it would be predominantly or fully backclothed, a series of different colour strategies were developed which could be tested from each of the selected viewpoints to establish their effectiveness. Each colour strategy uses the proposed colour palette as the basis for selecting colours and their combination to meet the visual objective of each strategy.
- 5.5.2 Given the overall scale and complexity of the different building components which comprise the Proposed Development and the different landscape context in which the Proposed Development would be seen, colour strategies have avoided using a single or limited range of colours for the overall development or for individual buildings. Rather a more nuanced approach has been adopted which comprises a broader range of related colours, tones and hues to meet the visual objectives of each different colour strategy.

### Colour Strategy 1: Blending

5.5.3 This approach uses a colour palette which aims to merge the development into its landscape context, through selecting only hues and tones which occur in the local landscape throughout the seasons. This strategy uses a wide range of related colours tailored to each viewpoint and applied to different elevations, gables and roofs with the objective of breaking down the overall scale and mass of components, reducing the perceptibility of the Proposed Development within the selected views rather than to completely hide the development from view, and where appropriate provide a colour transition between land and sky through colour banding on the buildings. The colour range used for this strategy comprises:

•	Saffron Yellow	RAL K5 Classic 1017

- Grey Beige RAL K5 Classic 1019
- Olive Green RAL K5 Classic 6003
- Silver Grey
   RAL K5 Classic 7001
- Olive Grey
   RAL K5 Classic 7002
- Moss Grey
   RAL K5 Classic 7003

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- Yellow Grey RAL K5 Classic 7034
- Telegrey 4 RAL K5 Classic 7047
- Green Brown
   RAL K5 Classic 8000
- Signal Brown RAL K5 Classic 8002
- Papyrus White RAL K5 Classic 9018

## Colour Strategy 2: Camouflage

5.5.4 This approach uses a more limited range of different combinations of colour directly related to the predominant colours present in each view to essentially 'lose' the development in the landscape. It also uses aspects of the blending strategy to break down the overall scale and mass of components to confuse the perception of building form and shape, break up the silhouette and eliminate or reduce the sense of depth of the development within a view. The objective is to make the development as difficult as possible to perceive from any direction, irrespective of whether it is seen against a backcloth of land or sky. The colour range used for this strategy comprises:

•	Olive Green	RAL K5 Classic 6003
•	Brown Green	RAL K5 Classic 6008
•	Silver Grey	RAL K5 Classic 7001
•	Olive Grey	RAL K5 Classic 7002
•	Moss Grey	RAL K5 Classic 7003
•	Yellow Grey	RAL K5 Classic 7034
•	Telegrey 4	RAL K5 Classic 7047
•	Papyrus White	RAL K5 Classic 9018

## Colour Strategy 3: Contrast/Highlight

5.5.5 This approach uses specific highlight colours, evident in the local landscape, to emphasis particular smaller-scale components or features of the Proposed Development with the objective of visually highlighting these components and drawing the eye away from the overall scale and visual mass of the development, such that viewers don't immediately register the full extent of the development which they are seeing. This approach is predominantly an extension of the 'blending' strategy but incorporates an additional limited number of highlight colours applied to specific components of the Proposed Development. The colour range used for this strategy comprises:

Beige	RAL K5 Classic 1001
Sand Yellow	RAL K5 Classic 1002
Saffron Yellow	RAL K5 Classic 1017
Pastel Yellow	RAL K5 Classic 1034
Oxide Red	RAL K5 Classic 3009
Olive Green	RAL K5 Classic 6003
Reseda Green	RAL K5 Classic 6011
Silver Grey	RAL K5 Classic 7001
Telegrey 4	RAL K5 Classic 7047
Green Brown	RAL K5 Classic 8000
Papyrus White	RAL K5 Classic 9018
	Beige Sand Yellow Saffron Yellow Pastel Yellow Oxide Red Olive Green Reseda Green Silver Grey Telegrey 4 Green Brown Papyrus White

Scottish & Southern Electricity Networks

5.5.6 It should be recognised that it was considered unlikely that only one of the different colour strategies outlined above would be considered appropriate for all of the 4 viewpoints selected, given the different contexts in which the Proposed Development would be seen, and that consequently adopting combinations of each strategy appropriate to the selected viewpoints may be required to develop an overall colour palette for the Proposed Development.

## **Application of the Colour Strategies**

- 5.5.7 This section applies the 3 different colour strategies to each of the 4 selected viewpoints in both summer and winter conditions to test their application and appropriateness to meeting their visual objectives.
- 5.5.8 The visualisations shown in Figures 5.4.22- 5.4.33 use a 3D model of the proposed buildings inserted into the photograph of the existing view and incorporating proposed mitigation mounding and planting at 15 years following planting, with the exception of the visualisations prepared for Viewpoint Ro2 A859. Here, the proposed mitigation of boundary wall and tree planting belt would occupy the complete foreground of the existing view and fully obscure any views of the buildings of the Proposed Development. Consequently, the mitigation proposals have been omitted from the visualisations for Viewpoint Ro2 in order to be able to test the effectiveness of the different colour strategies from this viewpoint.
- 5.5.9 The extent of the view included in the visualisations represents only a part of the overall photographic panorama used in the preparation of the photomontages included in the LVIA and therefore tends to make the Proposed Development appear more prominent than it would in reality.

![](_page_19_Picture_0.jpeg)

## Figure 5.4.22: Viewpoint B 3 - Lower Sandwick, Colour Strategy 1: Blending

Panorama - Winter

![](_page_19_Picture_3.jpeg)

In winter, this strategy is effective in minimising the extent of perceptibility of the proposed buildings against the backdrop of sky, where they appear above the horizon and the mitigation mounding and planting. The light colour of the large-scale gable ends closely matches the backdrop of existing cloud cover and is also reasonably close to the general sky colour.

## Panorama - Summer

![](_page_19_Picture_6.jpeg)

In summer conditions, the large-scale gables appear a much darker shade that the adjacent elevations. However the gables are more likely to be seen in more shaded conditions than the elevations and therefore create more of a contrast against the backdrop of the sky which increases their perceptibility in contrast to the elevations which are effective in merging with the sky.