A CRH COMPANY

Innovations in Rail

George Woollard

About NAL

- Established in 1996
- Immediate impact in the traffic signals industry with the innovative Retention Sockets
- Extended product range across the wider infrastructure industries
- Acquired by CRH – April 2018

Retention Sockets

Chamber and Duct Systems

Manhole covers and frames

Cabinet Bases

Electrical Products

Bollards

Temporary Highway Products

Additional Products

Motorway Communications

A CRH COMPANY

About CRH

Our parent company is **CRH plc**, the international building materials group.

CRH is committed to improving the built environment through the delivery of superior materials and products for the construction and maintenance of infrastructure, housing and commercial projects.

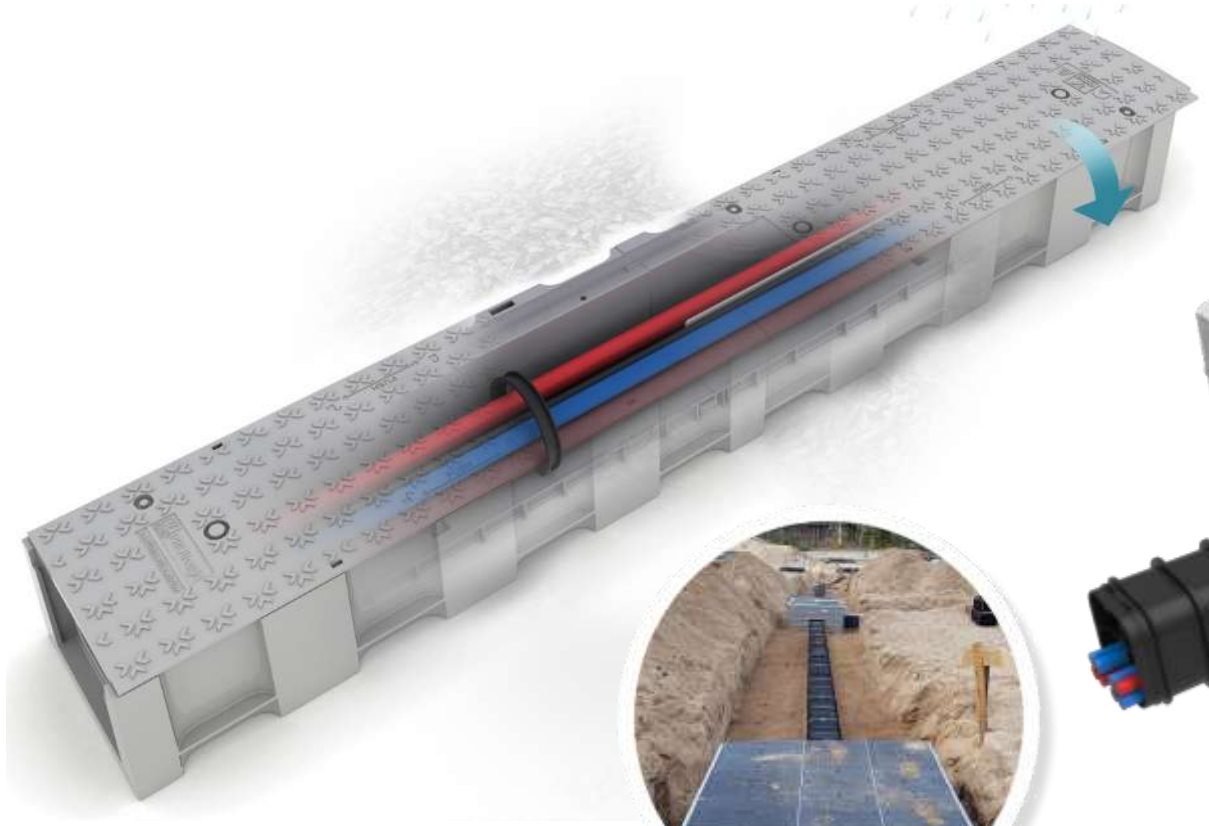
€28.3bn
sales

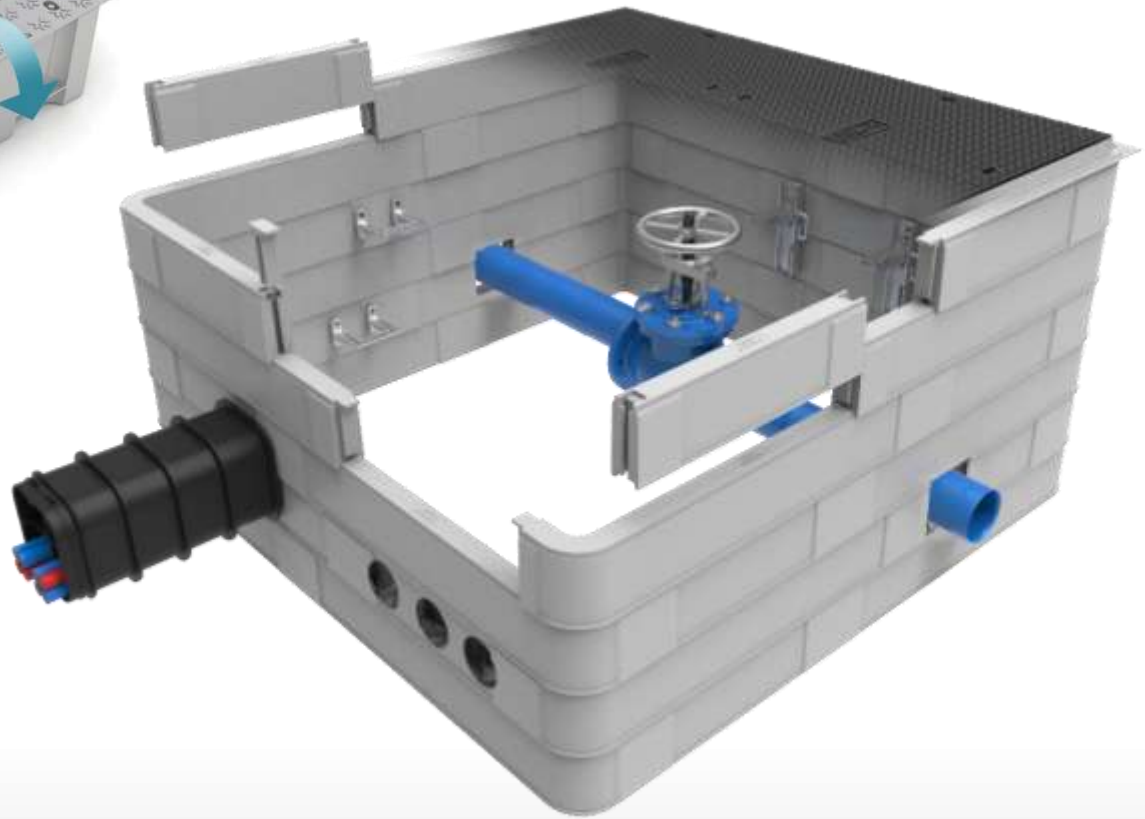
3,100
Locations

78,000
People

31
Manufacturing Countries

Systems Approach





A CRH COMPANY

CRH Centre of Excellence for HS2

NAL
A CRH COMPANY

www.nal.ltd.uk

NAL National Infrastructure Centre

The NAL Ethos

- NAL identify the initial problems which the customer is faced with
- Research and development
- Solution

Other Sectors

- Traffic Signals
- EV Charging
- Motorway Communications








Current Trackside Cabinet Base System

Problems

- Precast concrete base - 250kg
- Mechanical lifting equipment required
- Overall depth of base is 300mm max
- Individual trough connections
- Poor connection between trough and base

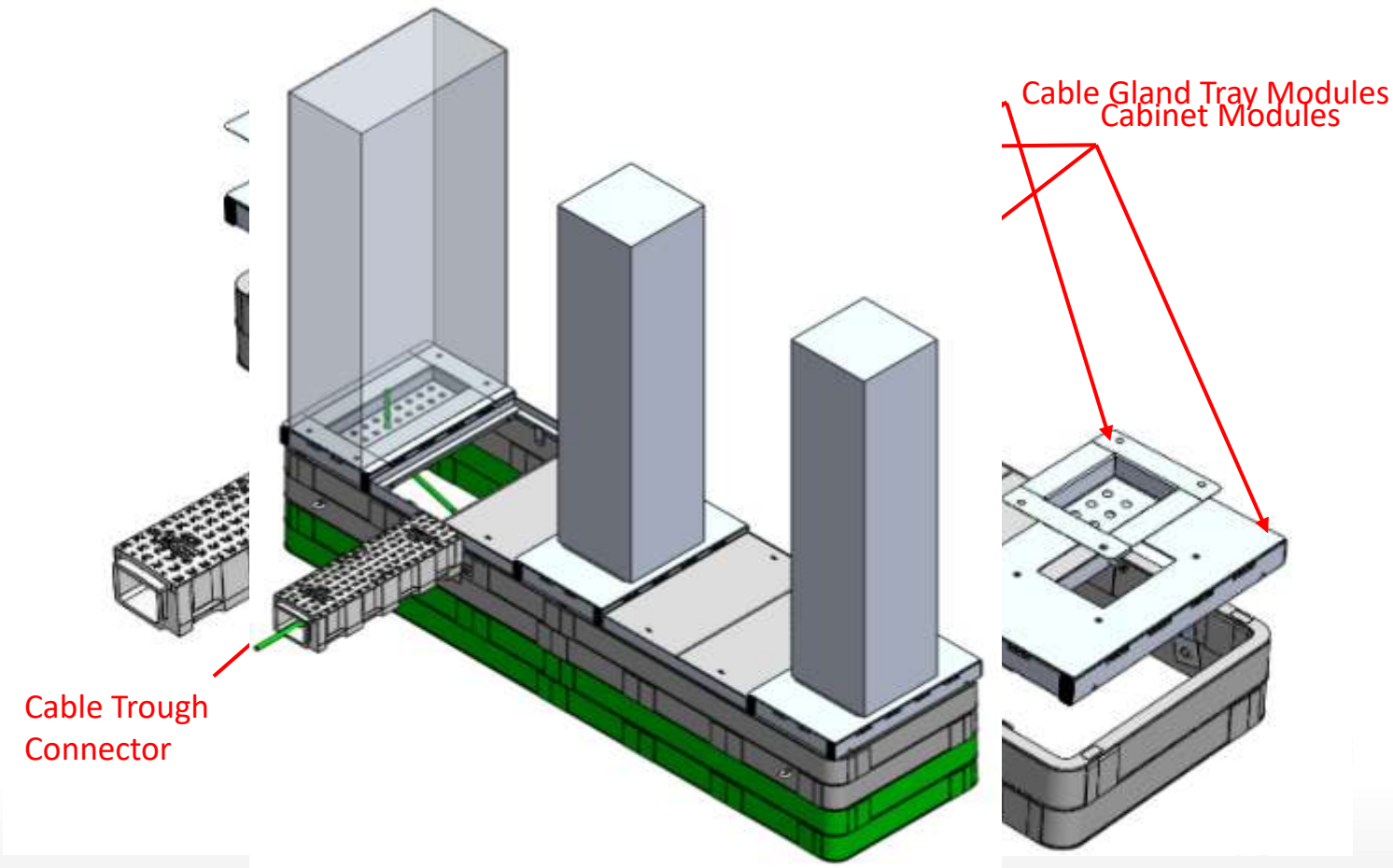
Current Trackside Cabinet Base System

Problems

- Base seal / Clay balls to eliminate condensation
- Vermin in cabinets
- No ability to preinstall for future cabinets
- No ability to accept alternative cabinet sizes / types
- No ability to cope with potential flooding

The NAL Modular Cabinet Base System

- Innovative Cabinet Base for single and multiple rail cabinets sites
- Modular construction
- Simplifies installation and maintenance
- Designed to overcome current problems



Addressing The Problems

- 17kg max component weight
- No mechanical lifting equipment
- No requirement for concrete on site
- Facilitates all cable bending radius
- Cable access between cabinets
- Requires 1nr troughing connection
- Positive trough connection

Addressing The Problems

- No requirement for clay balls / base seal
- Eliminates risk of vermin
- Accommodates new alternative cabinets
- Can be fully or partially assembled off site
- Preinstall bases for future cabinets
- Ability to connect Cabinet Base system to main trackside drainage system
- Ability to raise cabinet in areas prone to flooding
- Simple upgrade to plug and play cabinets

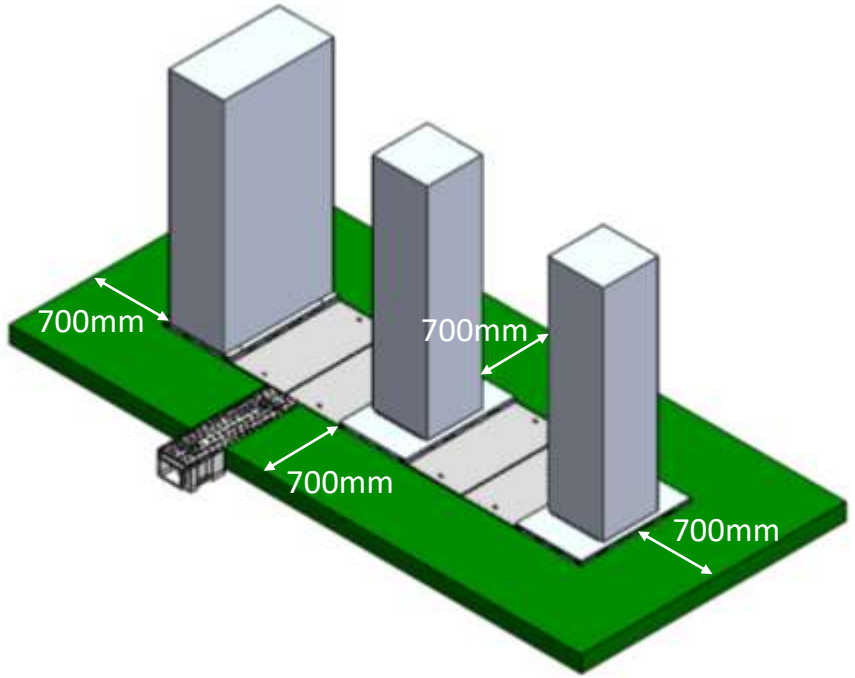
NAL Rail Cabinet Base

Modular System

- Access Chamber
- Cabinet Base Module
- Gland Tray and Cover
- Cover and Frame
- Trough Connector

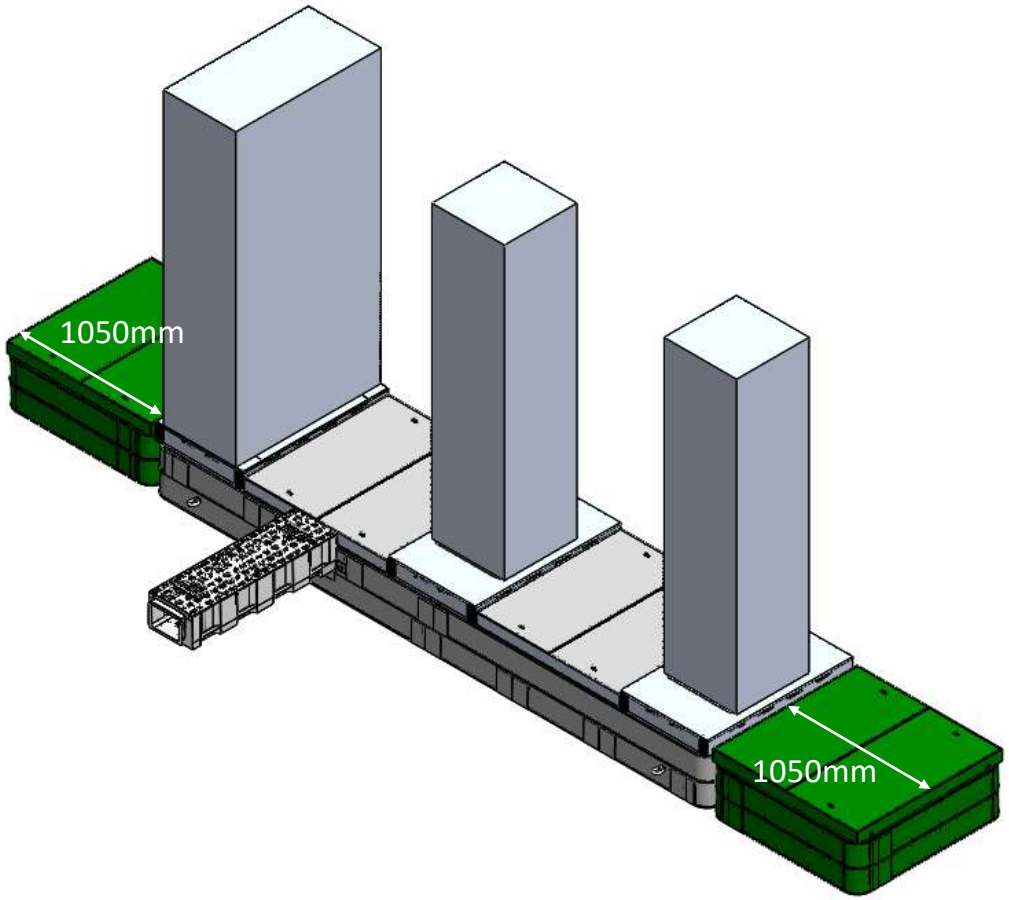
Traditional Maintenance Hard Standing

- Increases cabinet footprint
- Time consuming and expensive to install
- Brings further manual handling issues
- Means working in an area of risk for longer
- Prone to vegetation growth
- Time consuming and expensive to maintain
- Surrounding ground is usually ballast



Potential Maintenance Hard Standing With NAL Cabinet Base

- Drastically reduces cabinet footprint
- 3 Cab excavation would reduce by 5m2
- Little additional works required
- Reduction in installation cost & time
- Eliminates risk of vegetation growth
- No maintenance time or cost required
- Potential to remove GRP Fencing due to removal of 700mm




CAMLIN

A CRH COMPANY

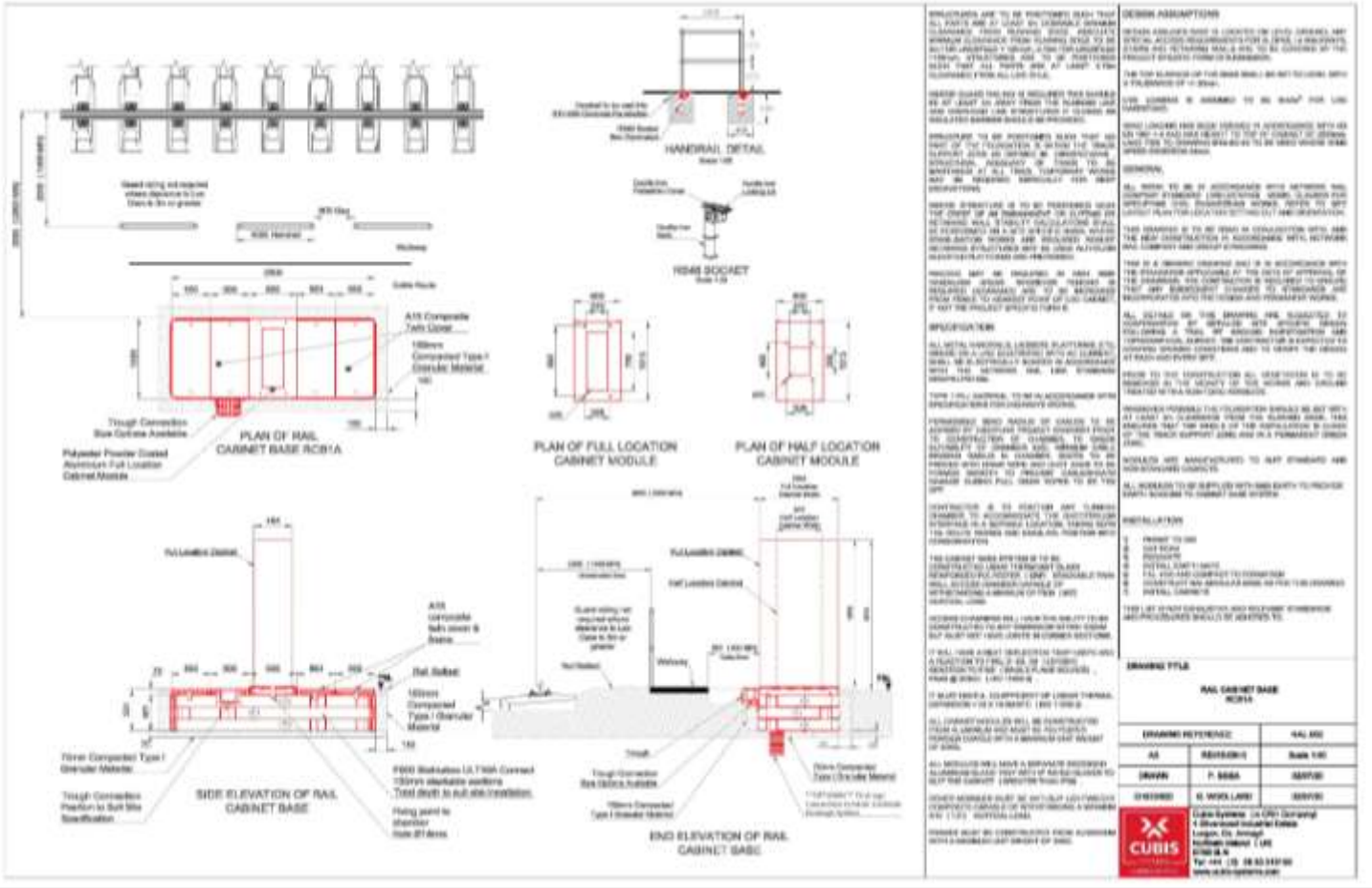
www.nal.ltd.uk

Why use this product?

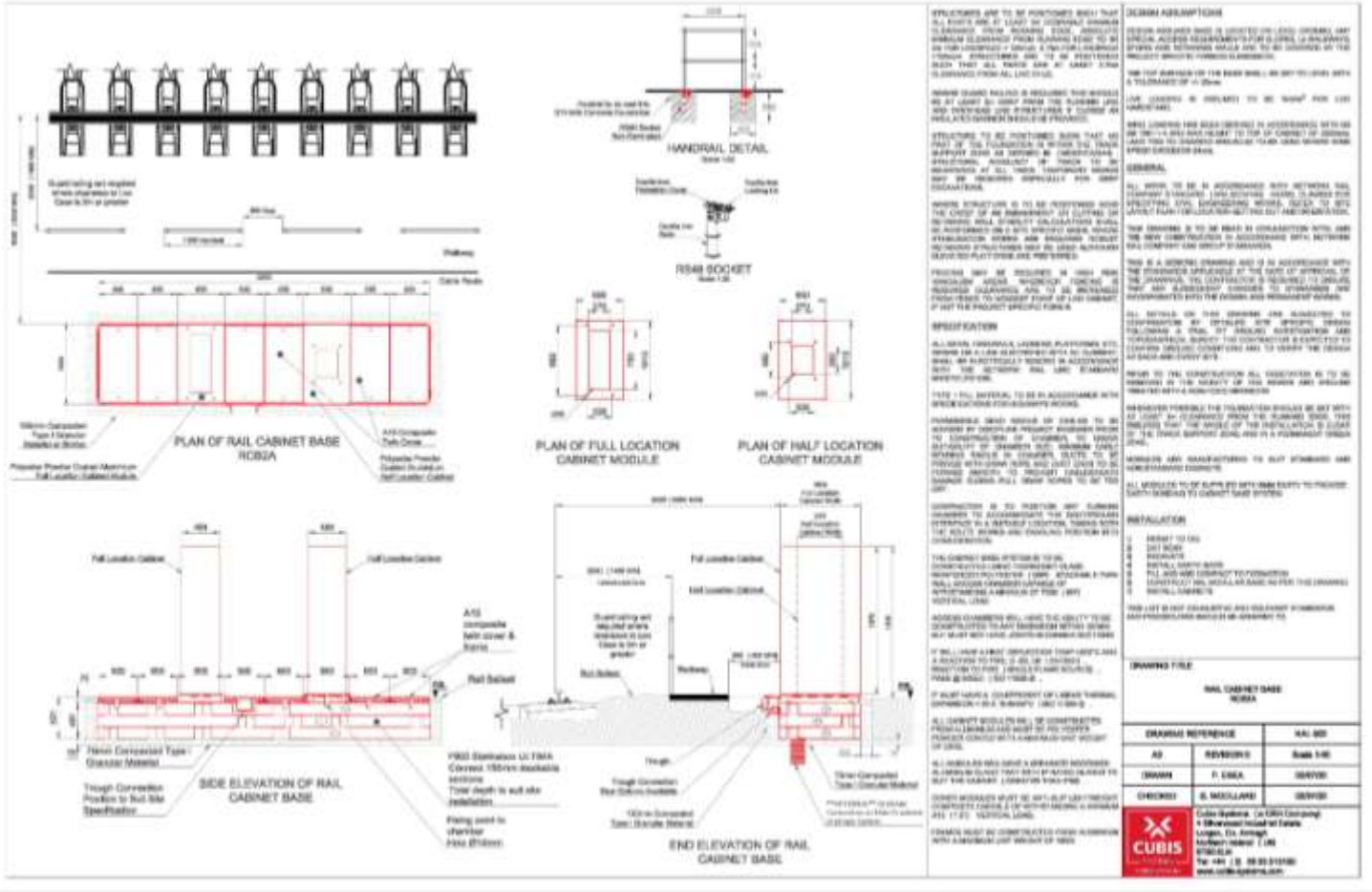
FAQ

- Will Oxidation occur on the Aluminium units in coastal Areas?
- Has consideration been given to alternative gland tray if glanding isn't practical?
- Can the LOC modules be made from GRP?
- Do the cabinets have to be GRP or can they be steel?
- Is GRP handrail compatible / Required with this system?
- What wind load testing has been carried out?
- Can the lifting eyes take the weight of a fully assembled unit?
- Has water accumulation been considered?
- Is there any impact on the IP rating with regards to the cabinet access from the base.
- How easy is it to extend the base to allow an extra case to be fitted?
- Will more heat be retained in the base?

Approval And Specification



Approval And Specification



A CRH COMPANY

Thank you for your time

Any questions?