STRUCTURES
Modular Construction

1800.001

Issue

Modification of Modular Designed Gantry

- *Structural alterations incorporated*
- *Additional live load access added*
- *Non load bearing members incorporated*
- *Structural fixings wrongly installed*
- *Damage incorrectly repaired*
- *Lack of communication between designers*
- *Technical Approval Process not followed*

Mitigation

Design

Ensure that the original Technical Approval (TA) documentation is reviewed and that there is a full understanding of the original design brief, loading arrangements and expectations for O&M. The Principal Designer (PD) should ensure that the lead structural designer coordinates the analysis of all design changes, amends the TA documentation and obtains TAA sign off for all new/modifications for the design changes proposed.

Construction

PC to liaise with the PD to ensure that the lead designer has obtained TAA sign off and that any subsequent PC led onsite design delivery has followed due processes.

Maintenance / Operations

MSP to ensure that all inspection, operational and maintenance related activities are in accordance with the Design Risk Assessments and the documentation produced by the design team signed off by the Technical Approval Authority.

Case Study Incidents

Set out in:
HEi 062 Principal Designer Duties
Problems identified with MS4 gantries have highlighted the importance of effective management and coordination of the design phase – as root cause analysis has identified a failure to follow TAA procedures.

HEi096 - Attachments to Lighting Columns
A number of lighting column failures have occurred where unauthorised equipment has been attached to columns without design checks being undertaken.

Significant Risks

Activity / Incident	Risk	Persons Affected	Likelihood / Severity
Structural Failure	Catastrophic failure of Structural Member leading to serious injury or death	All	L: Low S: High
Access for inspection, operation and maintenance	Local failure of non load bearing members leading to serious injury or death	Inspectors and O&M Personnel	L: Medium S: High
Likelihood of hazard * Impact	MH*M=MHM	H*H=HH	

LINKS

HEi062 - http://www.highwayssafetyhub.com/uploads/5/1/2/9/51294565/hei062_principal_designer_duties_safety_alert.pdf
HEi096 - http://www.highwayssafetyhub.com/uploads/5/1/2/9/51294565/hei096_-_highways_england_internal_for_information_safety_alert_-_attachments_to_lighting_columns.pdf

Please submit examples of similar issues or best practice to the Whole Life Design Group at tx@jacobs.com for consideration for incorporating and dissemination to designers

LEAN	Material Reduction	Alternative Materials	Reduced Plant	Alternative Plant	Reduced Labour	Reduced Land	Reduced Transport-ation	Improved end user benefits	Reduced Activity Duration	Reduced Defects	Reduced Reportable Accidents