

# Employers Completion Process Overview

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Completion Manager

Learning Legacy Document



# ECP Process Summary

The Employer's Completion Process (ECP) is a due diligence process which checks that Contractors have fulfilled all their legal and contractual obligations. Sign-off of the process authorises the CRL Project Manager to certify contract Completion under the NEC3.

In short ECP process is a detailed checklist leading to Completion sign off.

More information in the Employers Completion Process Procedure ref. CRL I-XRL-O4-GPD-CR001-50018 and the Contract Administration Manual ref. CRL I-XRL-W-GML-CR001-50001 (section 3, part 1).

**Contract Administration Manual [Section 3 Part 1 – Time]**

**CRL1-XRL-W-GML-CR001-50001 Rev 7.0**



The processes for *sectional* Completion (Cl.X5) and Completion are seen as being the same. It is important that the *Project Manager* carries out his duties for both i.e. Completion/sectional Completion certificate, management of defects and certifying take-over. Following sectional Completion the defects notification period continues until the *defects date* of which there is only one i.e. 52 weeks after Completion of the whole of the *works*. This can result in an extended defects notification period for sectional Completion works.

It is essential that all the steps defined in the Contract leading to Completion are followed correctly by the *Project Manager* and *Contractor* to ensure that the *Employer* receives the completed *works* as defined in clause 11.2 (7).

This requires that the *Contractor* has done all the work which the Works Information states he is to do by the Completion Date and corrected any notified Defects which would have prevented the *Employer* from using the *works* and Others from doing their work.

As part of the Completion process, the *Project Manager* should carry out the following:

- Ensure that the *Contractor* has complied with the *Employer's* Completion Processes (**Reference G**) and its obligations to maintain records. This will be confirmed through signature by the Supervisor of the Contractor's presented 'Whole Contract Construction Certificate (**Reference H**) [and/or Sectional Contract Construction Certificate (**Reference J**)]'. This process is described within the Works Information Volume 2B 'General Requirements' Part 13: 'Assurance, Records and Certificates to be Provided by the Contractor (Civils) (Systems contracts - Part 29).
- As part of this process the following information is required:
  - i) Ensure that the *Supervisor* confirms that the *Contractor* has corrected notified Defects which would prevent the *Employer* from using the *works* and Others from doing their *works*;
  - ii) Identify a list of other Defects that will be corrected in the *defect correction period*, which is typically 3 weeks. See Section 4 on Defects; and
  - iii) All necessary documentation as required in the Works Information, for example, as-built drawings and O&M Manuals.

### Completion term as defined in NEC3 Contract:

Clause 11.2 (7) states Completion is achieved when the Contractor has:

- done all the work which the Works Information states he is to do by the Completion Date and
- corrected notified Defects which would have prevented the *Employer* from using the *works* and Others from doing their work.

This means that defects that would not stop the Employer from using the works or Others from doing their work may be added to Defects List (i.e. latest COWL and also referenced on EOWL) and Completion would still be achieved.

# Handover Element

**Element:** A group of assets and/or systems for handover to the relevant operator (Infrastructure Manager). One Element may consist of number of contracts.

## Element: Custom House Station

Custom House Station	C520	C660 C690	C520 Main Works
			C660 Communications and Controls (@ station)
			C690 Automatic Fare Collection Gatelines and Ticket Machines

## Element: Tottenham Court Road Station

Tottenham Court Road Station	C422	C421 C410 C660 C690	C422 TCR Main Station Wrks/Fit-out/M&E
			C421 TCR Piling and Dia Wall
			C410 TCR Access shafts & SCL Works
			C660 Communications and Controls (@ station)
			C690 Automatic Fare Collection Gatelines and Ticket Machines

Employer's Completion  
Process carried out for each  
contract

# ECP 'C' Forms and ECP Tracker

Contract Closeout Checklist	Function	CRL Functional Lead	Completion of the whole of the Works (including Post Handover Works)
C1	Health & Safety	CRL H&S Head of Assurance	Required
C2	Technical Compliance	CRL Chief Engineer supported by HoDs	Required
C3	Planning, Heritage and Highways	CRL Head of Sustainability & Consents	Required
C4	Environment	CRL Head of Sustainability & Consents	Required
C5	Undertakings & Assurances	CRL Head of Sustainability & Consents	Required
C6	Land and Property	CRL Head of Estates	Required
C7	Rail Interfaces (LUL, DLR, NR, LO)	CRL Rail Interface Manager	Required
C8 **	Systemwide (interfaces with civil contracts) – No longer applicable (Obsolete)	NA	NA
C9	Technical Information	CRL Chief Engineer supported by HoDs	Required
C10	Third Party Agreements	CRL Head of Agreements	Required
C20	Completion	CRL Completion Manager	Required
C30	Authorisation to Accept WCCC	CRL Completion Manager	Required

## ECP Tracker on sharepoint

Evidence for ECP sign off is provided by the Contractor to CRL delivery site team. The final form sign off is by Functional/ Discipline Heads (CRL).

# Form C2 Technical Compliance



## Form C2 – Contract Closeout Checklist - Technical Compliance

Document No: CRL1-XRL-O4-NOX-CR001-50072 Rev 1.0  
Related procedure CRL1-XRL-O4-GPD-CR001-50018

TO: CRL COMPLETION MANAGER  
FROM: CRL CHIEF ENGINEER  
RE: CONTRACT C520 Custom House – Main Station Works

### CONTRACT CLOSEOUT CHECKLIST – TECHNICAL COMPLIANCE

I confirm that I have reviewed the following which have been progressed to my satisfaction:

Question:	Responsible Party	Print Name	Signature	Date
1. Design of Permanent Works carried out by the Contractor. Final Design Statement FDS(b) submitted and accepted by CRL ?	Engineering Manager	[Redacted]	[Redacted]	20/01/20
2. Have all CPFR requirements been accepted by CRL & evidence provided in DOORS?	Requirements Manager	[Redacted]	[Redacted]	03.11.20
3. Have all design related risks related to the contract on the Project Risk Register and in ARM been closed out?	Engineering Manager	[Redacted]	Digitally Signed By: [Redacted]	12/11/20
4. Have all applications for Concessions against Baseline Standards been granted and any specified conditions closed?	Head of Technical Assurance	[Redacted]	[Redacted]	20/10/20
5. Have all required ESM deliverables been accepted as sufficient to demonstrate ESM compliance? (i.e. has it been demonstrated that the scope of works is capable of operation to control the safety risks to future users (incl. operators & maintainers) to As Low as Reasonably Practicable (ALARP)?	Head of System and Interoperability	[Redacted]	[Redacted]	08/12/20

## Form C2 – Contract Closeout Checklist – Technical Compliance

Document No: CRL1-XRL-O4-NOX-CR001-50072 Rev 1.0

Question:	Responsible Party	Print Name	Signature	Date
6. Has all the evidence necessary to be assessed for compliance under the Interoperability regulations been submitted to the NoBo and have you obtained an ISV or letter of support for your scope of works? <small>Note: The NoBo dependencies are included in CRL1-XRL-O4-RGN-CR145-50001</small>	CRL's Interoperability Manager	[Redacted]	Digitally signed by: [Redacted]	17/12/20
7. Has evidence been provided that the constructed Permanent Works comply with the Works Information (incorporating Gate 3 design, the modifications to the design instructed through P.M.s post Gate 3 and accepted through the Gate Impact Review Process)?	Supervisor's Rep	[Redacted]	Digitally Signed By: [Redacted]	02/09/2020
8. Engineering Manager to confirm that all post Gate 3 changes have been subject to Gate impact Review and where required a Gate Impact Report has been prepared by the designer and accepted by CEG Head of Discipline?	Engineering Manager	[Redacted]	Digitally Signed By: [Redacted]	21/08/2020
9. Have all NCRs & FCDs been closed out or transferred to the Defects List?	Supervisor's Rep	[Redacted]	[Redacted]	20/01/20
10. Have all the Site Observations raised (including the IM observations) been closed out in the Observation data base as part of the contractual requirements? <small>All remaining items included on COM1 and COM2 DC 09/12/2020</small>	Supervisor's Rep	[Redacted]	Digitally Signed By: [Redacted]	16/12/2020
11. Has the Supervisors' Rep received a declaration from the Underground and/or Civil HoD that the Underground, Civils and Structural Verification activities have been completed?  Where applicable has the Supervisors Rep received a declaration from additional relevant Discipline HoDs (including Railway Systems) that their verification activities have been completed?	Sign off by relevant Head of Discipline for Architecture	CUH ECHR (CRL Technical - Architecture) signed-off by HoD [Redacted] dtd: 11/11/2019 (CRL1-XRL-O7-RGN-CR145-50001 Rev 2.0).		
	Sign off by relevant Head of Discipline for M&E	[Redacted]	[Redacted]	17/12/20
	Sign off by relevant Head of Discipline for Underground	[Redacted]	[Redacted]	14-9-20



# Form C2 Technical Compliance

## Form C2 – Contract Closeout Checklist – Technical Compliance

Document No: CRL1-XRL-O4-NOX-CR001-50072 Rev 1.0

Question:	Responsible Party	Print Name	Signature	Date
	Sign off by relevant Head of Discipline for Geotechnics	[Redacted]	[Redacted]	14-9-20
	Sign off by relevant Head of Discipline for Civils	[Redacted]	[Redacted]	14-9-20
	Sign off by relevant Head of Discipline for Stations	[Redacted]	[Redacted]	14-9-20
12. Have all defects that would affect use of the Works by the Employer or Others from doing their work been completed and closed out? <i>(In MEPA open at time of signature)</i>	Supervisor's Rep	[Redacted]	[Redacted]	17/07/20 All closed 02/09/2020
13. Have all the Red Line Drawings, describing the as-built asset, been submitted and accepted?	Supervisor's Rep	[Redacted]	Digitally Signed By: [Redacted]	02/09/2020
14. Has the Designer (FDC for Civils, Contractor's Designer for D and B) completed a 'Confirmation of Red Line Drawings Certificate'? (Ref: CRL1-XRL-Z-ZFM-CR001-50009).	Engineering Manager	[Redacted]	Digitally Signed By: [Redacted]	12/11/2020
15. Have all the as-built drawings been accepted at Code 1 for Contractor designed MEPA and Railway Systems? (where applicable)	Supervisor's Rep	[Redacted]	Digitally Signed By: [Redacted]	02/09/2020
16. Has the Contractor provided acceptable as-built surveys and setting out data (i.e. control points) where required?	Supervisor's Rep	[Redacted]	[Redacted]	20/08/20

## Form C2 – Contract Closeout Checklist – Technical Compliance (C520)

Document No: CRL1-XRL-O4-NOX-CR001-50072 Rev 1.0

Question:	Responsible Party	Print Name	Signature	Date
*20. With respect to the WCCC, are all the outstanding works / defects, including the outstanding deliverables (if any), listed on the COWL, with unique Punchwork numbers? Is the COWL up to date, accepted and coded Code 1?	Supervisor's Rep	[Redacted]	Digitally Signed By: [Redacted]	12/11/2020
*21. Has the technical content of the COWL been consulted and confirmed with the Chief Engineer or delegate?	Chief Engineer or delegate	[Redacted]	[Redacted]	23/12/20
*22. Has the Cyber Security Information provided by the Contractor for Element Completion Handover Report (ECHR) been accepted Code 1 by CRL?	Chief Information Security Officer	[Redacted]	[Redacted]	09/12/2020
*23. Have the necessary Assurance Deliverables been provided to allow sufficient completion of the CRL CARE Register?	Head of Technical Assurance	[Redacted]	[Redacted]	16/12/2020
Comments: * New ECP items added above based on the revised C2 Form - Rev 15.0.				

(Signed) CRL Chief Engineer

(Print name) ... [Redacted]

(Date) ..... 23/12/2020



# Form C9 Technical Information



## Form C9 – Contract Closeout Checklist - Technical Information (ECP)

Document No: CRL1-XRL-O4-NOX-CR001-50072 Rev 1.0  
 Related procedure CRL1-XRL-O4-GPD-CR001-50018

**TO:** CRL COMPLETION MANAGER  
**FROM:** CRL CHIEF ENGINEER  
**RE:** C520 Custom House – Main Station Works

I confirm that I have reviewed the following which have been progressed to my satisfaction:

Question	Responsible Party	Print Name	Signature (FL / or delegate)	Date
1. Have all eB CMDL deliverables been created?	Document Control and Data Compliance Manager	[Redacted]	[Redacted]	11/12/2020
2. Have all eB CMDL deliverables been transmitted formally / delivered?	Document Control and Data Compliance Manager	[Redacted]	[Redacted]	11/12/2020
3. Are there any Obsolete/Cancelled Crossrail deliverables required to be re-instated? If so, have these all been submitted and accepted formally?	Document Control and Data Compliance Manager	[Redacted]	[Redacted]	11/12/2020
4. Is all eB deliverable documentation identifiable, legible and retrievable?	Document Control and Data Compliance Manager	[Redacted]	[Redacted]	11/12/2020
5. Have all completed eB CMDL deliverables been supported by a signed Code 1 or 4 Decal (excl. WCCC)?  Is the CMDL accepted and coded Code 1? (Note: 'DD%' approved documents to have either: • Revisions Cxx or Xxx or • Code 1 / 4 (for 'Number' based revisions)	Document Control and Data Compliance Manager	[Redacted]	[Redacted]	11/12/2020
6. With respect to the WCCC, are the outstanding works / defects, including the outstanding deliverables (if any), listed on the COWL, with unique Punchwork numbers?  Is the COWL up to date, accepted and coded Code 1?	Document Control and Data Compliance Manager	[Redacted]	[Redacted]	11/12/2020

## ECP Form C9 – Technical Information (C520)

Document No: CRL1-XRL-O4-NOX-CR001-50072 Rev 1.0

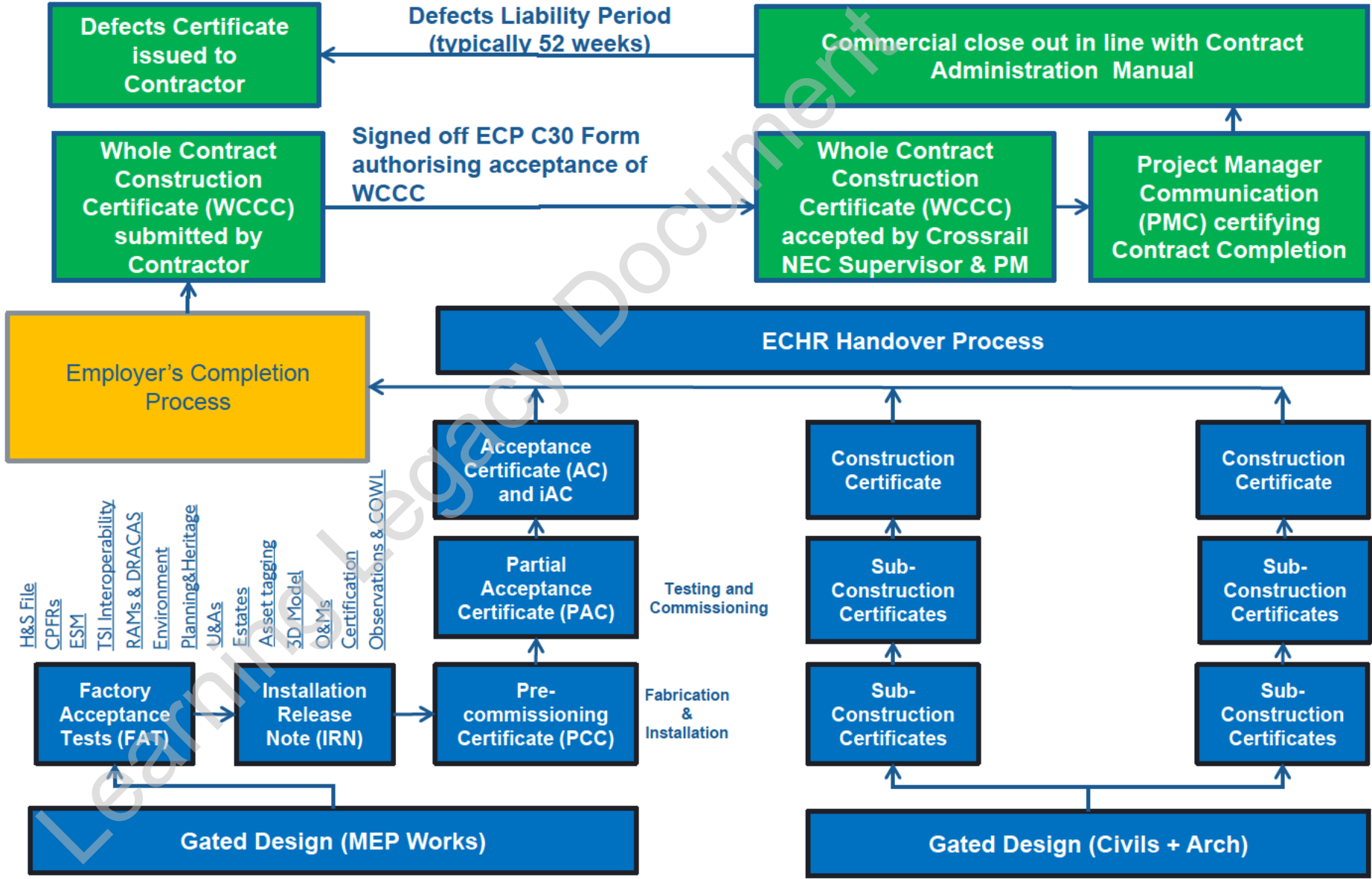
Question	Responsible Party	Print Name	Signature (FL / or delegate)	Date
7. Is all Asset Tag Label & Equipment Label Installation complete?	Asset Information Provision Manager	[Redacted]	[Redacted]	[Redacted]
8. Is the information on the Asset Register for this contract 100% complete, including all asset attributes and relationships?	Asset Information Provision Manager	[Redacted]	[Redacted]	[Redacted]
9. Have all Asset Tag IDs been named?	Asset Information Provision Manager	[Redacted]	[Redacted]	[Redacted]
10. Have all named asset tags been related to the Asset Breakdown Structure (ABS), to Rooms/Spaces, to Asset Owners and Design Alternative Asset IDs (DAAIDs)?	Asset Information Provision Manager	[Redacted]	[Redacted]	[Redacted]
11. Has all serialised equipment been assigned against asset tag IDs?	Asset Information Provision Manager	[Redacted]	[Redacted]	[Redacted]
12. Are the asset attributes complete?	Asset Information Provision Manager	[Redacted]	[Redacted]	[Redacted]
13. Is the As Built 3D Master Model and associated 3D Model Issues Report accepted as code 1?	Head of CAD Delivery and Support	[Redacted]	[Redacted]	11/12/2020
14. Are all As Built drawings accepted as code 1?	Head of CAD Delivery and Support	[Redacted]	[Redacted]	11/12/2020
15. Is the design in accordance with CRL CAD standards and CAD related requirements within the Works Information?	Head of CAD Delivery and Support	[Redacted]	[Redacted]	11/12/2020
16. Have all the O&M Deliverables and Manuals been submitted by the Contractor, accepted (Code 1) by the Supervisor's Rep (PFE) and are they in compliance with CRL requirements?	Handover Information Manager	[Redacted]	[Redacted]	26/02/20
17. Is all O&M deliverable information available to enable CRL to add all O&M deliverables to the Operational and Maintenance structure on eB and link them to the O&M manuals?	Handover Information Manager	[Redacted]	[Redacted]	26/02/20
Comments:				

(signed) [Redacted] CRL CHIEF ENGINEER  
 (print name) [Redacted]  
 (date) 18th March 2021





# ECP / ECHR / Works Certification



# Completion in practice

ECP Forms →  
WCCC → PMC →  
Defect Certificate

Crossrail			Crossrail			Crossrail			Crossrail			Crossrail			Crossrail					
												Main Works Contract			C501-XRL-C-CER-C101-50003					
												Contract: C350 - Pudding Mill			CROSSRAIL CENTRAL SECTION WORKS CONTRACT					
												Contractor: Morgan Sindall			<b>DEFECTS CERTIFICATE</b>					
												Contract No: C501			Contractor: Bam Nuttall Kier Joint Venture			eB ref. C501-PMC-01659		
												Subject: C350 Project			Title: C501 Advanced Works at Liverpool Street Station (Piling & Diaphragm Wall)					
												Reason(s) for Issued for Inform			The Supervisor confirms that the defects date for the above referenced Contract is 18th December 2015 (i.e. 52 weeks after Completion of the whole of the works which occurred 18th December 2014 (eB ref. C501-PMC-01612).					
												Details			The Supervisor hereby certifies that as at the defects date / at the end of the last defect correction period after the defects date which is 18th December 2015 there are no outstanding Defects.					
												Detailed Description :								
												Response Required			None					
												Supporting Document			None					
												Supporting File(s)			File Name: C350 Completion					
												Primary Communication			None					
												Reference Communication			None					
												KATARINA CULHA Prepared by			MO AGHA Crossrail Project (Project Management Clause 14.2)					
												Supervisor			Name			Signature		
																		21st December 2015		
																		Date		

Thank you

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