



LLYR

LLYR FLOATING OFFSHORE WIND PROJECT

Llŷr 1 Floating Offshore Wind Project

Environmental Statement

**Volume 6: Appendix 21C, Annex A – Impact Assessment
Maps**

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Prepared by: Llŷr Floating Wind Ltd



FLOVENTIS
ENERGY

**Document Status**

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| Approved by | Jay Hilton-Miller |

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Acronyms and abbreviations

| Acronym or Abbreviation | Definition | Acronym or Abbreviation | Definition |
|-------------------------|----------------------------|-------------------------|--|
| HF | High frequency | TTS | Temporary threshold shift |
| LF | Low frequency | UXO | Unexploded ordnance |
| MF | Medium frequency | VHF | Very high frequency |
| PCW | Phocid carnivores in water | SAC | Special Area of Conservation |
| PTS | Permanent threshold shift | SPL _{peak} | Peak Sound Pressure Level |
| SEL | Sound exposure level | SEL _{cum} | Cumulative Sound Exposure Level |
| SPL | Sound pressure level | SEL _{ss} | Single strike (pulse) Sound exposure level |

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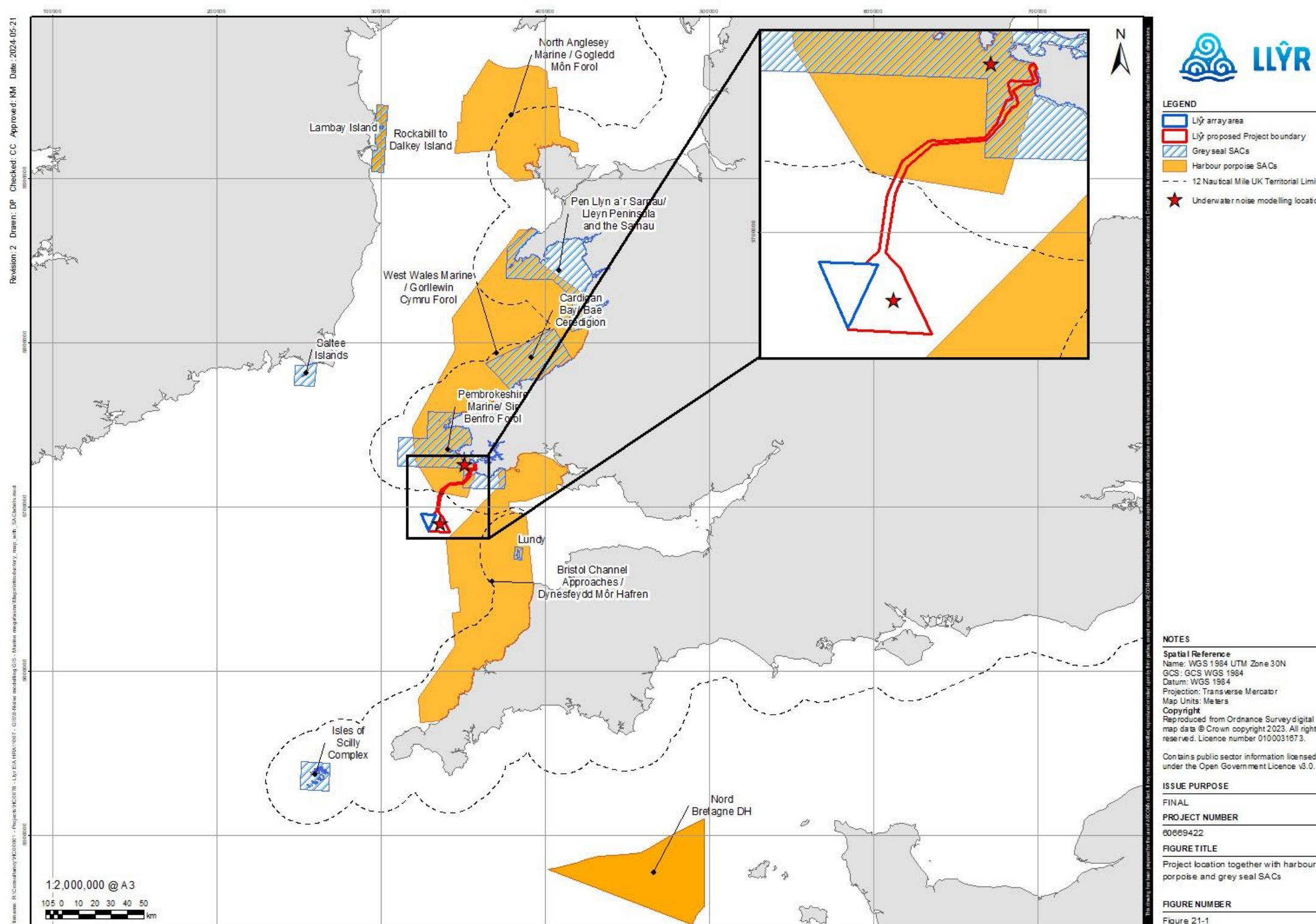
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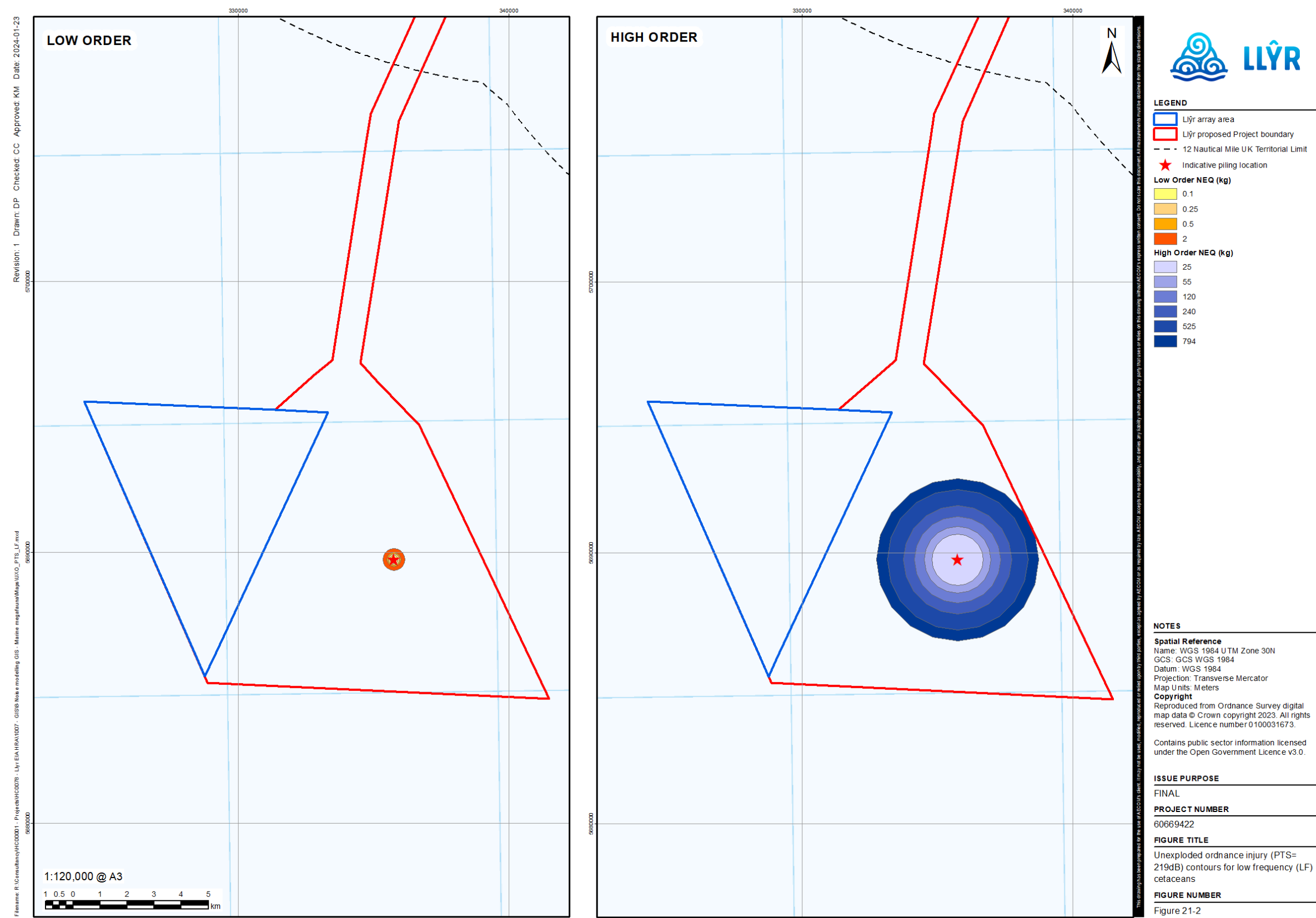
21.1 Project Location



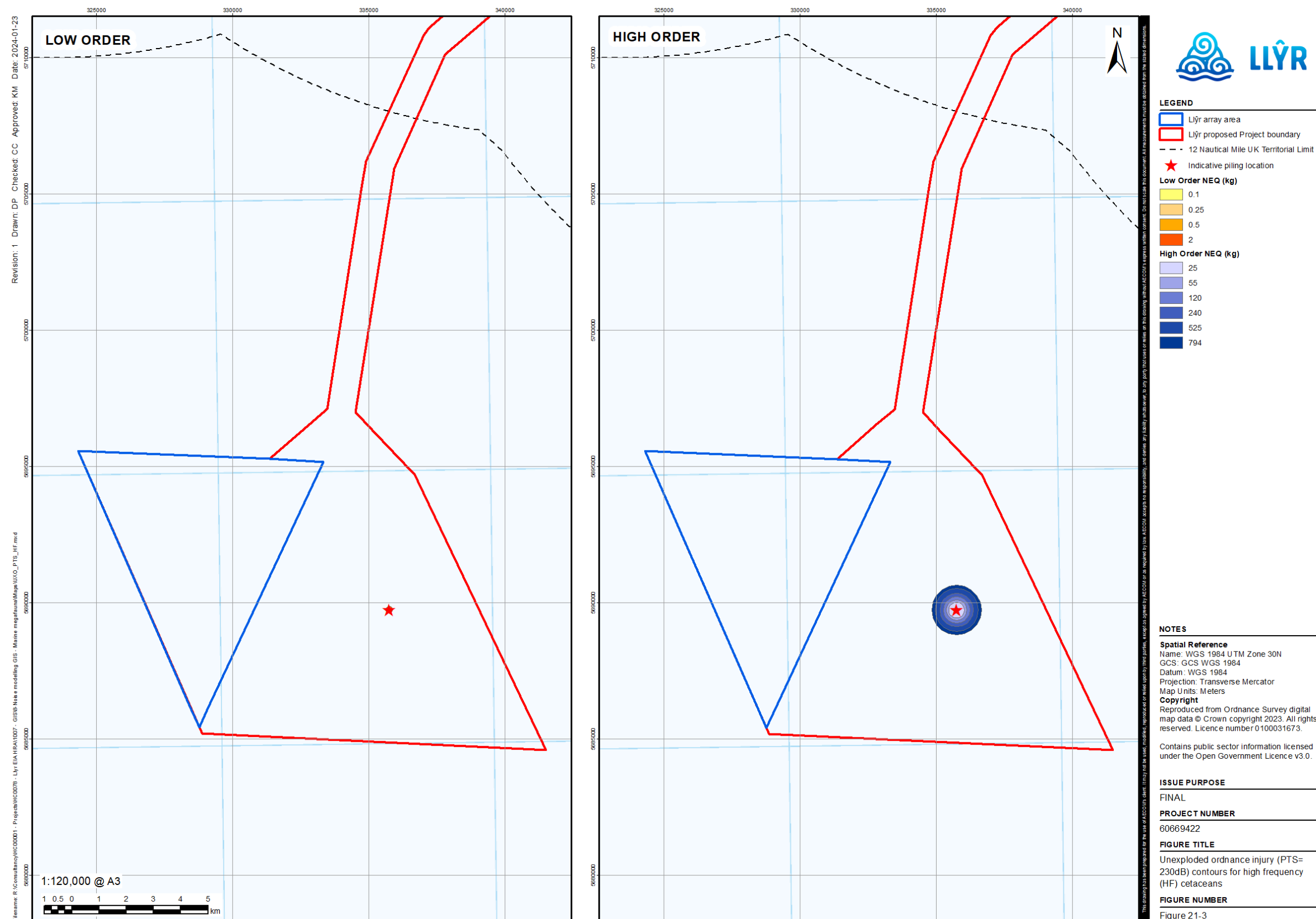
Annex A, Figure 21C-1. Project location together with harbour porpoise and grey seal SACs



21.2 Pre-Construction – Auditory injury – Unexploded Ordnance

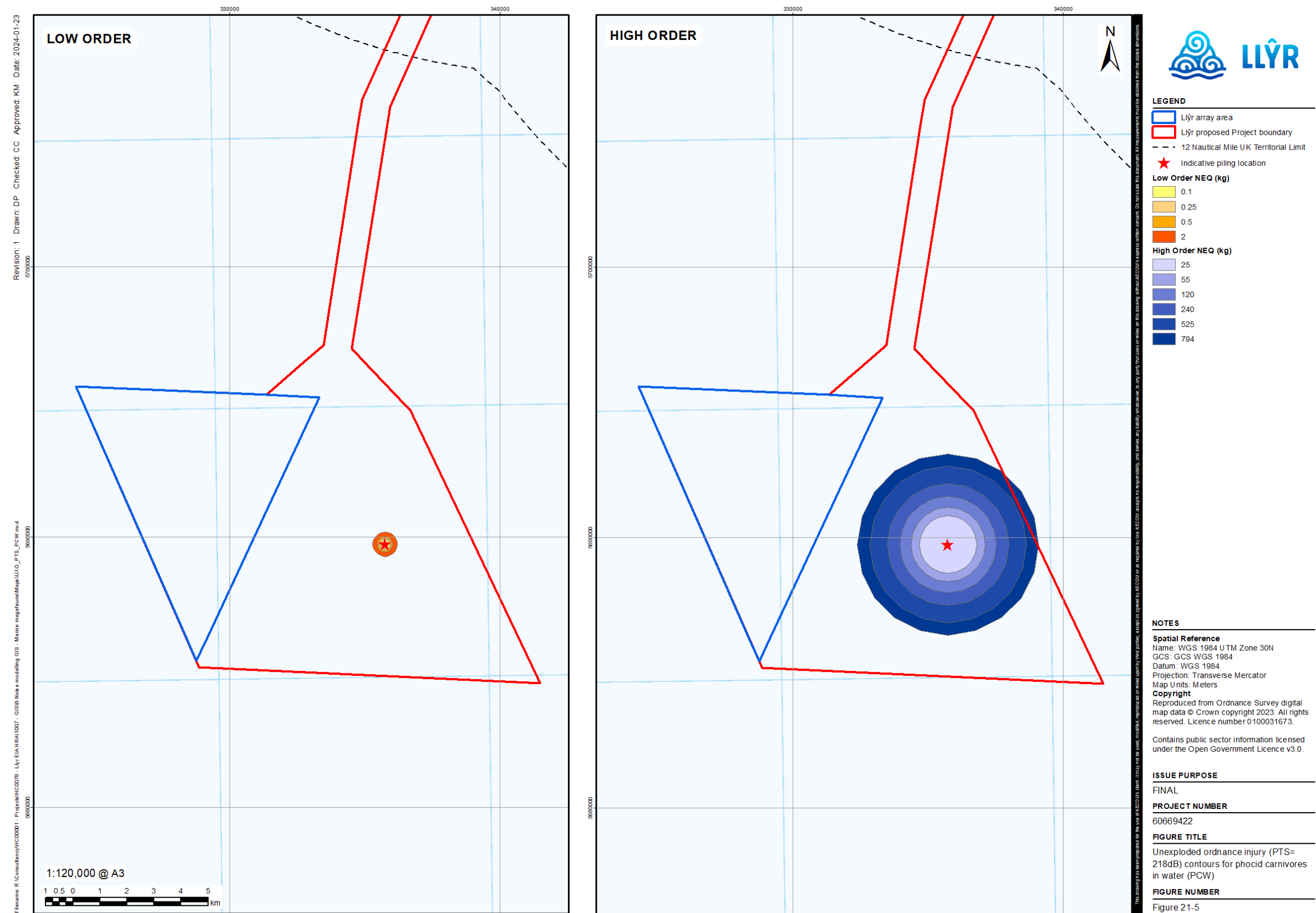


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Annex A, Figure 21C-3. UXO Clearance - Auditory injury PTS-onset (SPL_{peak}) contours for High Frequency (HF) cetaceans for low and high order clearance scenarios

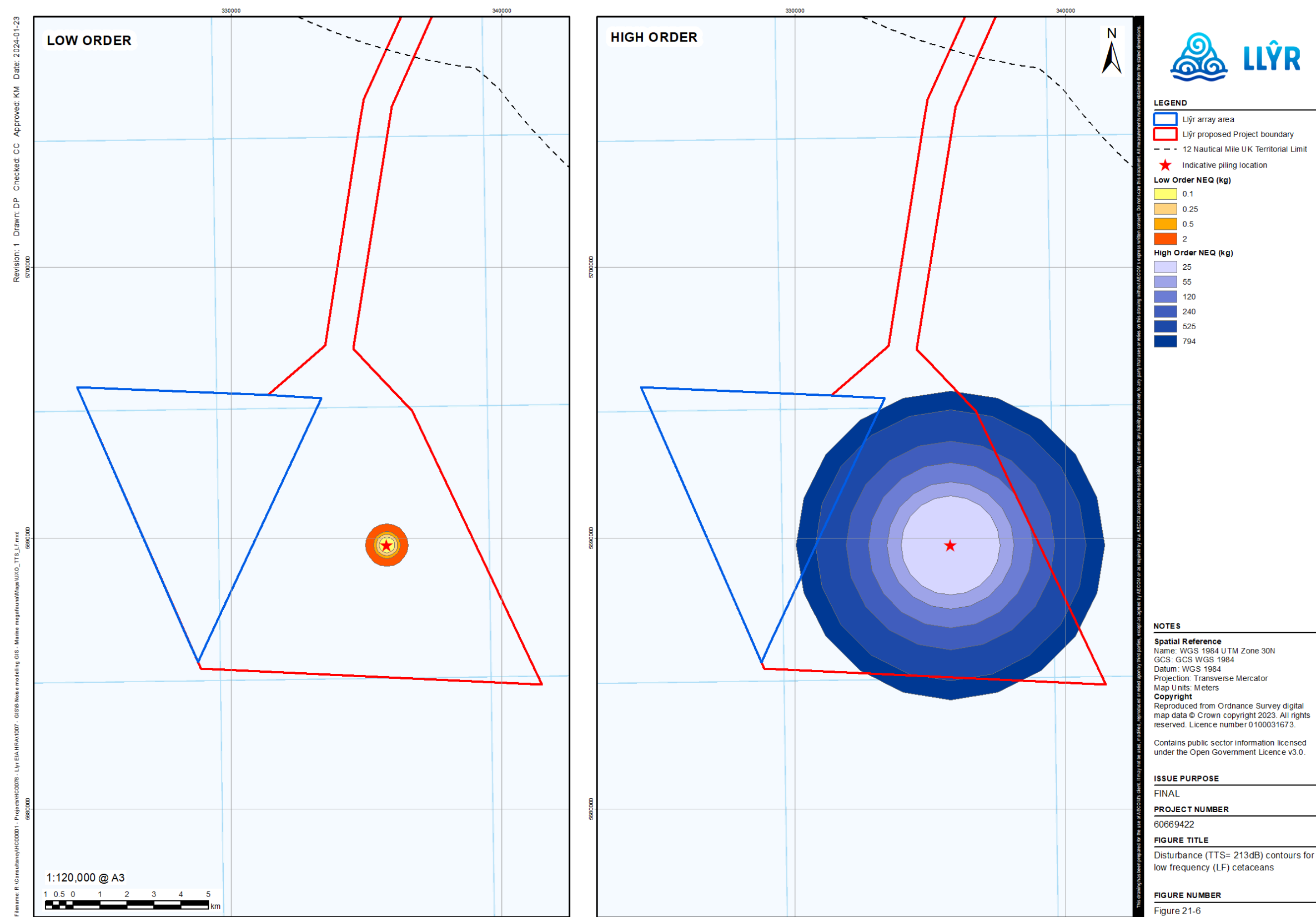




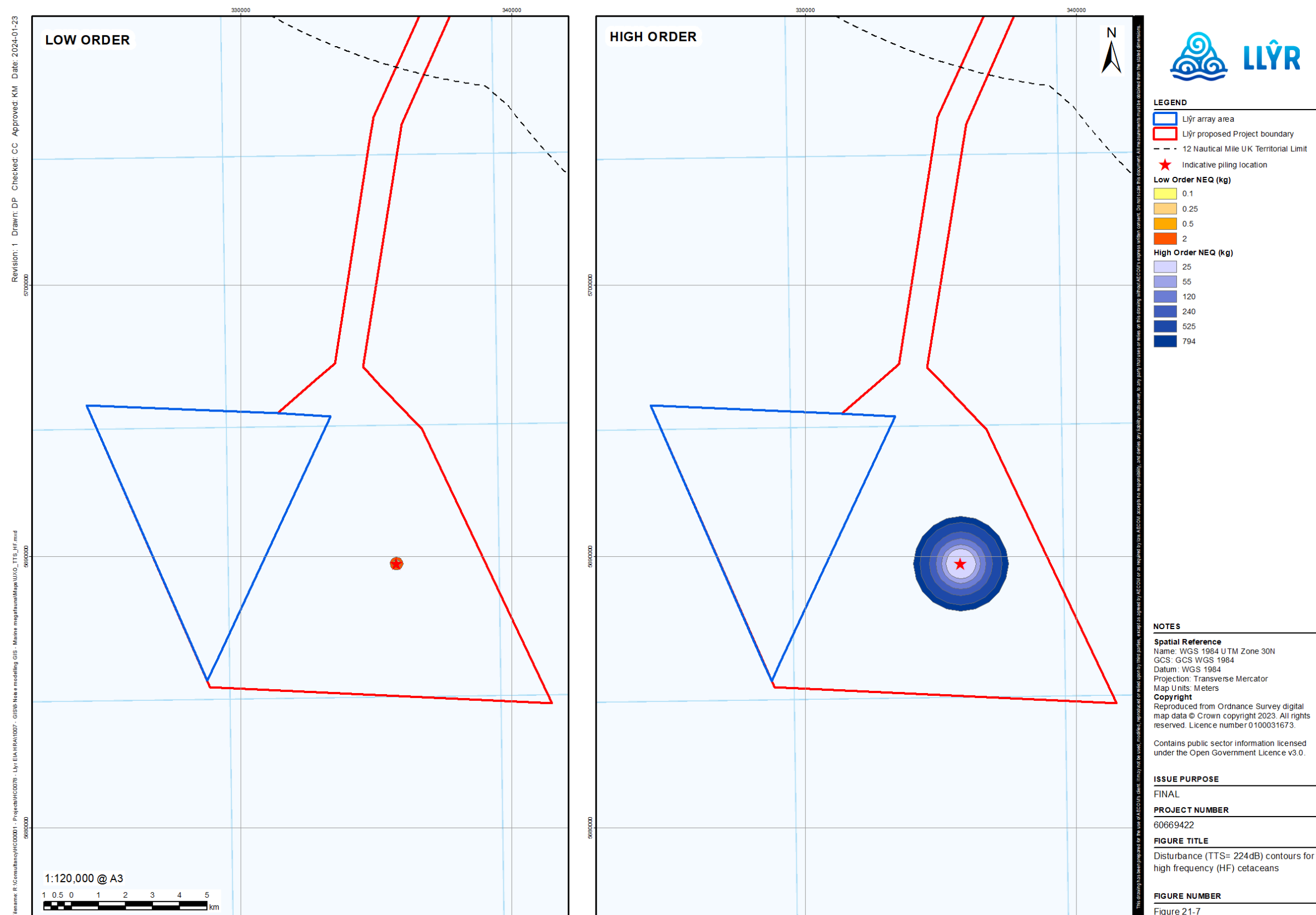
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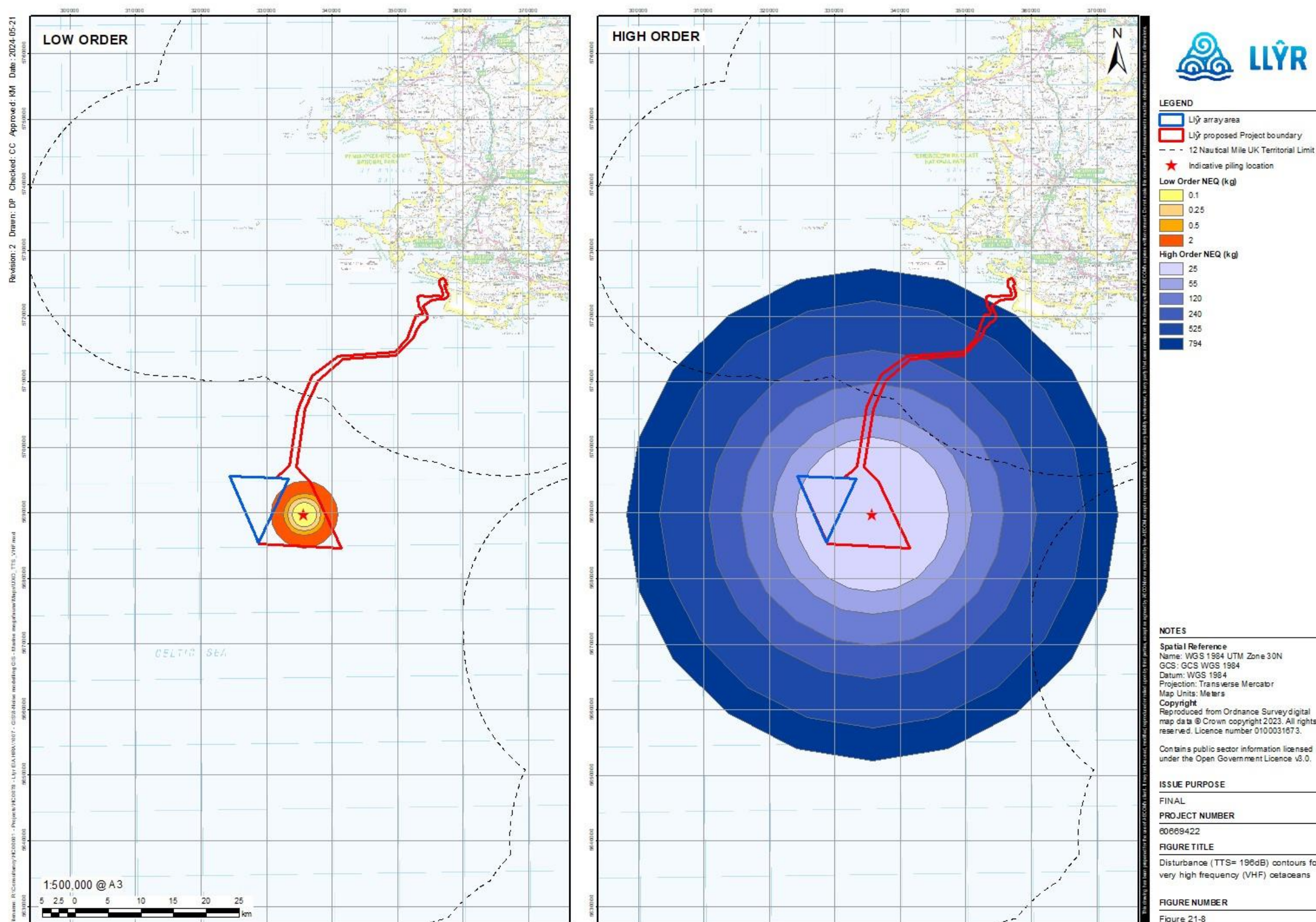
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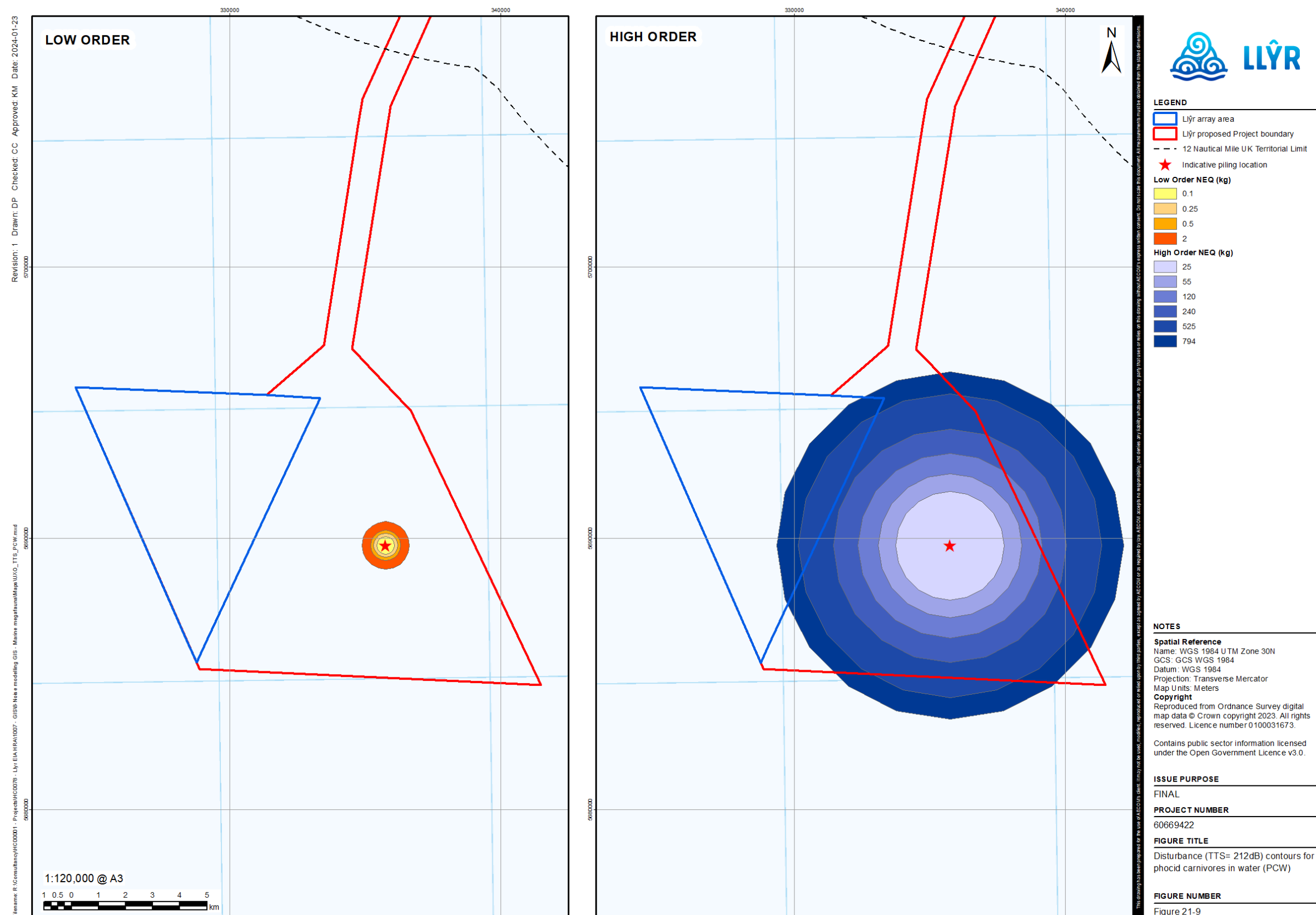
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Annex A, Figure 21C-7. UXO Clearance - Disturbance TTS-onset (SPL_{peak}) contours for High Frequency (HF) cetaceans for low and high order clearance scenarios

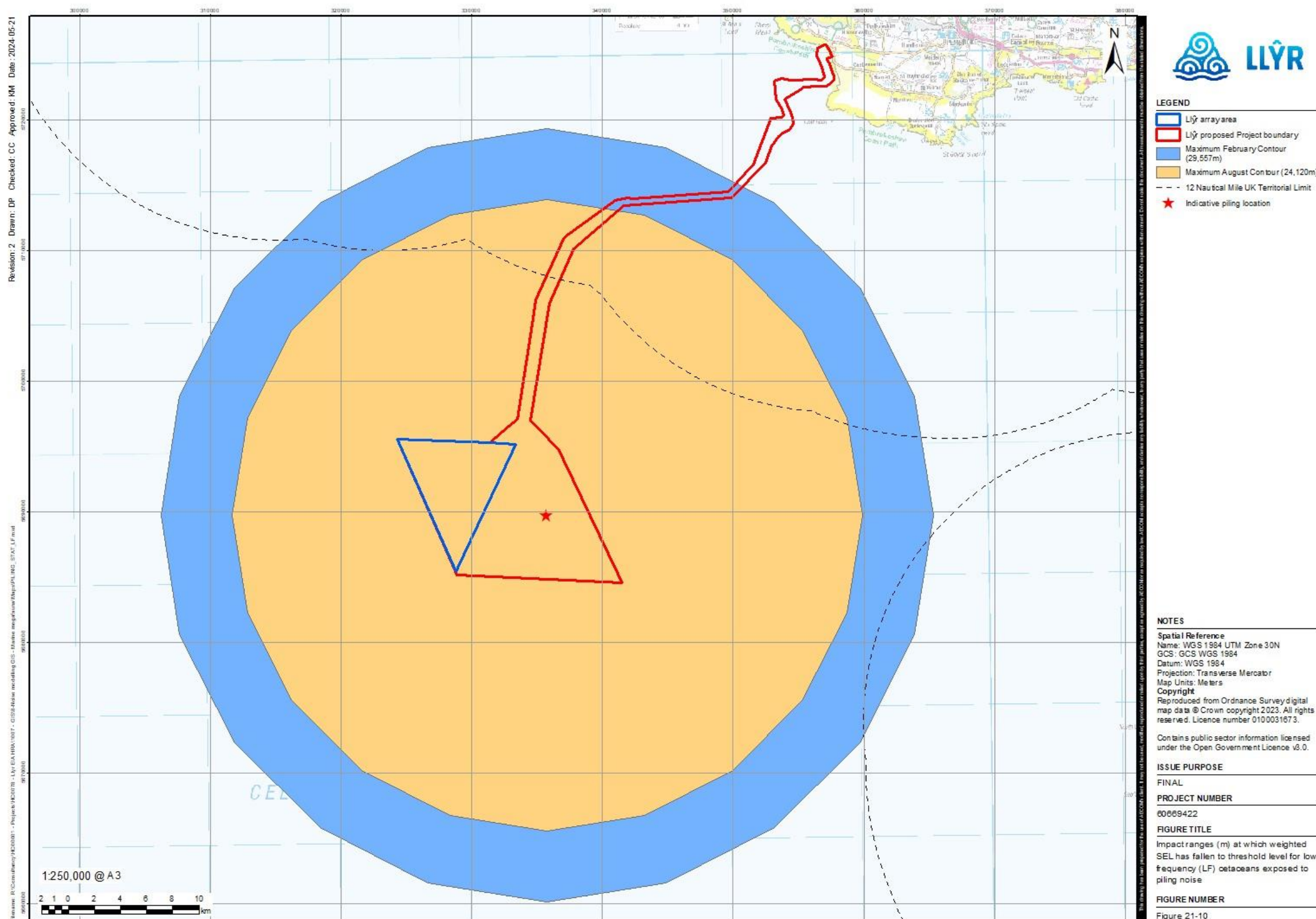


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Annex A, Figure 21C-9. UXO Clearance - Disturbance TTS-onset (SPL_{peak}) contours for Phocid Carnivores in Water (PCW) for low and high order clearance scenarios

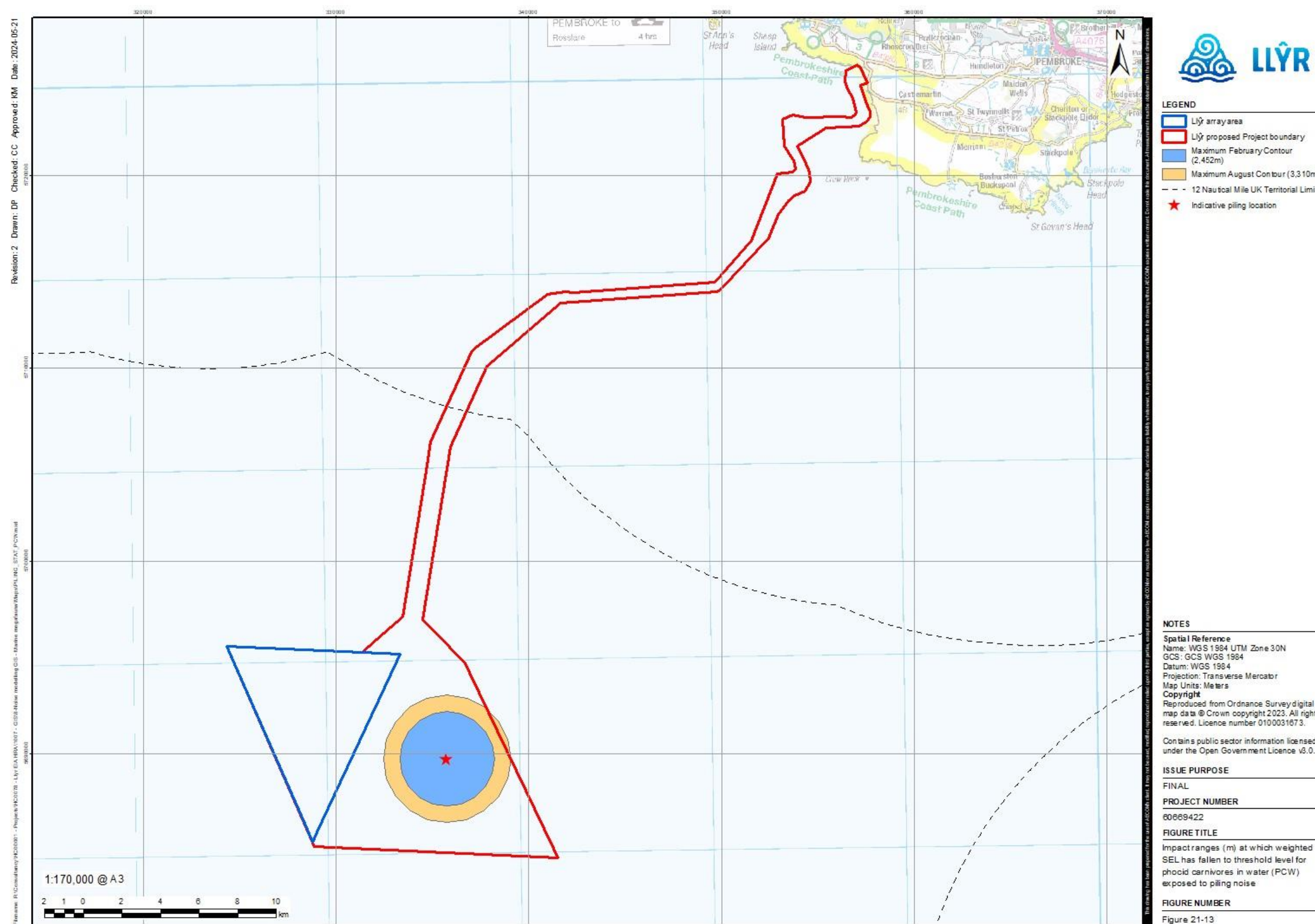
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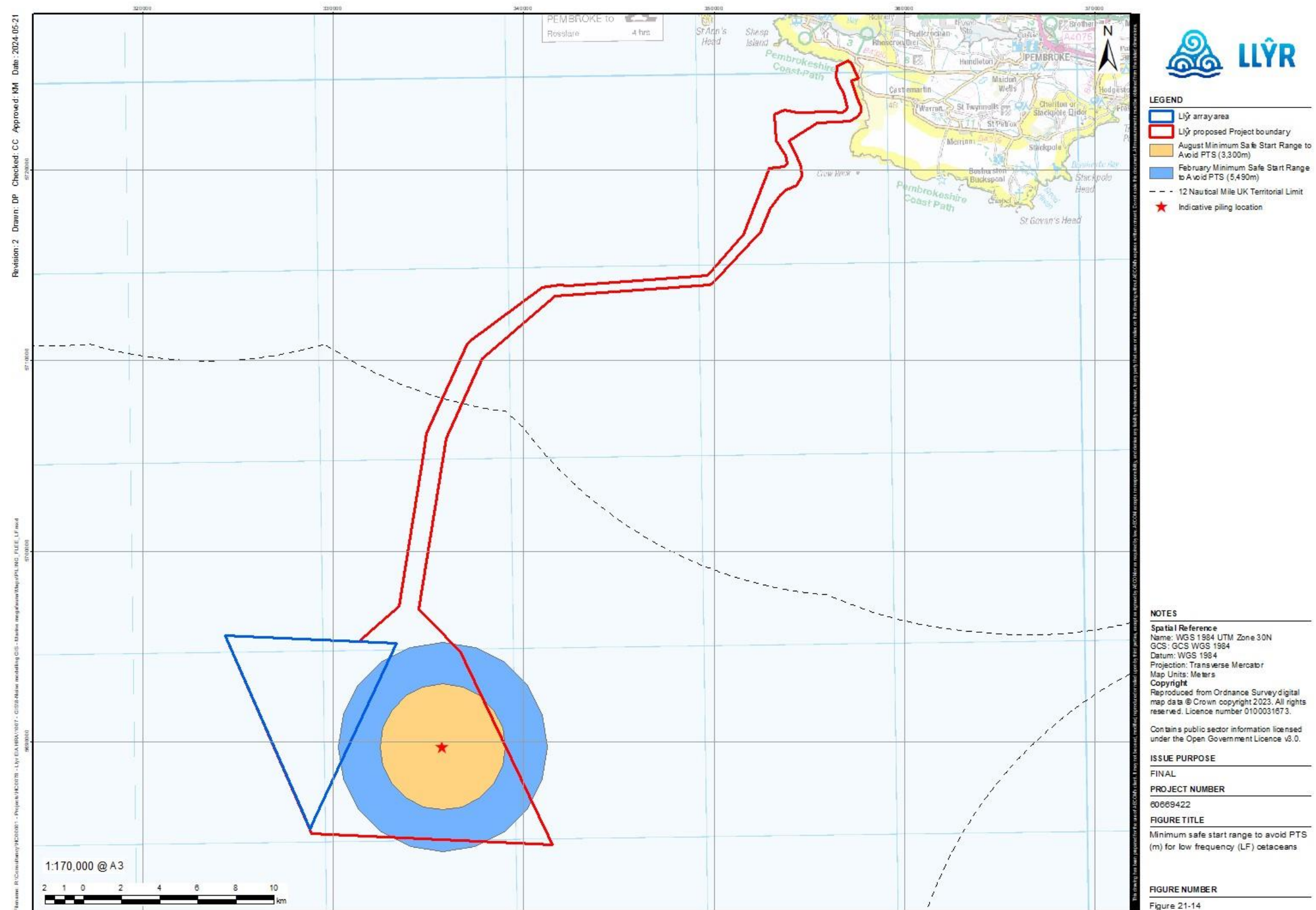




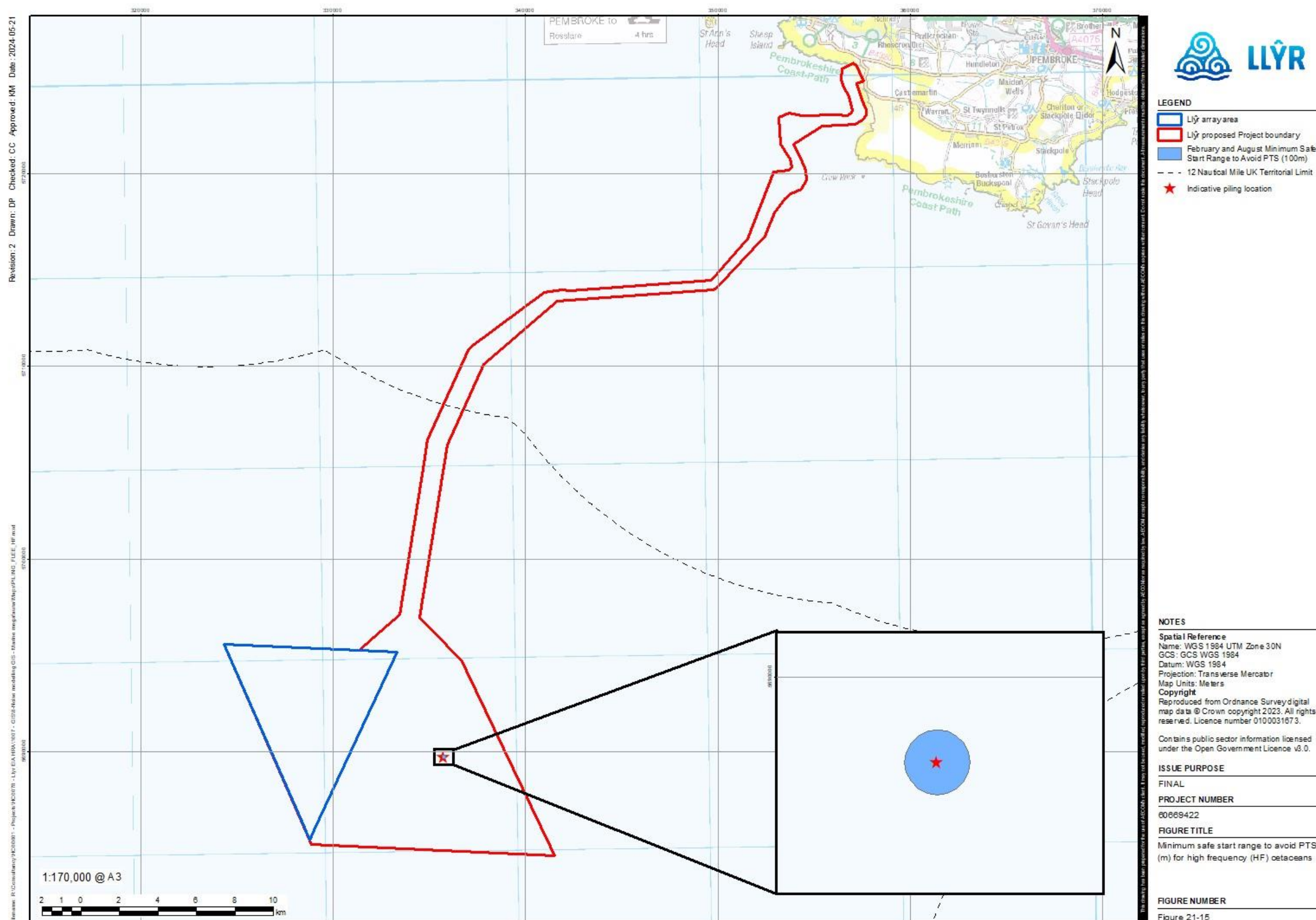


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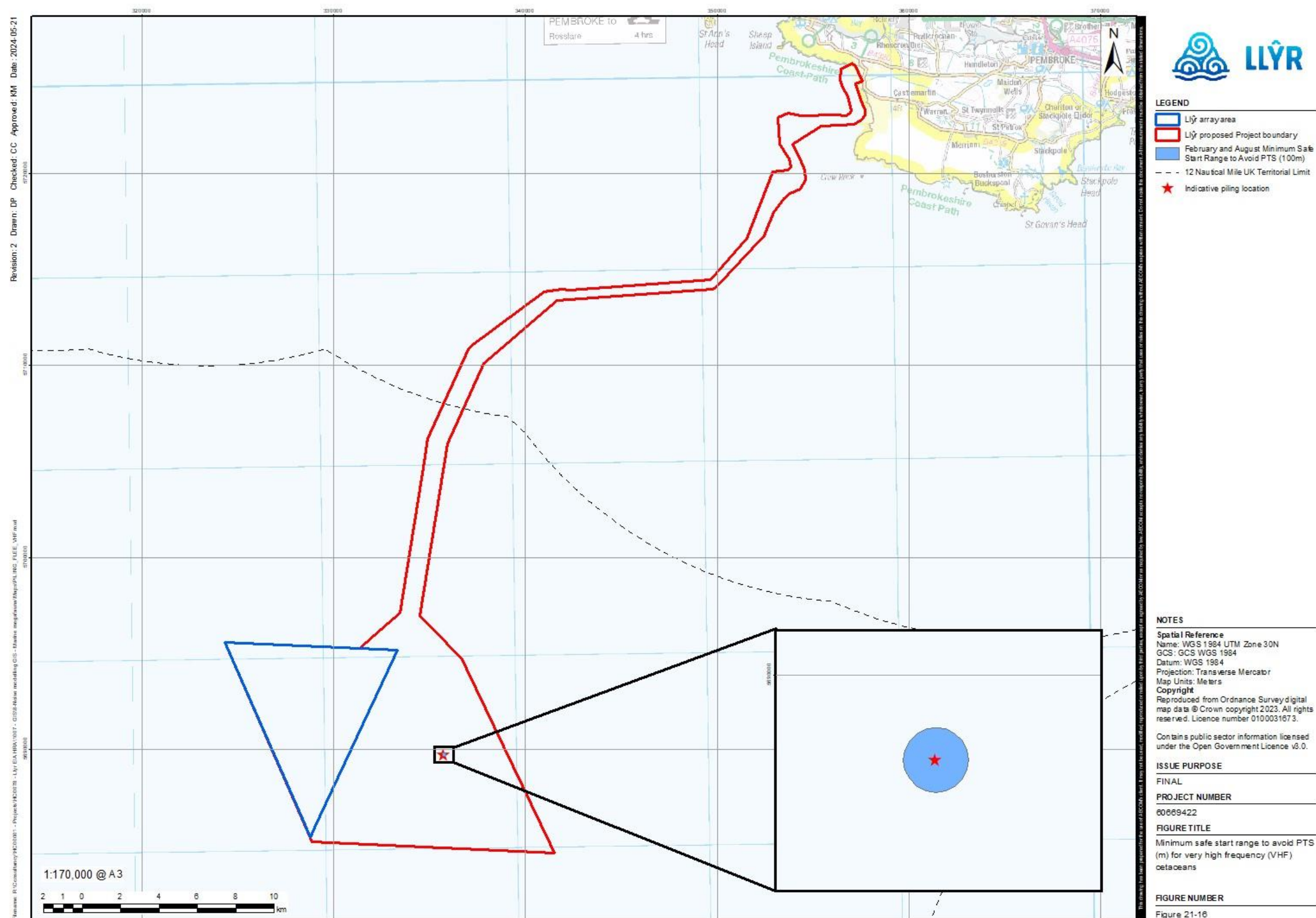
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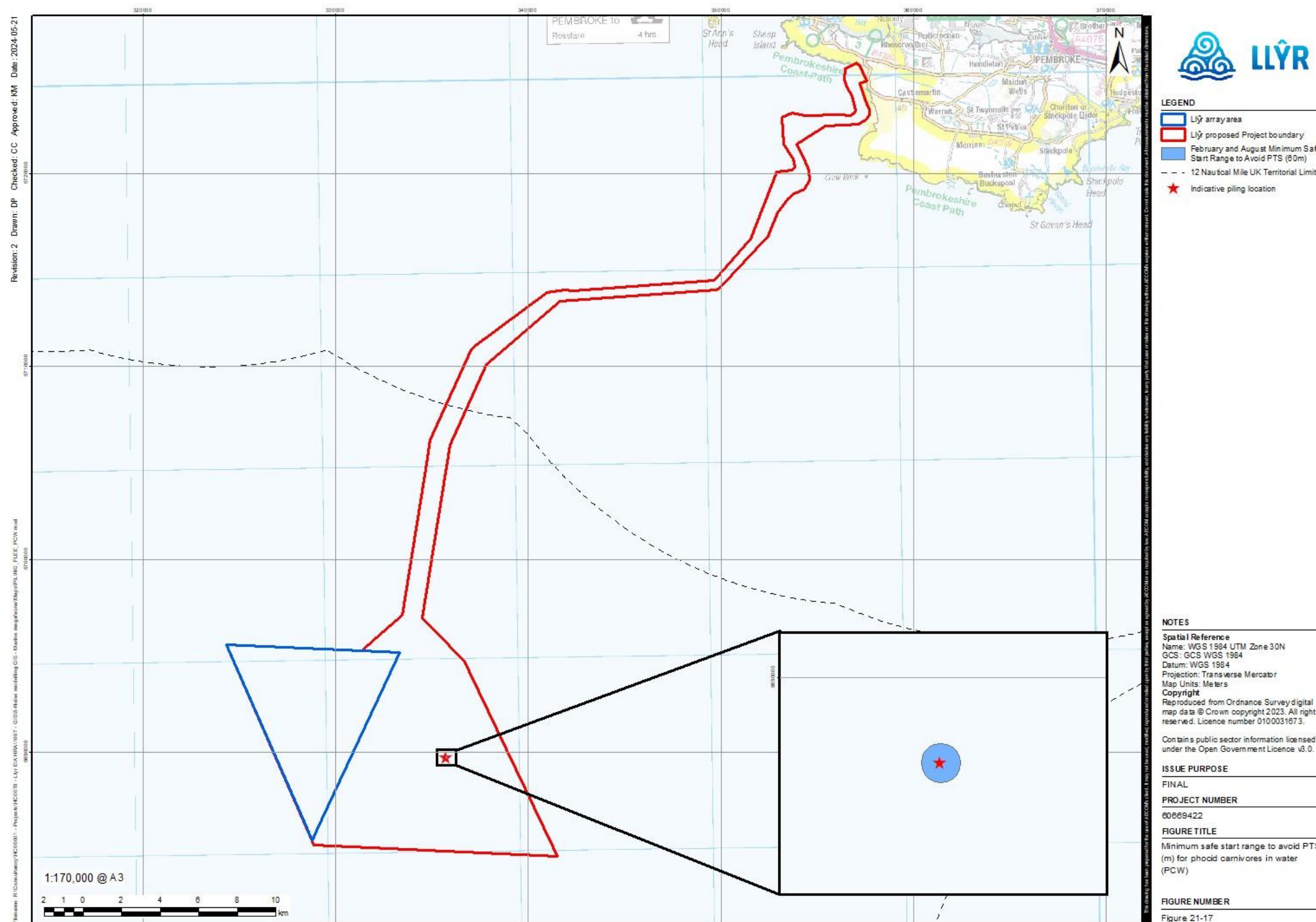
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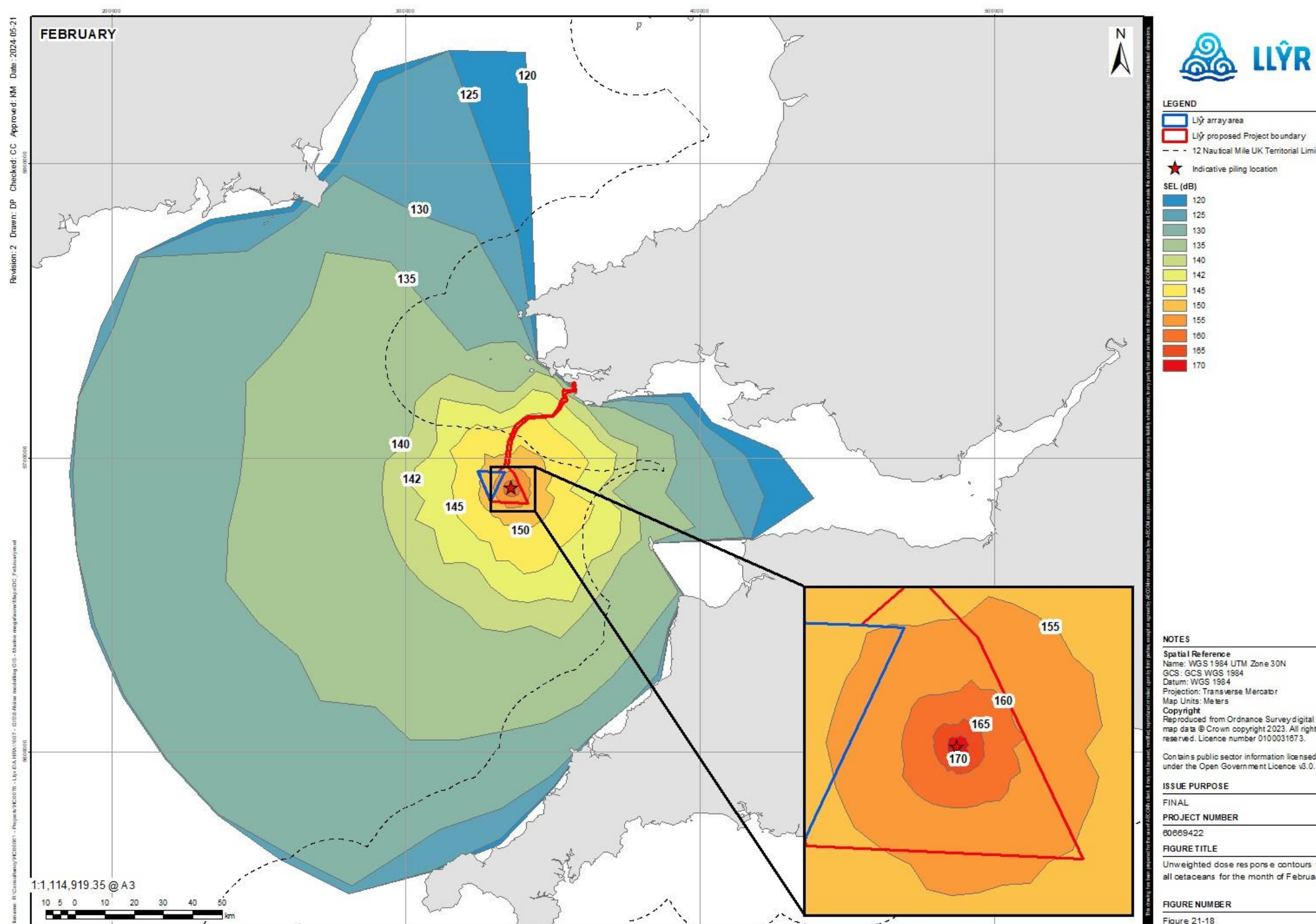


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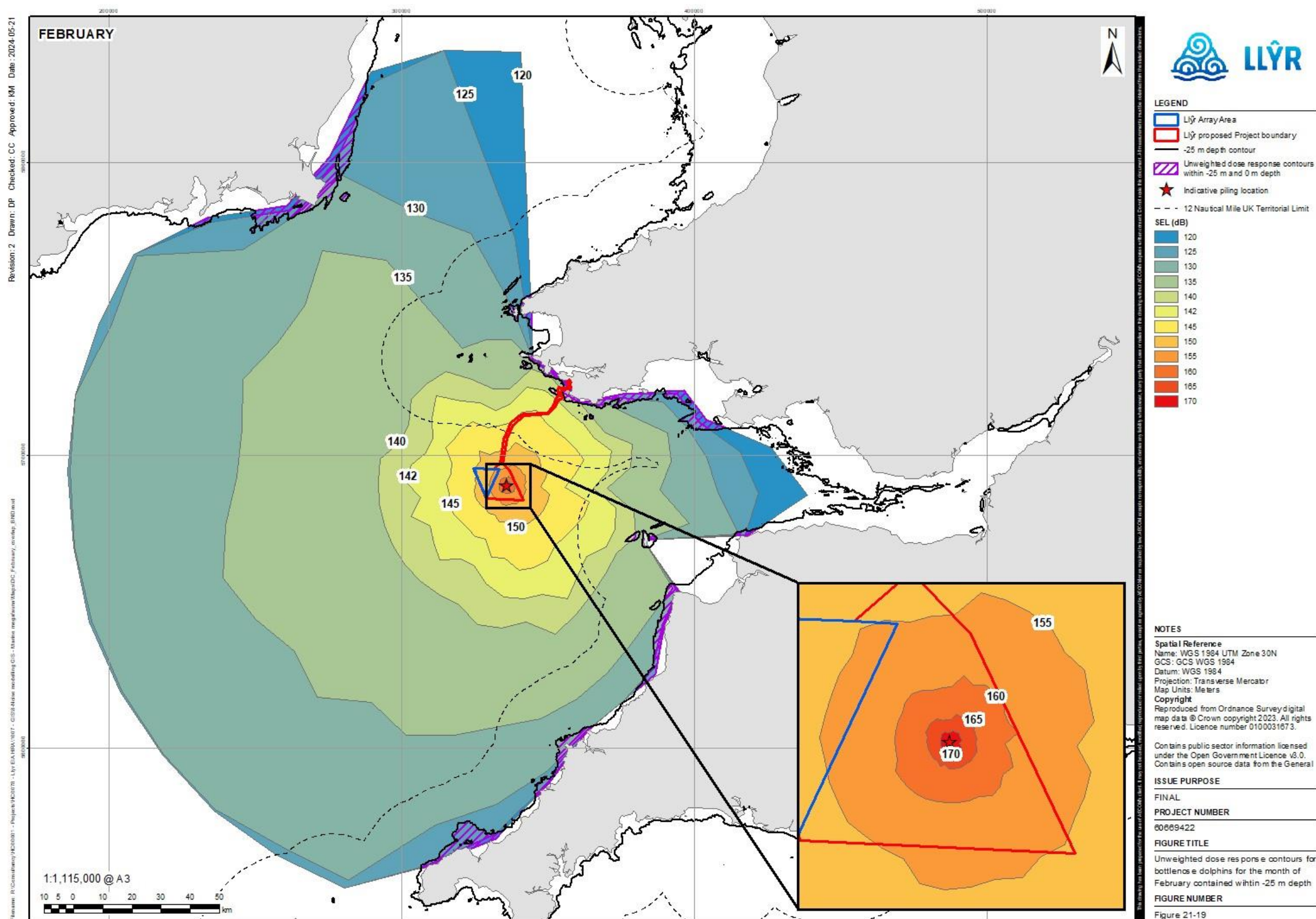


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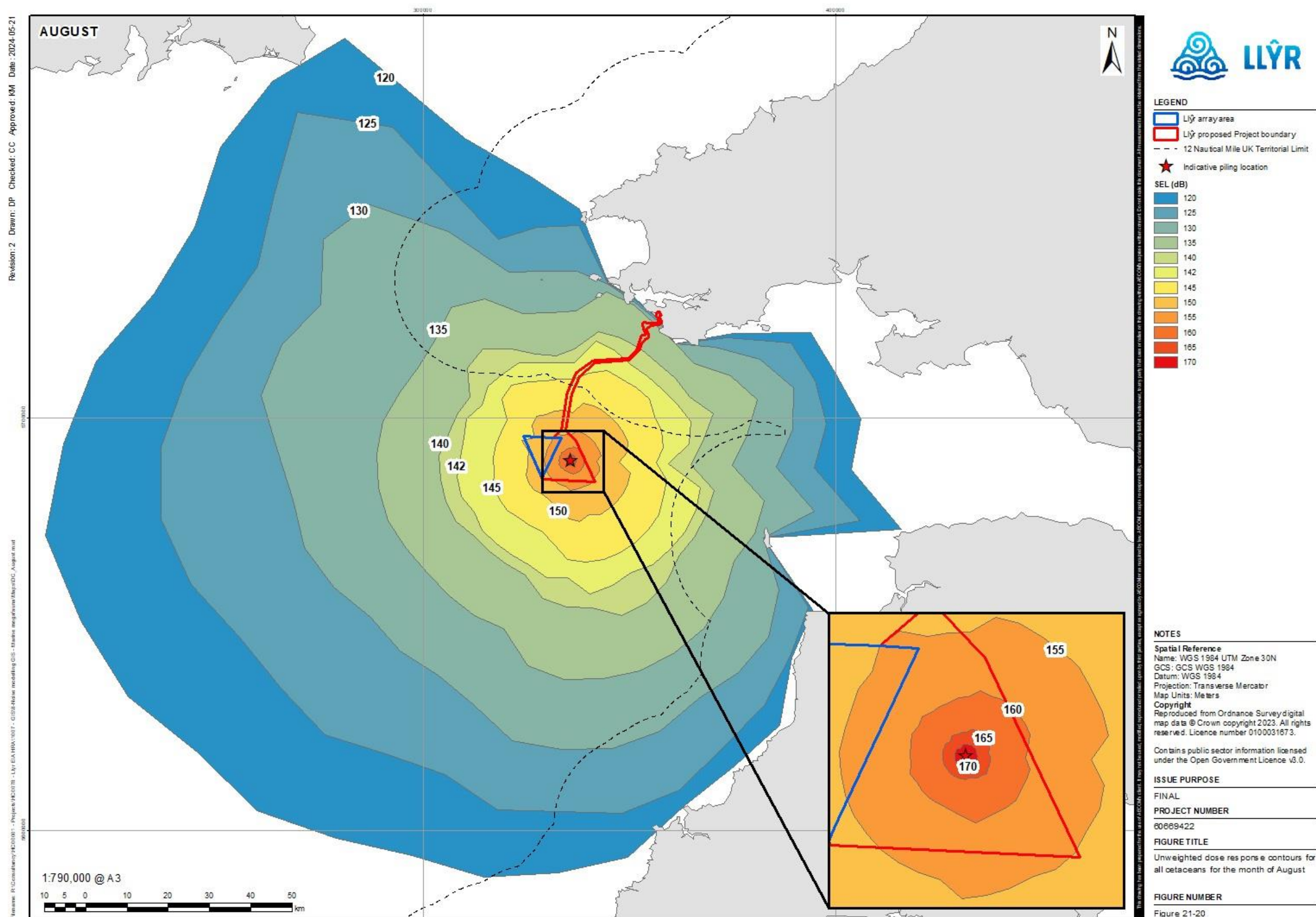
21.6 Construction – Pin piling – Disturbance – Dose-Response Curve



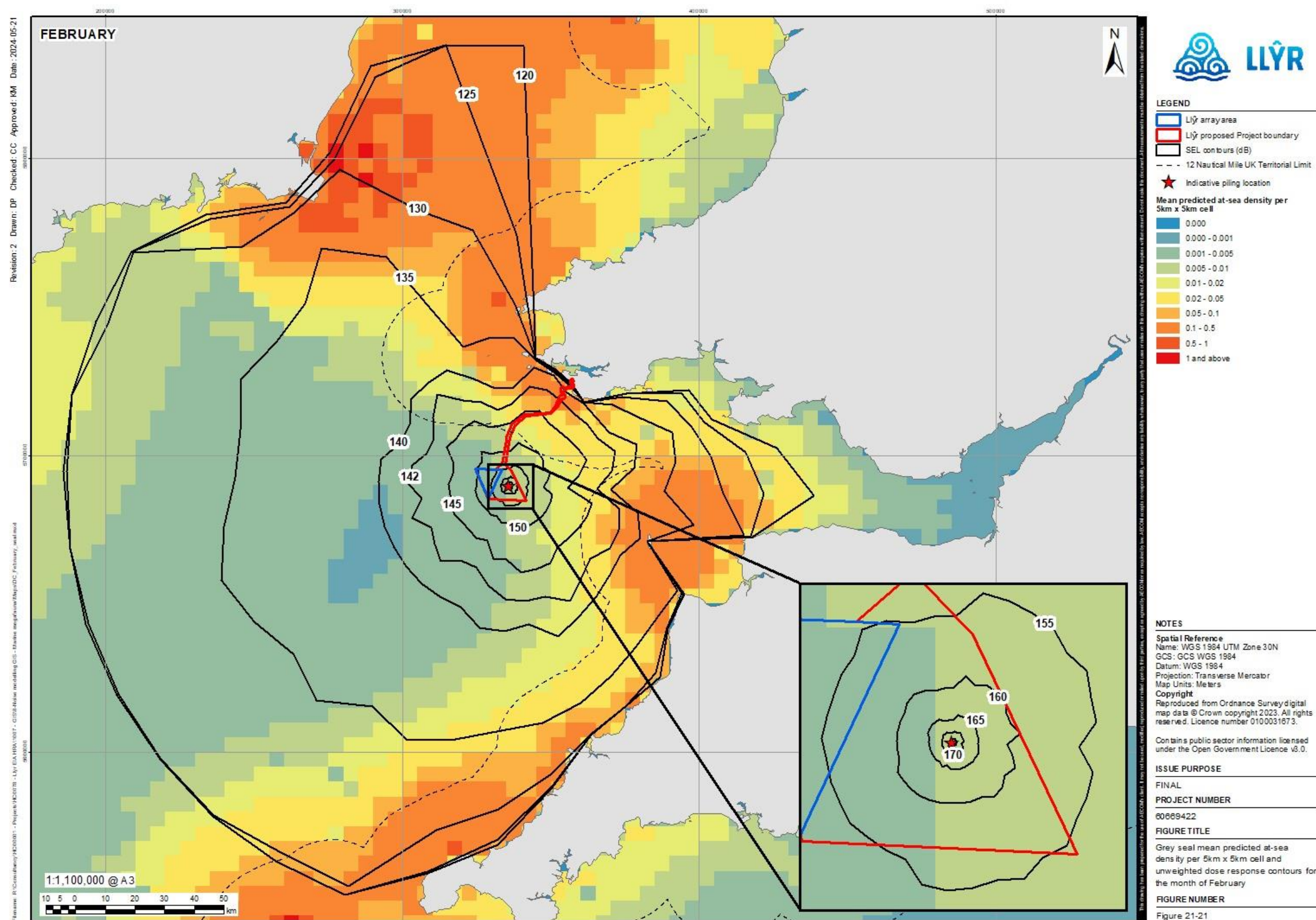
Annex A, Figure 21C-18. Unweighted dose response contours for February representing the worst-case noise propagation scenario



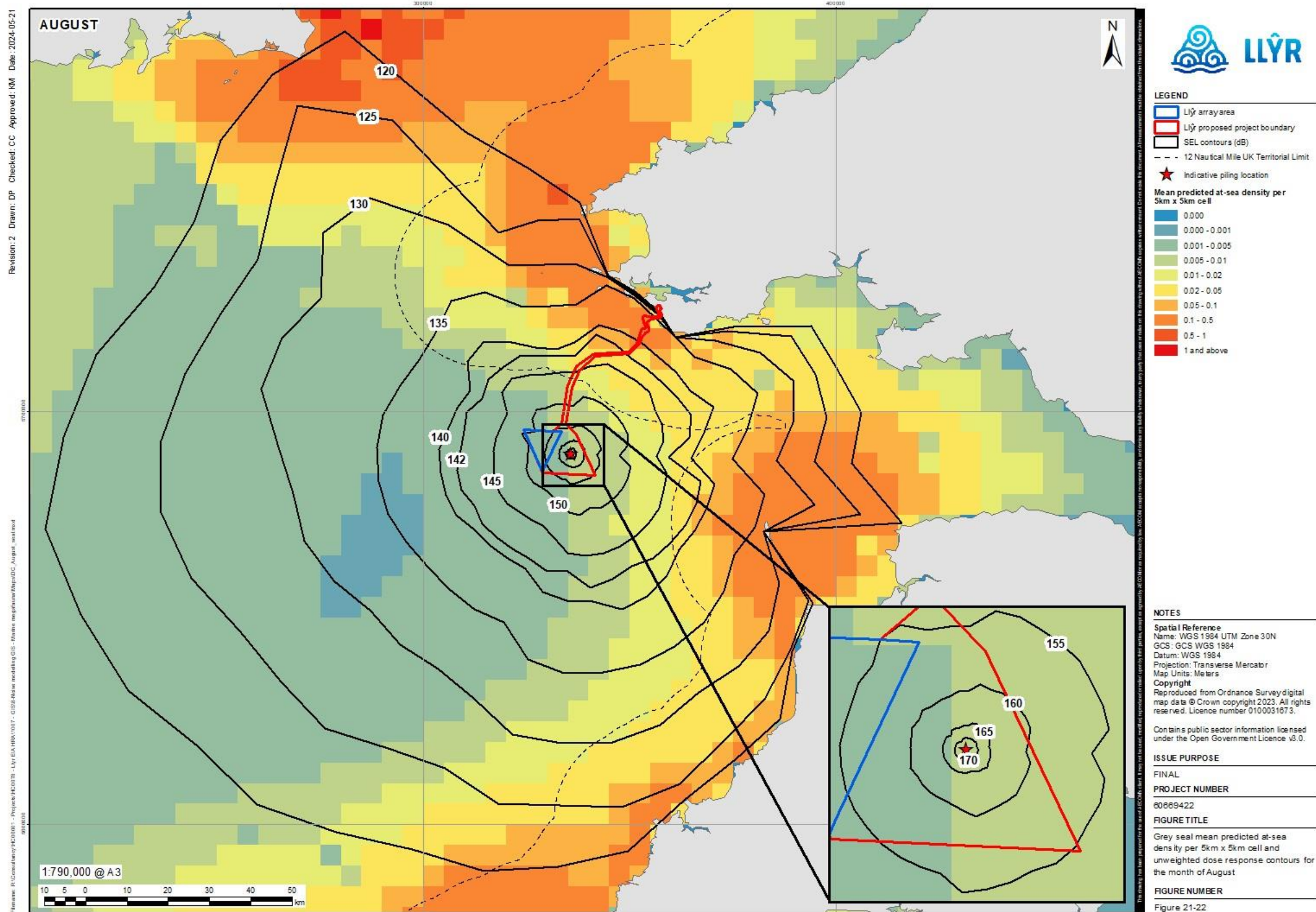
Annex A, Figure 21C-19. Unweighted dose response contours for February representing the best-case noise propagation scenario within 25 m depth contour for bottlenose dolphin



Annex A, Figure 21C-20. Unweighted dose response contours for August representing the best-case noise propagation scenario

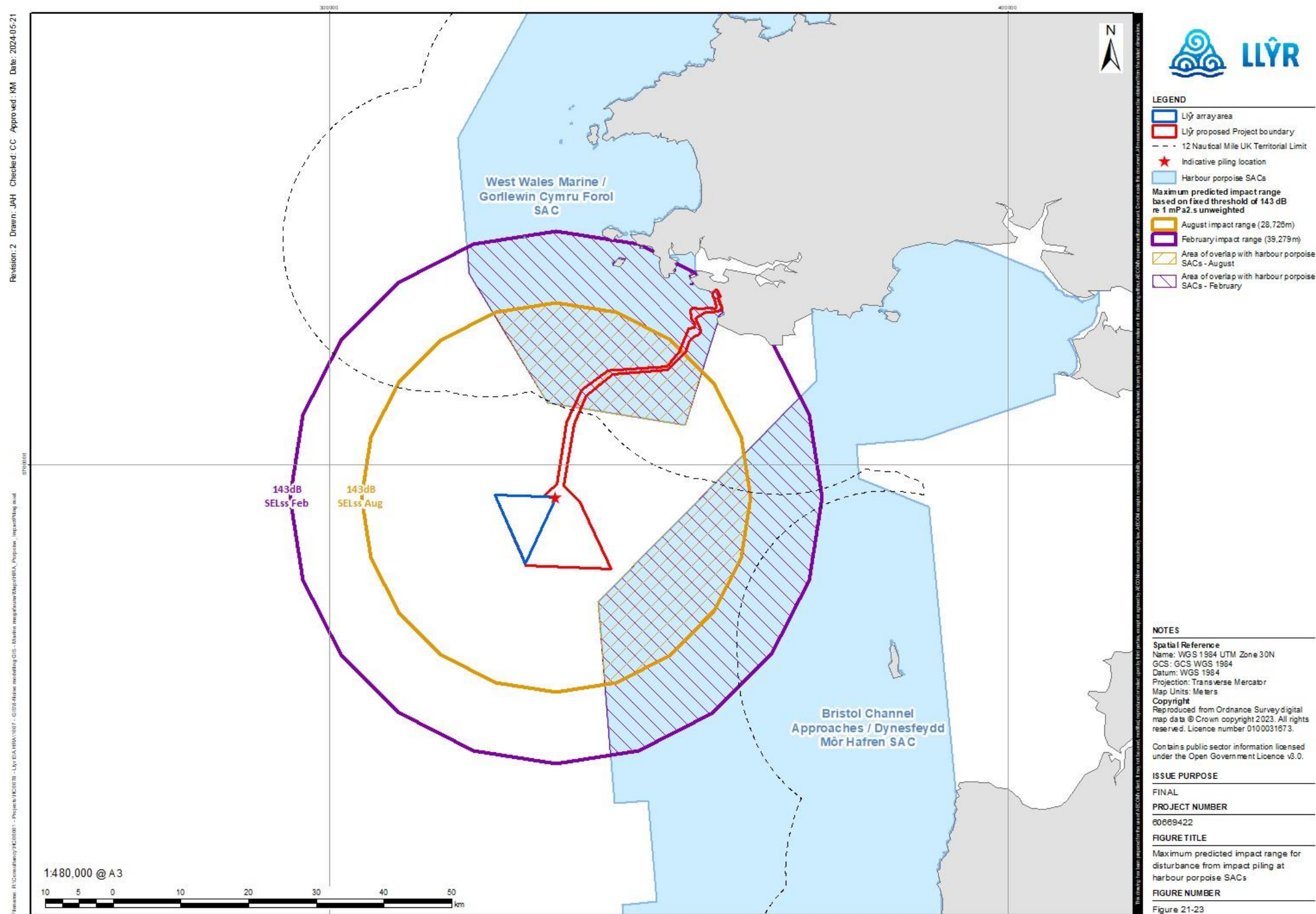


Annex A, Figure 21C-21. Unweighted dose response contours for February overlain grey seal mean predicted at-sea density (Carter et al., 2022)



Annex A, Figure 21C-22. Unweighted dose response contours for August overlain grey seal mean predicted at-sea density (Carter et al., 2022)

21.7 Construction – Pin Piling – Disturbance – Fixed Threshold – 143 dB re 1μPa².s (SEL_{ss})



Annex A, Figure 21C-23. Maximum predicted impact range for disturbance from impact piling at harbour porpoise SACs (piling location moved within the array site to a location that resulted in the greatest overlap with the SACs).