

C

INSPECTION AND TEST PLAN

**Downer**

PFS Engineering Ltd

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Inspection & Test Plan Description:

*'1P*

Downer

ITP for site installation - Homai pedestrian bridge

Downer- Hamai pedestrian bridge Customer: Downer

Prepared by: Bashir Heidarian Dale: 12112/2024

Location: Hamilton Customer Job Reference: 746-24-847-AC

PFS Job Reference 39028

Review by: Tennille Nisbet Date: 1/01/2024

ITP Doc No: ITP--003-39028

Revision: *C*

Construction Category CCJ Service Category SC2 Fabrication Category FC1 Weld Category SP *Tolerance Class]*

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Submit the required documenls lo Client for review

Project Structure Specilication C0702 Rev. 01

Site installation methodology shall be submitted to the Engineer for review

Erection Sequence Methodology

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Project Structure Specification C0702 Rev. 01

The material receipt at site need lo be visually inspected for quantity and make sure no damage occurred during

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IFC structure DWG

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Steel structure Erection

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The male1ial receipt at sile need to be visually inspected for quantity, make sure no damage occurred cluling transport.

All related documents have been received.

Project Structwe Specification C0702 Rev. 01

IFC structure OWG

Inspection upon receipt at sile - Casi in Items.

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Inspection upon receipt at site

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Good Receipt on site

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IFCDWG

PFS: 39028-3202-000-FABRC PFS: 39028-3201-000-FABRC

Mill Certs Compliance Documentation

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IFC DWGs

lnspeclion and Test plan shall be submitted to the Engineer lor review and approval before fabrication is commenced.

Project Strnclure Specificalion C0702 Rev. 01

IFC structure OWG

Inspection and Test Plan Reviewed ancl Approved by Customer

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**PFS**

Engineering

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Acceptance Cfiteria

Specification Standard

Task/ QA Activity

**Seq**

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Confirm Procurement and delivery of all Casi in Items: i.shear keys.

ii. uplift restrainls and associated nuts

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1. Reidbar and couplers+ touch up protechve coalmg.
2. Nylon washers and rubber sleeves.
3. Temporary bearing components.

Project Structme Specification C0702 Rev. 01

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lnslallalion Procwemenl - Cast in items

S: Submit Documents H: Hold Point 0: Dimensional Inspection RA: Review and Approve Documents W: Witness V: Visual Inspection

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Task/ QA Activity

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Remark

Preparation work- prior lo Span Lifting

1. for All Spans

Sile installation methodology Project Structure Specification C0702 Rev. 01

IFC structure DWG

Make sure survey has been done and center marks on the framevmrk as a reference have been provided by Downer Installation of 100x100 EA as a lifting aid on temporary structure

Span unloaded from truck and placed on Dunnage on

ground p1ior to rigging adjustment

Attaching the lag lines lo Spans to prevent rotation during

lift plan

Site project Manager

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Confirm alt Manufaclure documentation

Project Slructure

installalion

Confirming that the fabrication, coaling,

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1. has been completed for Span #2

Specification C0702 Rev. 01

Site installation methodology

and factory erection {including balustrade and deck panel bolting) wo1ks have been signed off.

Verify that Ille structural component is securely rigged according lo the rigging plan

To lift Span #2 and Position the component precisely over

QA Documentation

PM/PE

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1. lnslallalion *of* Span#2

Project Structure Specification C0702 Rev. 01

IFC structure OWG

the pile and lower ii slowly into its final placement on

temporary girder support structure

Chain block will be connected to the West end to adjust level.

Lift plan

Site project Manager

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•.vhen location is confirmed by surveyor and PFS staff, span to be secured in place to the slim soldiers.

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I 9 lloy Sacs installation for Span #2

Confirm all Manufacture documentation

1. has been completed for Span #3

Site installation methodology Project Structure Specification C0702

Rev. 01

IFC structure ow

To keep Macalloy bar aligned, a coupler to Ile lightened to extend the Macalloy bar and Ternpory nut v.;11be added to the rod on the Span 2 high end. The nuts will be lightened to hold the Macalloy bars in correct position.

Site project

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| Project Structure  Specification C0702 | Confirming that the fabrication, coaling,  and faclo1y erection (including balustrade and deck panel | QA Documentation | PM/PE | Initial: | V |  |  |  | Downer | lniti' |
| Rev. 01 | bolling) works have been signed off. |  |  | Sign -- |  |  |  |  |  | Sigt |

Verify that the structural component is securely rigged

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1. lnstalla1ion of Span#3

Site installation methodology Project Structure Specification C0702 Rev. 01

according to the lilt plan

To lift Span #3 and Position the component precisely over the pile and lower it slovvty into its final placement on temporary girder support structure

vvt1e11 localion is confirmed by surveyor and PFS staff, span

Lift plan

Site project Manager

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Shear Keys, Hold Down Bolt and

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IFC structure DWG

Sile installation methodology Project Struclure

to be secured in place to the slim soldiers.

The longitudinal ancl laliludi11al Shear keys are lo be installed to secure the position of span from movement

during Head stock Pouring

Shear keys, Hold Down bolls and

Site project

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Reidbars Installation for Span #3

Specification C0702 Rev. 01

IFC structure DWG

Hold Down Bolt to be Installed

Nuts on Reidbar to be snug tightened to help minimal lateral movement.

Reidbars Drawing

Manager

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Confirrn all Man11faclure documentation

1. has been completed for Span #4

Project Stmctme Specification C0702

Confirming that the fabrication, coaling,

and factory ereclion {including llalustrade and deck panel

QA Doc11rnentation

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Site installation

bolling) works have been signed off.

Verify that the structural component is securely rigged

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1. Installation of Span#4

methodology Project Structure Specification C0702

Rev. 01

according lo the lift plan

To lift Span #4 and Position the component precisely over the pile and lower it slov.-1y into its final placement on temporary gi1cler support structure

Lift plan

Site project Manager

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IFC structure DWG

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SHEQ-04-05-0034 ITP003- 39028 Rev C- Hamai Level Crossing

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**Seq**

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Task/ QA Activity

Shear Keys, Hold Down Boll and Reidbars lnstaUalion for Span #4

Specification Standard

Site installalion methodology Project Structure Specification C0702 Rev. 01

IFC structure DWG

Acceptance *c.J{*

The longitudinal and latitudinal Shear keys are to be installed lo secure the position of span rrorn movemenl during Head stock Pouring

Hold Down Solt to be lnslalled

Nuls on Reidhar to be snug tightened to help minimal lateral movement.

Certify Doc *I* Ref

Shear keys, Hold Down bolls and Reidbars Drawing

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Confirm all Manufaclure documentation

1. has been completed for Span #5
2. lnstaUalion of Span#S

Project Structure Specificalion C0702 Rev. 01

Sile installation methodology Project Structure Specification C0702

Rev. 01

Confiuning that the fab1ication, coaling,

and factory erection (including balustrade and deck panel boltino) works have been sioned off.

Verify that the structural component is securely riaged according lo lhe lift plan

To lift Span #5 and Position the component precisely over the pile and lower it slowly into its final placement on temporary girder support structure

QA Documentation

Lift plan

PMIPE

Site project Manager

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Shear Keys, Hold Down Boll and

1. Reidbars lnslallation for Span #5

IFC structure DWG

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Specification C0702

\•,·hen location is confirmed by surveyor and PFS staff, spaIt to be secured in place lo the slim soldiers.

The longitudinal and lalitudinal Shear keys are lo be installecl lo secure the position of span from movement during Head stock Pourin!)

Hold Down Bolt lo be Installed

Shear keys, Hold Down bolts and Reidbars Drawing

Site project Manager

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Rev. 01

IFC structure DWG

Project Structure

Nuls on Reidbar lo be snug lightened to help minimal lateral movement.

Confirming that the fabrication, coaling,

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Confi,rn all Manufacture documentation

1. has been completed for Span #6

Specification C0702 Rev. 01

Site installation methodology

Project Slruclure

ancl factory erection (including baluslrade and deck panel bolling) works have been signed off.

Verify that the structural component is securely rigged according to the lift plan

To lift Span #6 and Position the component precisely over

QA Documentation

PM/PE

Site project

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1. lnslallalion of Span#6

Specificalion C0702 Rev. 01

IFC structure DWG

the pile and lower ii slovAy into its final placement on lemporary girder support structure

wt1en location is confirmed by surveyor and PFS staff, span lo be secured in place to the slim soldiers.

Lift plan

Manager

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Shear Keys, Hold Do. ,, Boll and

1. Reidbars Installation for Span #6

Sile installation methodology Project Structure Specification C0702

Rev. 01

The longitudinal and latitudinal Shear keys are lo be installed to secure lhe position of span from movement during Head stock Pouring

Hold Down Bolt to be Installed Tempora,y Bearing installation under lower encl

Nuls on Reidbar lo be snug lightened to help minimal lateral

Shear keys, Hole!Down bolts and Reidbars Drawing

Site project Manager

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IFC structure DWG

movement.

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Dimensional survey By Downer

Site inslatlalion methodology IFC Drawings

Conduct a thorough dimensinal survay inspection to confirm Iha! the component is correctly positioned and secured basecl on IFC Drawing.

Measured dimensions shall be within stated tolerances unless noted othe1Wse.

Project specification clause C0702.1.3 Functional Tolerances shall be class 2 as per ASINZS 5131

Table F2.1 to F2.10

Record the lifting operation in the project log, including any devialions or required adjustments lo he made.

Marked up ancl Signed lFC OWGs

Site project Manager

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TaslU QA Activity

Specification Standard

Site installation

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Lassen Reidbars to match IFC drawing detail at all peirs

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1. Remove Reid bar tension.

methodology IFC DraVIJings

before any headstock pours.

Any coatings damage to Reidbars touched llp as per paint

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IFC DWGs

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1. Reid bar touch up painllng (if required)

spedficatiofl, Coatings to comply VIJith nole 1.2 on drav-ling Project Paint Specification

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ST-3202.

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Pouring Headstock and Grouting by Downer

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Post Head stock Pouring activities

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Remove additional nuts, tape (masking and double sided) used for alignment. Apply rubber sleeves to the exposed threads. Reinstall oversized washers, apply instulating washers and lighten nuts down to achive a 1rnmgap between washer and nut, lock nut lo be inslalled as per detail C & Section 5 on ST-3202, Detail O on ST-3200.

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|  | | | Site installation |
| methodology |
| IFC Drawings |
|  | **25** | Hold Down Bolts li Ihtening | Standard operation |
|  |  |  | procedure for steel |
|  |  |  | structure bolt tightening |
|  |  |  | SHEO-01-02-0038 |
|  |  |  | Site installation |
|  |  |  | methodology |
|  |  |  | IFC Drawings |
|  | **26** | Macalloy Bolts lightening | Standard operation proceclure for steel |
|  |  |  | structure boll tightening |
|  |  |  | SHEO-01-02-0038 |
|  |  |  | Site installalion |
|  | 27 | Temporary restraints removal | methodology |
|  |  |  | IFC DravJings |
|  | *-;;:=:* |  | Sile installation |
|  |  |  | methodology |
|  |  |  | IFC DravJings |
|  | **28** )lnstallalion of Graner Bearing | | Standard operation |
|  |  |  | procedure for steel |
|  |  |  | structure bolt tightening |
| ... |  |  | SHEO-01-02-0038 |
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Bolt Tightening report

Site project Manager

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lo Undo the coupler, remove lemporary alignment nut, install

the rubber sleeves to the exposed rod, install the washers, nuts and snug lighten the nuts (as there are compressible

components in contanc area)

Boll Tightening report

Site project Manager

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All temporary restraints to the temporary shoring to be removed

All positioning Jigs and scre'NS applied to PTFE on Shear

Keys to be removed

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Team Leader V

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the Bolts need to be snug tightened to the girdeIs (top) and

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The Temporary Bearing to be removed and Granor Bearing to be installed in the position

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Installation of remaining Decking panels and wall panels

Site installation methodology IFC Drawings

screws neecl lo be snug lightened into the base plate. The keeper plates· bolls (M20) for uplift restraint to be lightened (full Tensioned).

Carefully position the Decking and wall panels in the conjunction area according to the approved dra \llngs.

Boll Tightening report

IFC OWGs

Manager

Team Leader

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Snug tightening of Decking panels and

1. wait panels

Standard operation procedure for steel structure bolt tightening SHE0-01-02-0038

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Fasteners of Decking and wall panels to be inspected for

snug tight condition and marked v-lilh coloured painl pen lo Boll Tightening report confirm fixing condtion has been checked and verified.

Site project Manager

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Installation of remaining handrails

1. between the spans

Site instaijalion methodology IFC DrayJings

andrails in the conjunction area

he approved dra\'Jings.

IFC DWGs

Team Leader

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Task/ QA Activity

'Sp cificatlon Standard"'

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Standard operalion

Fasteners of handrails to be inspected for snug light conrlition viith addition of Loctile or Locknut to prevent

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1. Snug lightening of Conduti Brackets

procedure for steel structure bolt lightening SHEO-01-02-0038

loosening and marked with coloured paint pen to confirm fixing condtion has been checked and verified.

Note: The connections for the EA's spanning the pier movement joints shall be hand tightened, Ref CAN 063.

Bolt Tightening report

Site project Manager

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1. Installation of Expansion plates

Site installation methodology IFC Drav..ings

The expansion plates to be installed between Span 1 and 2 and between span 6 and 7

IFC DWGs

Team Leader '"""',"! D :

Sign: *f"*

Inspection to identify any damage lo

1. painted surfaceses requiring touchup

Inspect paint for any required repair and touch up of paint woiks (bolled connections and any damage paint to steelwork). Repair method proposed shalt be approved by the independent coaling inspector. Areas repaired shall be reinspected by the coaling applicator and independent inspector.

Note 1.2, Drawing ST-3202

Site project Manager

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1. Sile Installation and Sign-off.

Erection seque11ce methodology (EMS) IFC Draviings

Visual and Dimensional inspections completed by PFS Project Manager lo confirm manufactured items have been completely installed.

Inspection of erected steelwork in accordance viilh AS/NZS 5131 Section 13.11 as per specification C0702.1.10.

Inspections shall cover all relevant items listed in clause 13.11.1.

Inspections shall be documented in inspection reports as per clause 13.11.3 of AS/NZS5131, and included in the QA documentation.

Inspections shall be conducted by competent personnel.

Evidence of expe1ience or qualifications

for nominated individual(s) shall be provided for review. An example of

qualification of competent personnel is a relevant trade qualification and over 10

years experience in structural steel erection.

FoUoving inspection on site, should any modification or repairs be required a w1itten procedure shall be submitted to the Engineer prior to any work proceeding as per C0702.3.

IFC DWGs

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Quality Review

Compile, review and submit

1. documentation

Project Structure Specification C07 Rev. 01

IFC structuIe DWG

Documentation and reports to suppoI1installation of steel structure items

compiled into PFS Manufactures Data Report

PFS Manufactures Data Report

Site project Manager

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PFS Revision Record: 39028-ITP-003-39028 RevC

Approved lly {Engineer/Clien!I

Name:

Date:

Sign:

Issued for Construction

Name: q\_r"'\ *t,lvSe.*

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Comments/Notes: