



An Roinn Iompair
Turasóireachta agus Spóirt
Department of Transport,
Tourism and Sport

ROADS Services Training Group

LOCAL AUTHORITY ROADS CONFERENCE and EXHIBITION - 2019

Lyrath Estate Hotel, Kilkenny, May 2019.

LOCAL AUTHORITY ROADS CONFERENCE and EXHIBITION – 2019

Public Lighting

Daragh Quill

Road Management Office

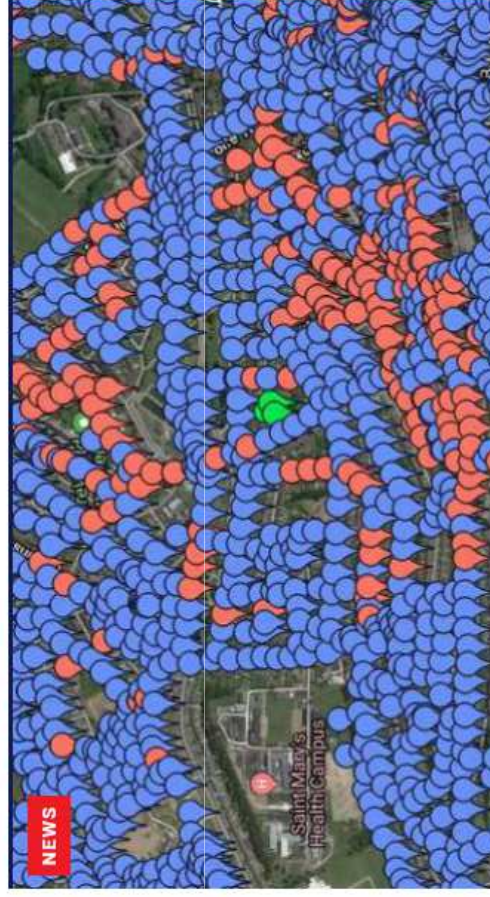


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-
- ❑ Background
 - ❑ Implementation Phase
 - ❑ Tender Process
 - ❑ Programme
 - ❑ Challenges

TOP STORIES



NEWS

Lights Out on
Cork's northside
with hundreds of
streetlights out of
action



BUSINESS



NEWS

Increased passenger numbers

City council to invest in second

BUY RENT **myhome.ie**

Choose a County

All Types

SEARCH

Why are
LA's doing
this project?

2020 & 2030
Energy
Efficiency
Targets

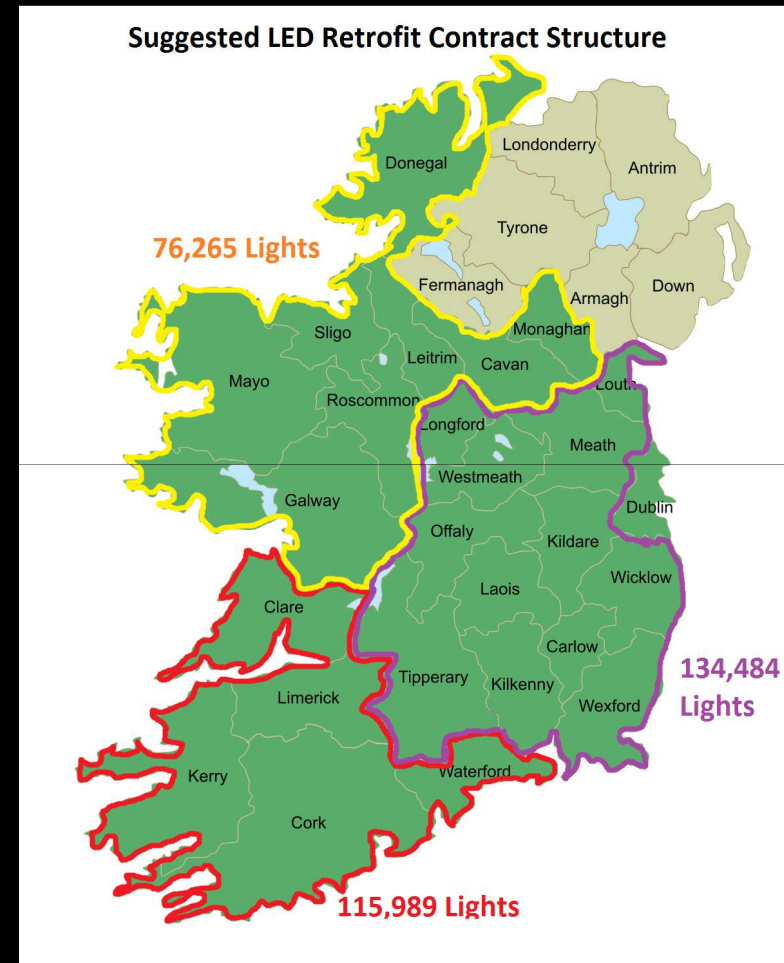
Cost Savings

Phase out of
SOX lights

ESBN
Unbundling

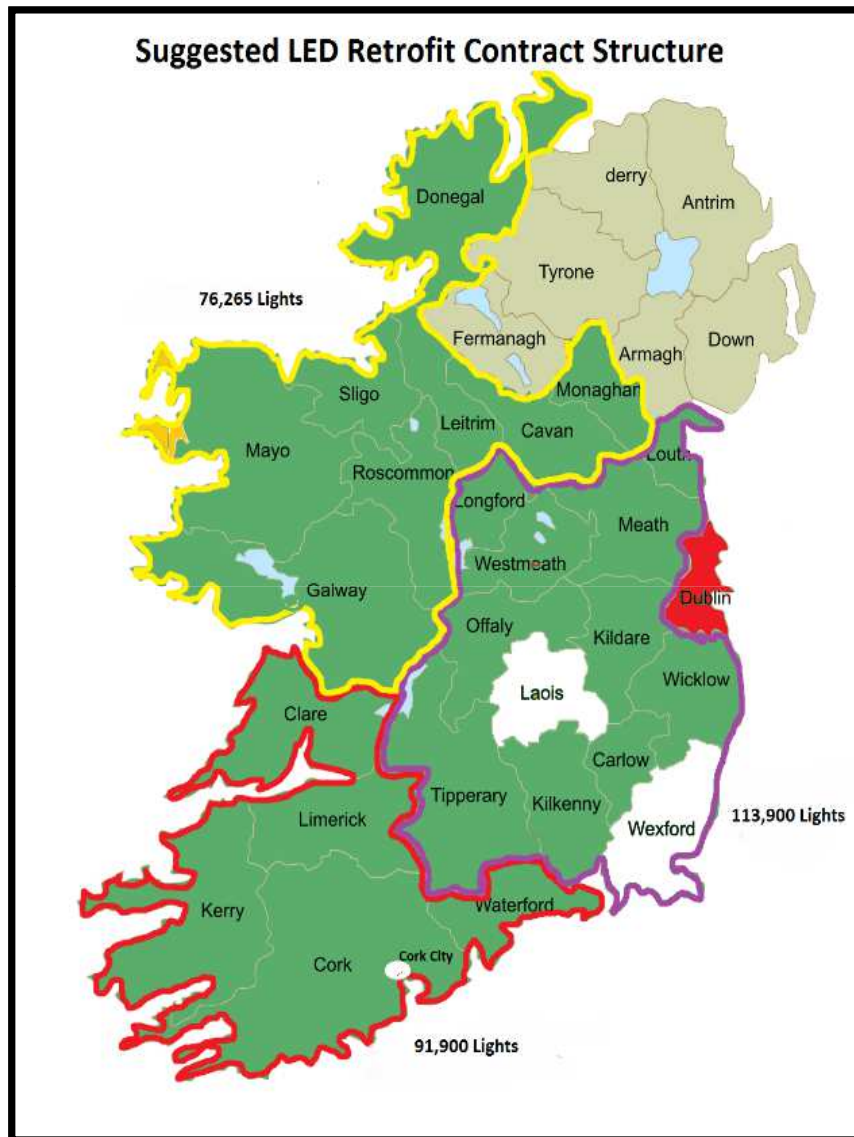
Project Proposal

- A Regional Design & Build Project with Lead Authority
- **100%** retrofit to energy efficient LED Lantern's
- **3.7%** replacement of non ESNB Columns (Revised BC addendum)
- Financed through HFA loans to each LA
- Asset Condition Survey



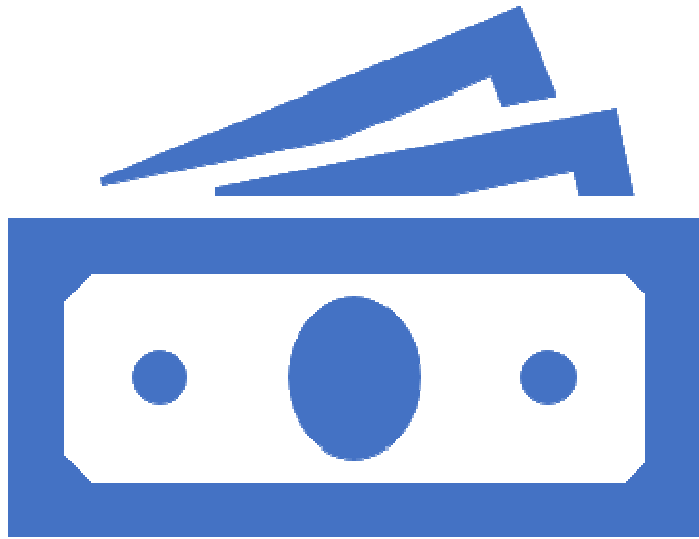
Update on Project Peer Review

- Business Case & CBA Completed; NTMA assistance
- Formal LGMA (PSROG) Review process undertaken
- First review commenced early 2018 and Completed September 2018 .
- Business Case Approved by Public Sector Reform Oversight Group (PSROG)



Chief Executives Signed up to Regions

- Project Excludes Dublin's
- Laois, Wexford, Cork City have separate plans



Economic & Financial Summary

Economic Outputs

- Includes for Shadow Costs on Capital (130%)
- Updated Carbon Emissions
- Updated Discount Rate (4%)

Base Case (€m)	Incremental
Present value @ 4% discount rate (€m) & SPPF 130%	
Incremental capital costs	(107.5)
Avoided energy costs	127.9
Avoided maintenance costs	39.8
Avoided carbon costs	19.5
Incremental terminal value	(1.8)
Total benefits	185.4
CBA Outputs 60% Efficiency	
NPV (€m)	77.9
Benefit cost ratio	1.7
IRR	11.8%
Discounted payback (years)	10.6

Economic Sensitivity Analysis

Sensitivity Analysis	Base Case	(1) LED efficiency -23%	(3) Maintenance saving 0%	(5) LED costs +78%	LED Efficiency -15%, Maintenance -20%, LED Costs +20%
Present value @ 5% discount rate (€m)					
Incremental capital costs	(107.5)	(107.5)	(107.5)	(184.3)	(127.2)
Avoided energy costs	127.9	58.9	127.9	127.9	89.6
Avoided maintenance costs	39.8	39.8	(6.4)	39.8	24.4
Avoided carbon costs	19.5	9.0	19.5	19.5	13.6
Incremental TV of LEDs	(1.8)	(1.8)	(1.8)	(3.6)	(2.3)
Total benefits	185.4	105.8	139.2	183.7	125.3
CBA Outputs					
NPV (€m)	77.9	(1.7)	31.7	(0.6)	(1.9)
Benefit cost ratio	1.7	1.0	1.3	1.0	1.0
IRR	11.8%	3.8%	7.3%	4.0%	3.8%
Discounted payback (years)	10.6	0.0	15.1	0.0	0.0

Project Funding



**Self Certify, compliance with: Section 11 of housing
(Miscellaneous Provisions) Act 2009**

Local Authority Pass Council Resolution

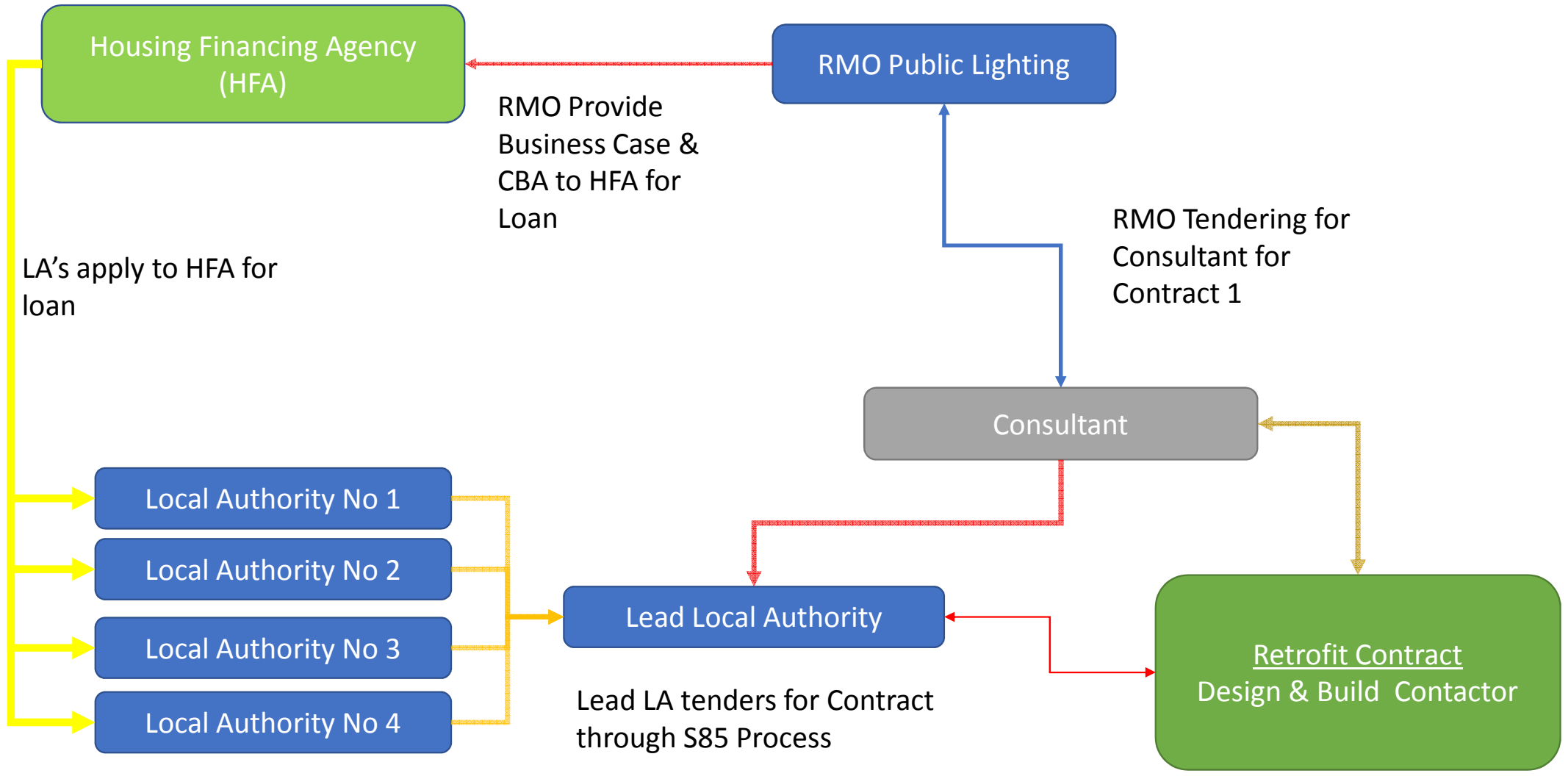
Approval and Sanctioned by:



An Roinn Tithíochta, Pleanála agus Rialtais Áitiúil
Department of Housing, Planning and Local Government



RMO to Coordinate DHPLG & HFA

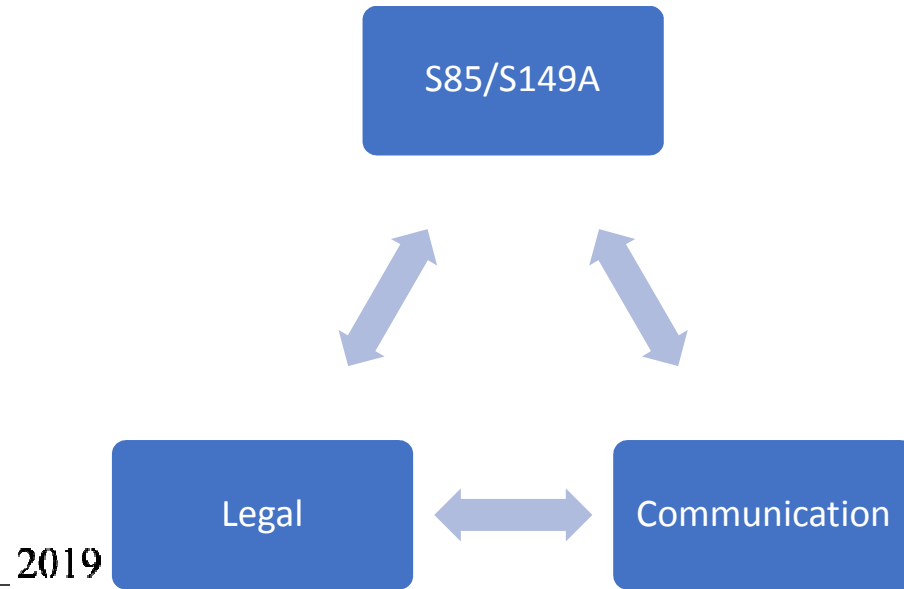


REGIONAL STRUCTURES & ARRANGEMENTS

Inter – Local Authority Legal Agreement

Dated this _____ day of _____
BETWEEN
CORK COUNTY COUNCIL
One Part
AND
LIMERICK CITY & COUNTY COUNCIL
Other Part
SECTION 85 AGREEMENT
AN AGREEMENT made the _____ day of _____
2019

BETWEEN



- Draft of Agreement Prepared
- RMO Board to Review
- Agreement to be circulated to sector

Section 85 V's Section 149A

- ❑ Section 85 is a Reserved Function – Council Approval

- ❑ Section 149A is an Executive function – Chief Executive Sign Off
 - Shared services

 - Matter is being investigated and by Counsel for an opinion



Regional Structures; Kick Off Meetings

- Regional Kick off Meetings Held
 - Cork 15th Feb/ Tralee 15th March
 - Naas 6th March
 - Roscommon 12th March

 - Lead Authority Agreed as
 - Cork (South West Region)
 - Kilkenny (Eastern Region)
 - Galway or Mayo (North West Region)

 - Feedback: Preference for Staggered Sequencing of Contracts
 - Concerns regarding Condition of Asset and Client Exposure
 - Design Approval Process; Need for Client Design Expertise?

TECHNICAL CONSULTANCY

Technical Consultancy Contract Update

Consultancy Contract 1 (RMO as Client)

There are 5 no. work packages within this commission:

Work Package 1: Produce RMO Public Lighting Asset Management Research Paper, Retrofitting Guidance Document and Contract Specifications

Work Package 2: Develop Model Forms of Contract for Retrofit Contracts

Work Package 3: Produce Tender Documents for Regions

Work Package 4: Develop Model Forms of Maintenance Contracts

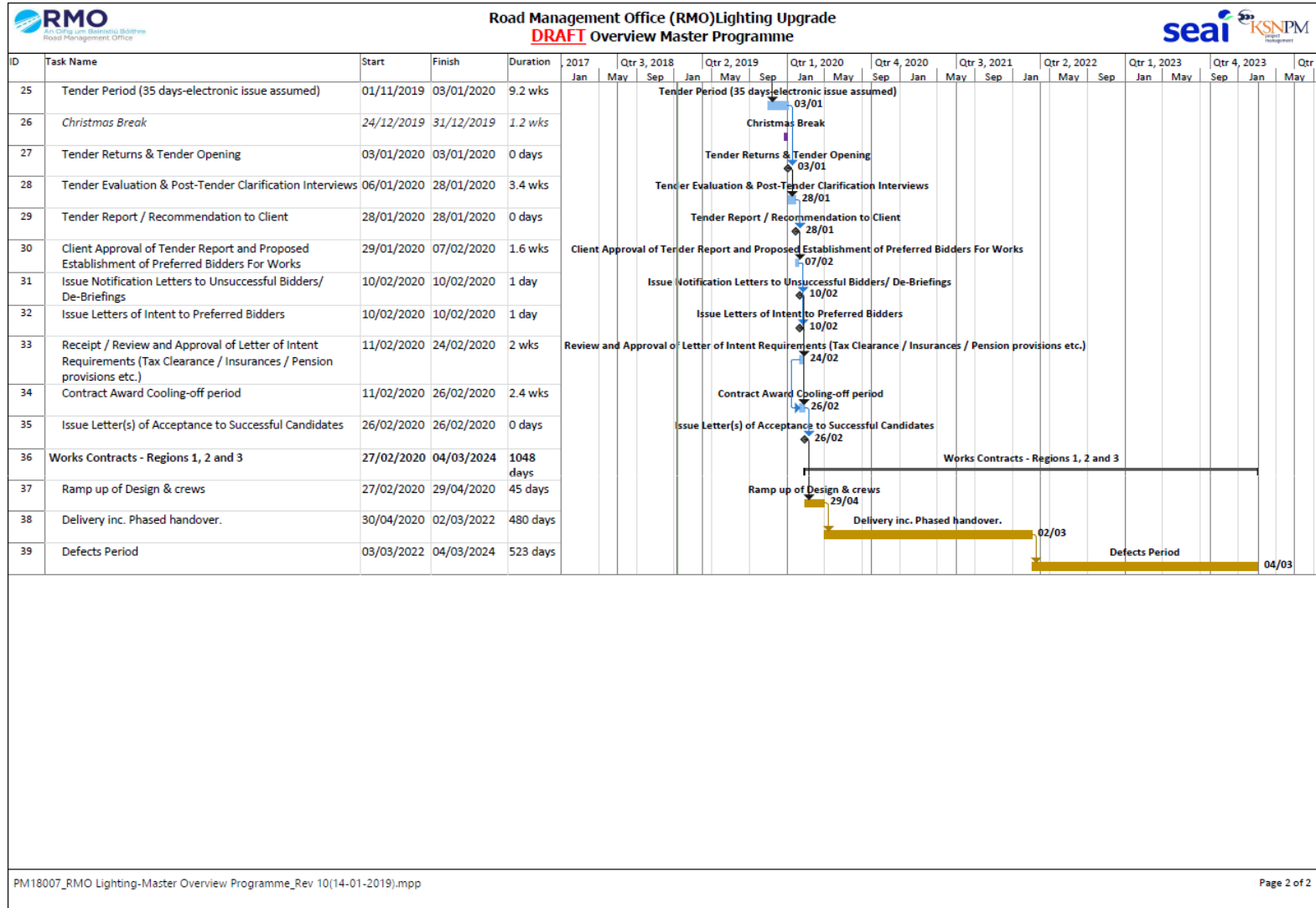
Work Package 5: Tender Evaluation & Report for Regions

Technical Working Group Update

- First Meeting March 27th @ LGMA Offices
- Chairman: **Mr. Brian Kennedy** DOS Limerick City & County Council.
- Tasked to review and comment on project documents and specification etc.
- Representatives from Regions /TII etc
- Next Meeting 10th May 2019

PROGRAMME

Overall Programme (Draft)



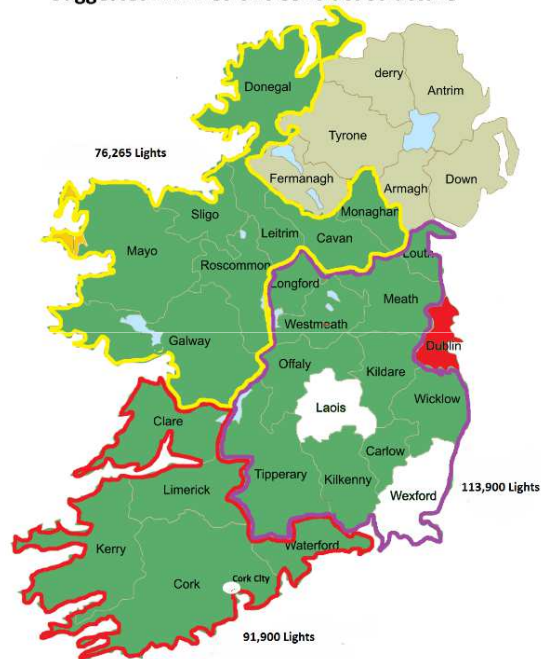
Programme Summary

- 2019: Contract Document Preparation
- 2019 Q2: Works Contracts Framework
- 2019 Q4: Tender Works Contracts Region 1
- 2020 Q1: Works Contract Commence
- 2020- 2022: Retrofit (2yrs+2yrs Defects Period)

Subsequent Regions following On.

Note: RMO Board considering optimum regional phasing of works.

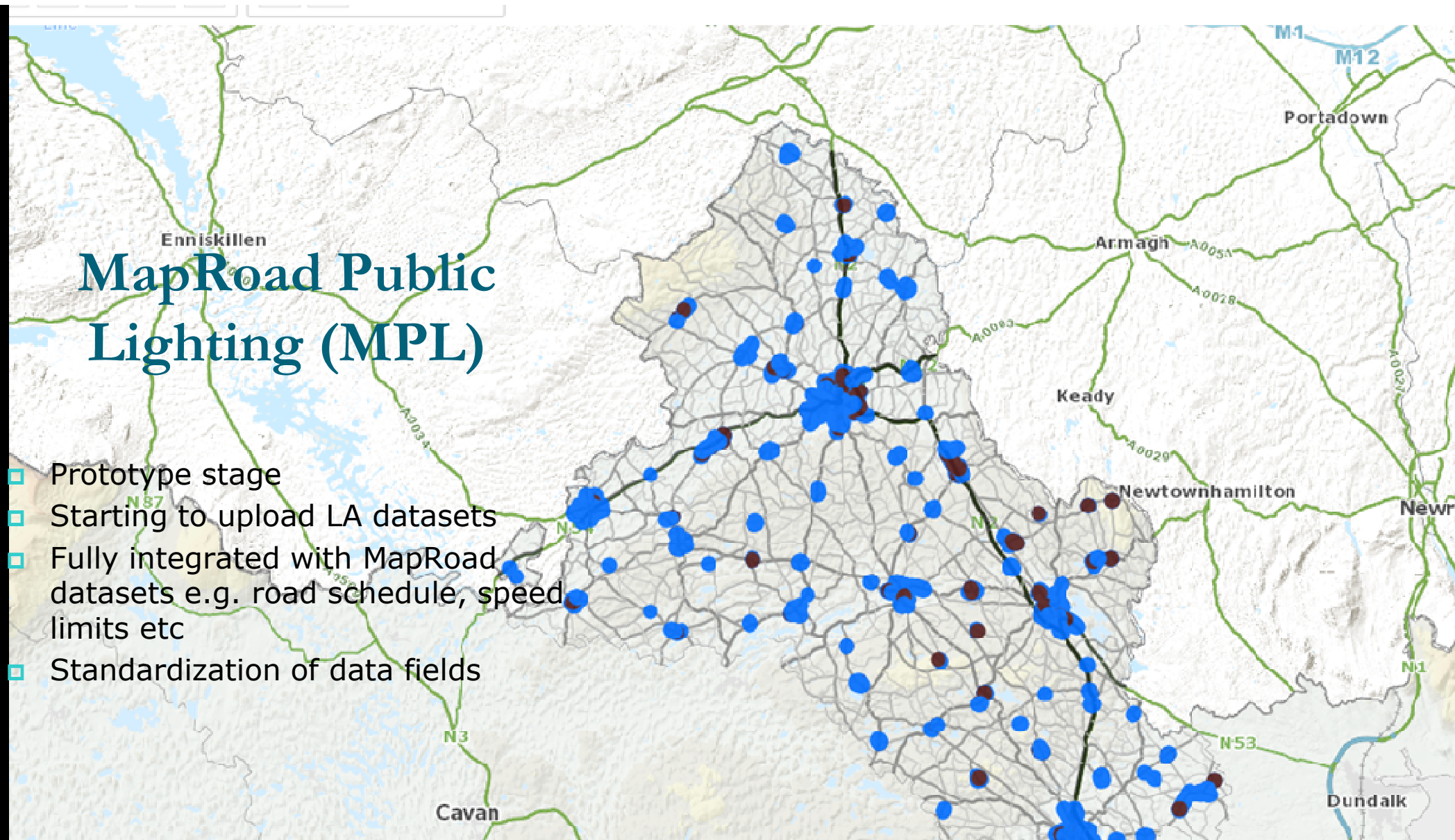
Suggested LED Retrofit Contract Structure



DATABASE MANAGEMENT

MapRoad Public Lighting (MPL)

- ❑ Prototype stage
- ❑ Starting to upload LA datasets
- ❑ Fully integrated with MapRoad datasets e.g. road schedule, speed limits etc
- ❑ Standardization of data fields







MapRoad Public Lighting

- Local Authorities:
 - Need to get MPL usable to enable filtering etc
 - Validate data upload to MPL
 - LA's need to start UMR matching etc.
 - Phase 2 Development
- RMO:
 - Visual Condition Survey Information
 - Testing Information
 - Compliance with TR22

TENDER PROCESS

Contract Options

Strategy

- Criteria Analysis of:
 - Public Works Contracts
 - NEC4 Engineering & Construction Contracts – Options A – F.
 - FIDIC Contracts – Red, Yellow, Orange, Silver & Gold Books.
 - EPC - Energy Performance Contracts.
 - Competitive Dialogue.

Contract Type Evaluation

Summary Table:

Contract Option	Weighted Criterion							Total Score
	Cost (5)	Programme (3)	Quality (4)	Energy Savings (5)	Risk (4)	Administration(3)	Return on Investment(5)	
PW-CF3	7.5	4.5	6	7.5	7.5	4.5	7.5	45
PW-CF4	22.5	12	20	22.5	20	18	22.5	137.5
PW-CF10	15	9	12	22.5	20	9	22.5	110
PW-CF11	15	4	10	10	12	3	10	64
NEC4 Option B	30	18	20	22.5	30	13.5	22.5	156.5
Fidic Yellow	22.5	15	20	22.5	20	13.5	22.5	136
EPC	7.5	4.5	6	7.5	7.5	4.5	7.5	45

Procurement

- ❑ Restricted Procedure
- ❑ 2 Stage Process
- ❑ Stage 1: Standard Suitability Assessment
Questionnaire
Pass/Fail & Quality Experience) (Company Project
- ❑ Stage 2:
 - Quality
(Project Specific)
 - Price

Meet The Buyer Event

14th May 2019

**Maldron Hotel Dublin
Airport**

Cork County Council &
Kilkenny County Council
PIN Notices

Project Title:	Framework Agreement for Local Authority Public Lighting Upgrade for Energy Efficient Project
Approximate Size and General Description of the Works:	<p>The Cork County Council ("Contracting Authority") is acting as a central purchasing body in respect of a multi-party framework agreements (each a "Framework Agreement") for the provision of Public Lighting upgrades from existing lanterns to LED technology.</p> <p>The full project contains circa 280,000 lights</p> <p>The works will include a variety of enabling works to rectify outstanding legacy issues where required. The Framework Agreement has an anticipated duration of 2 years with an option for the Contracting Authority to extend the duration, at its discretion, for up to a further 2 years, in 12 monthly intervals, followed by such other extension as the Contracting Authority considers appropriate at its discretion.</p> <p>The Local Authorities (and the National Roads Authority) that will be entitled (but not obliged) to draw down Services from each Framework Agreement in accordance with the rules of the individual Framework Agreement are:</p> <p>Carlow County Council Cavan County Council Clare County Council Cork City Council Cork County Council Donegal County Council Dublin City Council Dun Laoghaire Rathdown County Council Fingal County Council Galway City Council Galway County Council Kerry County Council Kildare County Council Kilkenny County Council Laois County Council Leitrim County Council Limerick City and County Council Louth County Council Longford County Council Mayo County Council Meath County Council Monaghan County Council Offaly County Council Roscommon County Council Sligo County Council South Dublin County Council Tipperary County Council Waterford City and County Council Westmeath County Council Wexford County Council Wicklow County Council National Roads Authority</p> <p>(each a "Client" for the purposes of this document and collectively referred to as the "Clients").</p>
Main CPV Code:	34928500-3, 34928510-6, 45316110-9, 50232110-4

Stage 1 SAQ

- Suitability Assessment
- Questionnaire
 - Qualifications Managerial
 - Qualifications Personnel
 - Works of past 5 years
- 5 Candidates selected and invited to Stage 2

Framework Advertised by Lead LA May 2019

WORKS CONTRACTS ADMINISTRATION AND SUPERVISION

Resources:
Contract Administration &
Supervision
Drivers:

Design and Build Contracts

Form of Contract yet to be Determined (NEC3 considered)

Contractor self certifies work

Client/Employer Rep auditing role

Contractor designs, undertakes installation, collects data - new lantern type etc, condition rating data, testing? - extent to be determined.

Information submitted to Employers Rep before certifying payment;

Lead Authority : Employers Representative

Night time Supervision and Auditing a requirement.

Resources :

Administration/Supervision

Construction Phase Supervision
Project Resident Engineer
Senior Resident Engineer (Civil)
Senior Resident Engineer (Electrical)
Assistant Resident Engineer (Civil)
Assistant Resident Engineer (Electrical)
Technicians
Quantity Surveyor
Electricians



Requirements :

- Technical Specialists
- Training Required to Audit Condition Surveying
- Electrical nature of work
- Structural Engineering
- Contract Administration of Design and Build Contracts
- Consider Geographic Spread

CHALLENGES:

CONDITION OF ELECTRICAL NETWORK

- LACK OF DUCTING
- NON STANDARD CONNECTIONS
- UNCERTIFIABLE
- LOW COVER



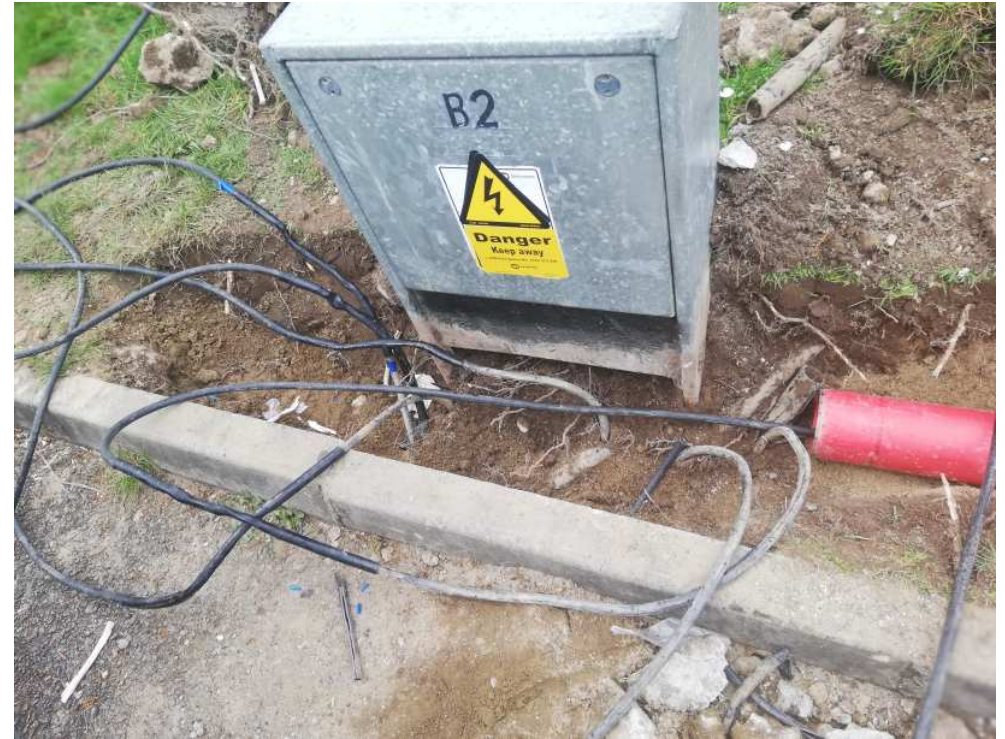


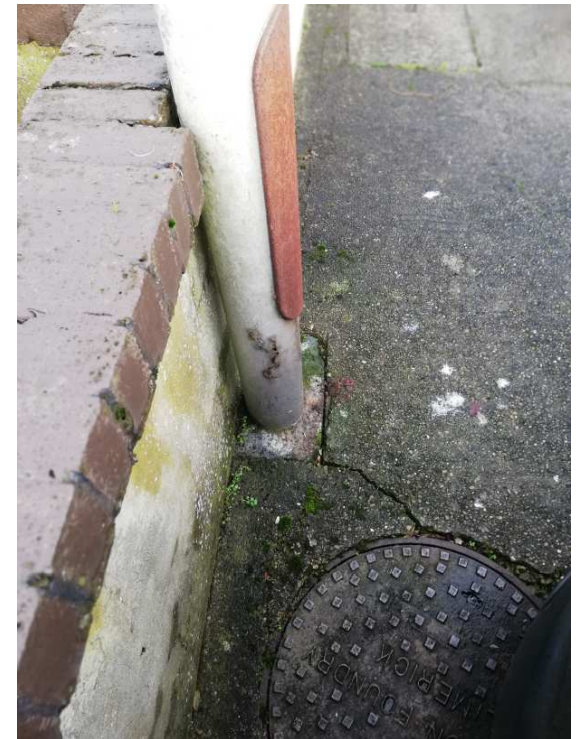
CHALLENGES

WORKING WITH CONCENTRIC CABLING

- DIRECT CONNECTION TO ESNB NETWORK
- NOT EARTHED
- SAFETY CONSIDERATIONS:
 - WORKER SAFETY
 - PUBLIC SAFETY

UNDERGROUND UNBUNDLING





INTERNAL CORROSION



CHALLENGES – RETROFIT DESIGN & GLARE

VEGETATION

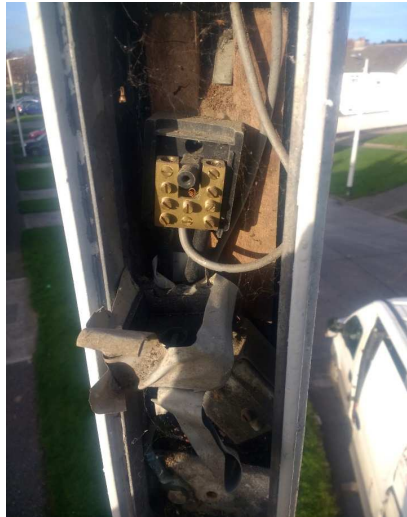


CHALLENGES – ARCHITECTURAL/HERITAGE COLOUR TEMPERATURES



LIVE CONNECTIONS





Poor & Unsafe Electrical Connections

- ESNB fused cut-out
- Isolater
- Neutralising connection
- Earth Rod
- Customer main switch fuse
- Circuit fuse

ESBN Update

Public Lighting Working Group meeting on May 7th in Portlaoise

3 no. workstreams being progressed:

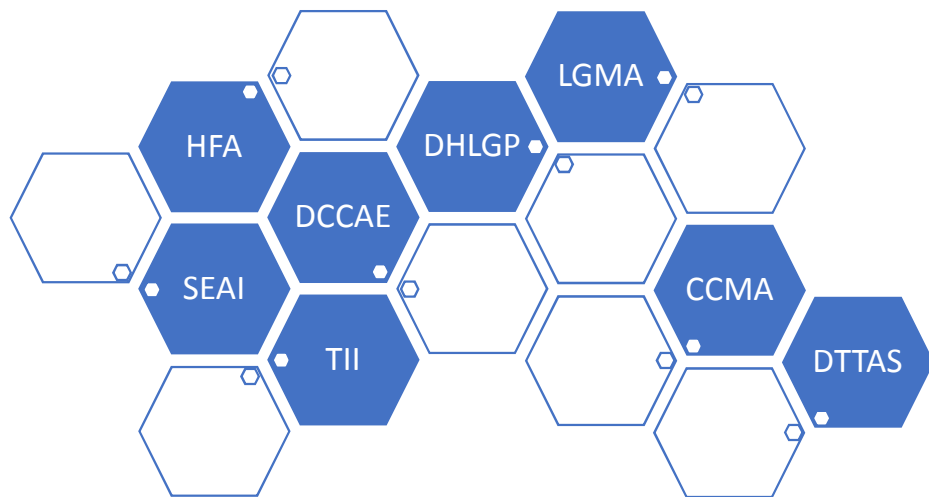
- Revision of Requirements Document
- MoU / SLA
- Concentric cable

Many Tasks & Workstreams



Many Clients & Stakeholders

Government Depts/Agencies/
National Bodies/LA's

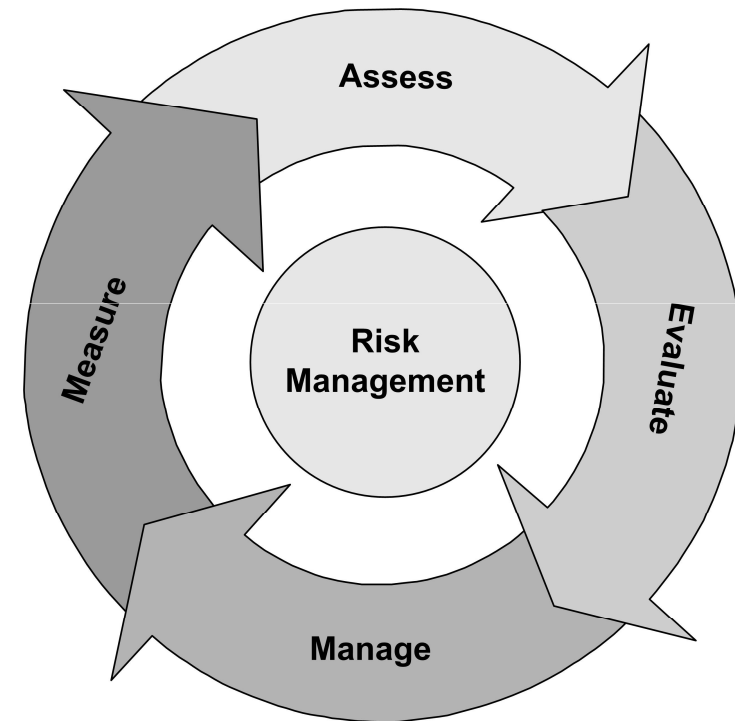


Governance – Many Decision Makers

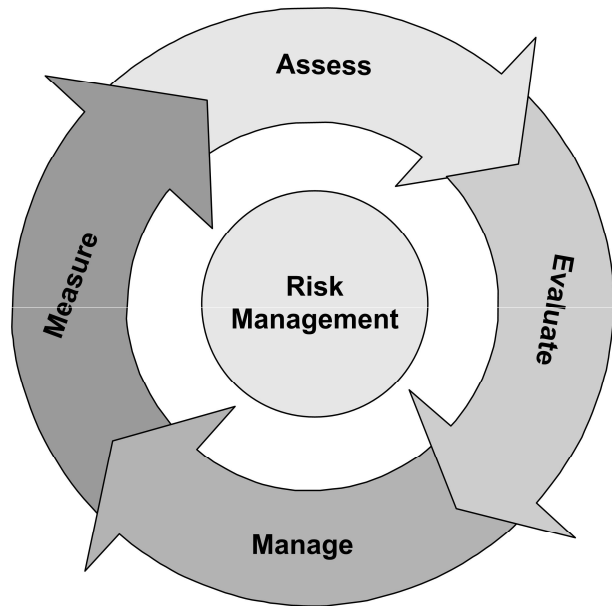


Project Risks – Registered & Mitigation

- Funding
- ESBN
- Infrastructure Deficiencies
- Software Development
- Extent of Data/Condition rating/testing
- Client Supervision - Expertise/Resources
- Consistency of Approach/Collective Buy in
- Political Buy In
- Environmental Concerns/Planning Compliance
- Health and Safety Management
- Cost Control
- End Product; Fit for Purpose -Performance and Energy Savings

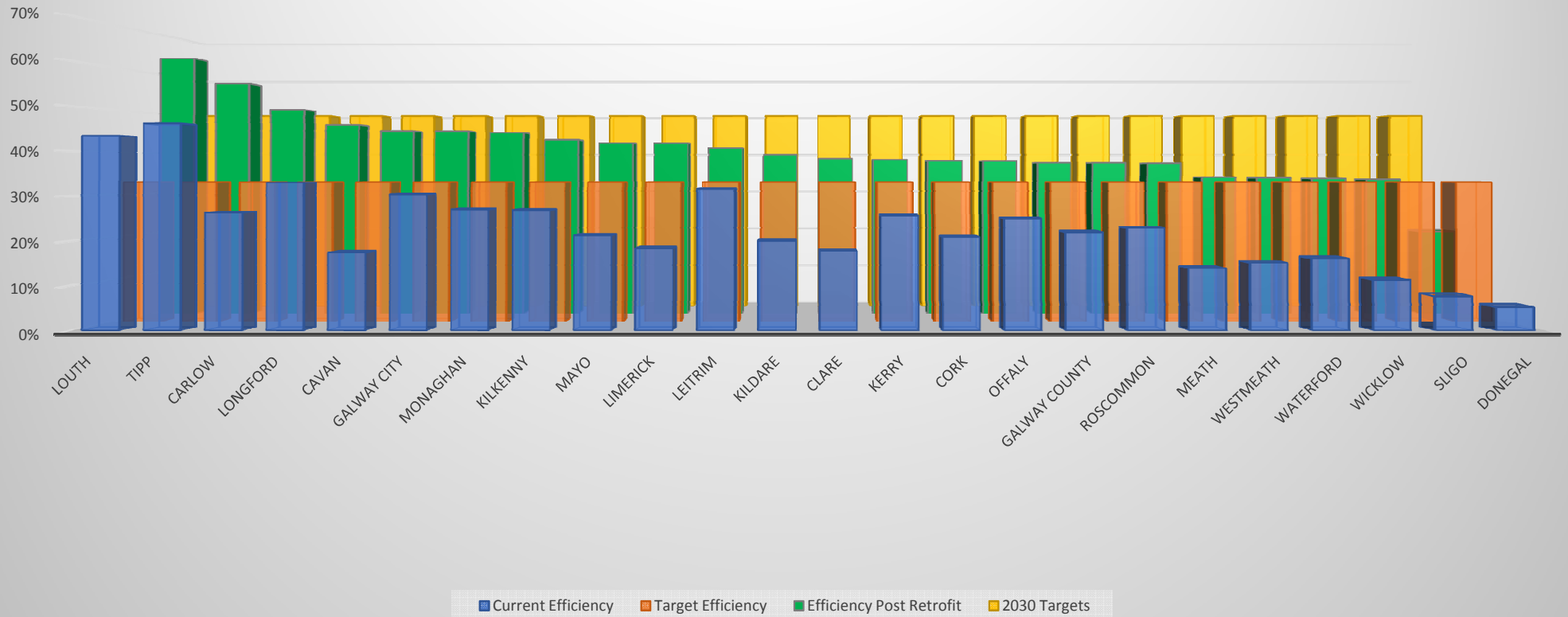


Project Risks – High Risks



- GCCC Approval
- Delays Cost Money; Programme
- LA/RMO Resources
- ESNB Unbundling/Legacy Cabling

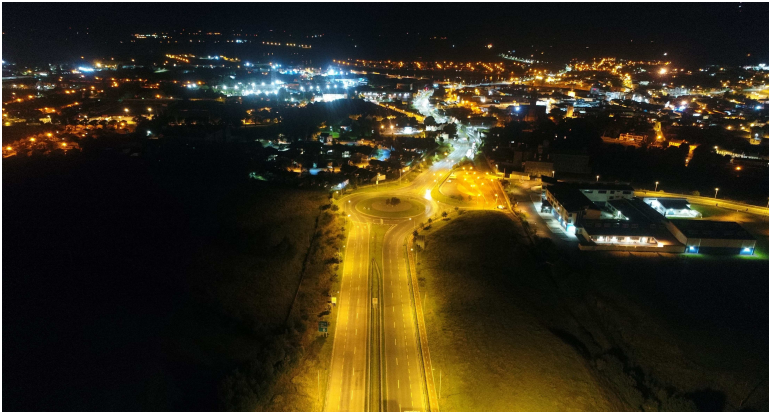
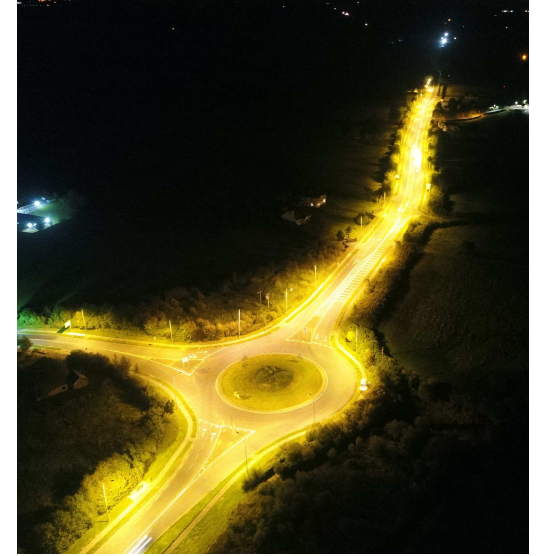
LA Energy Efficiency Targets



2020 Not Long Away

Ireland - 28th





More of These
Before/After



Thank You