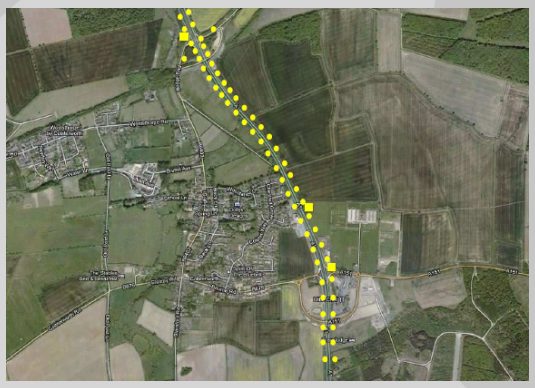
Charles Endirect
Ingenuity at work

Project: A1 Colchester
Client: Highways Agency
Contractor: A One+

OUTLINE

The Highways Agency required to control and dim Central Reservation Lighting on a section of the A1.



The client required an open protocol to provide a future proof system. Lighting circuits were to be Group Switched with monitoring of individual lanterns. It was necessary that the system had the ability to switch off the power to the Light Control Units (LCUs) during the day. Management via a clear and secure web-based browser was essential providing fault diagnostics. All units and gateways had to be fully mapped.

CHALLENGES

- One Gateway 1000 and two Group Switched Gateways to be fitted into feeder pillars.
- Extra options required for failsafe operation, i.e., operation by PECU to control the lights in the normal way. Once the Gateway has been notified that the power is on, it then operates for normal night-time switch on/off through another set of relays overriding the PECU through the Gateway allowing 24 hours maintenance. In addition, operation by manual override switch can bypass PECU and Gateway.
- UPS battery backup was required.
- A One+ wanted to take the opportunity to incorporate a Traffic Detection system into the scheme to control light levels relative to traffic flow.
- New lanterns being fitted across the scheme.

SOLUTION

CEL's dedicated in-house design team designed the backboards for three feeder pillars to house the electrical equipment including the Gateways with externally mounted antennae. All the requirements of the Highways Agency were incorporated and, working with Siemens, their Heimdall Detector system was integrated into one of the feeder pillars. These drawings were approved by the client and building the pillars commenced.

Then, working with the lantern manufacturer, Urbis, 119 no. LCUs were supplied to fit into the gear tray for the Evolo 3 in order that the luminaries were supplied to the contractor complete. Philips 250w electronic ballast and Philips Master SON-T lamps were also fitted in the lanterns by Urbis.

MAC addresses for the LCUs were scanned via barcode into excel spreadsheet, and the columns number added to this as allocated by contractor A One+. LCU positions mapped by Northings and Eastings provided by A One+.

The scheme has been successfully installed providing the client with real time lighting control, monitoring, measurement and reporting providing energy savings.

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