

Skanska UK's Approach To Geospatial Solutions For The Utility Sector

Edward C Hixson
Senior GIS Analyst, Infrastructure
Date: 30/04/26





- Graduate GIS Data Technician
- GIS Data Technician
- GIS Analyst

3 Years



10 Months

- Senior GIS Analyst -
- Evolving Leaders Group -





138 years in the making, we are one of the world's leading construction and project development groups

42%

USA

41%

Nordics

17%

Europe

Number of employees

26,300

2024 revenue of SEK

177 bn



2000

SKANSKA

Anglian Water relationship begins



2003

SKANSKA

The Gherkin completed



2011

SKANSKA

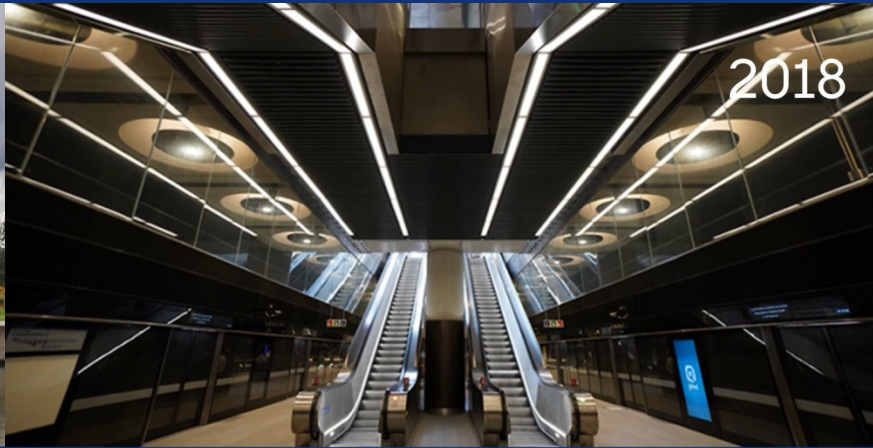
We're the UK's Greenest Company



2012

SKANSKA

We contributed to the fantastic Olympic Park



2018

SKANSKA

Elizabeth Line's Paddington Station



2019

SKANSKA

Wimbledon Centre Court roof installed



2020

SKANSKA

HS2 Main Works begins



2022

SKANSKA

Skanska named "Climate Leader"



2024

SKANSKA

A4545 link road opens

The **largest** water and water recycling company in England by geographic area



Serving almost

7 million

customers across the East of England and Hartlepool

05/18/2026

The driest region in the UK with

2/3

of the national average rainfall each year



One of the UK's fastest-growing regions, projected to grow by

175,000

homes by 2025

Skanska UK at Geospatial World forum

Operating

38,185km

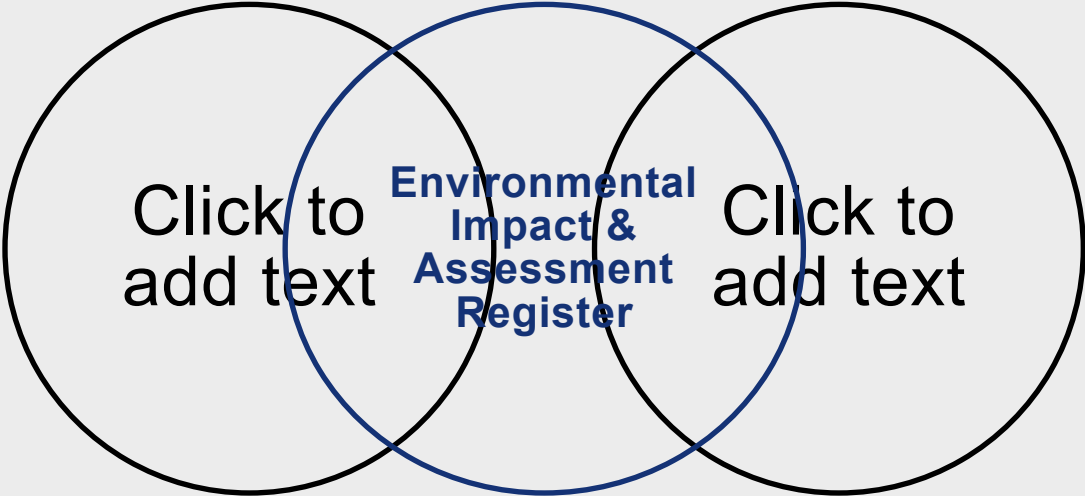
of water mains - laid end-to-end further than a trip to Sydney and back

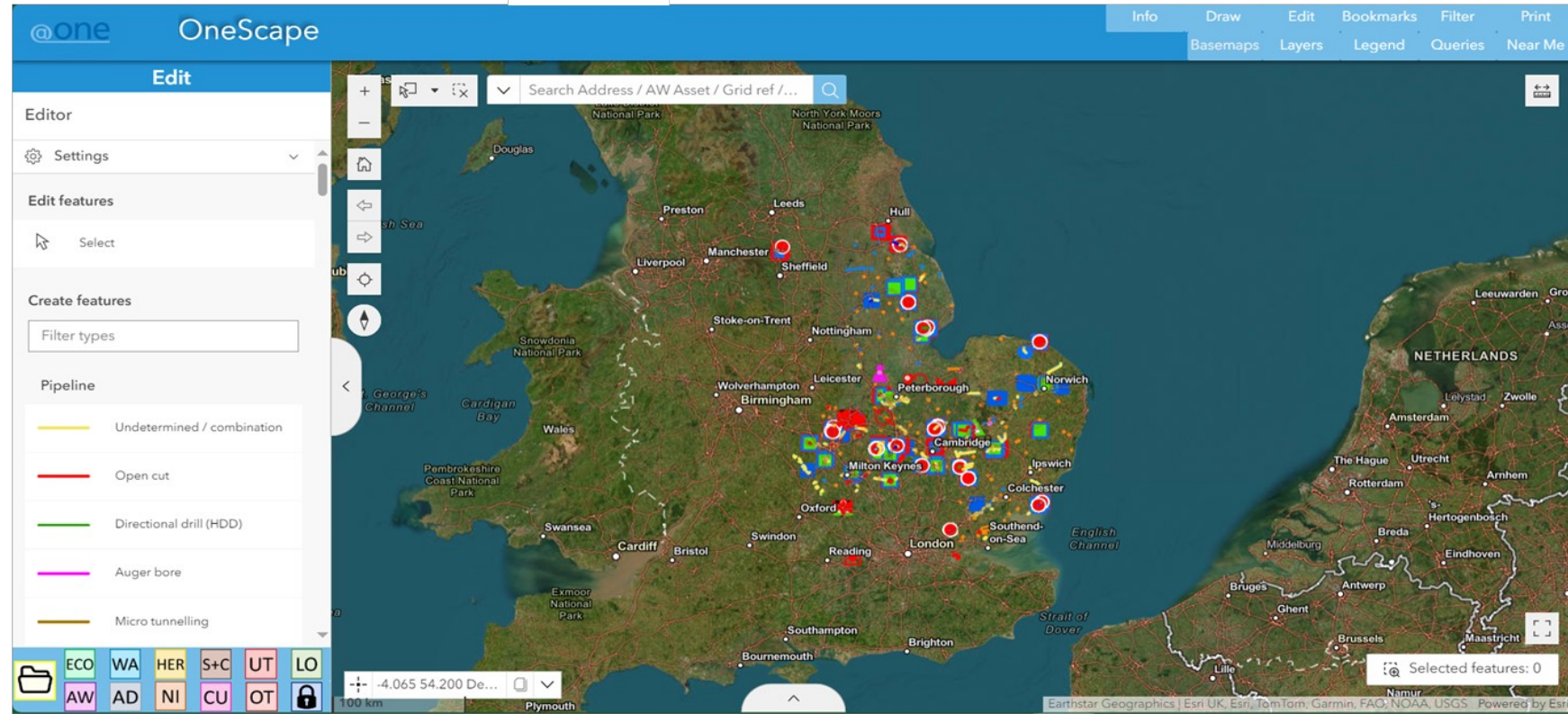
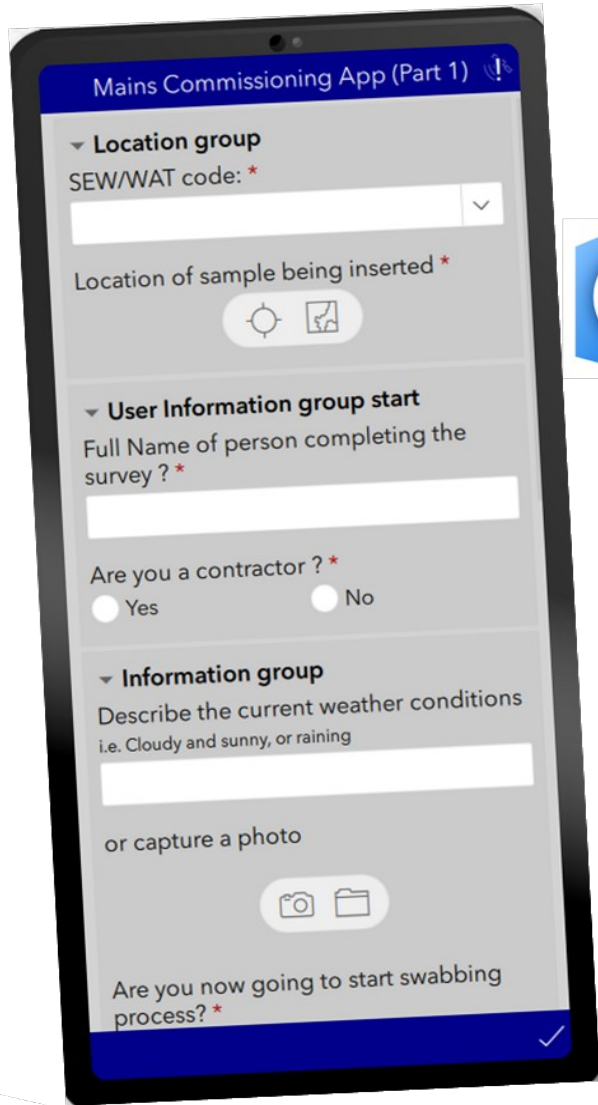


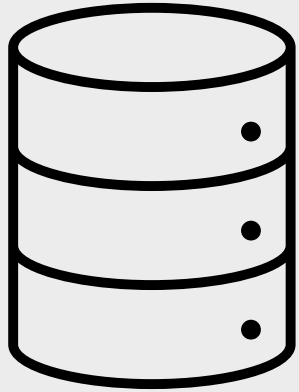
Employing more than

5,000

people







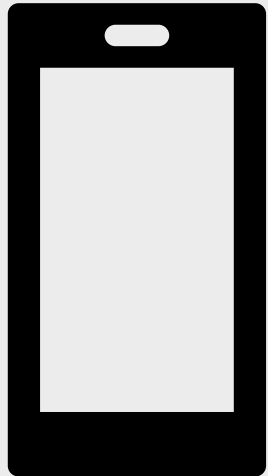
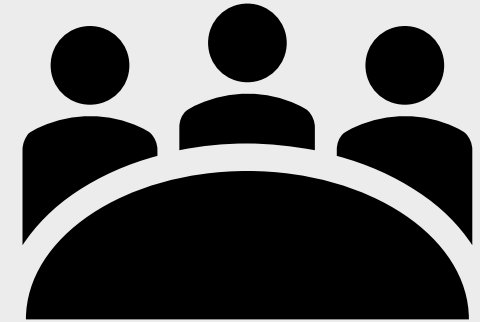
Historic Assets

- Pipelines
- Hydrants
- Valves
- Treatment Centres

Procured Data

3rd Party Data

- Local County / District Councils
- Environment Agency / Defra
- Living Atlas
- Historic England



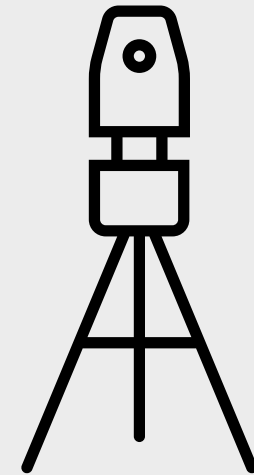
Survey123 processes

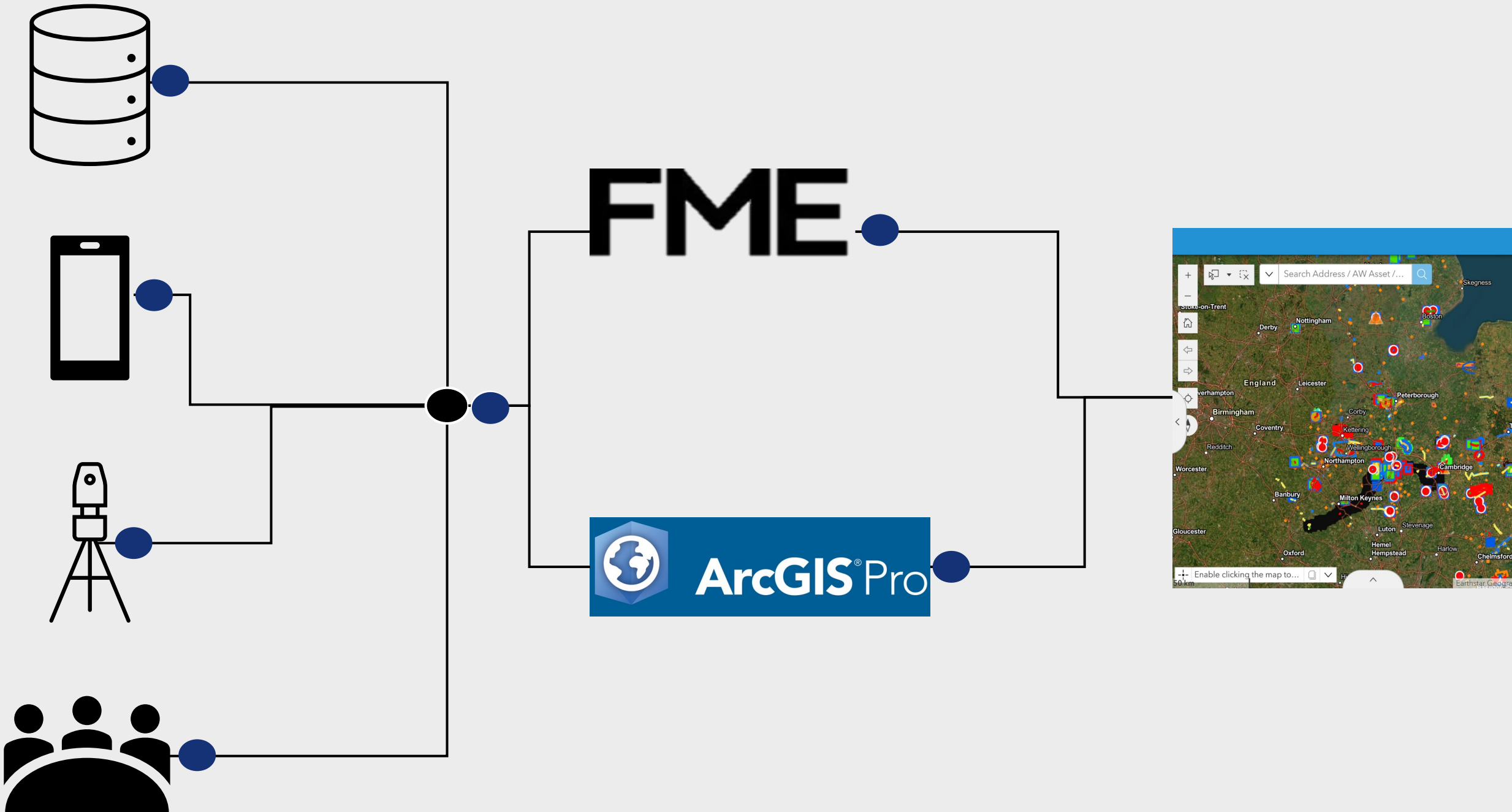
- GIME
- A&I Form
- ME&OW
- Mains Commissioning

Field Maps Data Collection

Surveyed Data

- Drone Surveys (CDE)
- Ecology Survey
- Archaeology Surveys
- BNG





Info

We are looking for your feedback! To provide it anonymously please use this link:

[Feedback form](#)

New Naming Convention Suitability Scores:

- SX** - Suitability is determined against the feature, not the layer
- S0** - Sketch or indication, not to be relied upon, working progress only
- S1** - Suitable for internal use only, @one and AW. Data cannot be relied upon, further sources must be consulted
- S2** - Suitable to be shared with some external stakeholders. Data comes from a reliable source and can be used with some confidence, though further sources may need to be consulted.
- S3** - Authoritative source, to be applied to verified data mostly received as published for public use from external stakeholders.

[Grid Reference Finder](#)

[OneScape User Guide](#)

Guidance Videos:

[Add Data Tutorial](#)

[Basemaps Tutorial](#)

[Search Function](#)

[Pop Ups Tutorial](#)

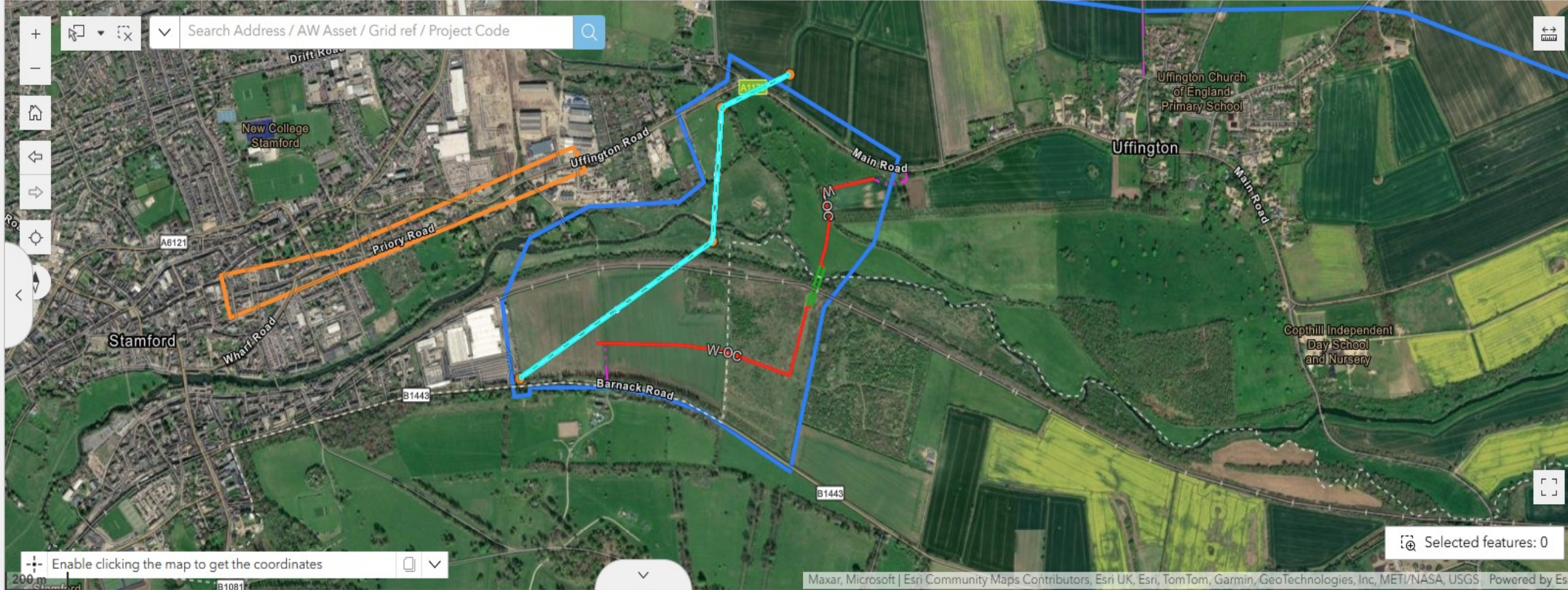


Widget Panel

Most Widgets will open in this panel when clicked on. Use the small arrow to the side of the panel to collapse it

We have updated the method in how you add data to OneScape!

Now you access the data groups through the "Add Data" button in the top right of this app. Once you click "+ Click to add data" you will see a drop down at the top of the pop up. This allows you to filter between which group you want to add data from, and then storing them all within one pane. Clicking the small blue "+" in the bottom of the Add Data panel will allow you to add more data to this list.



Pipeline

OBJECTID	Project code	Project name	Investment ID	Option number
1	WAT-07891 & SEW-12720	East West Rail 3	1025078	
2	WAT-07891 & SEW-12720	East West Rail 3	1025078	1
3	WAT-07891 & SEW-12720	East West Rail 3	1025078	1
4	WAT-07891 & SEW-12720	East West Rail 3	1025078	

Total: 1,243 | Selection: 0



This tool uses data from the Terrain 3D service. More details about the service can be found [here](#).

Environmental Assessment and Impact Register



Environmental Risk Register

GIS Survey Area *

Draw on the area surveyed

Area: 10.8 acres, Perimeter: 0.5 mi



Click **"Yes"** if you want to close remaining questions and save (submit) the form or **"No"** if you want to carry on

Yes

No

▼ Risk Selection: Section 2

Select relevant risk categories *

Tick all that apply

- Heritage
- Ecology
- Designations
- Waste
- Water
- Nuisance / Community
- Land Contamination
- T&C Planning
- Other

Select all relevant aspects

- Statutory Designated Sites



Environmental Risk Register

Bats

▼ Risk Assessment: Section 3

Site specific comments

Evidence of bats present on site

Risk Likelihood



Risk Severity



Risk score

15

Risk Level

Insert Risk Level for this activity (See image below)

- High
- Medium
- Low

Risk Assessment

Mitigation

Ecolgists require for safety netting/exclusion zone and extra permits need to complete works

Environmental Risk Register

▼ Legal Register

[Link to Legal Reference Document to check codes](#)

Check Legal Reference:

Use this query box to check information about any selected legal reference. After this then use the following multiple choice option to select which Legal References are relevant for this environmental risk

Title:

URL:

Description:

Enter Legal Reference:

To select a new legal reference document click the + button above

If you are finished with this selected risk click the next number in the sequence at the top of your screen

1 of 2

Please tick off what you have completed from this list as you complete them to keep track of completed repeats

- Bats
- Sites of Special Scientific Interest (SSSI)

150 Geospatial Datasets across the @one Alliance with over 50% being environment focused data!

Risk Categories

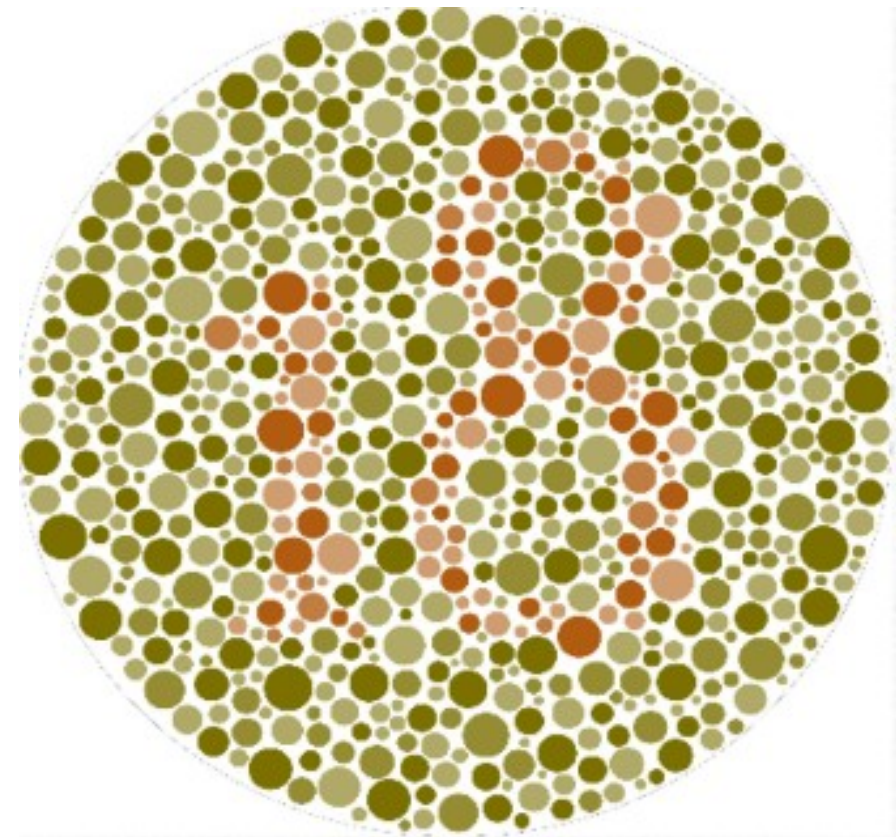
Select relevant risk categories

Tick all that apply

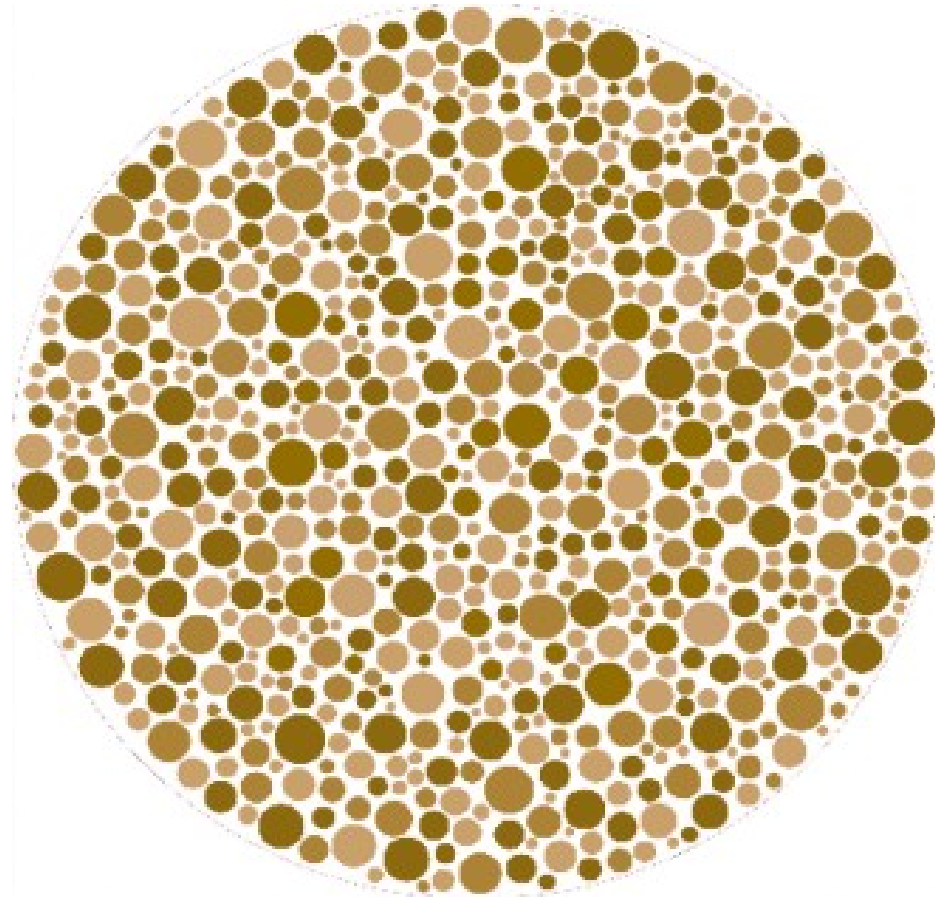
- Heritage Ecology Designations Waste Water Nuisance / Community Land Contamination T&C Planning Other



SKANSKA



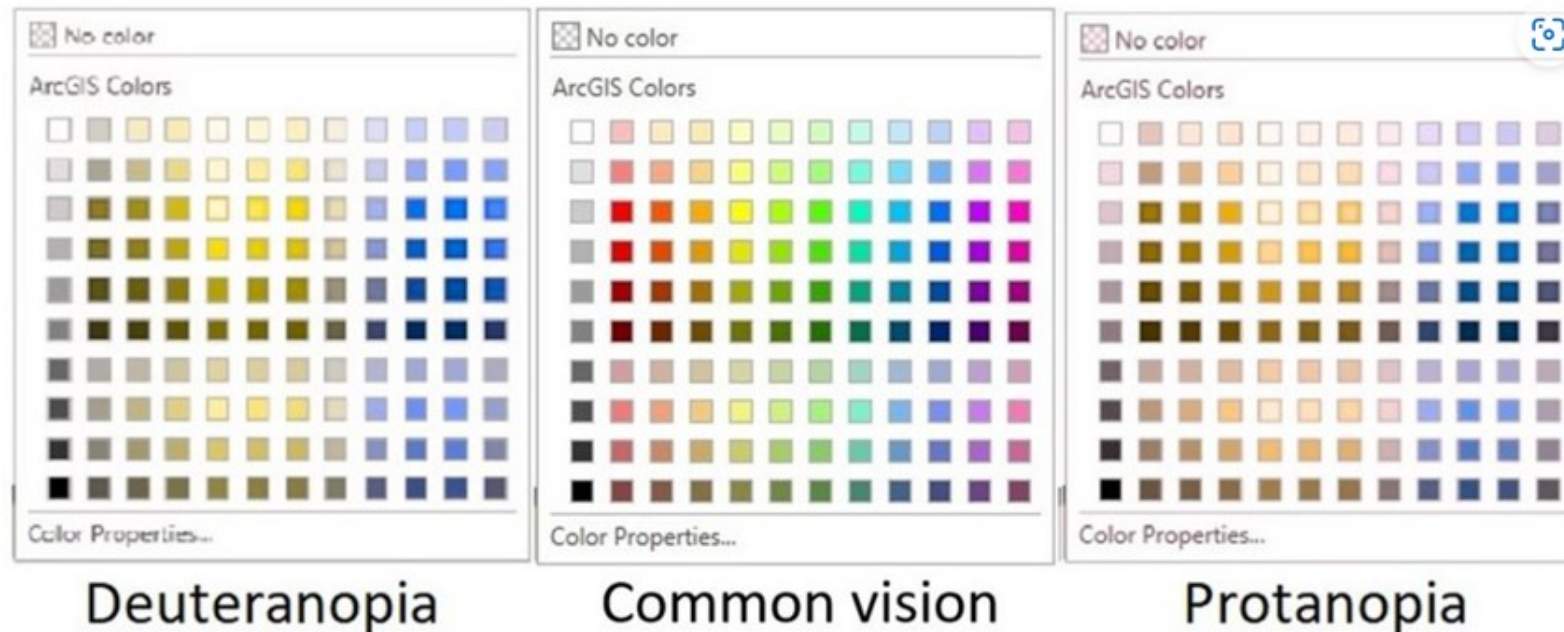
Normal Vision



Protanopia Vision

How does Colour Vision Deficiency impact GIS and visual data?

The aim of GIS is to convey data and its impacts with the use of visualisation techniques, specifically and most commonly colours.

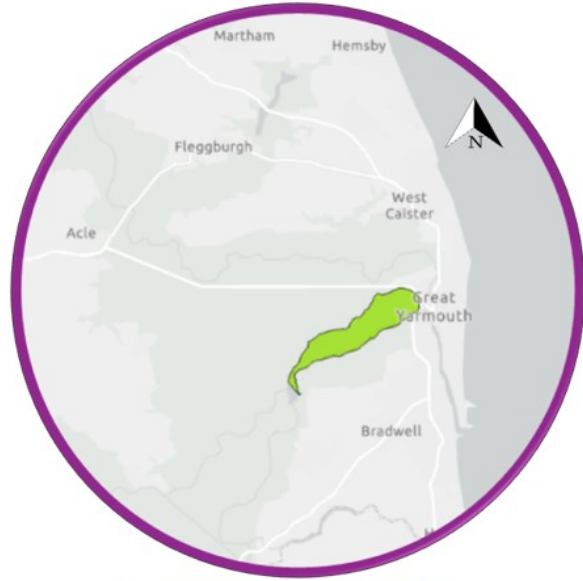


- Ancient Woodlands
- Areas of Outstanding Natural Beauty
- National Parks
- Sites of Special Scientific Interest
- Registered Parks and Gardens
- Millennium Greens (England)
- SalmonID Rivers
- Scheduled Monuments
- Historic Landfill
- Environment_Agency_Admin_Boundary

How were these identified ?



Where else have we applied this process?



BREYDON WATER

GREAT YARMOUTH, NORFOLK, NR31 0AY



@one

Any questions please contact ehixson@anglianwater.co.uk

AW Largest Local Nature Reserves - Breydon Water

Breydon Water is one of the largest Local Nature Reserves (LNRs) in the AW region and is on the Norfolk Coast by Great Yarmouth.

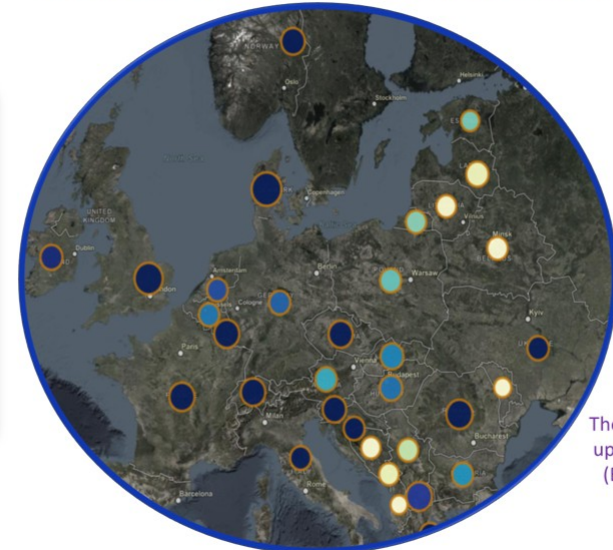
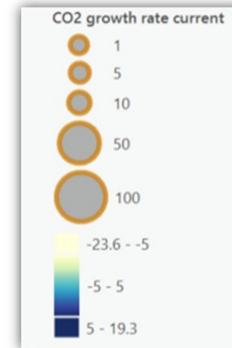
Measuring over 500 hectare, it is a biological Site of Special Scientific Interest, Ramsar, Special Protection Area and LNR. It is part of the Berney Marshes and Breydon Water nature reserve, which is managed by the Royal Society for the Protection of Birds.

This site houses a variety of species of wintering ducks, geese, swans, pink-footed geese, redshanks, wigeons, lapwings and avocets. Raptors are also regular visitors.

Why not visit?



Carbon Within Construction



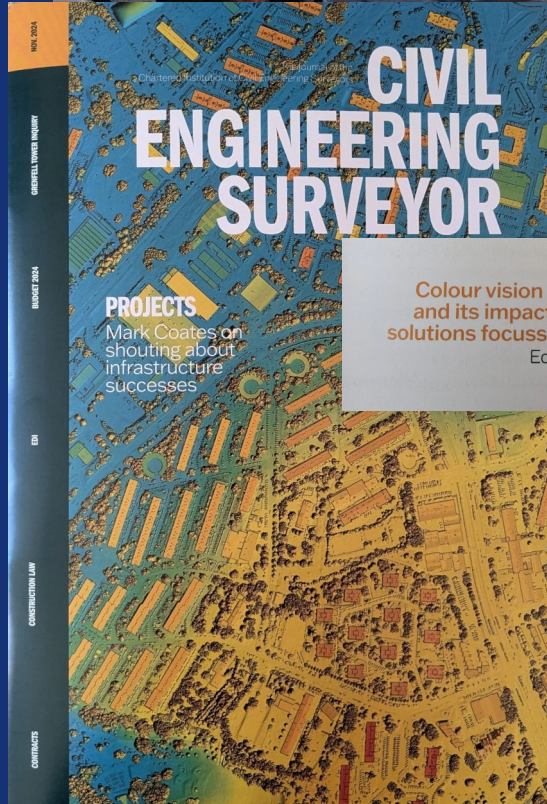
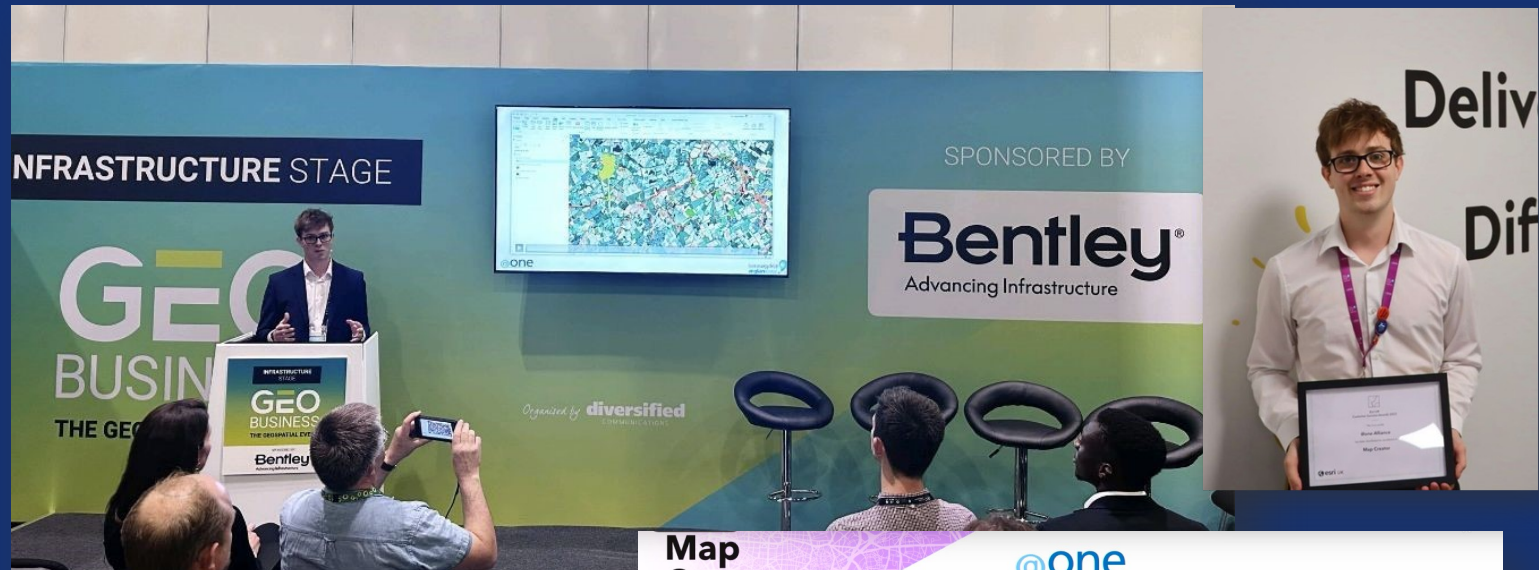
The construction industry contributes 11.4 million metric tons to the UK's carbon emissions every year

The construction industry is the 8th biggest industry within the UK

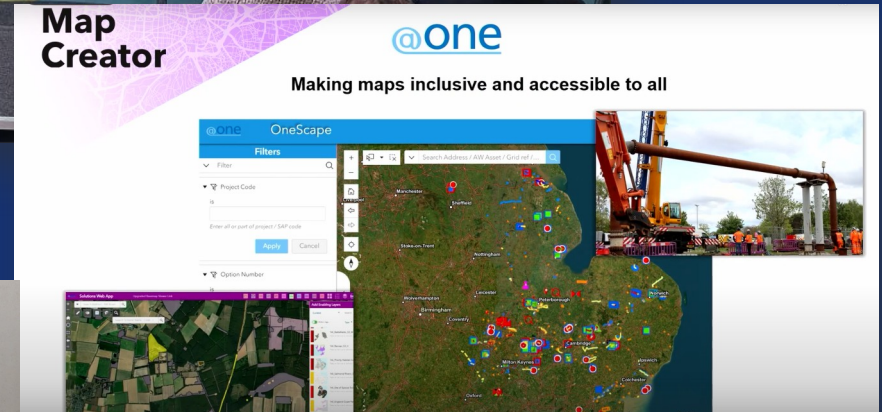
The construction industry makes up 40% of global Co2 emissions (Embodied and construction)

What's next ?

- Raising awareness within industry (CVD blog, LinkedIn, Presentations)
- Adapting our future data and apps
- Move outside of GIS, where else can this be applied?
- Industry expansion



41
Colour vision deficiency and its impact on digital solutions focussing on GIS
Edward Hixson
Skanska



ORIGINAL CONTENT | UNCATEGORIZED

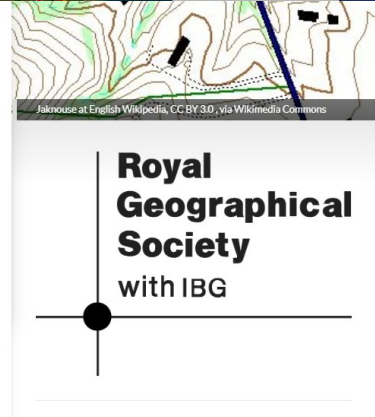
How Colour Vision Deficiency impacts decision making and accessibility through GIS analysis within the utility industry

by RGS-IBG MANAGING EDITOR: ACADEMIC PUBLICATIONS
April 10, 2024

Leave a Comment

By Edward C Hixson, the @one Alliance

The context



Thank you for listening!

Any Questions?



Edward C Hixson, TCIInstCES, BSc (Hons) 

He/Him

Senior GIS Analyst at Skanska, Construction News: Rising Star Finalist 2025 - ESRI: Customer Success Award Finalist 2024

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Skanska



The University of Hull