

QA TRAINING SUPPLEMENT

1. Project Information

Name of Project (This will be the project description in Expert Estimation / Expert Project)	Gold Creek Bridge and approaches (3km)
Project No. (This will be the same as the Expert Project file name)	NRX069
Location	Gympie
Principal	Andrew Fisher
Principal's Project No.	0410E
Superintendent	George Reid
Project Start Date	01/08/2020
Project End Date	31/12/2020
Company	Transport and Main Roads
Key Personnel	
Project Manager:	Edmund Barton
Project Engineer(s):	Alfred Deakin
Project Supervisor(s):	Chris Watson
PSR:	[your name]

2. Schedule

Import schedule from CSV.

3. Areas

Area Code*	Description*
GCBR	Gold Creek Bridge
RWNB	Roadworks on north side of bridge
RWSB	Roadworks on south side of bridge
GNRL	General project works

4. Work Types

Work Type *	Description *
AC	Asphalt Pavement
AP	Abutment Protection
BC	Bridge Concrete
BD	Bridge Deck
BF	Backfill to Structures
BJ	Bridge Girders Bearings, Joints and miscellaneous
BP	Bridge Protective Furniture
BT	Bridge Timber
CD	Concrete Invert Drains
CG	Clearing and Grubbing
CW	Concrete Works
DM	Demolition
DS	Drainage Structures

Work Type *	Description *
DX	Detailed Excavation
EL	Electrical
EM	Embankment
EV	Environmental Management
EX	Excavation
FE	Fencing
GT	Ground Surface Treatment
KC	Kerb and Channel
LM	Linemarking
LS	Landscaping
MS	Miscellaneous
NB	Noise Barrier
PK	Bridge Parapets and Kerbs
PL	Piling Works
PT	Protective Treatments
RE	Reinforcing Steel Works
RF	Road Furniture
RS	Road Traffic Signals
SB	Sprayed Bitumen
SD	Subsoil Drainage
SF	Site facilities
SG	Subgrade Treatment
SH	Shotcrete Protection
SN	Soil Nailing
SP	Stabilised pavement
SS	Subsoil Drains
ST	Bridge Substructure
SU	Bridge superstructure
SW	Culverts
TM	Provision for Traffic
TS	Topsoil Strip and Stockpile
UB	Unbound Pavement
UR	Unrippable Excavation
US	Unsuitable

5. Control Lines

BRCL	The control line for the centre of the bridge
GDA2000	Geocentric Datum of Australia 2000
GNRL	Project general
MCN1	Road to the north of the bridge – centreline
MCS1	Road to the south of the bridge – centreline

6. Test methods

Import from test methods register

7. ITP

Description: Clear and Grub

Spec. Reference: MRTS 11.04

ITP /QVC No.: ITP 04-01 / QVC 04-01

NOTE: All lines should have '*include on ITP*' selected

Item Type	HP/WP/C	Description	Clause:	Responsibility	Records:	Method of Inspection
Quality	Hold Point	Any trees, shrubs and overhanging branches to be left undisturbed shall be clearly marked prior to clearing operations reaching the area concerned.	MRTS04 Cl. 7.2.2	Engineer and Supervisor	QVC/ATP	Visual
Quality	Hold Point	Marketable timber shall be clearly marked by contractor Prior to clearing. Marked trees felled and handled avoiding damage to the trunks. The trunks trimmed and stacked in neat manageable stockpiles approved by the Administrator at spacings of not more than 500 metres.	MRTS04 Cl. 7.2.3	Engineer and Supervisor	QVC/ATP	Visual
Quality	Check Item	Material suitable for organic mulch shall be in accordance with MRTS16B Vegetation Ground Works	MRTS04 Cl. 7.2.4	Engineer and Supervisor	QVC	Visual
Quality	Check Item	Hollow timber which is identified as being suitable for fauna habitat logs relocated to areas clear of construction activities a) behind batters, b) behind proposed safety barriers but not within any hazard free zone c) areas at least 9m clear of carriageways Fauna habitat log density < 20 metres length per 100 m2 area. Logs not placed in waterways or in areas where they are likely to be struck by errant vehicles.	MRTS04 Cl. 7.2.5	Engineer and Supervisor	QVC	Visual

8. ITP with tests

Description: Ground Surface Preparation

Spec. Reference: MRTS 11.04

ITP / QVC No.: ITP 04-02 / QVC 04-02

Item Type	HP/WP/C:	Description	Clause	Responsibility	Records	Meth. of Inspection
Quality	Check Item	Any unsuitable material shall be identified in an Unsuitable Material Lot with QVC compliance.	MRTS04 Cl. 12.2.4	Engineer and Supervisor	QVC	Visual
Quality	Check Item	Project specific requirements for ground surface treatment shall be completed as specified in clause 7.2 of Annexure MRTS04.1.	MRTS04 Cl. 12.2.2	Engineer and Supervisor	QVC	Visual
Quality	Check Item	Acid Sulphate Soils shall be identified in an Acid Sulphate Soil Lot with QVC compliance.	MRTS04 Cl. 12.2	Engineer and Supervisor	QVC/Tests	Test
Quality	Check Item	Ground surface shall be scarified and recompact to a depth >= 150mm in accordance with MRTS04 Cl. 15	MRTS04 Cl.12.2.1.3	Engineer and Supervisor	QVC/Test records	Visual/Test
		Test Method:	Quantity Basis:	Freq Norm:	Freq Red:	Compliance
		Q111A: Insitu Dry Density (Sand Replacement)	Lot Area	1 per 2,000m2 2 per lot	1 per 1,000m2 1 per lot	95% RDD
		Q110A: Dry Density-Moisture Relationship (Standard Compaction)	Lot Area	1 per 2,000m2 2 per lot	1 per 1,000m2 1 per lot	85%<MDD <100%

Additional tests:

1. Proof Roll – Lot freq = 1. Compliance standard = no visible movement
2. Q112 – Nuclear Densometer. Details the same as for the Q111A test

9. Test Properties

PROPERTY GROUP – N25 CONCRETE

Concrete Class	25MPa
Number of batches	
Target slump	60mm
Cement type	
Concrete supplier	Boral
Name of structure	
Age of tests	7 days/28 days
f'c	25
f't	27.2

PROPERTY GROUP – N32 CONCRETE

Concrete Class	32MPa
Number of batches	
Target slump	60mm
Cement type	
Concrete supplier	Boral
Name of structure	
Age of tests	7 days/28 days
f'c	32
f't	33.2

PROPERTY GROUP – N40 CONCRETE

Concrete Class	40MPa
Number of batches	
Target slump	60mm
Cement type	
Concrete supplier	Boral
Name of structure	
Age of tests	7 days/28 days
f'c	40
f't	41.7

10.Lots

	Description	Date Open
EVGNRL	Environmental and erosion and sediment management plans - whole project	2/8/2020
CGRWNB	Clear and grub northern approach - Ch 0 to 994 o/s -10 to 10 both ends.	15/8/2020
ELRWNB	Light pole footing at E 467360 N 7103645	7/8/2020
CGRWSB	Clear and grub southern approach - Ch 0 to 983 o/s -10 to 10 both ends.	16/8/2020
TSRWNB	Topsoil strip northern approach 200mm - Ch 0 to 994 o/s -10 to 10 both ends.	17/8/2020

	Description	Date Open
TSRWSB	Topsoil strip southern approach 200mm - Ch 0 to 983 o/s -10 to 10 both ends	18/8/2020
GTRWNB	Ground surface prep fill #1 Ch 510 to 994 northern approach o/s -11 to 10 (st) and -6 to 9 (end) 150mm thick	21/8/2020
EXRWNB	Earthworks excavation cut #1 Ch 0 to 510 northern approach o/s -8 to 5 (st) and -11 to 10 (end) - 1m deep (nom)	22/8/2020
EMRWNB	Earthworks embankment fill #1 Ch 510 to 994 northern approach o/s - 11 to 10 (st) and -6 to 9 (end), 0.75m deep nom	22/8/2020

11. Contacts/Users

Name	Company	Role
Andrew Fisher	Main Roads	None
George Reid	Main Roads	None
[Your Name]	[Your Company]	Project Administrator
Joseph Cook	Soils Laboratory	None

Name	Company	Role
Edmund Barton	[Your Company]	Project User
Alfred Deakin	[Your Company]	Project User
Chris Watson	[Your Company]	Project User

12. Quantities

CGRWNB001	A3101.01	21,112
CGRWSB001	A3101.01	18,688
EMRWNB001	A3108.01P	89
EMRWNB001	A3301.01	6,591
EVGNRL001	A1311.01	1
EVGNRL001	A1313.01	1
EXRWNB001	A3201.01	6,591
GTRWNB001	A3104.01	8,780
TSRWNB001	A3103.01P	3,545
TSRWSB001	A3103.01P	3,820

13.NCR

Location	General project clear and grub areas		
Date raised	25/8/2020		
Description	A clear and grub hold point where the inspector is required to approve retained vegetation was missed (MRTS04-7.2.2)		
Corrective Action	N/A		
Preventative Action	A toolbox meeting will be held with all earthworks foremen and engineers to reinforce the need to acknowledge the hold point		
Lots	CGRWNB001 / CGRWSB001	Severity	Minor
3rd Party Req'd	Yes	Action Type	Use as is
Root Cause	Methods/Process	Related Parties	Rodney's Clearing Co

Location	South East embankment placement zone.		
Date raised	26/8/2020		
Description	Excavator hydraulic oil loss		
Corrective Action	Spill kit deployed, spill contained and contaminated materials disposed of via regulated waste practices.		
Preventative Action	Machinery prestart checks to more clearly emphasise inspection of hydraulic hoses		
Lots	EVGNRL001	Severity	Incidental
3rd Party Req'd	Yes	Action Type	Other
Root Cause	Machinery/Plant	Related Parties	n/a
Approval Details	Approved. Contractor required to send copy of revised prestart to Superintendent – hard copy NCR form on file		
Approval Date	29/8/2020		

14.ATP

Description	Ground surface approval prior to placement of embankment
Date submitted	28/8/2020
Lot to inspect	EMRWNB001
ATP To	George Reid
Date inspection	30/8/2020
Time inspection	1pm

15.Test Request

Description	Ground surface treatment tests prior to embankment installation
Date requested	31/8/2020
Lot to test	GTRWNB001
Test req to	Joseph Cook
Date test required	2/9/2020
Time Required	1pm
Geometry	As per lot
Tests	4 x compaction, 1x Atterburg (Random stratified) + Grading, 2 CBR

16.Variation

Name	Cattle Dip
Detail	Removal of old cattle dip and disposal at controlled waste dump. Reinstallation of survey benchmark
Date identified	29/8/2020
Lots affected	GTRWNB001, Lot ELRWNB001
Status	Identified
EOT Submitted/Appr	1 day
Date Notified	29/8/2020
Submitted Value	\$18,500
Approved Value	\$16,800 LS
DJC	\$14,500 LS
Client's Ref	VX021b
Date approved	2/9/2020

17. More Test Requests

Description	Test concrete protection of cattle dip
Date requested	31/8/2020
Lot to test	GTRWNB001
Test req to	Joseph Cook
Date test required	2/9/2020
Time Required	9am
Geometry	Ch 610 to 614 os -5 to -3
Tests	2x concrete compaction tests
Test Properties	N25 concrete

Description	Test embankment fill #1
Date requested	2/9/2020
Lot to test	EMRWNB
Test req to	Joseph Cook
Date test required	4/9/2020
Time Required	10am
Geometry	As per lot
Tests	Q142C Density-moisture relationship of soils by rapid method x schedule qty
Test Properties	Material source / earthworks embankment fill #1

18. Test Results

COMPACTION					
Test Req	Date Sampled	Lot	Sample No	DDR (%)	FMC (%)
1		GTRWNB001	1-1	96	86
1		GTRWNB001	1-2	95	87
1		GTRWNB001	1-3	94	94
1		GTRWNB001	1-4	96	91
CBR					
Test Req	Date Sampled	Lot	Sample No	CBR	
1		GTRWNB001	1-5	18	
1		GTRWNB001	1-6	14	
PLATICITY INDEX					
Test Req	Date Sampled	Lot	Sample No	PI (%)	
1		GTRWNB001	1-7	8.5	
GRADING					
Test Req	Date Sampled	Lot	Sample No		
1		GTRWNB001	1-8		
0.075mm sieve	10				
0.425mm sieve	20				
2.36mm sieve	35				
4.75mm sieve	50				
9.5mm sieve	60				
19mm sieve	75				
26.5mm sieve	90				
37.5mm sieve	100				
53mm sieve	100				
CONCRETE					
Test Req	Date Sampled	Lot	Sample No	Cylinder A UCS	Cylinder B UCS
2		GTRWNB001	2-1	26	29
2		GTRWNB001	2-2	26	27

19. Progress Claim

CGRWNB001	Conformed
CGRWSB001	Conformed
ELGNRL001	100%
EMRWNB001	60%
EVGNRL001	Conformed
EXRWNB001	75%
GTRWNB001	Guaranteed
TSRWNB001	Conformed
TSRWSB001	Conformed