

Inspection and Test Plan

Contract Name: 29 Broadwater Road

Contract Number : 22690

Revision:

BPD No	Discipline	Item No	Activity Description	Controlling Document / Specification	Test & Inspection	Spec. Clause	Inspection			Verifying Document	Remarks
							Acceptance Criteria	Frequency	Action by		
2	CFA	37	Working Platform		Visual check		Appears in good condition, firm, level and safe with no soft spots	Each pile	Rig Attendant		STOP if in doubt - raise any concerns with CS
2	CFA	38	Boring Head Check	ICE Spec	Check boring head diameter	B1.10.2	Within - 0 mm + 10mm of specified size	Daily	Rig Attendant	Daily Report	Remove from service when undersize
2	CFA	39	Boring tool wear		Check boring head and teeth for wear		Maximum **mm undersize	Each Pile	Rig Attendant	Daily Report	Rig Attendant to change teeth and notify CS
2	CFA	40	Instrumentation check		Check the accuracy of the Depth indicator		No more than 50mm variance in 10 meters	At contract start and after re-rigging	Contract Supervisor	Daily Report	Recheck if machine is re-rigged
2	CFA	41	Instrumentation Data		Check the default instrumentation to set up computer		Review Contract Name , number, diameter, overbreak, and pump calibration is correct	At start of contract or any change	Contract Engineer		
2	CFA	42	Instrumentation Connection		Check ability of instrumentation to connect to server		Valid GPS signal	Start of contract	Contract Engineer		If no signal - make alternative arrangements to download data daily
2	CFA	43	Pump Calibration		Check the pump calibration / efficiency		Ensure Rig computer matches pump efficiency.	At start of contract and mid contract.	Contract Engineer		
2	CFA	44	Soil / strata / formation	Design document	Visually check to confirm the material, depths and thicknesses.		As assumed in the Design document.	First Pile on site and in each new area	Contract Engineer		Report to Designer if any variations and confirm in writing to the client
2	CFA	45	Pile Location		Check the pile position is sufficiently far from recently cast piles		minimum 1m or 3 diameters with 24 hrs of concreting	Each Pile	Rig Attendant		
2	CFA	46	Pile Position	ICE Spec	Check the pin position	B1.4	Within 10mm of the design coordinates	Each Pile	Setting Out Engineer	As-built schedule	
2	CFA	47	Set up on pile position	ICE Spec	Check the position of the boring head over the pin	B1.4	Within 25 mm of the pin position	Each Pile	Rig Attendant		Rig Attendant to report to Contract Supervisor if outside acceptance criteria
2	CFA	48	Pile Verticality	ICE Spec	Check the pile verticality with rig leveller	B1.4	Within 1 in 75	Each Pile	Rig Operator		Stop if outside tolerance
2	CFA	49	Pile Verticality	ICE Spec	Check verticality with spirit level	B1.4	Each day morning and afternoon	Each Pile **	Rig Attendant		Stop if outside tolerance
2	CFA	50	Depth of Pile		Check the depth from rig computer		Within 150mm of the designed depth / pile schedule	Each Pile	Rig Operator	Rig Instrumentation / Rig Operators Log Book	Contract Supervisor to transfer details on to Daily Report
2	CFA	51	Initial Inspection - levels		Visual check the level of the top of steel / sufficient cover and concrete level		Top of steel to be within +75mm -75mm Concrete to be within +75mm -75mm	Each Pile	Contract Supervisor	Daily Report	CS to report to Contract Engineer if outside acceptance criteria
2	CFA	52	Concrete overbreak		Check concrete tickets against the theoretical volume		No underbreak	Daily **	Contract Engineer		Contract Engineer to report to Operations Manager if outside acceptance criteria
2	CFA	53	Rig Instrumentation Print outs		Check pile installation details (within 24-48 hrs on casting)		Length as per the design and pile schedule, overbreak as not less than instructed to operator	Daily	Contract Engineer		
2	CFA	54	Action on undertaking any pile rebore mid way through a pile construction	B4.4.1	Check the rebore pile depth beyond the original specified depth		Any pile rebored is 0.5m deeper below the concrete cessation level	Every rebore	Rig Operator	Daily Report by Supervisor	Confirmed by Contract supervisor on the Daily Report
2	CFA	55	Action on undertaking any pile rebore due to issue preventing the start of the concreting process		Check the rebore pile depth		Pile rebore is 0.5m further than the specified toe level or specified refusal criteria.	Every rebore	Contract Supervisor	Daily Report	CHECK IT IS POSSIBLE TO DRILL DEEPER
6	Displacement	98	Working Platform		Visual check		Appears in good condition, firm, level and safe with no soft spots	Each pile	Rig Attendant		STOP if in doubt - raise any concerns with CS
6	Displacement	99	Instrumentation check		Check Rig is in Rock Digging mode		Rock Digging mode on computer	Contract start	Rig Operator		
6	Displacement	100	Depth Indicator		Check the accuracy of the Depth Indicator		Within 50mm in 10 metres	Contract start	Rig Operator	Daily Report	
6	Displacement	101	Boring Tool	ICE Spec	Check the boring head diameter	B1.10.2	As per the pile schedule -0 mm + 5% mm	Daily	Contract Supervisor	Daily Report	
6	Displacement	102	Soil / strata / formation		Check the material, thicknesses and depths and required alpha value (***)		As assumed in the design	On the 1 st pile	Contract Engineer	Daily Report	Contract Engineer to confirm to the Designer and the client, in writing, where ground conditions vary
6	Displacement	103	Pile Location		Check sufficiently far from recently cast piles		minimum *m or * diameters with * hrs of concreting	Each Pile	Rig Attendant		
6	Displacement	104	Set up on pile position	ICE Spec	Check the position against the pin position	B1.4	Within 25 mm of the pin position	Each Pile	Rig Attendant		Rig Attendant to report to Contract Supervisor if outside acceptance criteria
6	Displacement	105	Pile Verticality	ICE Spec	Check the pile verticality with rig leveller	B1.4	Within 1 in 75	Each Pile	Rig Operator		On Daily Report if outside tolerance
6	Displacement	106	Pile Verticality	ICE Spec	Check verticality with spirit level	B1.4	Within 1 in 75	Each Pile **	Rig Attendant		On Daily Report if outside tolerance
6	Displacement	107	Depth of Pile		Check the depth using the rig computer and establish the alpha value		Within depth on the design / pile schedule and the agreed alpha value ***	Each Pile	Rig Operator	Rig Instrumentation & Daily Report	Rig Operator to record in Log book
6	Displacement	108	Boring tool wear		Check boring head and teeth for wear		Maximum **mm undersize	Each Pile	Rig Attendant	Daily Report	Rig Attendant to change teeth and notify CS
6	Displacement	109	Overbreak		Check concrete tickets v theoretical		Within **%	Daily	Contract Engineer		
6	Displacement	110	Rig Print outs		Check the pile installation details		Diameter, depth, concrete usage as design / pile schedule or specified	Daily	Contract Engineer		
6	Displacement	111	Final Inspection		Check steel and concrete levels		Within + 150mm / - 50mm	Each Pile	Contract Supervisor		Contract Supervisor to report to Contract Engineer when outside acceptance criteria
6	Displacement	112	Reinforcement		Check that each pile has a full length central bar or a full length cage		Compliance with the Design / Pile Schedule	Each Pile	Rig Attendant	Daily Report	Contract Supervisor to record reinforcement placed
6	Displacement	113	Alpha Values		Check the Alpha values and record		Within the parameters instructed after first pile	Each Pile	Rig Operator	Rig Drivers Book	Contract Supervisor to record on the Daily Report
11	Concrete	126	Availability of Concrete		Confirm sufficient concrete available.		Within 30minutes	Each Pile	Contract Supervisor		
11	Concrete	127	Concrete Delivery		Visually check each delivery of concrete		Appears to be within the specified workability 180 - 220 slump / flow and no lumps	Each load	Pumpman		If the workability appears outside the acceptance criteria the Contract Supervisor shall ensure that a slump / flow test is carried out
11	Concrete	128	Cold weather concreting		Check concrete temperature and consistency		Concrete temperature to be greater than 5°C No ice to be present in the concrete	Each load	Pumpman	Temps recorded on pile log / daily report	If less than 5 degrees then concreting to cease unless further measures are in place (hot water)
12	Concrete	129	Cold weather concrete curing		If air temperatue is less than 5o C Check extra measures are in place		All exposed concrete is protected against frost or freezing	All poured concrete	Pumpman		
11	Concrete	130	Concrete ticket inspection	BS 12390-3	Check the Delivery Ticket		Ensure the concrete is for Cementation and the correct site also Strength is 35N Slump- Pump mix Designation	Each load	Pumpman		If outside the acceptance criteria notify the Contract Supervisor
11	Concrete	131	Concrete workability	ICE Spec	Carry out a slump / flow test	B19.8	Target 180mm, allowance range is 180 mm to 220mm	Any suspect loads plus when taking cubes everyload	Concrete Technician	Concrete Technicians Record Sheet Daily Report	If outside the acceptance criteria report to the Contract Supervisor - REJECT the load or seek further instructions from the concrete supplier
11	Concrete	132	Adding Water to Concrete delivery Vehicles		If concrete is too stiff and additional water is required - this can only be undertaken to the instructions of the concrete suplier		0litres of water may be added, as directed by the Concrete Supplier, SUBJECT to their management approval of each instance where water is added - to a delivery vehicle only.	To each delivery vehicle load when outise the lower tolerance of slump range. Slump to be tretaken after addition	Pumpman	Readymix ticket	Each individual ticket must be marked with the amount of water added and the concrete authorisers name
11	Concrete	133	Concrete Cube Test Samples	ICE Spec	Manufacture 100mm concrete test cubes	B19.2.1	One set of 4	Every ** m3 or every day	Concrete Technician	Concrete Technicians Record Sheet Daily Report	Concrete technician to handover Record Sheet prior to leaving site. Site to maintain Site Cube Register if cubes are stored / cured on site
12	Steel	116	Pile cage - debonding foam		Check the correct length of foam is in place and is properly secured		Length as per the design / pile schedule and / or the cage sketch	Each Cage	Ganger		
12	Steel	117	Receiving Reinforcement	ICE Spec	Visually check pile cages on receipt	B19.9.1	Steel is clean (not rusty), the delivery is complete (see delivery ticket) and undamaged	Each Load	Contract Supervisor	GR5	Contact Supervisor to sign Delivery Note



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12	Steel	118	Pile Reinforcement	ICE Spec	Check cage build / details	B19.9.1	As per the design / pile schedule / cage sketch	Each cage / section	Contract Engineer		Detailed cage checklist to be used for complex cages
12	Steel	119	Placing Reinforcement	ICE Spec	Check the top of cage is at the correct level and central in the pile	B3.4.1	As per the pile schedule within + ***mm / - **mm	Each Pile	Rig Attendant	Daily Report	Concrete Ganger to record in Book; Setting Out Engineer to record in As-built schedule
12	Steel	120	Cover to reinforcement	ICE Spec	Check the required dimensions of the spacers and sufficient spacers around the circumference and along the cage	B19.9.3	Spacers to provide a minimum of 75mm cover, one spacer per bar at cut-off level and at a minimum of every 4 meters along the cage	Each Pile / Cage	Contract Supervisor		Concrete Ganger to record in Book; Setting Out Engineer to record in As-built schedule
12	Steel	121	Correct pile cage / steel	ICE Spec	Check the correct cage / steel is placed in the pile	B19.9.3	As per the design / pile schedule and on the cage tag	Each Pile	Ganger		Contract Engineer to ensure cages are tagged / labelled as per the pile schedule, Contract Supervisor to check on receipt
12	Steel	122	Pile cage - debonding foam		Check the length of the foam is correct and properly secured		As per the design / pile schedule and / or the cage sketch	Each Pile	Ganger		
12	Steel	123	Welded Bands		Visually check the dimensions of the bands and the numbers and suitability of the welds on the bands for lifting.		As per the Design / Cage Sketch	Each Cage	Ganger		Contract Engineer to ensure sufficient detail in cage sketch. Contract Supervisor to check on receipt.
12	Steel	124	Cage splices		Check all bulldogs / couplers / clamps		As per the design / pile schedule / cage sketch	Each joint	Ganger		Contract Engineer to ensure sufficient detail in the cage sketch.
12	Steel	125	Cage Feet		Check the Cage Feet are the correct dimenions and fitted correctly		As per the design / pile schedule / cage sketch	Each pile	Ganger		Contract Engineer to ensure sufficient detail in the cage sketch.
12	Steel	126	Tightening of pile reinforcement splicing couplers		Installation torque		To the manufacturer's recommended torque of ****	Each coupler	Ganger	Visual inspection	
52	Integrity test	280	Integrity Testing - Pre check		Check the Identify of the pile (its reference number) and depth		As per the layout drawing and pile schedule	Every pile	Testing Technician	Integrity Test Report	Testing Technician to liaise with the Contract Engineer
52	Integrity test	281	Integrity Test		Tap the head of the pile with a small hammer and detect reflected waves		Satisfactory result	All tested piles	Testing Technician	Integrity Test Report	FDA Manager to review results prior to issuing reports
55	Temporary Works	285	Permit to load		Check and inspect the temporary Works		Temporary Works in accordance with the design brief	Prior to Temporary works use	Testing Technician	TW Certificate: Permit to load	All inspections recorded
55	Temporary Works	286	Permit to unload		Check and inspect the temporary Works		Temporary Works in safe to dismantle	Prior to dismantling the Temporary works	Testing Technician	TW Certificate : permit to unload	