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**GEOTECHNICAL
BOREHOLE LOG**

FOR GEOTECHNICAL TERMS AND
SYMBOLS REFER FORM F:GEOT 017/8-2014

BOREHOLE No **BH09**

Sheet 1 of 3

REFERENCE No **H12907**

PROJECT Boyne River Bridge Repalcement
 LOCATION Pier 4, LHS COORDINATES 323443.6 E; 7159871.2 N
 PROJECT No FG6482 SURFACE RL 114.31m PLUNGE 90° DATE STARTED 07/07/2017 GRID DATUM MGA Z56
 JOB No 249/435/375550 HEIGHT DATUM AHD BEARING ° DATE COMPLETED 08/07/2017 DRILLER NorthCoast Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
1				A	SAND (Alluvium) Pale brown grey, moist, very loose. Fine to medium grained sand.	(SM)				1.00m: No SPT sample was recovered.	2, 1, 2 N=3 SPT
2	112.31			B	Silty SAND (Alluvium) Dark grey to grey, moist, medium dense. Medium to coarse grained sand. Fine to medium grained gravel.	(SM)					3, 9, 9 N=18 SPT
3	111.31			C	Silty Gravelly SAND (Alluvium) Dark grey to grey, moist, loose. Medium to coarse grained sand. Fine to medium grained gravel.	(SM)				3.50m: Cobbles <200mm	4, 2, 3 N=5 SPT
4				D	4.00m: Becoming medium dense.	(SM)					6, 6, 7 N=13 SPT
5				E		(SM)					4, 5, 12 N=17 SPT
6	108.31			F	Gravelly SAND (Alluvium) Dark grey to grey, moist, loose to medium dense. Medium to coarse grained sand. Medium to coarse grained gravel.	(GW)				6.80m: Cobbles <200mm	8, 5, 5 N=10 SPT
7				G		(GW)					11, 11, 10 N=21 SPT
8	106.31			H	SANDSTONE (Je1) XW: Recovered as Clayey SAND. Pale grey, moist, very dense. Medium to coarse grained sand. Trace Fine grained gravel, sub angular.	(XW)					30/90mm hb SPT
9				I		(XW)					30/120mm hb SPT
10	104.31										

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REMARKS: Je1 - Evergreen Formation. Hole offset due to flowing river channel.

LOGGED BY	REVIEWED BY
S. Louei	S. Foley



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**GEOTECHNICAL
BOREHOLE LOG**

FOR GEOTECHNICAL TERMS AND
SYMBOLS REFER FORM F:GEOT 017/8-2014

BOREHOLE No **BH09**

Sheet 2 of 3

REFERENCE No **H12907**

PROJECT	Boyne River Bridge Repalcement				
LOCATION	Pier 4, LHS		COORDINATES 323443.6 E; 7159871.2 N		
PROJECT No	FG6482	SURFACE RL	114.31m	PLUNGE	90°
				DATE STARTED	07/07/2017
				GRID DATUM	MGA Z56
JOB No	249/435/375550	HEIGHT DATUM	AHD	BEARING	°
				DATE COMPLETED	08/07/2017
				DRILLER	NorthCoast Drilling

DEPTH (m)	R.L. (m)	FAUGER CASING WASHBORING CORE DRILLING	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS		
												EH	VH
				J	SANDSTONE (Je1) XW: Cont'd.		XW				30/90mm hb	SPT	
11	103.21		(0)	K	SANDSTONE (Je1) XW: Pale grey and brown, fine grained, thinly bedded, mainly extremely low to very low strength. - BP: 20° to 30° (1-2/m); Pl-Un/Ro; Tl; some Fe St; some Cly Vr		HW			11.10m-11.38m: HW	20/60mm hb	SPT	
12			100 (0)				XW					D (11.20m) A (11.21m)	
13	101.19						HW					D (11.80m) A (11.84m)	
14			100 (0)		SANDSTONE (Je1) HW: Pale brown and pale grey, fine grained, thinly bedded, mainly very low to low strength. - BP: 15° to 30° (3-4/m); Pl-Un/Ro; Tl-OP; Fe St; Cly Vr - Js: 50° to 70° (1-2/m); Pl/Ro; Tl-CD; Cly Vr - Js: 70° to 90° (<1/m); Un/Ro; Tl; Cly Vr		HW			13.30m-13.48m: XW, recovered as Clayey SAND 13.48m-13.55m: BZ		D (12.80m) A (12.84m)	
15			100 (10)		14.60m: Becoming pale grey.		XW			13.86m-13.90m: BZ, DI 14.04m-14.10m: XW, Recovered as Clayey SAND		D (13.22m) A (13.24m)	
16			100 (45)		16.30m: Becoming pale brown mottled pale grey.		HW			15.05m-15.10m: BZ, DI 15.25m-15.29m: BZ 15.33m-15.34m: BZ 15.46m-15.60m: HFZ		D (13.76m) A (13.77m)	
17							XW			16.05m-16.12m: BZ, DI		D (15.76m) A (15.77m)	
18			100 (68)		18.25m: Becoming pale grey.		HW			17.33m-17.39m: XW, Recovered as Sandy CLAY		D (16.60m) A (16.62m)	
19							MW					D (17.60m) A (17.62m)	
	94.31						HW					D (18.20m) A (18.21m)	
												D (18.65m) A (18.67m)	
												D (19.60m) A (19.64m)	

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REMARKS: Je1 - Evergreen Formation. Hole offset due to flowing river channel.

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S. Louei	S. Foley



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GEOTECHNICAL BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014

BOREHOLE No **BH09**

Sheet 3 of 3

REFERENCE No **H12907**

PROJECT **Boyne River Bridge Repalcement**

LOCATION **Pier 4, LHS**

COORDINATES **323443.6 E; 7159871.2 N**

PROJECT No **FG6482**

SURFACE RL **114.31m**

PLUNGE **90°**

DATE STARTED **07/07/2017**

GRID DATUM **MGA Z56**

JOB No **249/435/375550**

HEIGHT DATUM **AHD**

BEARING **°**

DATE COMPLETED **08/07/2017**

DRILLER **NorthCoast Drilling**

DEPTH (m)	R.L. (m)	RQD (%)	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH		DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS										
						EH	VH	H	M			J	VI	EU	EC	VC	C	M	W	VW	EW
21	93.11	100 (42)	SANDSTONE (Je1) HW: Cont'd. 20.30m: Becoming pale brown mottled pale grey.		HW					20.77m-20.79m: XW, Clayey SAND											
22			SANDSTONE (Je1) MW: Pale grey mottled brown in parts, fine grained, thinly to medium bedded, mainly low to medium strength. - BP: 10° to 20° (2-3/m); Pl/Sm; TI; some Fe St; Cly Vr - Js: 40° to 60° (1-2/m); Pl/Ro-Sm; TI; some Fe St; Cly Vr		MW					21.15m-21.21m: BZ, DI 21.21m-21.30m: BZ	Is(50)=0.19 MPa Is(50)=0.38 MPa D (21.30m) A (21.31m)										
23					HW					22.29m-22.41m: HW											
24		100 (18)			MW					23.02m-23.10m: BZ, HW 23.29m-23.40m: BZ, HW 23.52m-23.54m: BZ, HW	Is(50)=0.14 MPa Is(50)=0.02 MPa D (22.90m) A (22.92m)										
25					HW						Is(50)=0.12 MPa Is(50)=0.09 MPa D (23.90m) A (23.93m)										
26		100 (71)			MW						Is(50)=0.05 MPa Is(50)=0.06 MPa D (25.10m) A (25.19m)										
27					MW						Is(50)=0.34 MPa Is(50)=0.22 MPa D (26.35m) A (26.38m)										
28					MW						Is(50)=0.25 MPa Is(50)=0.16 MPa D (27.32m) A (27.34m)										
29	85.41	100	Borehole completed at 28.90m		HW MW					28.76m-28.83m: BZ, HW	Is(50)=0.16 MPa Is(50)=0.22 MPa D (28.55m) A (28.57m)										

REMARKS: Je1 - Evergreen Formation. Hole offset due to flowing river channel.

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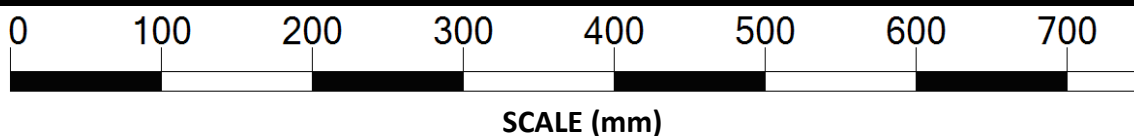
S. Louei

S. Foley

CORE PHOTO LOG
 DEPARTMENT OF TRANSPORT AND MAIN ROADS
 GEOTECHNICAL SECTION



Project Name	Boyne River Bridge Replacement		
Project No.	FG6482	Date	08/07/2017
Borehole No.	BH09	Reference No.	H12907
Location	Pier 4, LHS	Start Depth (m)	11.10
Submitted By	S. Louei	Finish Depth (m)	28.90
Remarks			



CORE PHOTO LOG
 DEPARTMENT OF TRANSPORT AND MAIN ROADS
 GEOTECHNICAL SECTION



Project Name	Boyne River Bridge Replacement		
Project No.	FG6482	Date	08/07/2017
Borehole No.	BH09	Reference No.	H12907
Location	Pier 4, LHS	Start Depth (m)	11.10
Submitted By	S. Louei	Finish Depth (m)	28.90
Remarks			

