



DART+ West
Iarnród Éireann
Inchicore Works
Inchicore Parade
Dublin 8, D08K6Y3

06 September 2022

Re: Intended application for Railway Order Dart+ West Electrified Heavy Railway Order 2022

Your Ref: n/a

Our Ref: 22/339 [c.f. 21/290]

Dear Sir/Madam,

Geological Survey Ireland is the national earth science agency and is a division of the Department of the Environment, Climate and Communications. We provide independent geological information and advice and gather various data for that purpose. Please see our [website](#) for data availability. We recommend using these various data sets, when conducting the EIAR, SEA, planning and scoping processes.

With reference to your email received on the 05 August 2022, concerning the Intended application for Railway Order Dart+ West Electrified Heavy Railway Order 2022, Geological Survey Ireland would like to make the following comments since our last response 21/290.

We are pleased to see use of our Bedrock, Quaternary Subsoils, Geoheritage, Groundwater Recharge, Vulnerability, Aquifer, Karst, Groundwater Flooding, Group Scheme and Public Supply Source protection Areas, Groundwater Protection Schemes, Active Quarries and Mineral localities and Urban Geology datasets and maps within the EIAR. **Use of our data or maps should be attributed correctly to 'Geological Survey Ireland'.**

Geoheritage

We note in Chapter 9 'Land and Soils', Section 9.4.5 'Existing geological heritage of the EIAR', mention of the Louisa Bridge Cold Spring County Geological Site (CGS). There is another CGS in the same spring complex which is Louisa Bridge Warm Spring County Geological Site. Further details can be found [here](#) and in our previous response 21/290.

Other Comments

Should development go ahead, all other factors considered, Geological Survey Ireland would much appreciate a copy of reports detailing any site investigations carried out. Should any significant bedrock cuttings be created, we would ask that they will be designed to remain visible as rock exposure rather than covered with soil and vegetated, in accordance with safety guidelines and engineering constraints. In areas where natural exposures are few, or deeply weathered, this measure would permit on-going improvement of geological knowledge of the subsurface and could be included as additional sites of the geoheritage dataset, if appropriate. Alternatively, we ask that a digital photographic record of significant new excavations could be provided. Potential visits from Geological Survey Ireland to personally document exposures could also be arranged.

The data would be added to Geological Survey Ireland's national database of site investigation boreholes, implemented to provide a better service to the civil engineering sector. Data can be sent to the Geological Mapping Unit, at GeologicalMappingInfo@gsi.ie, 01-678 2795.

I hope that these comments are of assistance, and if we can be of any further help, please do not hesitate to contact me Clare Glanville, or my colleague Trish Smullen at GSIPlanning@gsi.ie.

Yours sincerely,



An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications



Geological Survey
Suirbhéireacht Gheolaíochta
Ireland | Éireann

Dr. Clare Glanville
Senior Geologist
Geological Survey Ireland

Trish Smullen
Geoheritage and Planning Programme
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Enc: Table - Geological Survey Ireland's Publicly Available Datasets Relevant to Planning, EIA and SEA processes.



Geological Survey Ireland's Publicly Available Datasets Relevant to Planning, EIA and SEA processes
following European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018
(S.I. No. 296 of 2018)

| Geological Survey Ireland Programme | Dataset | Relevant EIA Topic | Coverage | Description / Notes / Limitations | Link to Geological Survey Ireland map viewer |
|-------------------------------------|--|--------------------------------|----------|---|---|
| Geohazards | Landslide: National landslide database and landslide susceptibility map | Land & Soil/Climate/Landscape | National | Associated guidance documentation relating to the National Landslide Susceptibility Map is also available. | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=b68cf1e4a9044e5981f950e9b9c5625c |
| Geohazards | Groundwater Flooding (Historic) | Water | Regional | Provide information of historic flooding, both surface water and groundwater. [A lack of flooding presented in any specific location of the map only indicates that a flood has not been detected. It does not indicate that a flood cannot occur in that location at present or in the future] | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=848f83c85799436b808652f9c735b1cc |
| Geohazards | Groundwater Flooding (Predictive) | Water | Regional | Provides information on the probability of future karst groundwater flooding (where available). [The maps do not, and are not intended to, constitute advice. Professional or specialist advice should be sought before taking, or refraining from, any action on the basis of the flood maps] | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=848f83c85799436b808652f9c735b1cc |
| Geohazards | Radon Map | Land & Soils/Air | National | | http://www.epa.ie/radiation/radonmap/ |
| Geohazards | County Geological Sites as adopted by National Heritage Plan and listed in County Development Plans | Land & Soils/Landscape | Regional | All geological heritage sites identified by Geological Survey Ireland are categorised as CGS pending any further NHA designation by NPWS. | https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e874c0ab2fbd2aa3c228 |
| Geological Mapping | Bedrock geology: | Land & Soils | National | 1:100,000 scale and associated memoirs. | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7012a99d2748ea9106e7ee1b6ab8d58scale=0 |
| Geological Mapping | Bedrock geology: | Land & Soils | Regional | 1:50,000 scale | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7012a99d2748ea9106e7ee1b6ab8d58scale=0 |
| Geological Mapping | Quaternary geology: Sediments | Land & Soils | National | 1:50,000 scale | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7012a99d2748ea9106e7ee1b6ab8d58scale=0 |
| Geological Mapping | Quaternary geology: Geomorphology | Land & Soils | National | 1:50,000 scale | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7012a99d2748ea9106e7ee1b6ab8d58scale=0 |
| Geological Mapping | Physiographic units: | Land & Soils | National | Broad-scale physical landscape units mapped at 1:100,000 scale in order to be represented as a cartographic digital map at 1:250,000 scale | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=afa76a470f54877843aca1bc075c67b |
| Geological Mapping | GeoUrban: Spatial geological data for the greater Dublin and Cork areas | Land & Soils | Regional | Includes 3D models | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=976f8f4818b79416093b6b2212a850ce6&scale=0 |
| Geological Mapping | Geotechnical database | Land & Soils | National | Digitised geotechnical and Site Investigation Reports and boreholes which can be accessed through online downloads | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=a2718be1873d47a585a30415b4a724c |
| Goldmine | Historical data sets including geological memoirs and 6" to 1 mile geological mapping records | Land & Soils/Water | National | Available online | https://secure.dcae.gov.ie/goldmine/index.html |
| Groundwater & Geothermal | Groundwater resources (aquifers) | Water | National | Data limited to 1:100,000 scale; sites should be investigated at local scale | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef |
| Groundwater & Geothermal | Groundwater recharge. | Water | National | Data limited to 1:40,000 scale; sites should be investigated at local scale; long term annual average recharge | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef |
| Groundwater & Geothermal | Groundwater vulnerability. | Water | National | Data limited to 1:40,000 scale; sites should be investigated at local scale | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef |
| Groundwater & Geothermal | Group scheme and public supply source protection areas. | Water | National | Not all PWS / GWS have SPZ / ZOC. Check with IW / COCO / NFGWS for private supplies. | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef |
| Groundwater & Geothermal | Groundwater Protection Schemes | Water | National | Data is limited to scale of 1:40,000. Data does not include all of the source protection areas | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef |
| Groundwater & Geothermal | Catchment and WFD management units. | Water | National | | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef |
| Groundwater & Geothermal | karst specific data layers | water | National | For areas underlain by limestone, includes karst features, tracer test database; turlough water levels (gwlevel.ie). | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef |
| Groundwater & Geothermal | Wells and Springs | Water | National | Not comprehensive, there may be unrecorded wells and springs | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef |
| Groundwater & Geothermal | Groundwater body Descriptions | Water | National | Not exhaustive; only those in designated SACs; could be other GWDTES; for more information contact NPWS / EPA / site investigations | https://www.gsi.ie/en-ie/programmes-and-projects/groundwater-and-geothermal-unit/activities/understanding-ireland-groundwater/Pages/Groundwater-bodies.aspx |
| Groundwater & Geothermal | Geothermal Suitability maps | Land & Soils/Water | National | Also, Roadmap for a Policy and Regulatory Framework for Geothermal Energy, November 2020 | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=9ee46be08de41278b90a991d60c0b9e |
| Marine & Coastal Unit | INFOMAR - Ireland's national marine mapping programme; providing key baseline data for Ireland's | Water | National | | https://secure.dcae.gov.ie/GS/INFOMAR_VIEWER/ |
| Marine & Coastal Unit | CHERISH - Coastal change project (Climate, Heritage and Environments of Reefs, Islands, and Headlands) | Water | Regional | | http://www.cherishproject.eu/en/ |
| Marine & Coastal Unit | Coastal Vulnerability Index (CVI). | water / Land & Soils | Regional | Currently the project is being carried out on the east coast and will be rolled out nationally | https://www.gsi.ie/en-ie/programmes-and-projects/marine-and-coastal-unit/projects/Pages/Coastal-Vulnerability-Index.aspx |
| Minerals | Aggregate potential | Land & Soils/Material Assets | National | Consideration of mineral resources and potential resources as a material asset which should be explicitly recognised within the environmental assessment process | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=ee8c4c285a49413aa6f1344416dc9956 |
| Minerals | Active quarries | Land & Soils | National | | https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=ee8c4c285a49413aa6f1344416dc9956 |
| Minerals | Historic mines | Land & Soils/Cultural Heritage | National | Inventory and Risk Classification 2009. Environmental Protection Agency, Economic Minerals Division and Geological Survey Ireland (DECC). | https://gis.epa.ie/EPAMaps/default?eastings=7&northings=7&lid=EPA/LEMA_Facilities_Extractive_Facilities |
| Tellus | Geochemical data: multi-element data for shallow soil, stream sediment and stream water | Land & Soils | Regional | A national mapping programme | https://www.epa.ie/enforcement/mines/ |
| Tellus | Airborne geophysical data including radiometrics, electromagnetics and magnetics | Land & Soils | Regional | A national mapping programme | https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=6304e122b733498b99642707f72754 |
| Tellus | Urban geochemistry mapping (Dublin SURGE project). | Land & Soils | Regional | A national mapping programme | https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=6304e122b733498b99642707f72754 |

- Notes:
- The maps and data listed above are available on the Geological Survey Ireland map viewer <https://www.gsi.ie/en-ie/data-and-maps/Pages/default.aspx>
 - Please read all disclaimers carefully when using Geological Survey Ireland data
 - Geological Survey Ireland and Irish Concrete Federation published guidelines for the treatment of geological heritage in the extractive industry in 2008.