Kerdiffstown Park Project

Kildare County Council

Comhairle Contae Chill Dara

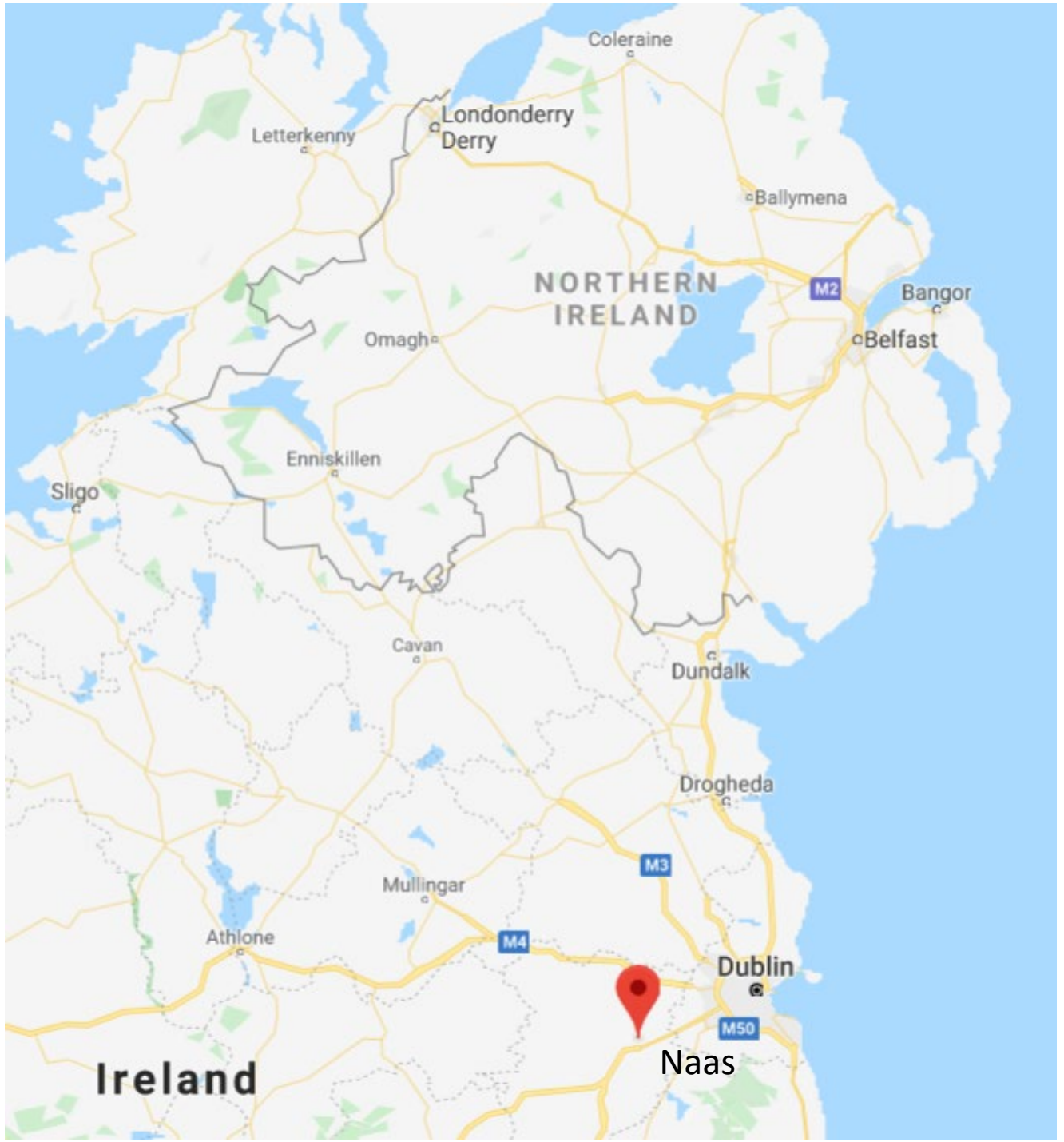
21 June 2022

Agenda

- 12:00 Presentation (approx. 1.5 hours)
  - Welcome & Introductions
  - Setting the context
  - Remedial Options
  - Site Vision
  - Construction & Green Procurement
  - Q&A
- 13:30 Lunch
- 14:15 Site Visit & walkover (allow 1.5 hours)
- 15:45 / 16:00 Finish

Introductions & Welcome

Kerdiffstown Location



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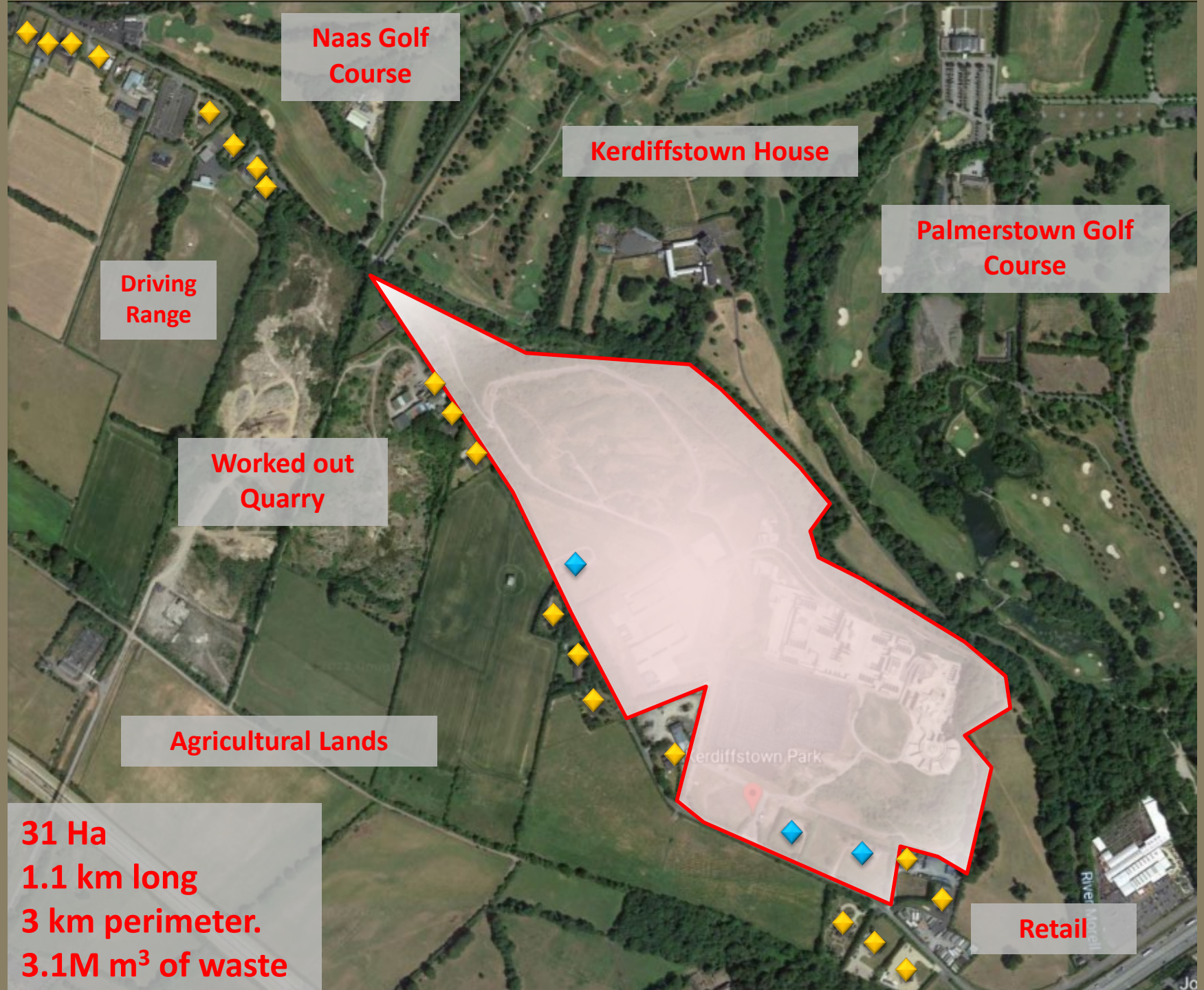
Site
R407
E20
M7
E20
Johnstown
N7
Collins Road
Naas Industrial Estate
R445
Dublin Road
R407
Naas
M7
R409


Naas Golf Course
Kerdiffstown House
Palmerstown Golf Course
Driving Range
Worked out Quarry
Agricultural Lands
Kerdiffstown Park
Retail
31 Ha
1.1 km long
3 km perimeter.
3.1M m³ of waste

Site History

Watch out for timeline changes

- Gravel Quarried out over 40 – 50 year period
- Backfill of Quarry with waste late 1970's onward
- Planning Permission 97/871 from Local Authority
  - Restore quarry to 108mAOD – former height of ridge
- 2003 EPA Licence (W047-01) issued for restoration & fill to landfill directive standards
- 2006 Revised EPA licence W047-02 issued
- 2010 Court orders: cessation of waste acceptance
  - Operator goes into liquidation: Site Abandoned
  - On-going criminal cases

Site Abandoned in 2010

NO SECURITY

GATES UNLOCKED

MACHINERY TAKEN

STEEL STRUCTURES COMPROMISED

BURNING OFF PLASTIC COATING TO GET COPPER WIRE

NUMEROUS FIRES

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Timeline

2011 Underground Landfill Fire

2012 Site Works and Investigations

2013 Environmental Baseline Established & Remedial Options report developed

2015 KCC Takeover project from EPA & Parent company convicted: €20M fine

2016 Large Scale Demolition and site clean-up undertaken & EIA Studies, public consultation on end use

2017 Planning Permission and CPO Sought & Application for Licence from EPA

Timeline

2018 Planning Permission and CPO granted

2019 Licence granted from EPA & Works begin on Road realignment

2020 Road realignment completed and Main works contractor appointed and begin works in Q4

2021-2022 Main works continue…

Initial Tasks

- Data Gaps Assessment
- Statutory Requirements and Timelines
- Leachate Management
- Landfill Gas Management
- Surface Water Management
- Ground Water Management
- Odour Control Plan
- Geotechnical and Structural Issues
- Site Profile Capping and Materials Use
- Environmental Baseline Report
- Interim Site Management
- Health and Safety
- Security
- Outline Life Cycle Assessment
- End Use Options

Environmental Baseline

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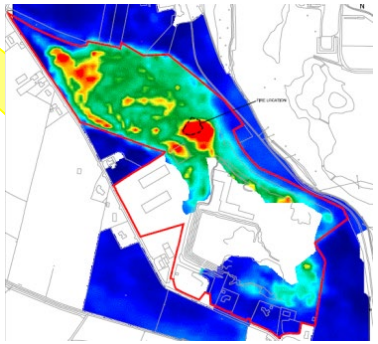
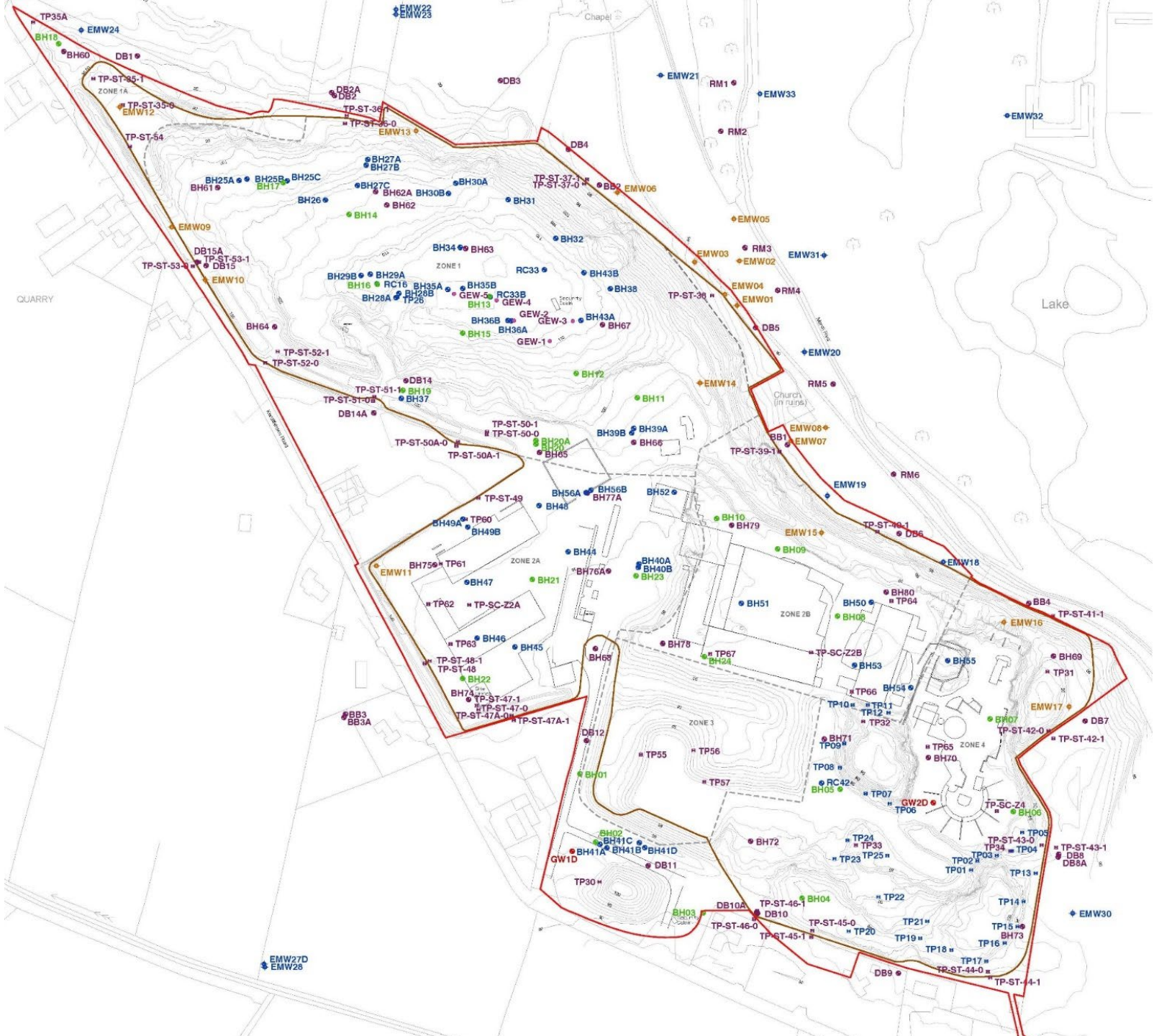
Establishing the Environmental Baseline

- Little or no historical information available.
- Site investigations began in 2011 and continued in 2012
- Detailed Environmental Monitoring programme began in 2013
- Specialist reports sought across several disciplines

2010 2011 2012 2013 2014



Site Investigations undertaken 2011-2016



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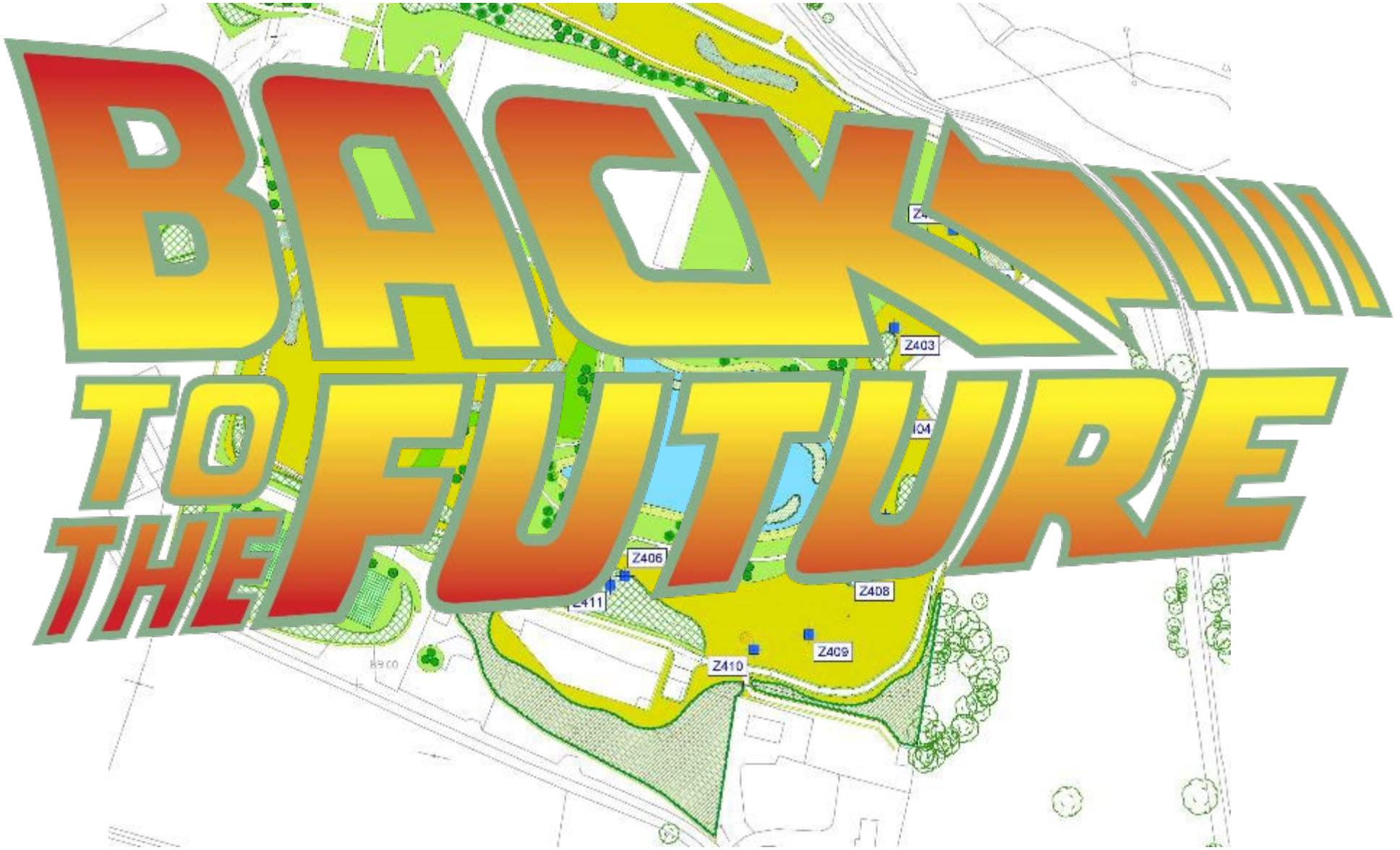
3.1Mm^3 of waste is equivalent to approximately:

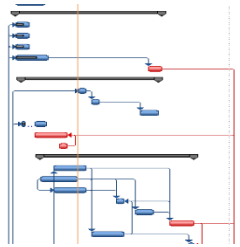
x 165 Guildhalls

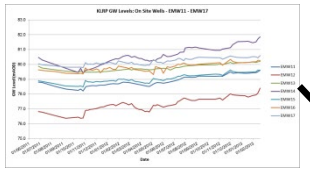
Site Investigations – never enough

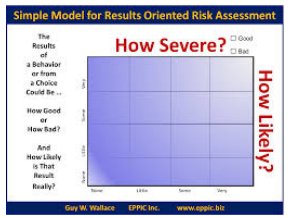


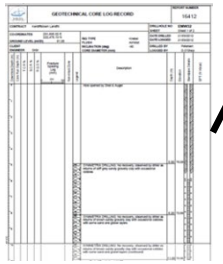
Key Issues

- Groundwater analysis confirmed a plume of leachate beneath the site in the northeast boundary area.
- Air Quality was being protected through use of temporary landfill gas management.
- Odour Management through covering of waste and frequent landfill gas balancing.
- Dedicated resourcing required.

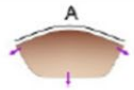
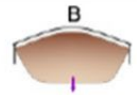
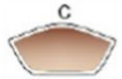








Kerdiffstown Options Report

Issue	Scenario A	Scenario B	Scenario C
			
Groundwater Protection	🔴	🟡	🟢
Surface Water Protection	🔴	🟡	🟢
Landfill Gas Control	🟢	🟢	🟢
Odour and Nuisance Impacts	🟡	🟢	🔴
Traffic & Noise & Vibration Impacts	🟢	🟢	🔴
Visual Impact/Intrusion During Works	🟢	🟢	🔴
Timescale	🟢	🟢	🔴
GHG emissions	🟡	🟢	🔴
Cost	🟢	🟡	🔴

🟢 = Most preferred option 🟡 = Intermediate option 🔴 = Least preferred option

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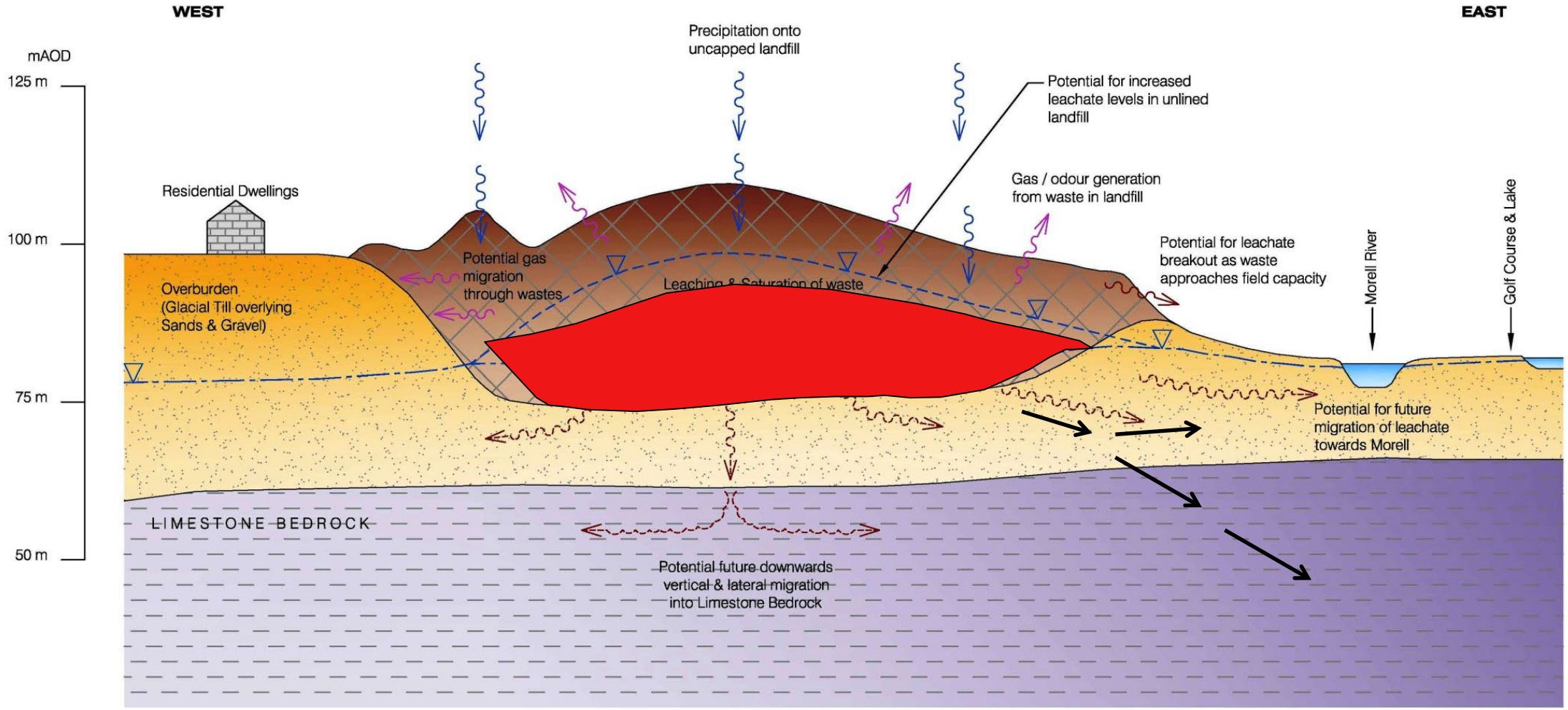
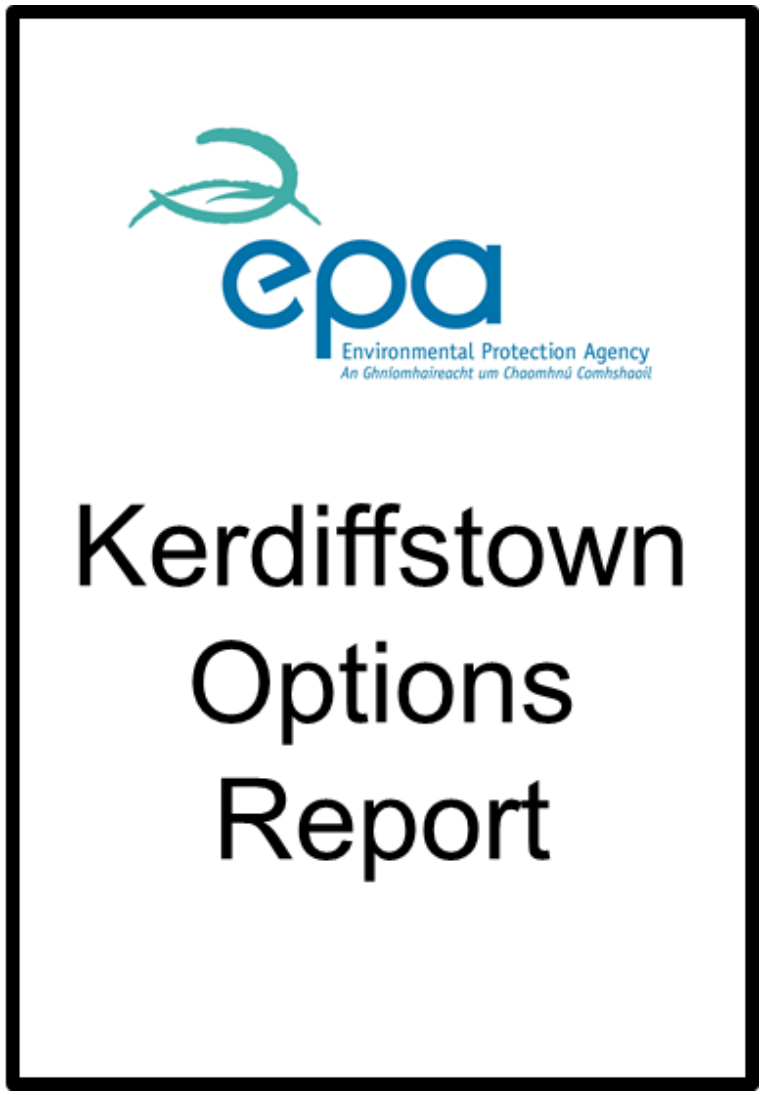


Leachate Levels Rise

Leachate Flow Increases

Increased Risk to Groundwater & Surface Water



- **Do Nothing:** Environmental Risks were too high to do nothing.
- **Excavation and offsite disposal of all wastes:** Considered unsustainable due to the quantity of material to be moved would be prohibitive due to:
  - the environmental risks in moving the material versus leaving in place
  - the nuisance factor to locals
  - the lack of an alternative site to take the quantities of waste
  - the material required to backfill the void left behind
  - the carbon footprint in such works and transportation.
- **Minimal reconfiguration and capping**
- **Development of a fully lined containment site for all wastes**

Environmental Monitoring

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Groundwater & Surface Water Monitoring

- Morell River identified as most important receptor in the area – part of the Liffey Catchment.
- GW flow is to the N/NE towards the Morell River.
- Level monitoring shows GW to the east of the site is likely in hydraulic connectivity with the river.
- Extensive monitoring ongoing to track any movement of the leachate plume – monthly and annual groundwater and surface water monitoring.
- Chemical testing for wide range of potential leachate indicator parameters - ammoniacal nitrogen, chloride, potassium, iron plus organic compounds such as VOC's, pesticides and herbicides.

Other Impacts / Emissions

- Air Quality
  - Odours
  - Landfill Gas
    - Actively Managed since 2011
    - Manages odours also – Hydrogen Sulphide present in excess of 10,000ppm
    - Poses health and safety as well as odour nuisance risks
  - Dust
- Leachate
- Noise & Vibration

Site Vision

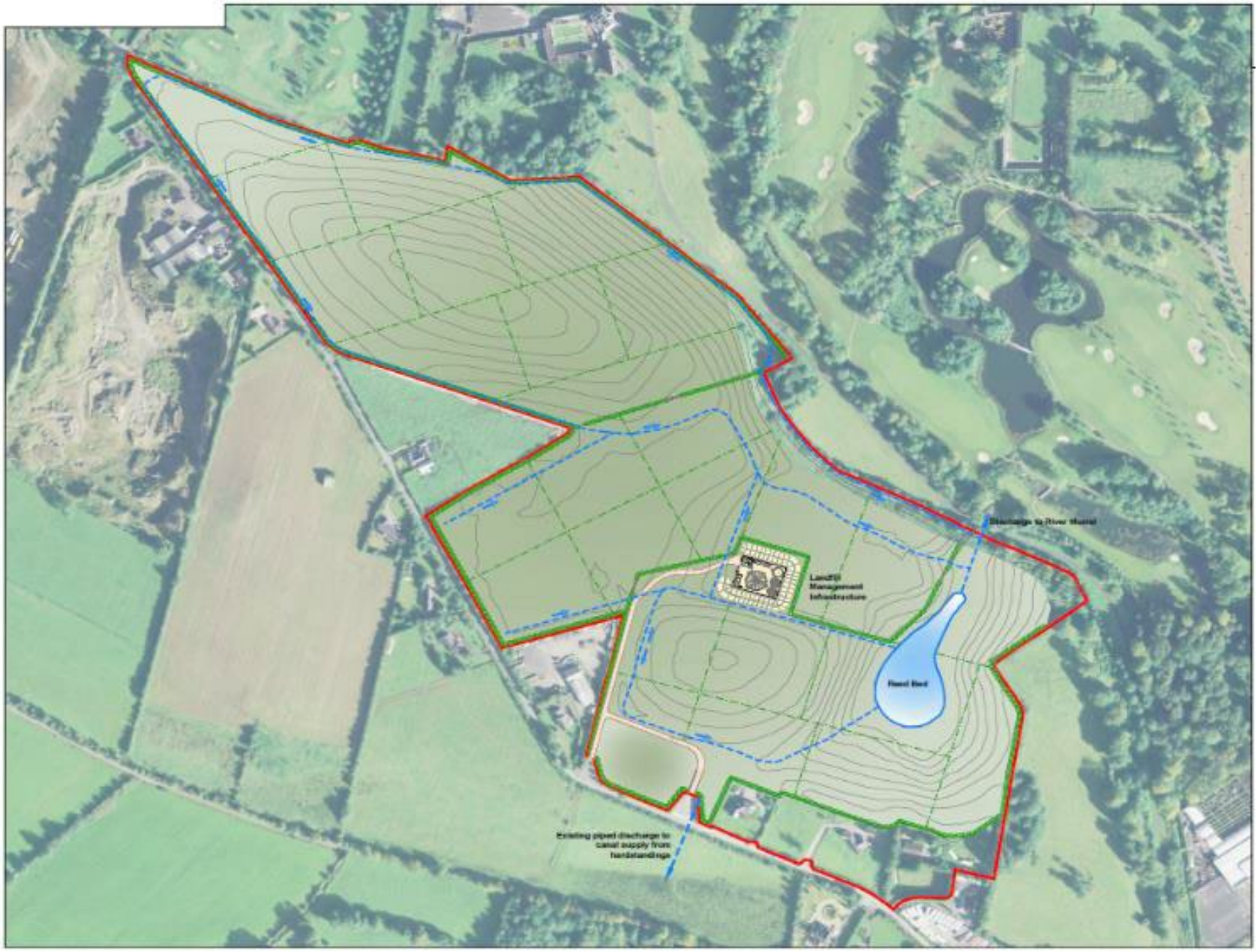
Public Consultations

- Public Consultation on End Use April 2016
- EIAR Scoping October 2016
- EIAR Public Consultation (Non Statutory) March 2017
- Quarterly meetings of CLG
- EIAR / CPO Public Consultation (Statutory), August 2018
- An Bord Pleanála Oral Hearing, 5th December 2017

End Use Options – Non Statutory Public Consultation 2016

- A detailed assessment of potential end uses for the site was undertaken and two preferred options were selected influenced by engineering constraints.
- The two options presented for public consultation were:
- **Option 1: Managed Grassland**
  - Passive use of site as grassland area with minimal planting.
- **Option 2: Multi-Use Recreational Park**
  - Public park with walkways, playground, ecological areas and visitor car parks.

Option 1 – Managed Grasslands



Key Features:

- All risks to public health and safety removed.
- Environmental risk profile reduced and managed.
- Fully fenced off.

Option 2 – Multi Use Recreational Park

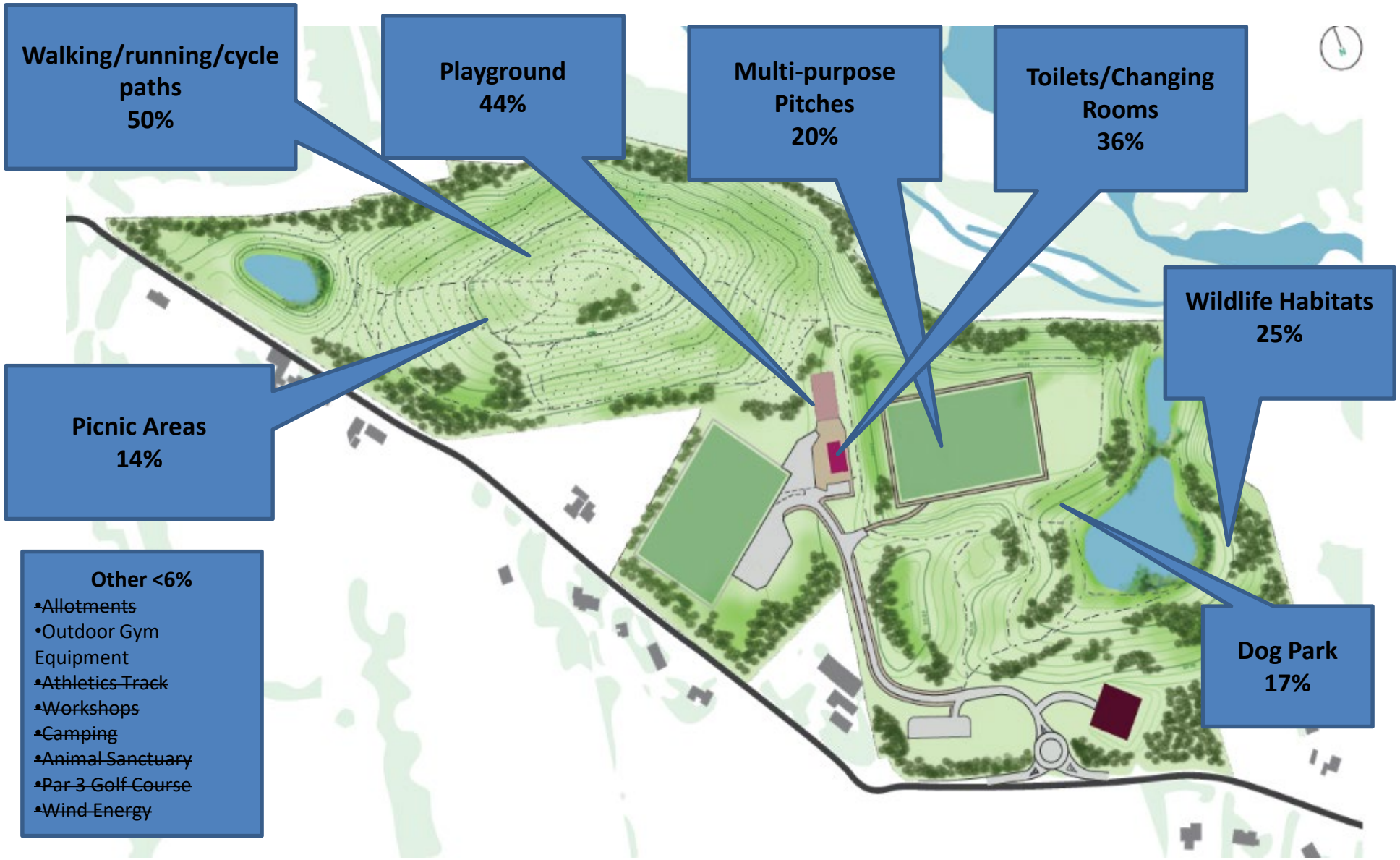
Key Features:

- Risks to public health and safety removed.
- Environmental risk profile reduced/ managed.
- Create a valuable local amenity.
- Give back to the local community.
- Fully fenced off and secure.

End Use Options – Non Statutory Public Consultation - Result

- All submissions were in favour of public park with amenities.
- Submissions highlighted a lack of recreational and sports facilities in Kerdiffstown, Sallins, Naas and Johnstown area.
- General feeling that a park with amenities would provide huge environmental, social and economic benefit to wider community as population numbers continue to grow in Kildare.

Preferences for Park Use - Consultation Outcome



% of submissions that expressed a preference

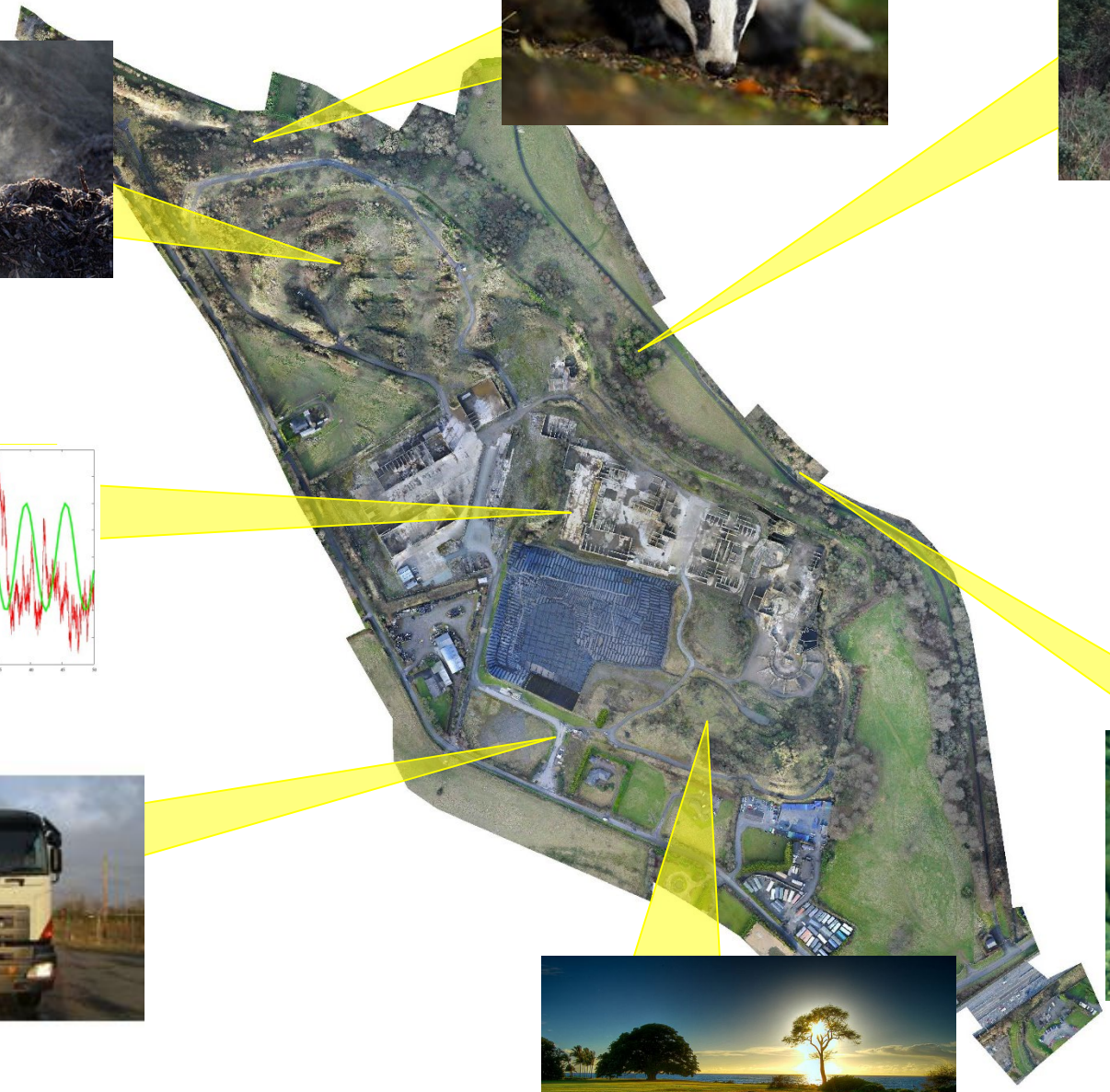
Outline Design – Kerdiffstown Park

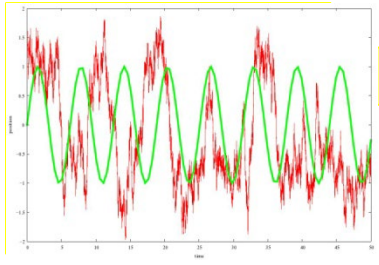
- Consideration has been given to peoples views - ongoing consultation as project progresses.
- Parks are living spaces that will change and improve over time.
- Real opportunity to give something back to local communities and wider Naas area.
- To create a park that can be enjoyed by young and old for generations to come.

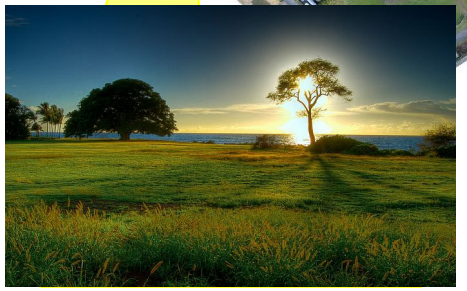
EIAR

- **E**nvironmental **I**mpact **A**ssessment **R**eport required to support and inform:
  - Preliminary Design and mitigation measures
  - Application for planning permission
  - Application for Compulsory Purchase Orders
  - Application for Industrial Emissions Licence from the EPA

EIA Issues







Public Consultations

- Public Consultation on End Use 13th April 2016
- EIAR Scoping October 2016
- EIAR Public Consultation (Non Statutory) 7th March 2017
- Quarterly meetings of CLG (now monthly)
- EIAR / CPO Public Consultation (Statutory), 30th August 2018
- An Bord Pleanála Oral Hearing, 5th December 2017

Planning

- Permission granted with 6 conditions:
  - Develop in accordance with EIAR.
  - Implement full mitigation measures and EPA licence.
  - KCC (or agent) to prepare CEMP.
  - Site hours :
  - Park Hours -
  - KCC to retai

Days	Times
Mon - Fri	07:00 to 19:00
Saturday	08:00 to 14:00
Sundays and public holidays	No working

Licence Conditions

		No. of Conditions
Condition 1.	Scope	9
Condition 2.	Management of the Installation	21
Condition 3.	Infrastructure and Operation	68
Condition 4.	Interpretation	12
Condition 5.	Emissions	20
Condition 6.	Control and Monitoring	75
Condition 7.	Resource Use and Energy Efficiency	4
Condition 8.	Materials Handling	18
Condition 9.	Accident Prevention and Emergency Response	10
Condition 10.	Closure, Restoration and Aftercare Management	7
Condition 11.	Notification, Records and Reports	20
Condition 12.	Financial Charges and Provisions	9
		273

IEL Waste Activity

- **Application for Waste Activity Class 11.5:**

'Landfills where the annual intake is likely to exceed 100,000 tonnes.'

None of the proposed activities as set out in the licence application were refused.

Waste to be accepted?

- The site v… …ept **‘new’ waste fo… …ert wastes for use a… …soil and** top soil.
- Inert soil… …d to the site to fa…
- Tempora… …g grade materials…

TABLE D.2(i) Waste Acceptance (type and quantities)

Rows should be added to the table as necessary.

EWC Code	Waste description (the actual description of the waste, not the text accompanying the EWC code)	Tonnes per annum (existing)	Tonnes per annum (proposed)*
01 04 08	Gravel and crushed rocks for use in drainage layers or aggregate backfill, tracks and as general engineering fill.	zero	5,000
01 04 09	Sands and clays for use in regulating layer below capping system.	zero	17,000
17 05 04	Soils and stones for use in the tracks, restoration layer and bunds construction.	zero	97,000
17 05 06	Dried material for use in regulating layer below capping system.	zero	7,500
19 13 02	Soils from soil remediation processes for use in restoration layer and bunds construction.	zero	32,000
20 02 02	Soils and stones for use in restoration layer and bunds construction.	zero	32,000

* Based on approximate breakdown of 127,500m³ for assumed waste codes at approximate 1.5 tonnes per cubic metre conversion

Land Acquisition Process

CPO Quantities

- 33.3 hectares of Permanent Landtake
- 2.7 hectares of Temporary Landtake
- 1 no. Extinguishment of public right of way
- 2 no. Wayleaves

Complicating Factors

- Valuation of land for unremediated landfill
  - How much is an unremediated landfill worth?
- Communications with the landfill landowners
- Vesting Process:
  - securing the right of present or future deployment
- 3 Houses for demolition are occupied with no landlord – tenant relationship.
- Kerdiffstown House was in the process of changing lessees & change to the planned scope of works.

Detail Design

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Sustainable Project

- Sustainability Register
- Green Procurement
- Innovation
- Efficiencies in Design and Construction

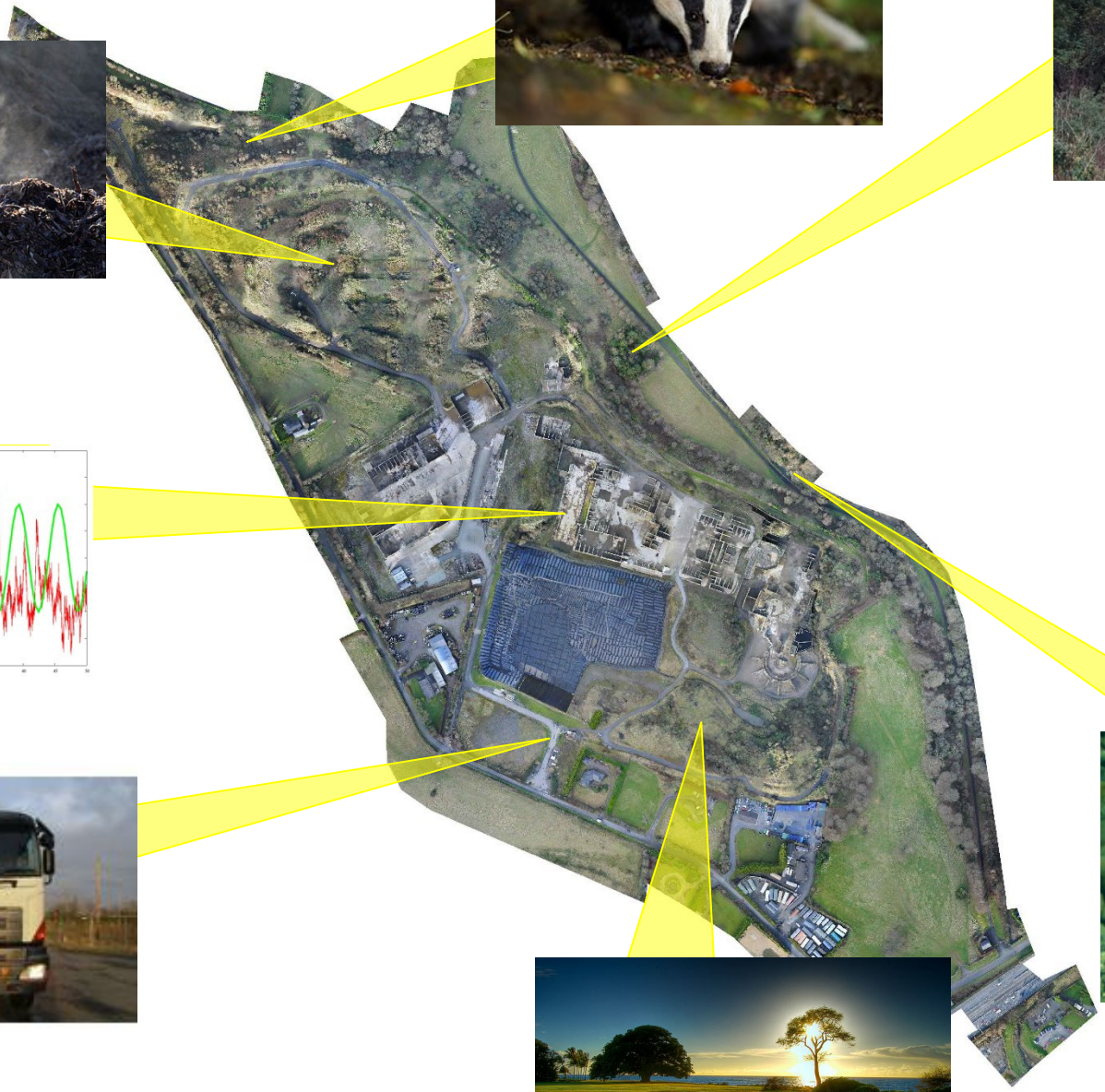
Challenges

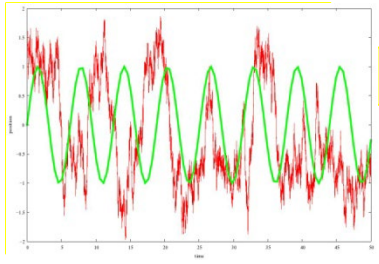
- Landform and engineering an appropriate design
- Effective and appropriate infrastructure to manage gas, leachate and surface water
- Construction and enabling works phasing and sequencing to meet project objectives
- Management of environmental impacts during construction works (odour, water management)
- Minimising impact on neighbouring properties

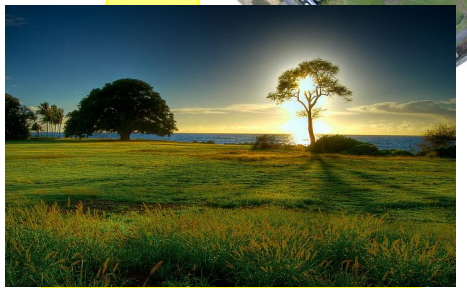
Earthworks – Bulk Re-profiling

Zone	Cut (m^3)	Fill (m^3)	Balance (m^3)
1	47,000	111,500	-64,500
2a & 2b	35,000	46,500	-11,500
3	0	86,000	-86,000
4	170,500	29,000	142,000
5	0	0	0
Surface wastes	15,000*	0	15,000
Totals	**267,500**	**273,000**	**-5,500**

EIA Issues







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Construction **E**nvironmental **M**anagement **P**lan

Odour Management Plan	Site Biodiversity Management Plan
Groundwater Management Plan	Invasive Species Management Plan
Dust Management Plan	COVID-19 Plan
Noise and Vibration Plan Kerdiffstown	Health and Safety Plan
Leachate Management Plan	Site Security Management Plan
Landfill Gas Management Plan	Accident and ER Management Plan
Surface Water Management Plan	Landscape Masterplan Statement
Erosion and Sediment Control Plan	Containment Spill Emergency Plan
Monitoring and Control Management Plan	Construction Traffic Management Plan
Waste Management Plan	Mobility Management Plan

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QUARRY
Chapel
Church (in ruins)
Lake
PLAYGROUND
PROPOSED CHANGING ROOMS
PROPOSED PITCH A
PROPOSED PITCH C
PROPOSED PITCH B
PROPOSED CAR PARK
PRIVATE PROPERTY
PROPOSED OVERFLOW CAR PARK
PROPOSED ENTRANCE LOCATION
LANDFILL INFRASTRUCTURE COMPOUND
LEACHATE AND FOUL RISING MAIN
River Morell
River Morell

Green Public Procurement

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Kildare County Council
Comhairle Contae Chill Dara

GPP includes Social Considerations

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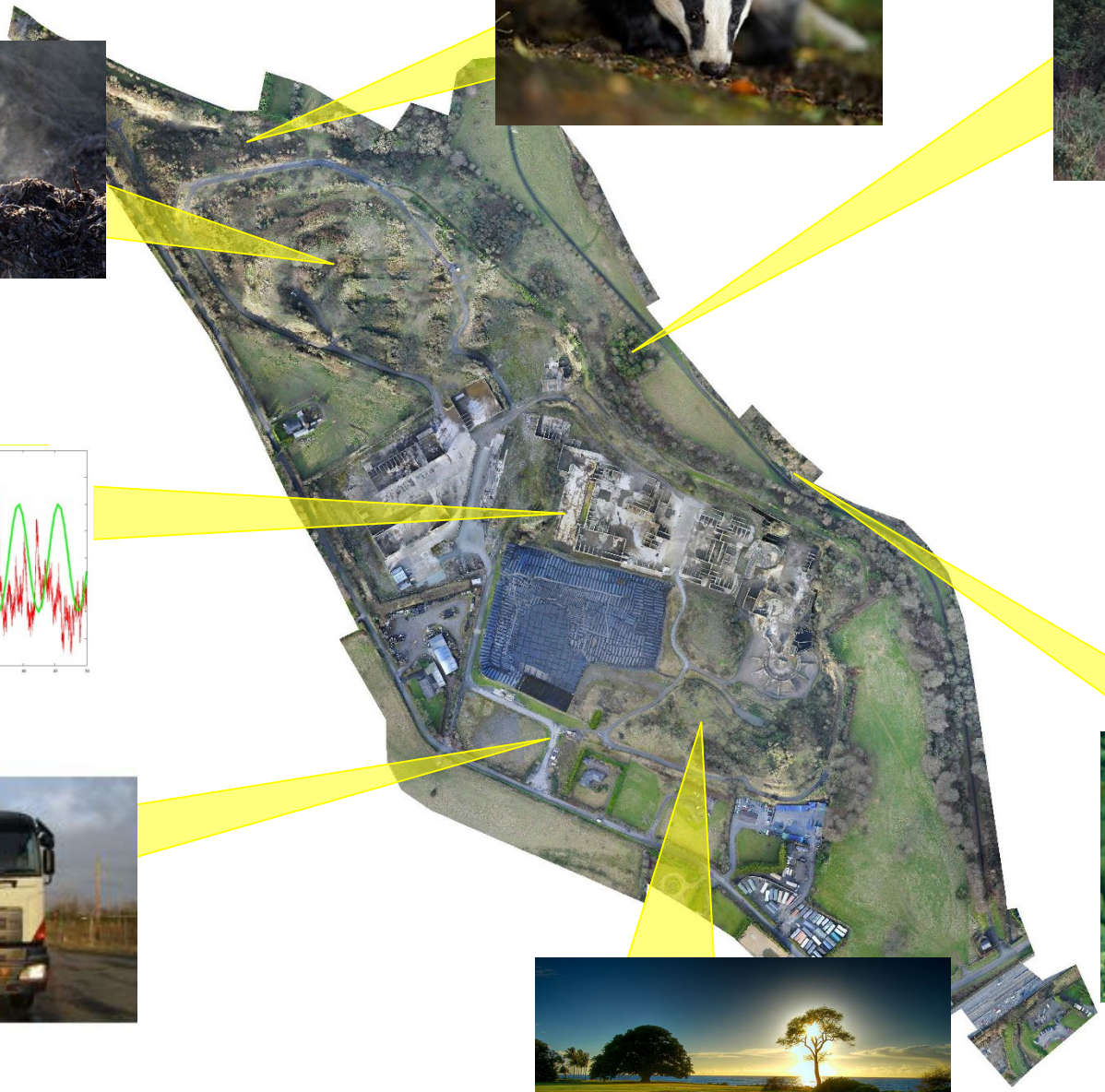

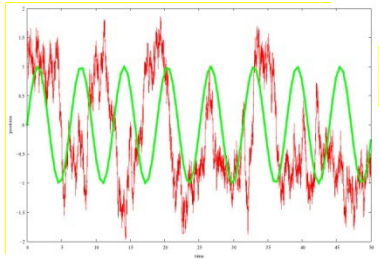

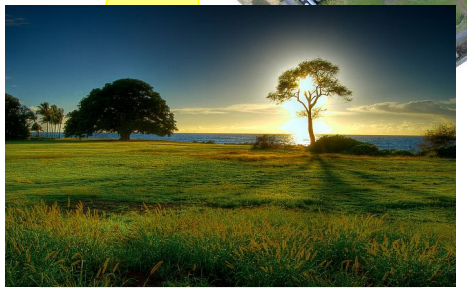

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River Morell
River Morell

Green Public Procurement

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GPP includes Social Considerations

3 Main Pillars for a Green Kerdiffstown Park

- Efficiencies in Design, Specifications and Construction
- Sustainability Register
- Green Procurement of the Contractor

Kildare Comhairle

Strategy: Procurement of Consultants

- The Consultants were procured with a scope requiring them to:
  - Design the project with sustainability and green Issues in mind. Thus, we should produce documents that are Greener:
    - Technical Specifications
    - Works Requirements/Performance clauses
  - Required to procure the contractor using Green Procurement. This is necessary as there is more work involved for the consultant

Significant Milestones

- 2016
  - All buildings on site demolished and waste moved to lined cell.
  - 14,000m^3 waste moved
  - First significant piece of work on site by KCC.
- 2017
  - EIAR finalised
  - Planning and CPO applications completed
  - EPA Licence Application Submitted


LIEBHERR
Demolition
Tel: 061-603648

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Significant Milestones

2018

- ABP Approved Planning Application & confirmed CPO.
- Execution of CPO commenced.
- Landfill property acquired.

2019

- EPA licence granted.
- All remaining properties acquired in 2019.
- Advance Works Completed; Archaeology, Site Investigations and Gas monitoring wells, Kerdiffstown House Avenue Works.
- Main Contractors shortlisted.

Significant Milestones

2020

- New road alignment and entrance completed.
- Detailed design completed.
- Tenders issued to shortlisted contractors for main works.
- Contract awarded October 2020.
- Works Commenced 16 November 2020.

January 2021

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June 2022

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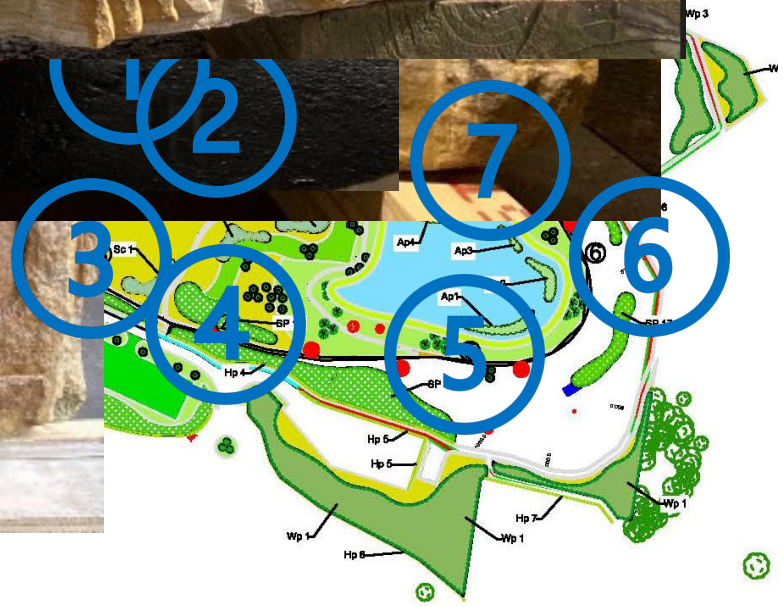
7. Dun Ailinne


2. Dream of Bridgid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Hp 8


A·ROOD·O'
DONE·WORTH
T'WIA·O'DEE
EXCEPT·IT·BE·FOR
FISH·AND·TREE

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Positive Signs

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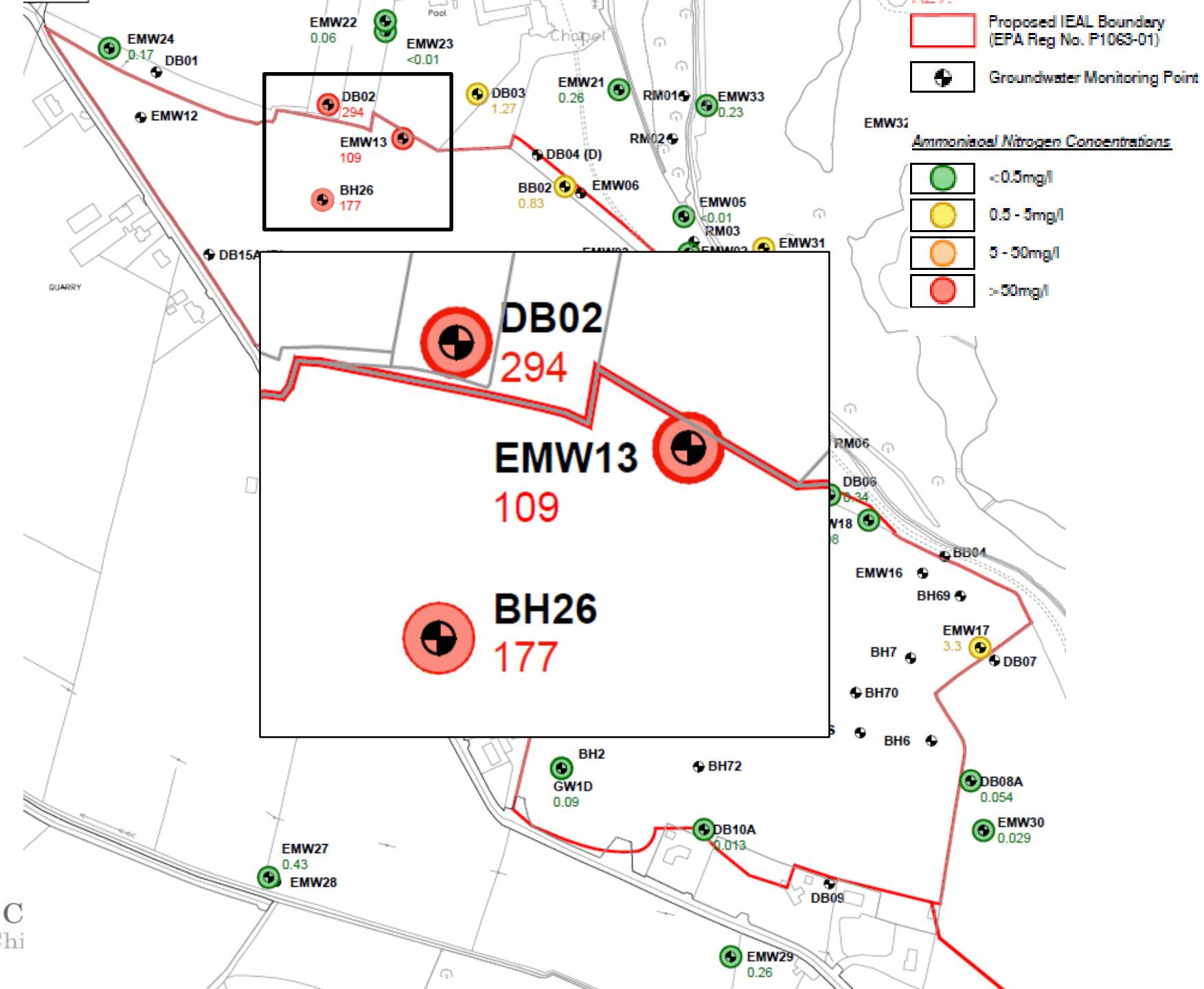

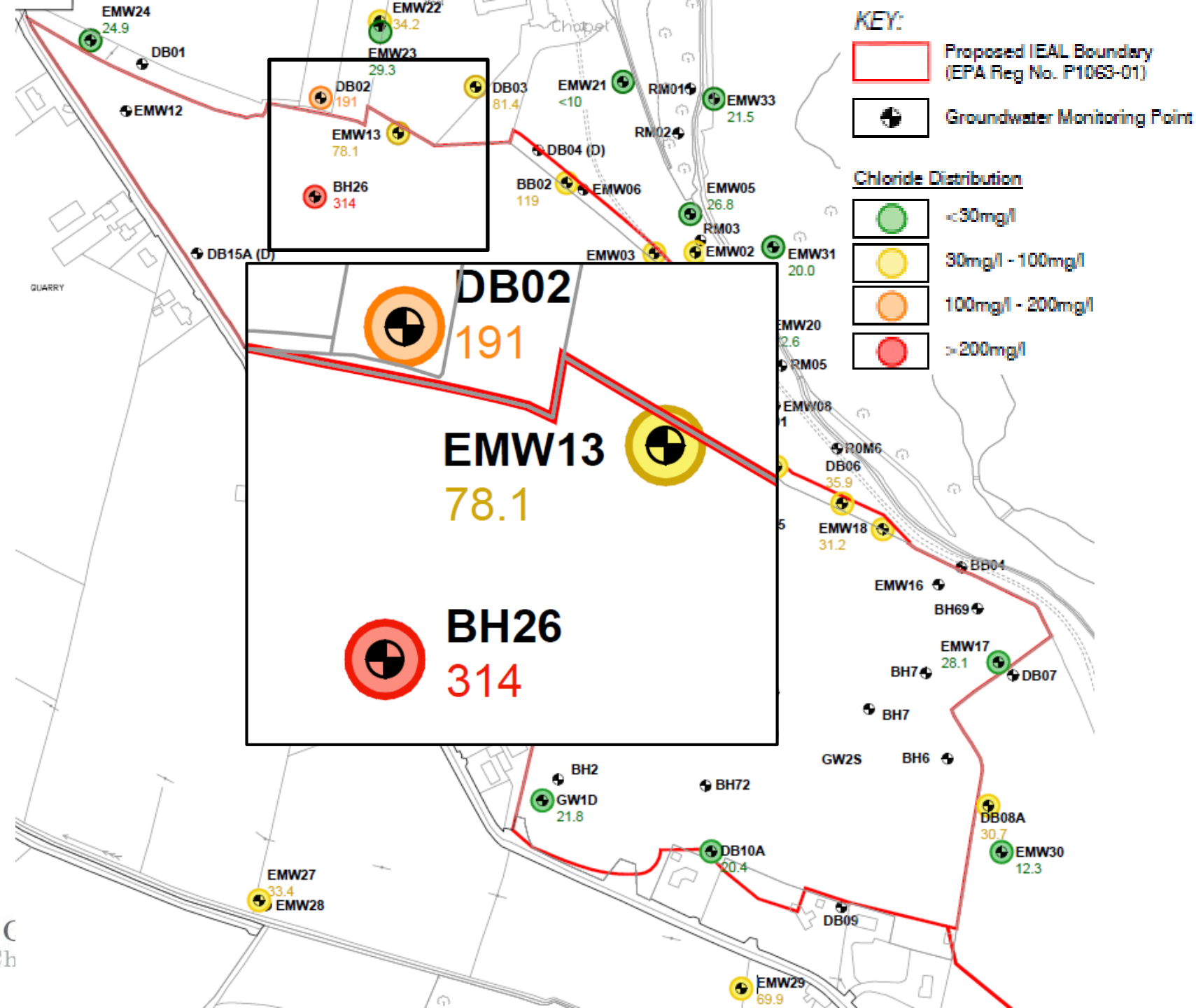

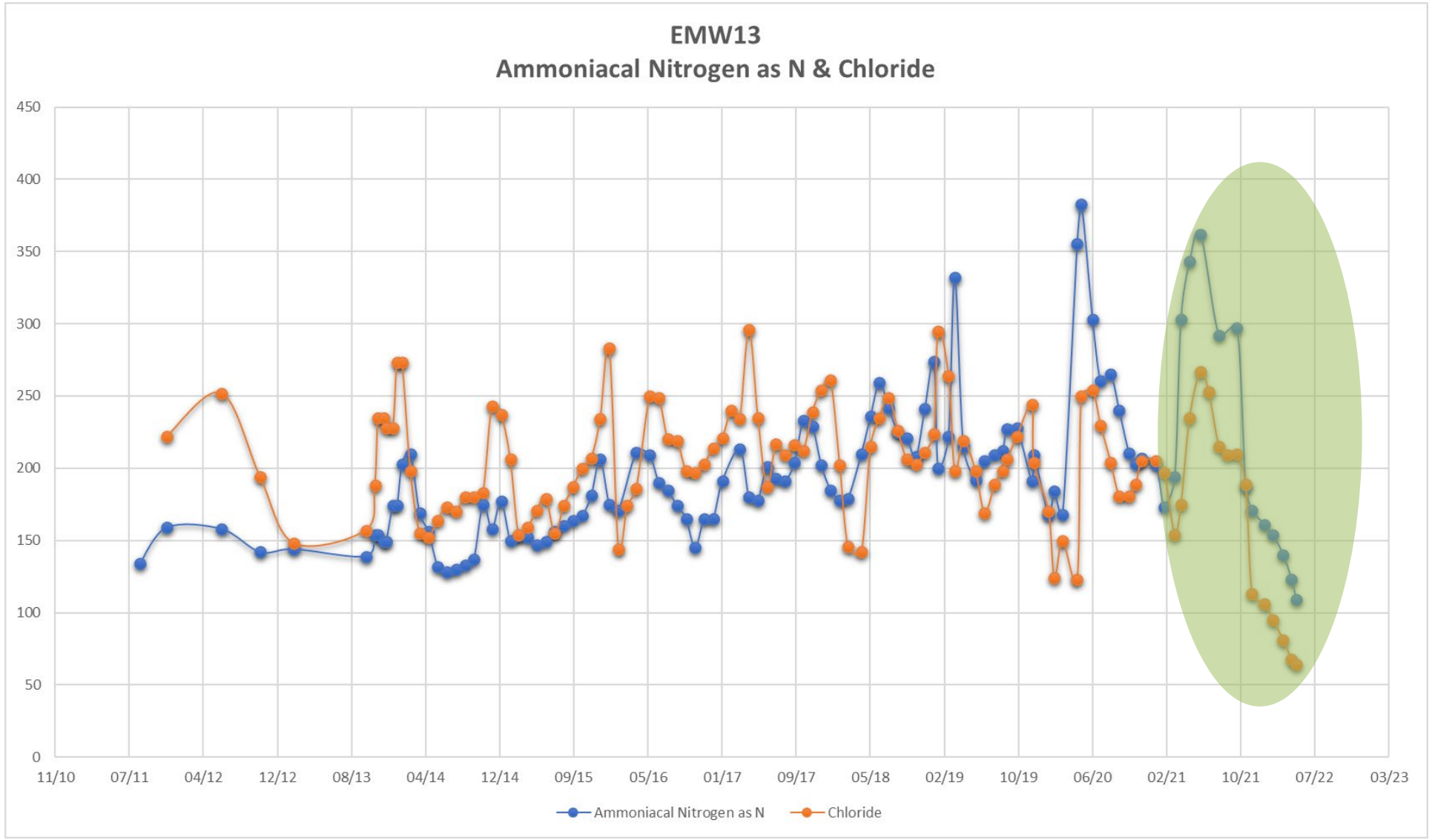

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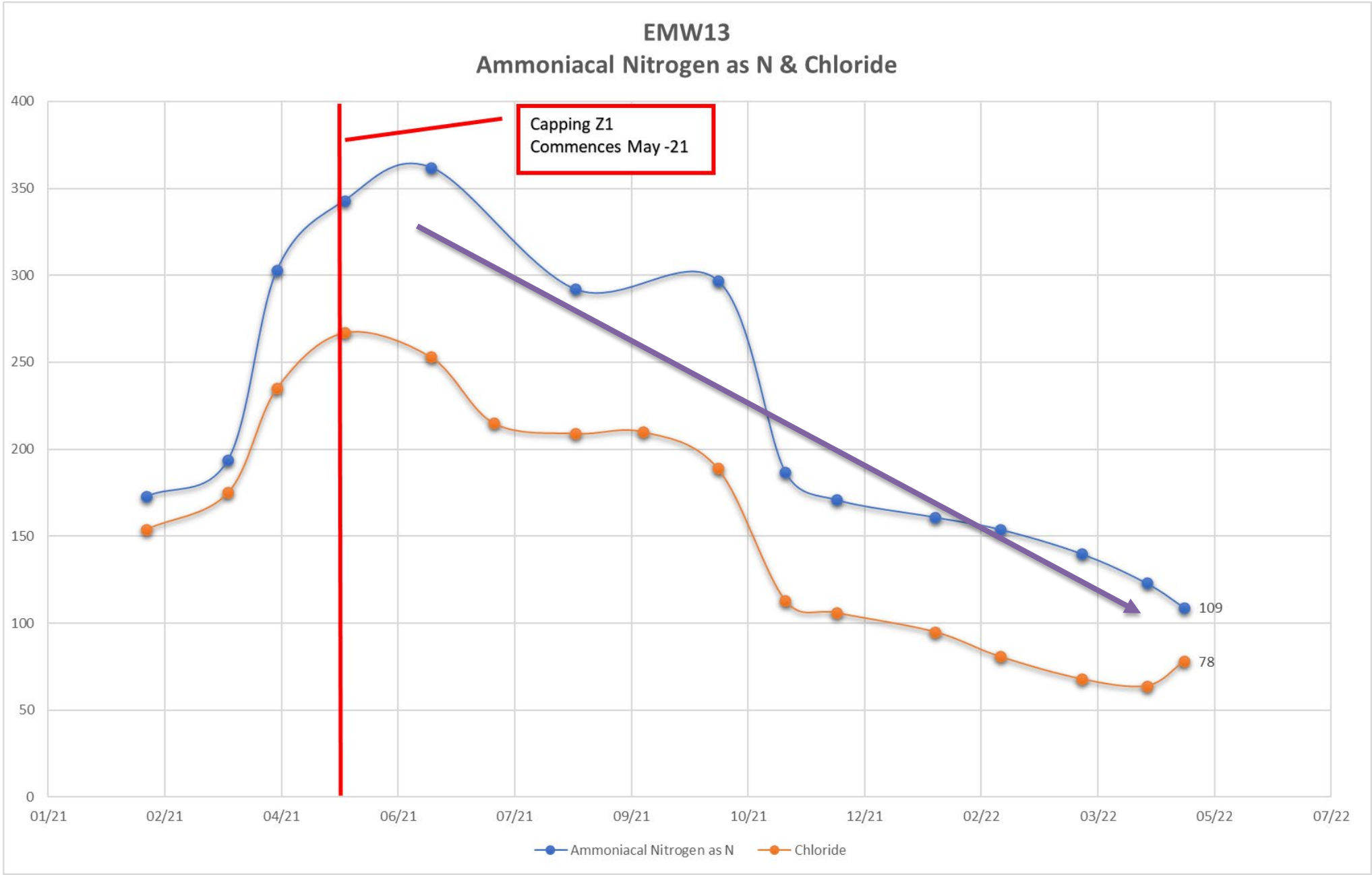

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Questions?