

PROJECT NAME: Clarendon Road Phase 3

Manhole / Drainage run Check Sheet

Check Sheet No: 001				
Drg Ref & Rev no: 8101 29				
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location <u>D1</u> Manhole/pipe run Ref <u>Gridline Ref</u> Highlighted location plan attached	see attached see attached (Yes/No)	✓	✓
2	Manhole size		✓	-
3	Invert level	23325 - 23485	✓	-
4	Manhole cover: Spec. size, orientation & cover level		-	-
5	Excavation to correct dimensions/support systems checked		✓	-
6	Branches & benching: position, line, level checked		✓	✓
7	Rocker pipes installed (if applicable) checked		✓	-
8	Rings and cover placed as per vertical & horizontal alignment checked.		-	-
9	Brickwork & surround filled as per detail/specification checked.		-	-
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type:		-	-
11	Manhole accessible for future use/maintenance	Yes/No	-	-
12	Pipe run details Material Diameter Length	Cast IRON 150 14	✓	✓
13	Spurs for lateral connections: Position, level & co-ordinates checked		-	-
14	SVP/RWPs installed to correct position, level and capped off.		-	-
15	Anchor blocks to correct detail at specified locations		-	-
16	Bedding & surround as specified		✓	✓
17	Air testing passed/witnessed:		✓	✓
18	Photos attached		✓	✓

Originator - GCL Site Manager	Client Representative
Name : <u>ERUAL THERA</u>	Name : <u>Ben Barker</u>
Signature: <u>[Signature]</u> Date: <u>5/11/20</u>	Signature: <u>[Signature]</u> Date: <u>5/11/20</u>

PROJECT NAME:

Drainage Air Test Sheet

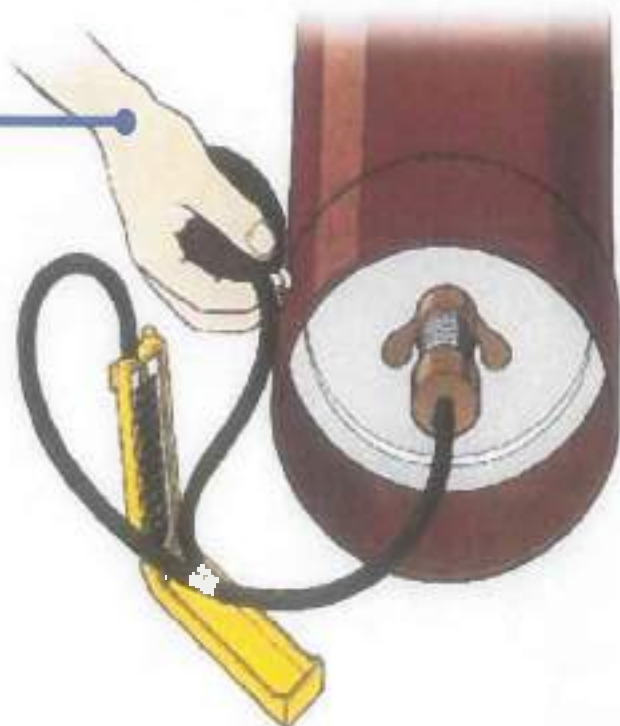
Client: <u>SPW</u>	Test date: <u>5/11/20</u>
Drainage Check Sheet Ref no: <u>001</u>	Test Ref. No: <u>001</u>

Pipe Run	Air gauge pressure		Pipe dia.(ø)	Test Time	Result	Remarks
	Initial	Final				
SW12 - RWP ^{size} attached	105	95	150	12 ^{min}	GOOD	

Signed: (Technician)	Witnessed by: <u>Ryan Houlton</u>
Verified By: <u>6 PMAL - 11.02.20</u> (Technical Manager)	Date: <u>05/11/20</u>

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no dirt is trapped between seal of plug and plates. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose via 'Y' piece to nipple, 'V' gauge and hand bellows.
4. Fill 'V' gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 100mm on the open side of the gauge and the level isn't below zero on the closed side. The level should not fall to less than 75mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 75mm within the specified time the pipe section is leaking.







PROJECT NAME: Clarendon Road Phase 3

Manhole / Drainage run Check Sheet

		Check Sheet No:	002	
		Dwg Ref & Rev no:	8101 C10	
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location <u>D8</u> Manhole (pipe run Ref) Gridline Ref Highlighted location plan attached	<u>See attached</u> <u>D1.1/D1.6 to D1.6</u> <u>Yes/No</u>	✓	
2	Manhole size		✓	
3	Invert level	<u>23.485</u>	✓	
4	Manhole cover : Spec, size, orientation & cover level		✓	
5	Excavation to correct dimensions/support systems checked		✓	
6	Branches & benching: position, line, level checked		✓	
7	Rocker pipes installed (if applicable) checked		✓	
8	Rings and cover placed as per vertical & horizontal alignment checked.		✓	
9	Brickwork & surround filled as per detail/specification checked.		✓	
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type :		✓	
11	Manhole accessible for future use/maintenance	Yes/No	✓	
12	Pipe run details Material Diameter Length	<u>Cast Iron</u> <u>150 Ø</u> <u>6m</u>	✓	
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓	
14	SVP/RWPs installed to correct position, level and capped off.		✓	
15	Anchor blocks to correct detail at specified locations		✓	
16	Bedding & surround as specified		✓	
17	Air testing passed/witnessed:	<u>STW / Ryan H.</u>	✓	
18	Photos attached		✓	

Originator - GCL Site Manager		Client Representative	
Name :	<u>ERUAL YMERI</u>	Name :	<u>Ryan Huth</u>
Signature:		Signature:	
Date:	<u>10/11/20</u>	Date:	<u>10/11/20</u>

PROJECT NAME: Clarendon Road Phase 3

Drainage Air Test Sheet

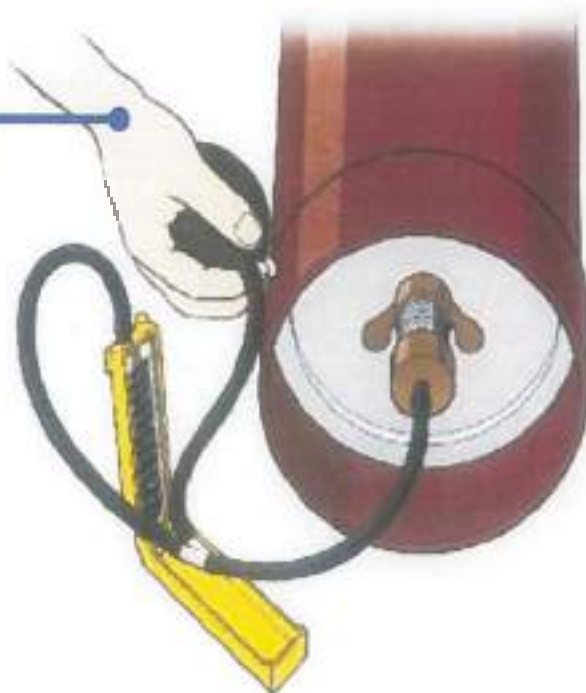
Client: STW	Test date: 10/11/20
Drainage Check Sheet Ref no: 002	Test Ref. No: 002

Pipe Run	Air gauge pressure		Pipe dia. (in)	Test Time	Result	Remarks
	Initial	Final				
Rwp - SW12 ^{see attached}	100	95	150Ø	2m	GOOD	

Signed: (Technician)	Witnessed by:
Verified By: ERNAL YHERI (Technical Manager)	Date: 10/11/20

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no dirt is trapped between sealed plug and plates. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose via 'Y' piece to nipple, 'U' gauge and hand bellows.
4. Fill 'U' gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 100mm on the open side of the gauge and the lower fluid below zero on the closed side. The level should not fall to less than 75mm during a period of 3 minutes without further pumping, after allowing a suitable time for stabilization of air temperature. If it drops below 75mm within the specified time the pipe section is leaking.





PROJECT NAME: CLARENDON ROAD PHASE 3A

Manhole / Drainage run Check Sheet

		Check Sheet No:	003	
		Drg Ref & Rev no:	8101 C9	
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location <u>D1</u>	Manhole/pipe run Ref <u>SS - PS</u>	✓	✓
		Gridline Ref <u>See attached</u>		
	Highlighted location plan attached	Yes/No <u>Yes</u>		
2	Manhole size	<u>N/A</u>	✓	✓
3	Invert level		✓	✓
4	Manhole cover : Spec, size, orientation & cover level	<u>N/A</u>	✓	✓
5	Excavation to correct dimensions/support systems checked		✓	✓
6	Branches & benching: position, line, level checked		✓	✓
7	Rocker pipes installed (if applicable) checked		✓	✓
8	Rings and cover placed as per vertical & horizontal alignment checked.		✓	✓
9	Brickwork & surround filled as per detail/specification checked.		✓	✓
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type.		✓	✓
11	Manhole accessible for future use/maintenance	Yes/No	✓	✓
12	Pipe run details	Material <u>Cast Iron</u>	✓	✓
		Diameter <u>100mm</u>		
		Length <u>10m</u>		
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓	✓
14	SVP/RWPs installed to correct position, level and capped off.		✓	✓
15	Anchor blocks to correct detail at specified locations		✓	✓
16	Bedding & surround as specified		✓	✓
17	Air testing passed/witnessed:		✓	✓
18	Photos attached		✓	✓

Originator - GCL Site Manager		Client Representative	
Name	ERNAI YHEM	Name	D. H. H.
Signature:		Signature:	
Date:	14/11/20	Date:	14/11/20

PROJECT NAME: CLARGHDON ROAD PHASE 3A

Drainage Air Test Sheet

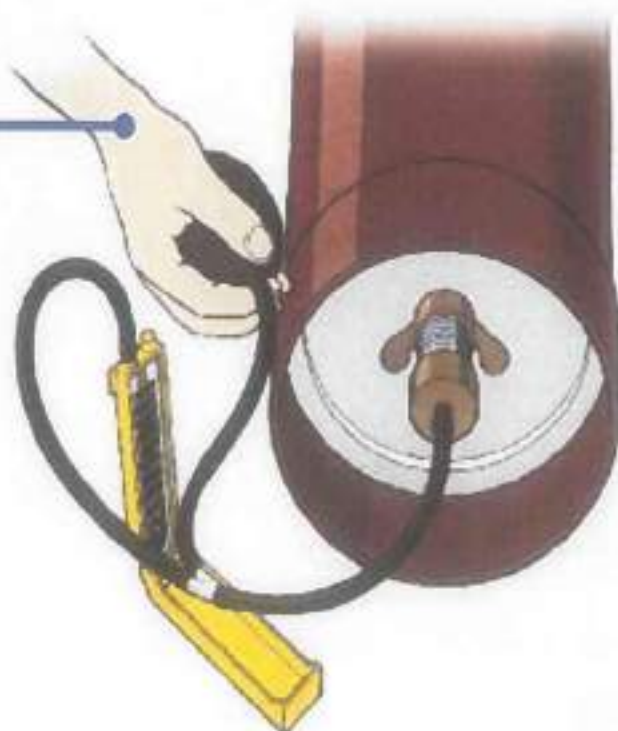
Client: <u>STW</u>	Test date: <u>14/11/20</u>
Drainage Check Sheet Ref no: <u>003</u>	Test. Ref. No: <u>003</u>

Pipe Run	Air gauge pressure		Pipe dia.(ø)	Test Time	Result	Remarks
	Initial	Final				
SS to Pumping Station	100	100	100ø	10AM	GOOD	

Signed: (Technician) <u>[Signature]</u>	Witnessed by: <u>Peter Hanlon</u>
Verified By: (Technical Manager)	Date: <u>14/11/20</u>

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no dirt is trapped between seal of plug and plates. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose via T piece to nipple, U gauge and hand bellows.
4. Fill U gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 100mm on the open side of the gauge and the lower limit below zero on the closed side. The levels should not fall to less than 15mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 15mm within the specified time the pipe section is leaking.





PROJECT NAME: CLARENDON ROAD PHASE 3A

Manhole / Drainage run Check Sheet

Check Sheet No: 04					
Orig Ref & Rev no: B101 L13					
No	Manhole & Drainage run construction	Details	Checked and Signed	GCL	Client
1	Location D2	Manhole pipe run Ref SVP → F413 SVP → F413 Gridline Ref - Highlighted location plan attached Yes/No	✓		
2	Manhole size		N/A		
3	Invert level		N/A		
4	Manhole cover : Spec size, orientation & cover level		N/A		
5	Excavation to correct dimensions/support systems checked		✓		
6	Branches & benching: position, line, level checked		✓		
7	Rocker pipes installed (if applicable) checked		✓		
8	Rings and cover placed as per vertical & horizontal alignment checked.		N/A		
9	Brickwork & surround filled as per detail/specification checked.		N/A		
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type :		N/A		
11	Manhole accessible for future use/maintenance	Yes/No	N/A		
12	Pipe run details	Material Cast IRON Diameter 100 Length 6- / 4-	✓		
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓		
14	SVP/RWPs installed to correct position, level and capped off.		✓		
15	Anchor blocks to correct detail at specified locations		✓		
16	Bedding & surround as specified		✓		
17	Air testing passed/witnessed:		✓		
18	Photos attached		✓		

Originator - GCL Site Manager		Client Representative	
Name : ERNAI THERI	Name MARK EMMERY		
Signature:	Signature:		
Date: 19/01/24	Date: 19/1/24		

PROJECT NAME: CLARENDON ROAD PHASE 3A

Drainage Air Test Sheet

Client: <u>STW</u>	Test date: <u>19/01/21</u>
Drainage Check Sheet Ref no: <u>04</u>	Test Ref. No: <u>04</u>

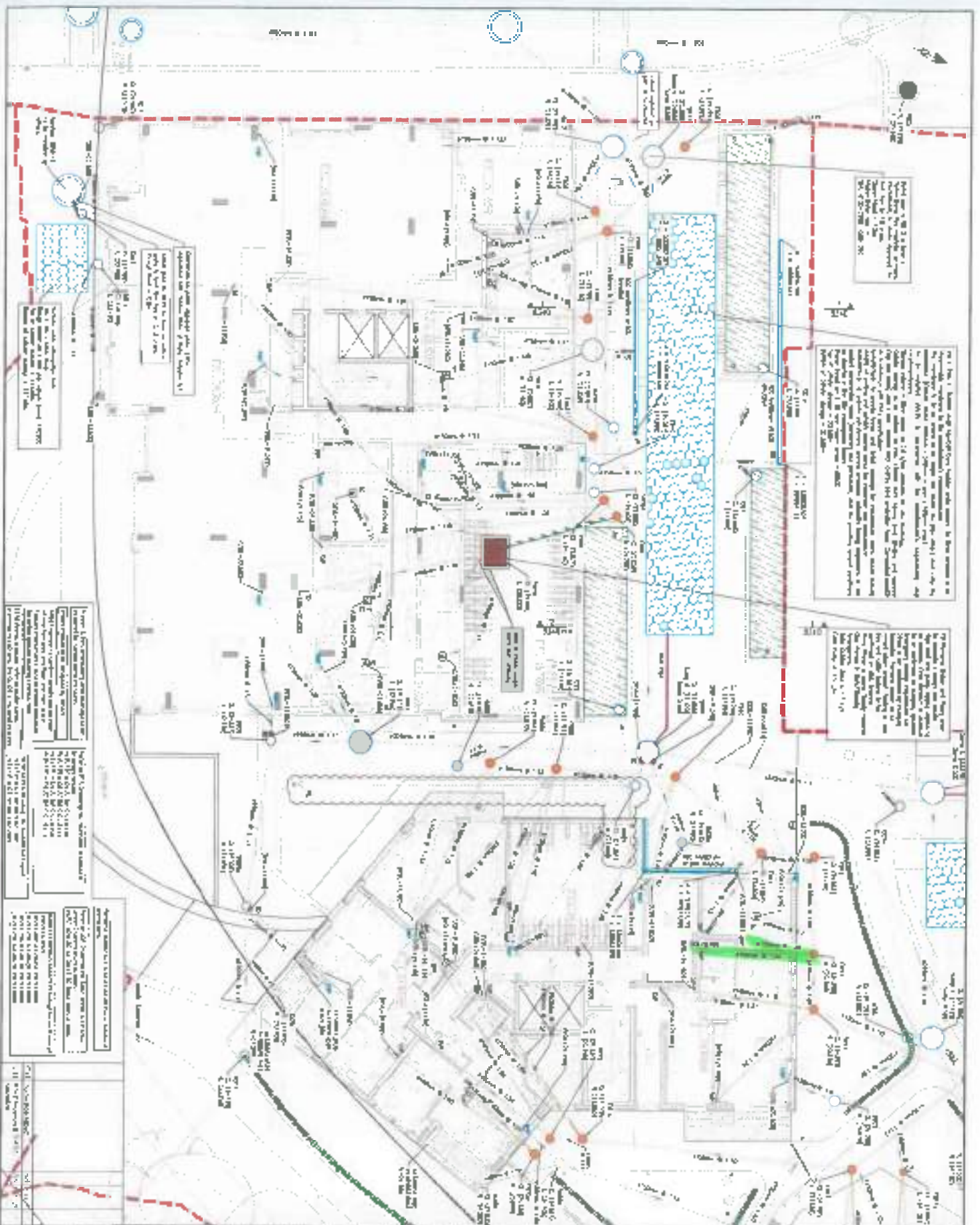
Pipe Run	Air gauge pressure		Pipe dia.(ø)	Test Time	Result	Remarks
	Initial	Final				
SVPD → FW13	100	100	100	15	Good	
SVPD → FW13	100	98	100	15	Good	

Signed: (Technician)	Witnessed by: <u>MEMER</u>
Verified By: (Technical Manager) <u>EMAL YMER</u>	Date: <u>19.01.21</u>

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grass or foreign material from installation point. Ensure no debris trapped between seal of plug and plates. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to size of the drain test plugs.
3. Connect rubber hose via 'Y' piece to nipple, 'U' gauge and hand bellows.
4. Fill 'U' gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 800mm on the open side of the gauge and the lower limit below zero on the closed side. The level should not fall to less than 750mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 750mm within the specified time the pipe section is leaking.





Notes:
1. The site is located within the City of...
2. The site is located within the City of...
3. The site is located within the City of...

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3. The site is located within the City of...

NOTES

1. The site is located within the City of...

2. The site is located within the City of...

3. The site is located within the City of...

FOR CONSTRUCTION

1. The site is located within the City of...

2. The site is located within the City of...

3. The site is located within the City of...

Drainage System

1. The site is located within the City of...

2. The site is located within the City of...

3. The site is located within the City of...

Site Plan

1. The site is located within the City of...

2. The site is located within the City of...

3. The site is located within the City of...



PROJECT NAME: CLARENDON ROAD PHASE 3A

Manhole / Drainage run Check Sheet

		Check Sheet No.	05	
		Drg Ref & Rev no	B101 C13	
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location 02 pipes run Manhole pipe run Ref SVP0 → FWH1 Gridline Ref SVP2 → FWH1 Highlighted location plan attached Yes/No		✓	
2	Manhole size	N/A	✓	
3	Invert level	N/A	✓	
4	Manhole cover Spec, size, orientation & cover level	N/A	✓	
5	Excavation to correct dimensions/support systems checked		✓	
6	Branches & benching: position, line, level checked		✓	
7	Rockor pipes installed (if applicable) checked		✓	
8	Rings and cover placed as per vertical & horizontal alignment checked.		N/A	
9	Brickwork & surround filled as per detail/specification checked.		N/A	
10	All Specialists are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type		N/A	
11	Manhole accessible for future use/maintenance		N/A	
12	Pipe run details SVP0 → FWH1 SVP0 → FWH1	Material CAST IRON Diameter 100mm Length —	✓	
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓	
14	SVP/RWP's installed to correct position, level and capped off.		✓	
15	Anchor blocks to correct detail at specified locations		N/A	
16	Bedding & surround as specified		✓	
17	Air testing passed/witnessed		✓	
18	Photos attached		✓	

Originator - GCL Site Manager		Client Representative	
Name : CRNAL YMER		Name : WILLIAM KUPP	
Signature: 	Date: 19/01/24	Signature: 	Date: 25-1-24

PROJECT NAME: CLARENDON ROAD PHASE 3A

Drainage Air Test Sheet

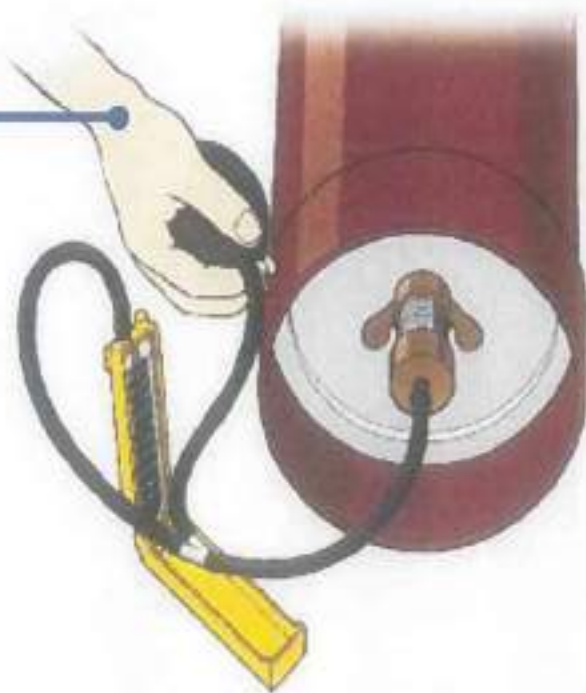
Client: STW	Test date: 19/01/21
Drainage Check Sheet Ref no: 05	Test. Ref. No: 05

Pipe Run	Air gauge pressure		Pipe dia.(ø)	Test Time	Result	Remarks
	Initial	Final				
SvP① → FW11	100	97	100mm	3 ¹⁵ pm	GOOD	
SvP② → FW14	100	100	100mm	3 ¹⁵ pm	GOOD	

Signed: (Technician)	Witnessed by: <i>[Signature]</i>
Verified By: (Technical Manager) <i>[Signature]</i> CHUCK WILSON	Date: 19/01/21

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size draintest plug.
Remove any grease or foreign material from test/fitting points. Ensure no dirt is trapped between seal of plug and plates. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose via 'T' piece to nipple, 'U' gauge and hand bellows.
4. Fill 'U' gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 100mm on the open side of the gauge and the lower level below zero on the closed side. The level should maintain to less than 25mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 75mm within the specified time the pipe section is leaking.









PROJECT NAME: Clarendon Road **PHASE 3A**

✓ Manhole / Drainage run Check Sheet ✓

		Check Sheet No:	06	
		Drg Ref & Rev no:	8101 C13 / 8135 C1	
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location D2	Manhole/pipe run Ref		
		Gridline Ref		
	Highlighted location plan attached	(Yes/No)		
2	Manhole size	Ø 0.450m		
3	Invert level	23.790m		
4	Manhole cover : Spec, size, orientation & cover level	24.734, 450, DPIC		
5	Excavation to correct dimensions/support systems checked		✓	
6	Branches & benching position, line, level checked		✓	
7	Rocker pipes installed (if applicable) checked		✓	
8	Rings and cover placed as per vertical & horizontal alignment checked		✓	
9	Brickwork & surround filled as per detail/specification checked.		✓	
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type :		N/A	
11	Manhole accessible for future use/maintenance	(Yes/No)		
12	Pipe run details cast iron to clay	Material		
		Diameter		
		Length		
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓	
14	SVP/RWPs installed to correct position, level and capped off.		✓	
15	Anchor blocks to correct detail at specified locations		N/A	
16	Bedding & surround as specified		✓	
17	Air testing passed/witnessed:		✓	
18	Photos attached		✓	

Originator - GCL Site Manager		Client Representative	
Name :	ERMAK YMERU	Name :	MARK KIMOW
Signature:		Signature:	
Date:	5/1/21	Date:	7/8/21

PROJECT NAME: CLARENDON ROAD - PHASE 3

Drainage Air Test Sheet

Client: <u>St. William</u>	Test date: <u>5/2/21</u>
Drainage Check Sheet Ref no: <u>06</u>	Test. Ref. No: <u>06</u>

Pipe Run	Air gauge pressure		Pipe dia.(ø)	Test Time	Result	Remarks
	Initial	Final				
SVPT - FWIS	100	100	100	12 ⁰⁰	good	-
SVPT - FWIS	100	100	100	12 ⁰⁰	good	-

Signed: (Technician)	Witnessed by: <u>[Signature]</u>
Verified By: <u>ERNA VHERI</u> (Technical Manager)	Date: <u>5/2/21</u>

Air Test - Testing Guidelines

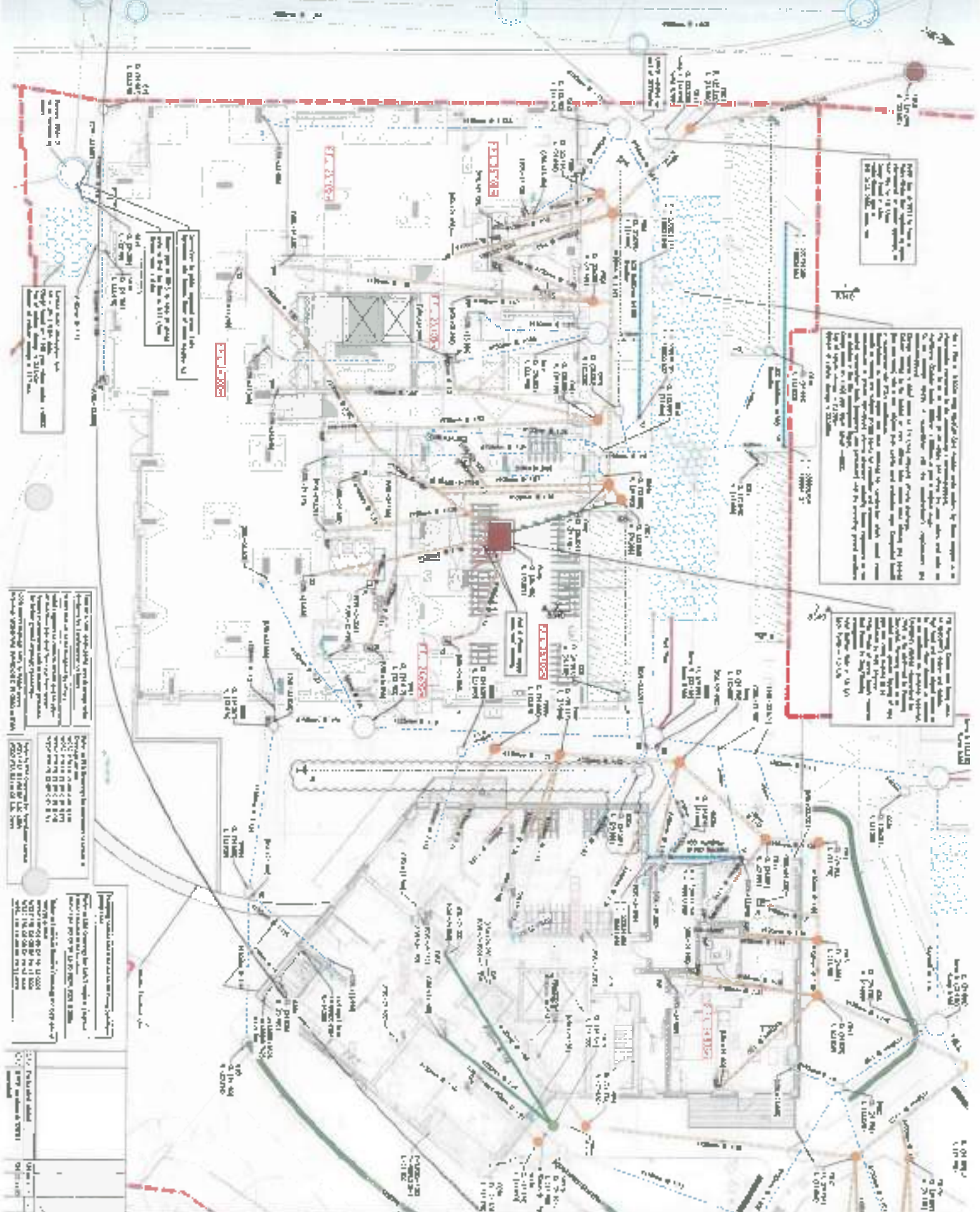
1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no air is trapped between seal of plug and plates. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose via 'T' piece to nipple, 'U' gauge and hand bellows.
4. Fill 'U' gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 100mm on the open side of the gauge and the lower limit below zero on the closed side. The level should not fall to less than 75mm during a period of 2 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 75mm within the specified time the pipe section is leaking.



NOTE: This is a preliminary plan showing the proposed layout of the project. It is not to be used for construction purposes. The plan is subject to change without notice. The plan is not to be used for any other purpose without the written consent of the engineer.

1. This plan shows the proposed layout of the project. It is not to be used for construction purposes. The plan is subject to change without notice. The plan is not to be used for any other purpose without the written consent of the engineer.

2. This plan shows the proposed layout of the project. It is not to be used for construction purposes. The plan is subject to change without notice. The plan is not to be used for any other purpose without the written consent of the engineer.



NOTES:

1. This plan shows the proposed layout of the project. It is not to be used for construction purposes. The plan is subject to change without notice. The plan is not to be used for any other purpose without the written consent of the engineer.

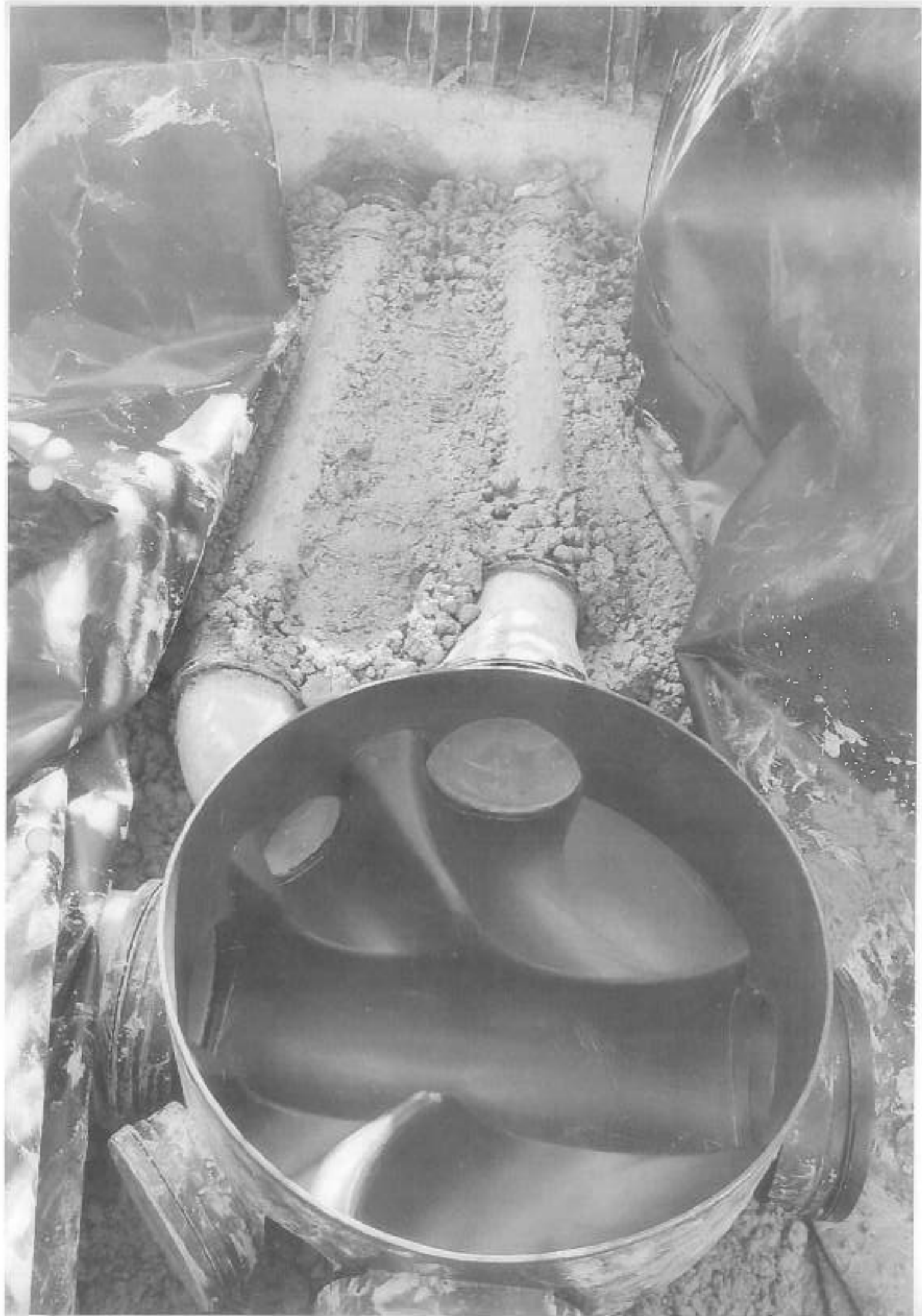
2. This plan shows the proposed layout of the project. It is not to be used for construction purposes. The plan is subject to change without notice. The plan is not to be used for any other purpose without the written consent of the engineer.

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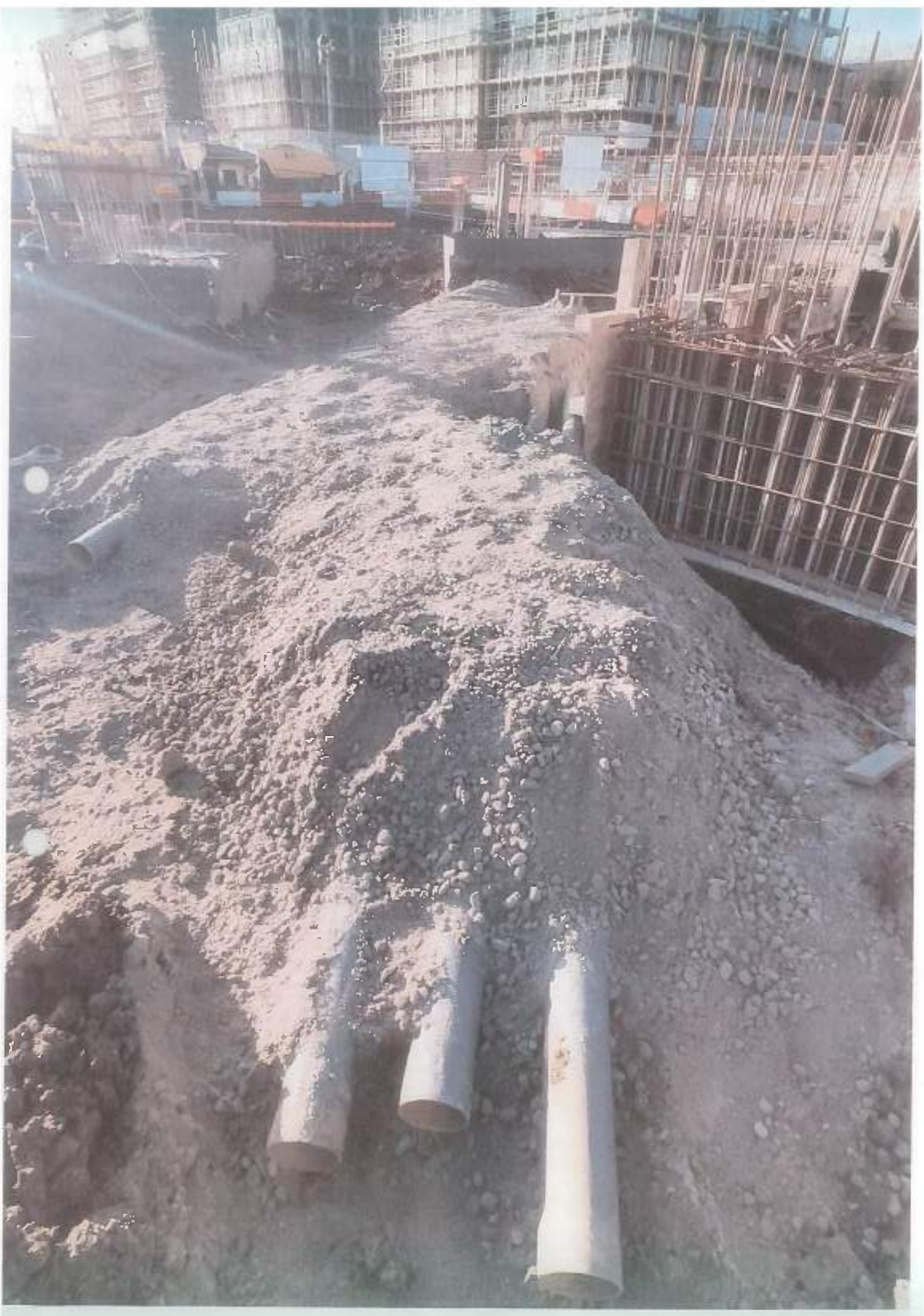
4. This plan shows the proposed layout of the project. It is not to be used for construction purposes. The plan is subject to change without notice. The plan is not to be used for any other purpose without the written consent of the engineer.

5. This plan shows the proposed layout of the project. It is not to be used for construction purposes. The plan is subject to change without notice. The plan is not to be used for any other purpose without the written consent of the engineer.

6. This plan shows the proposed layout of the project. It is not to be used for construction purposes. The plan is subject to change without notice. The plan is not to be used for any other purpose without the written consent of the engineer.







PROJECT NAME: Clarendon Road **PHASE 3A**

✓ Manhole / Drainage run Check Sheet ✓

Check Sheet No: <u>07</u>		Drg Ref & Rev no: <u>B101 CS / B130 C1</u>	
No	Manhole & Drainage run construction	Details	Checked and Signed
			GCL Client
1	Location <u>D2 - PHASE 3</u> Manhole/pipe run Ref <u>FW15a</u> Gridline Ref _____ i highlighted location plan attached <u>(Yes/No)</u>		
2	Manhole size _____	<u>φ 0.450m</u>	✓
3	Invert level _____	<u>23.800m</u>	✓
4	Manhole cover: Spec. size, orientation & cover level _____	<u>24.676, 450mm</u>	✓
5	Excavation to correct dimensions/support systems checked		✓
6	Branches & benching: position, line, level checked		✓
7	Rocker pipes installed (if applicable) checked		✓
8	Rings and cover placed as per vertical & horizontal alignment checked.		✓
9	Brickwork & surround filled as per detail/specification checked.		✓
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type: _____		<u>N/A</u>
11	Manhole accessible for future use/maintenance <u>(Yes/No)</u>		✓
12	Pipe run details <u>cast iron to day</u> Material _____ Diameter <u>100 φ</u> _____ Length _____		✓
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓
14	SVP/RWPs installed to correct position, level and capped off.		✓
15	Anchor blocks to correct detail at specified locations		<u>N/A</u>
16	Bedding & surround as specified		✓
17	Air testing passed/witnessed:		✓
18	Photos attached		✓

Originator - GCL Site Manager		Client Representative	
Name : <u>GRUAC YMERI</u>	Name <u>MARK KIMOU</u>		
Signature: <u>[Signature]</u> Date: <u>5/2/21</u>	Signature: <u>[Signature]</u> Date: <u>5/2/21</u>		

PROJECT NAME: CLARENDON ROAD - PHASE 3

Drainage Air Test Sheet

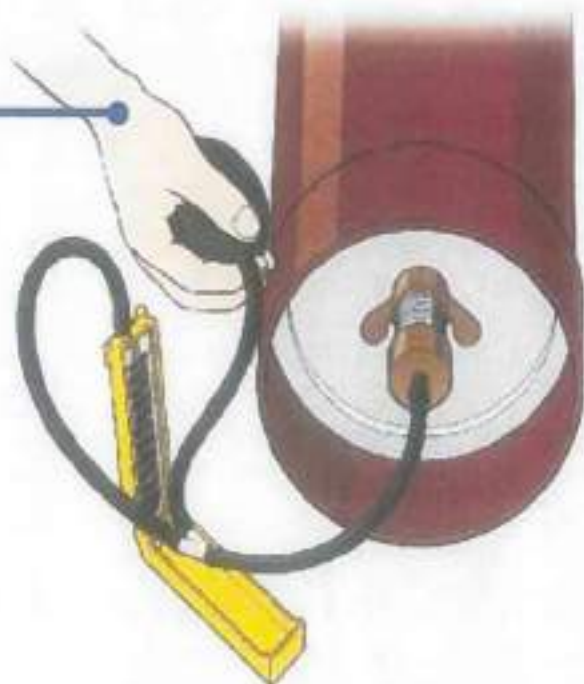
Client: <u>St. William</u>	Test date: <u>05/02/2021</u>
Drainage Check Sheet Ref no: <u>07</u>	Test Ref. No: <u>07</u>

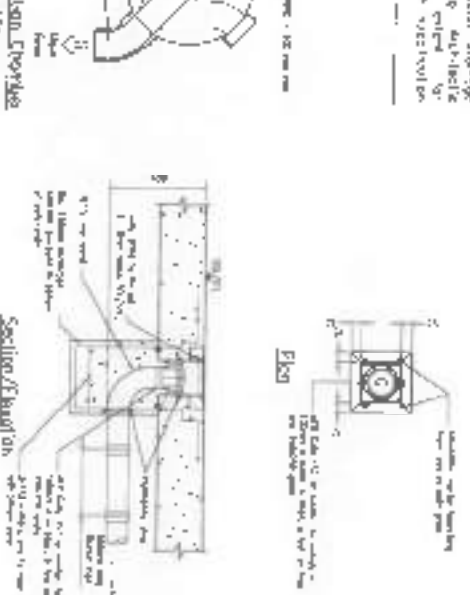
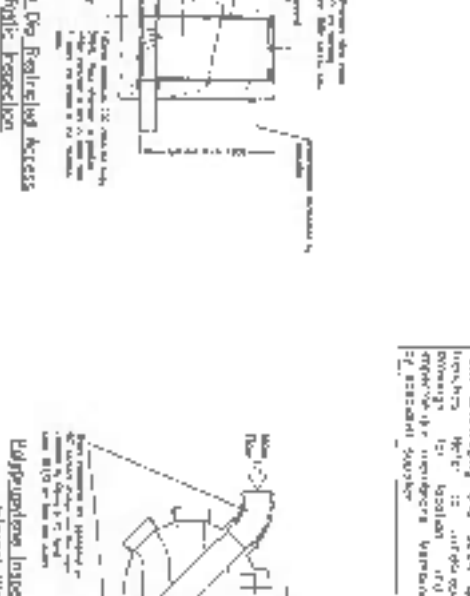
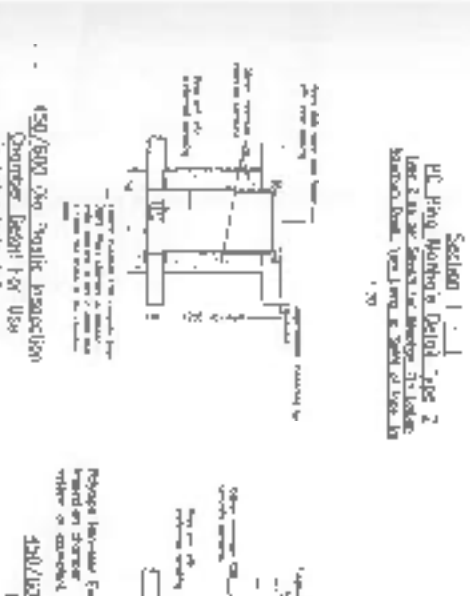
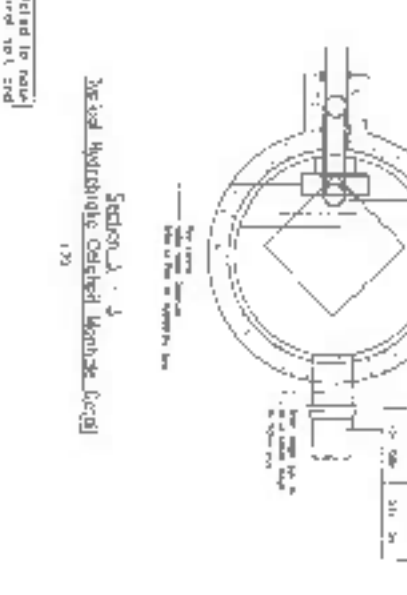
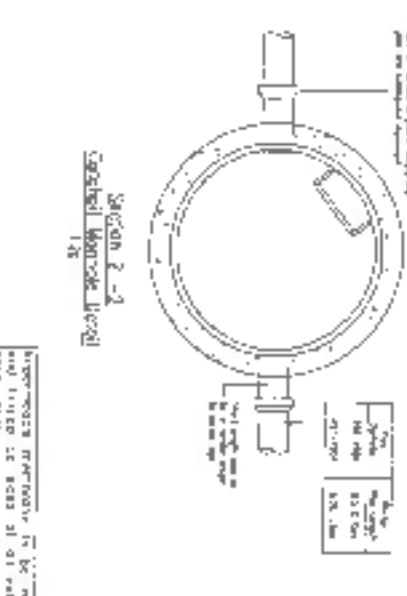
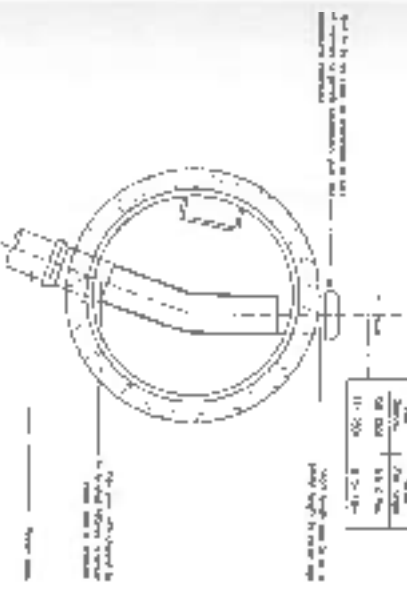
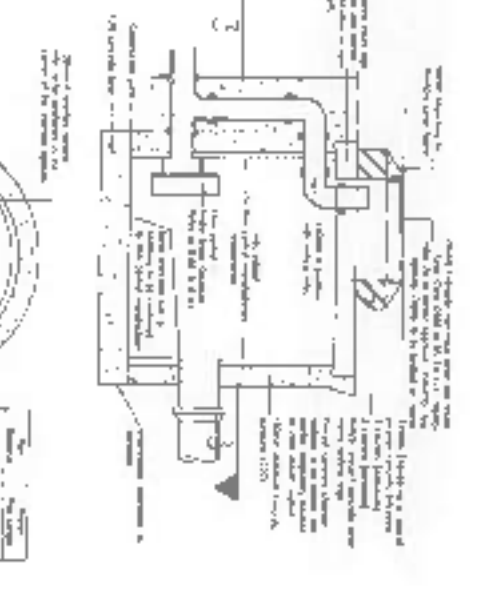
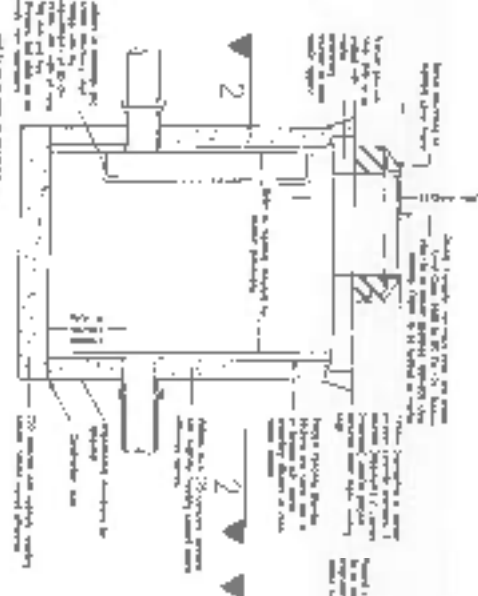
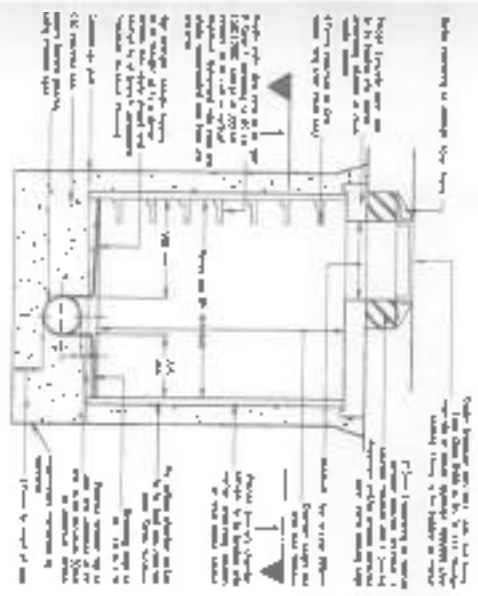
Pipe Run	Air gauge pressure		Pipe dia.(mm)	Test Time	Result	Remarks
	Initial	Final				
SUP1 → FW15a	100	100	100	13 ⁰⁰	good	
SUP2 → FW15a	100	97	100	13 ⁰⁰	good	
SUP3 → FW15a	100	98	100	13 ²⁰	good	

Signed: (Technician)	Witnessed by: <u>MA Lacey</u>
Verified By: <u>ERIKAL YMERU</u> (Technical Manager)	Date: <u>5/2/21</u>

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no dirt is trapped between seal of plug and plates. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test apple to one of the drain test plugs.
3. Connect rubber hose via 'Y' piece to apple, 'U' gauge and hand bellows.
4. Fill 'U' gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 400mm on the open side of the gauge and then open the hand bellows on the closed side. The level should not fall to less than 25mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 25mm within the specified time the pipe is leaking or breaking.





450/600 Dia. Manhole Installation
Concrete Bedding for Use
in Vertical Access
1-20

450/600 Dia. Restricted Access
Manhole Installation
Concrete
1-20

450/600 Dia. Restricted Access
Manhole Installation
Concrete
1-20

Notes:

1. All manhole structures shall be constructed in accordance with the latest edition of the American Society of Civil Engineers (ASCE) Manual of Practice No. 7, "Standard Specifications for Sewer and Wastewater Structures."
2. The manhole structure shall be designed to withstand a minimum internal pressure of 10 psi.
3. The manhole structure shall be designed to withstand a minimum external pressure of 10 psi.
4. The manhole structure shall be designed to withstand a minimum wind pressure of 10 psi.
5. The manhole structure shall be designed to withstand a minimum seismic pressure of 10 psi.

FOR CONSTRUCTION

1. All manhole structures shall be constructed in accordance with the latest edition of the American Society of Civil Engineers (ASCE) Manual of Practice No. 7, "Standard Specifications for Sewer and Wastewater Structures."

2. The manhole structure shall be designed to withstand a minimum internal pressure of 10 psi.

3. The manhole structure shall be designed to withstand a minimum external pressure of 10 psi.

4. The manhole structure shall be designed to withstand a minimum wind pressure of 10 psi.

5. The manhole structure shall be designed to withstand a minimum seismic pressure of 10 psi.

FOR CONSTRUCTION

1. All manhole structures shall be constructed in accordance with the latest edition of the American Society of Civil Engineers (ASCE) Manual of Practice No. 7, "Standard Specifications for Sewer and Wastewater Structures."

2. The manhole structure shall be designed to withstand a minimum internal pressure of 10 psi.

3. The manhole structure shall be designed to withstand a minimum external pressure of 10 psi.

4. The manhole structure shall be designed to withstand a minimum wind pressure of 10 psi.

5. The manhole structure shall be designed to withstand a minimum seismic pressure of 10 psi.







PROJECT NAME: PHASE 3A

Manhole / Drainage run Check Sheet

Check Sheet No:		08	
Drg Ref & Rev no:		8101 213 / B131 23	
No	Manhole & Drainage run construction	Details	Checked and Signed GCL Client
1	Location <u>02</u> Manhole/pipe run Ref <u>RWP1</u> Gridline Ref _____ Highlighted location plan attached <u>Yes/No</u>		✓
2	Manhole size _____	—	—
3	Invert level _____	—	—
4	Manhole cover : Spec, size, orientation & cover level _____	—	—
5	Excavation to correct dimensions/support systems checked _____		✓
6	Branches & benching: position, line, level checked _____		✓
7	Rocker pipes installed (if applicable) checked _____		✓
8	Rings and cover placed as per vertical & horizontal alignment checked. _____		✓
9	Brickwork & surround filled as per detail/specification checked. _____		✓
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type _____		✓
11	Manhole accessible for future use/maintenance _____ Yes/No		✓
12	Pipe run details Material <u>clay</u> Diameter <u>100 φ</u> Length <u>2.66m</u>		✓
13	Spurs for lateral connections: Position, level & co-ordinates checked _____		✓
14	SVP/RWPs installed to correct position, level and capped off. _____		✓
15	Anchor blocks to correct detail at specified locations _____		✓
16	Bodding & surround as specified _____		✓
17	Air testing passed/witnessed: _____		✓
18	Photos attached _____		✓

Originator - GCL Site Manager		Client Representative	
Name : <u>ERMAH Y. HERN</u>		Name <u>MARK KILICK</u>	
Signature: <u>[Signature]</u>	Date: <u>9/2/21</u>	Signature: <u>[Signature]</u>	Date: <u>09/02/21</u>

PROJECT NAME: CLARENON ROAD - PHASE 3

Drainage Air Test Sheet

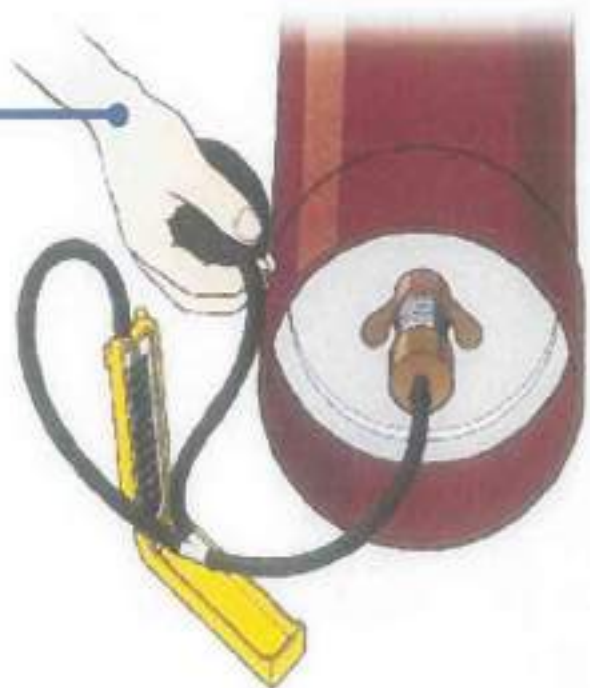
Client: S T W	Test date: 9/2/21
Drainage Check Sheet Ref no: 08	Test. Ref. No: 08

Pipe Run	Air gauge pressure		Pipe dia.(ø)	Test Time	Result	Remarks
	Initial	Final				
RWP1-SW02b	100	100	150	13 ²⁰	Good	

Signed: (Technician)	Witnessed by: [Signature]
Verified By: (Technical Manager) [Signature]	Date: 9/2/21

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size draw bag plug.
Remove any grease or foreign material from installation point. Ensure no air is trapped between seal of plug and pipes. Ensure plug is seated square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose via 'T' piece to nipple, 'U' gauge and hand bellows.
4. Fill 'U' gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 100mm on the open side of the gauge and the lower level below zero on the closed side. The level should not fall to less than 15mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 15mm within the specified time the pipe section is leaking.



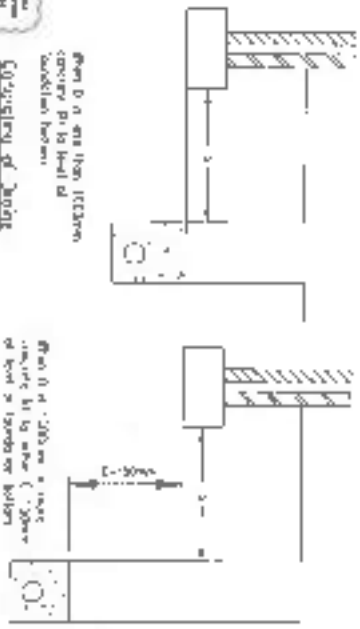


Def: $\omega \in \mathcal{P}(\mathcal{P}(X))$

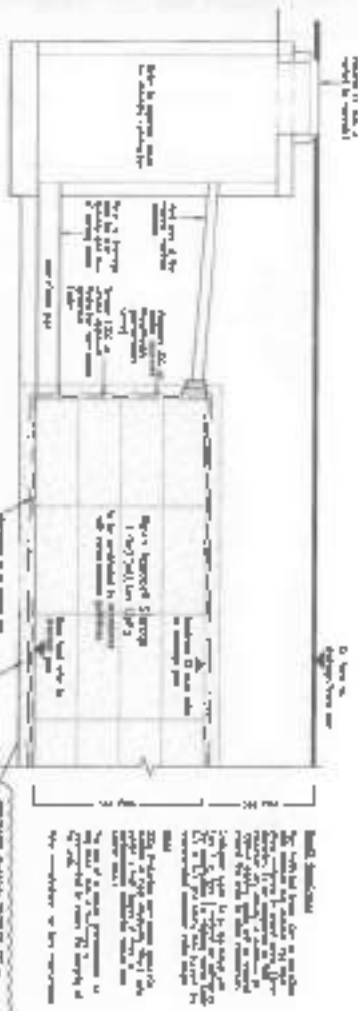


Egypt Bedouins: Origins
1.20
Under Ottoman Landscapes

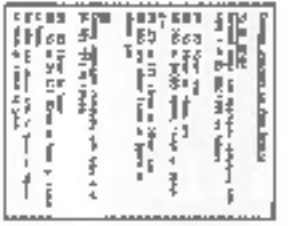
Egypt Bedouins: Origins
1.21
Locusts, Dew & Pious Places



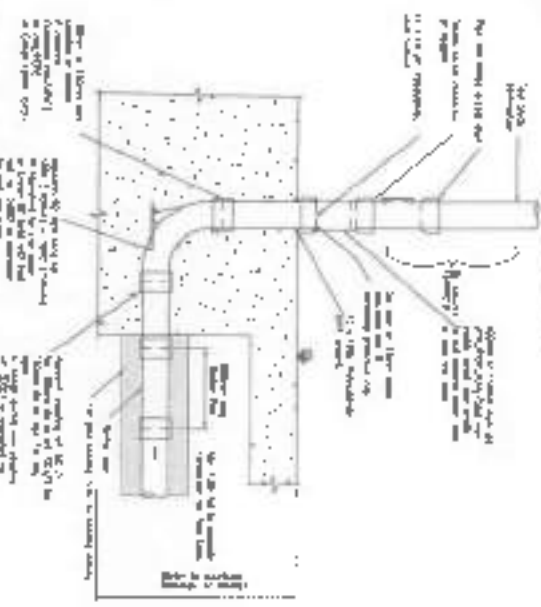
External Rocking Head
17:
Spalls at Crown
approx. 10" x 14"
approx. 1" deep
Laid base foundations
-31



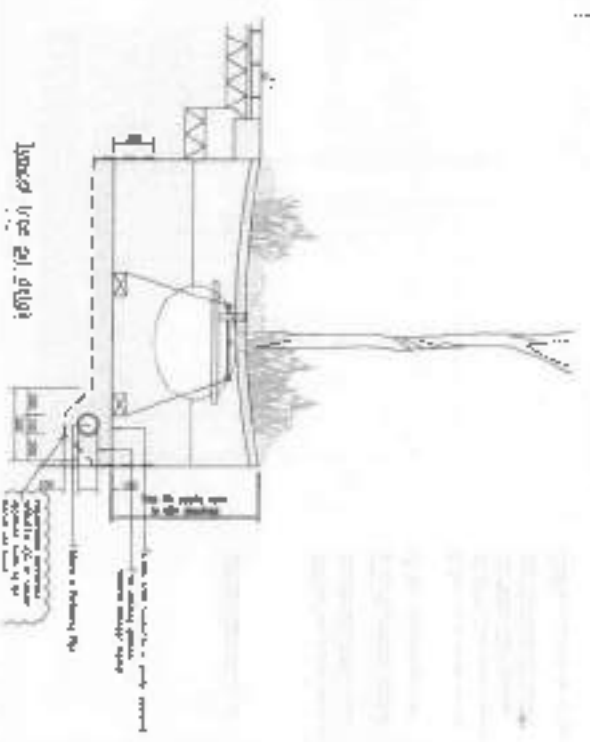
Myr. Novotz Storage (Pete)



Erinch Stan Deloitte
122
Inmate's address
Voluntary 20, 1000
Spokane, WA, 99201
Erinch Stan Deloitte
122
Erinch Stan Deloitte



Typical Job Description:- Detail
of the Project Location



இதன்மேல் தீர்மானம்

1. Is the water from the damming?
2. Is any of the damming in a floodway system? Is it important to the damming system? Is it a damming in a floodway system?
3. Is the damming in a floodway system? Is it a damming in a floodway system? Is it a damming in a floodway system?
4. Is the damming in a floodway system? Is it a damming in a floodway system? Is it a damming in a floodway system?

1. A graduate management student is taking an entrance exam in his oral communication department and is asked to write a short speech.

1. *What is the main idea of the passage?*
 2. *What is the author's purpose in writing this passage?*
 3. *What is the main idea of the passage?*
 4. *What is the author's purpose in writing this passage?*
 5. *What is the main idea of the passage?*
 6. *What is the author's purpose in writing this passage?*
 7. *What is the main idea of the passage?*
 8. *What is the author's purpose in writing this passage?*
 9. *What is the main idea of the passage?*
 10. *What is the author's purpose in writing this passage?*

3. *How do you feel about the fact that you have to pay for the 1500? Do you think it is fair?*
4. *What are the advantages of having a car?*
5. *What are the disadvantages of having a car?*

FOR CONSTRUCTION

t	$\Delta \hat{V}_t^{\text{H}} = \frac{1}{N} \sum_{j=1}^N (\hat{V}_{jt}^{\text{H}} - \bar{\hat{V}}_t)$	$\hat{V}_t^{\text{H}} = \frac{1}{N} \sum_{j=1}^N \hat{V}_{jt}^{\text{H}}$	$\hat{V}_t^{\text{H}} - \bar{\hat{V}}_t$
0	-0.0000	0.0000	0.0000
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366	367	368
369	370	371
372	373	374
375	376	

[illegible]



PROJECT NAME: CLARENDON ROAD / PHASE 3A

Manhole / Drainage run Check Sheet

Check Sheet No:

Dry Ref & Rev no:

8101 C13 / 8130 C1

No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location <u>D2</u> Manhole/pipe run Ref <u>SW026</u> Gridline Ref Highlighted location plan attached <u>Yes/No</u>		✓	
2	Manhole size <u>Ø450 mm</u>		✓	
3	Invert level <u>24.100m</u>		✓	
4	Manhole cover : Spec, size, orientation & cover level <u>24.691m, PPVC</u>		✓	
5	Excavation to correct dimensions/support systems checked		✓	
6	Branches & benching: position, line, level checked		✓	
7	Rocker pipes installed (if applicable) checked		✓	
8	Rings and cover placed as per vertical & horizontal alignment checked		✓	
9	Brickwork & surround filled as per detail/specification checked.		✓	
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc) Specify Type :		N/A	
11	Manhole accessible for future use/maintenance	<u>Yes/No</u>		
12	Pipe run details	Material Diameter Length		
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓	
14	SVP/RWPs installed to correct position, level and capped off.		✓	
15	Anchor blocks to correct detail at specified locations		✓	
16	Bedding & surround as specified		✓	
17	Air testing passed/witnessed:		✓	
18	Photos attached		✓	

Originator - GCL Site Manager		Client Representative	
Name : <u>ERNAAL YHERA</u>		Name <u>M. RIVERA</u>	
Signature: <u>[Signature]</u>	Date: <u>9/2/21</u>	Signature: <u>[Signature]</u>	Date: <u>09/2/21</u>

PROJECT NAME: CLARENDON ROAD PHASE 3A

Drainage Air Test Sheet

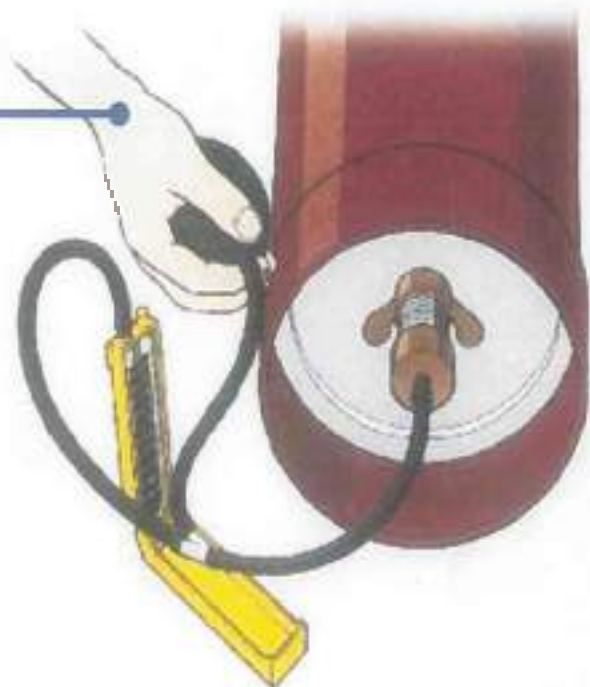
Client: <u>SPW</u>	Test date: <u>9/2/21</u>
Drainage Check Sheet Ref no: <u>09</u>	Test. Ref. No: <u>09</u>

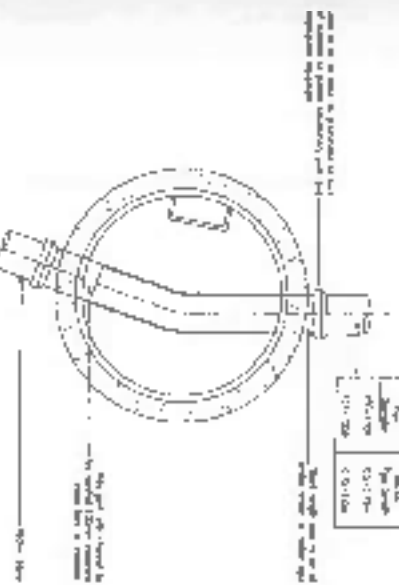
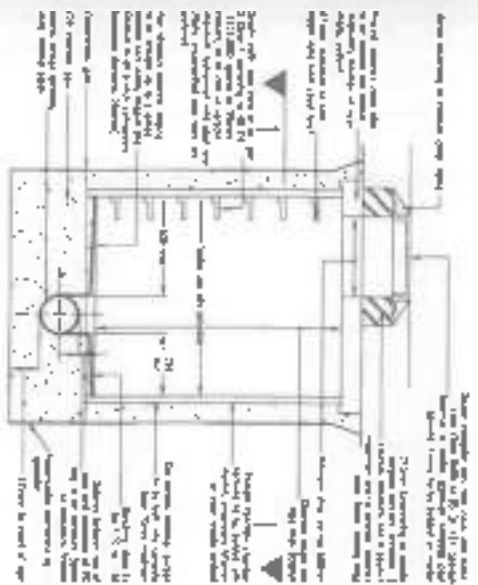
Pipe Run	Air gauge pressure		Pipe dia.(ø)	Test Time	Result	Remarks
	Initial	Final				
SVPI - SW02b	100	98	150	12.40	Good	
IC09b-SW02b	100	99	100		Good	

Signed: (Technician)	Witnessed by: <u>[Signature]</u>
Verified By: (Technical Manager) <u>[Signature]</u>	Date: <u>9/2/21</u>

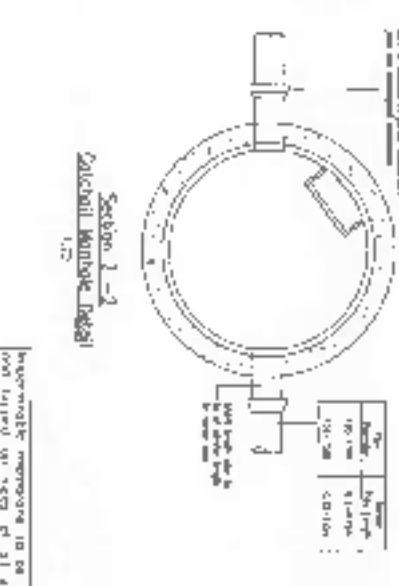
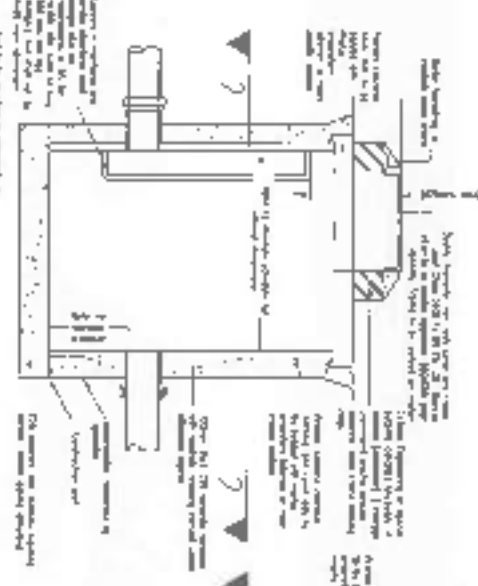
Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no air is trapped between seal of plug and plates. Ensure plugs inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose up 'Y' piece to nipple, 'U' gauge and hand bellows.
4. Fill 'U' gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 100mm on the up side of the gauge and the lower level below zero on the down side. The level should initially be less than 20mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 20mm within the specified time the pipe section is leaking.

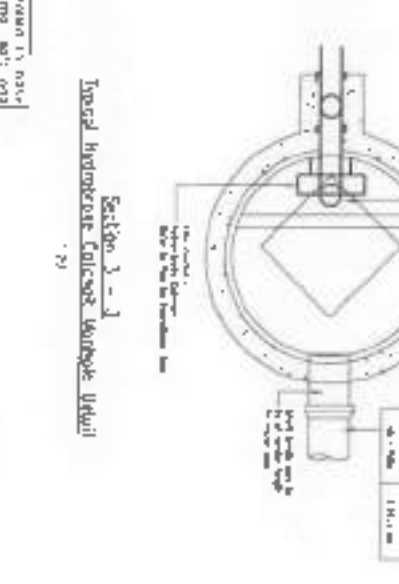
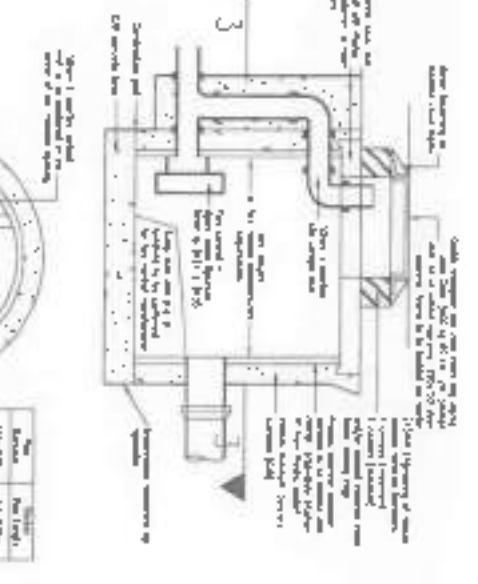




Section 1 - 1/2
Top of Tank Manhole Detail
1/2\"/>

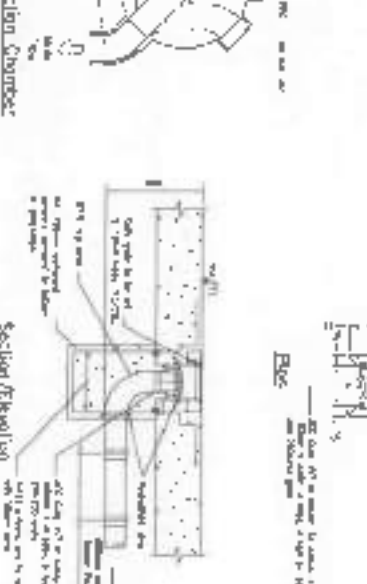
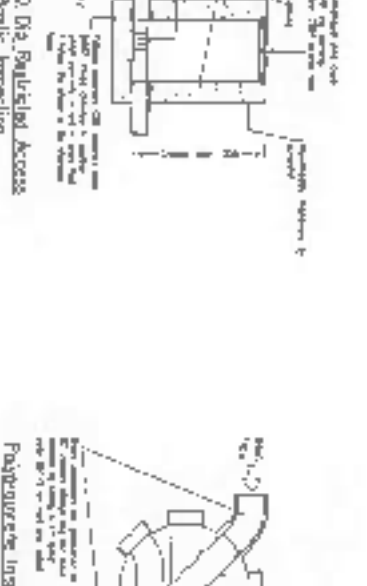
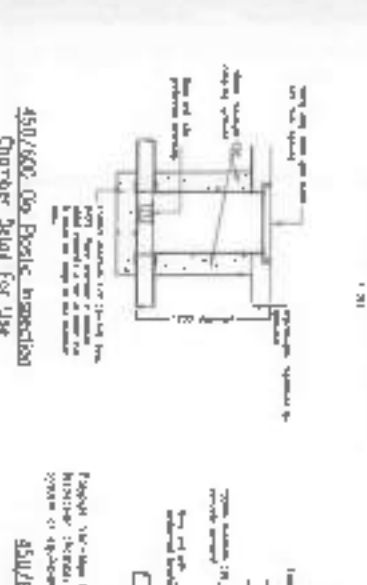


Section 2 - 2
Side of Tank Manhole Detail
1/2\"/>



Section 3 - 3
Bottom of Tank Manhole Detail
1/2\"/>

Manhole opening to be 36\"/>



450/600 Dia. Inside Inspection
Manhole Detail for Use
in Vertical Access
1/2\"/>

450/600 Dia. Outside Access
Manhole Inspection
1/2\"/>

450/600 Dia. Outside Access
Manhole Inspection
1/2\"/>

450/600 Dia. Outside Access
Manhole Inspection
1/2\"/>

450/600 Dia. Outside Access
Manhole Inspection
1/2\"/>

450/600 Dia. Outside Access
Manhole Inspection
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450/600 Dia. Outside Access
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450/600 Dia. Outside Access
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1/2\"/>

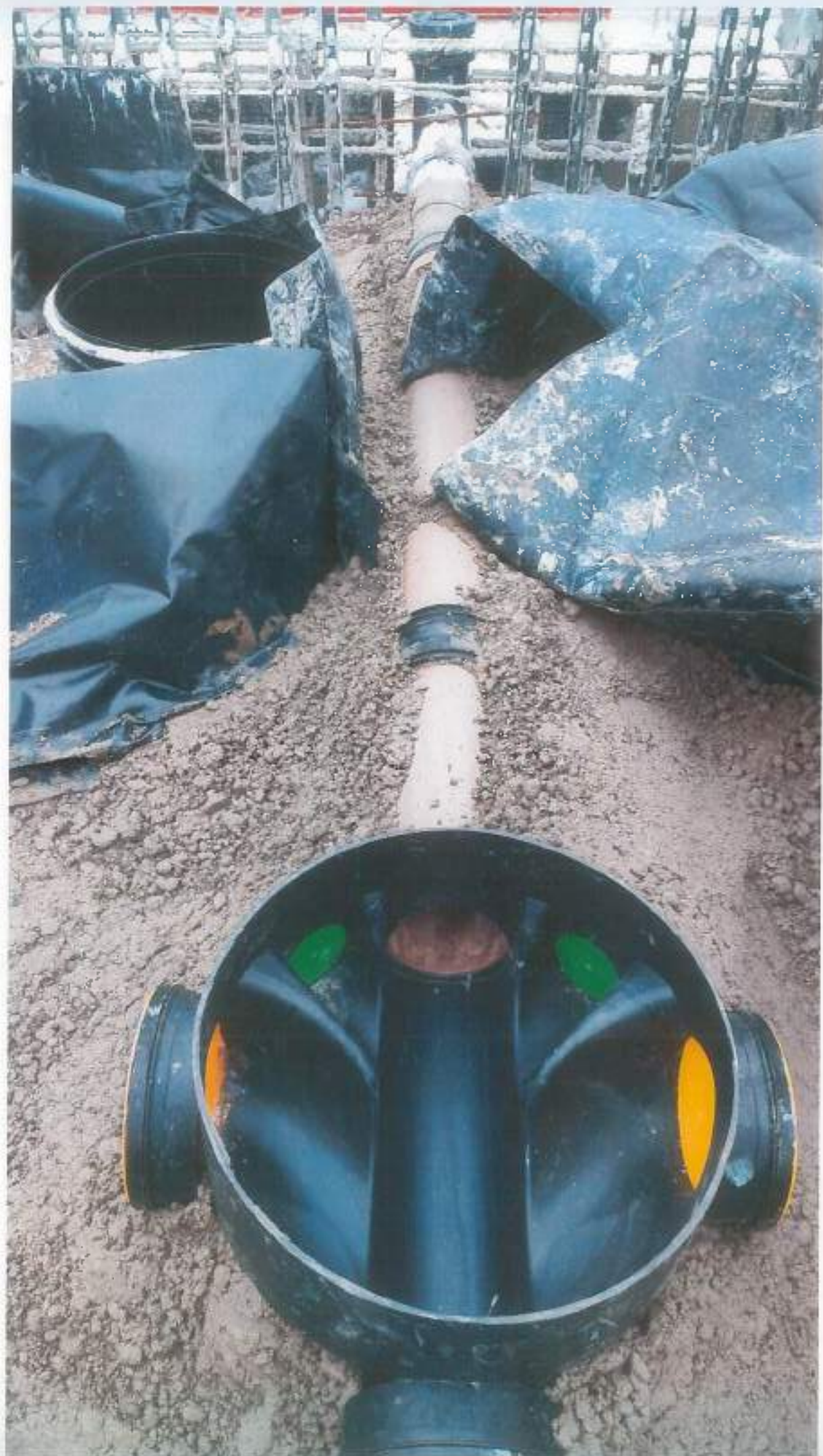
450/600 Dia. Outside Access
Manhole Inspection
1/2\"/>

450/600 Dia. Outside Access
Manhole Inspection
1/2\"/>

450/600 Dia. Outside Access
Manhole Inspection
1/2\"/>

450/600 Dia. Outside Access
Manhole Inspection
1/2\"/>

450/600 Dia. Outside Access
Manhole Inspection
1/2\"/>









PROJECT NAME: PHASE 3A

Manhole / Drainage run Check Sheet

Check Sheet No:		10		
Drg Ref & Rev no:		8101 C13 / 8130 C1 / 8131 C3		
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location D2	Manhole/pipe run Ref FW16		
		Gridline Ref		
	Highlighted location plan attached	☒ Yes / ☐ No		
2	Manhole size	$\phi 450$ mm	✓	
3	Invert level	23.650m	✓	
4	Manhole cover : Spec, size, orientation & cover level	24.778, 450mm	✓	
5	Excavation to correct dimensions/support systems checked		✓	
6	Branches & benching: position, line, level checked		✓	
7	Rocker pipes installed (if applicable) checked		✓	
8	Rings and cover placed as per vertical & horizontal alignment checked.		✓	
9	Brickwork & surround filled as per detail/specification checked.		✓	
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type :		N/A	
11	Manhole accessible for future use/maintenance	☒ Yes / ☐ No	✓	
12	Pipe run details cast iron to clay	Material		
		Diameter		
		Length		
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓	
14	SVP/RWPs installed to correct position, level and capped off.		✓	
15	Anchor blocks to correct detail at specified locations		N/A	
16	Bedding & surround as specified		✓	
17	Air testing passed/witnessed:		✓	
18	Photos attached		✓	

Originator - GCL Site Manager		Client Representative	
Name : Julian Thana		Name : [Signature]	
Signature: Julian.T	Date: 10.2	Signature: [Signature]	Date: 18/2/21

PROJECT NAME: CLARENDON ROAD - PHASE 3

Drainage Air Test Sheet

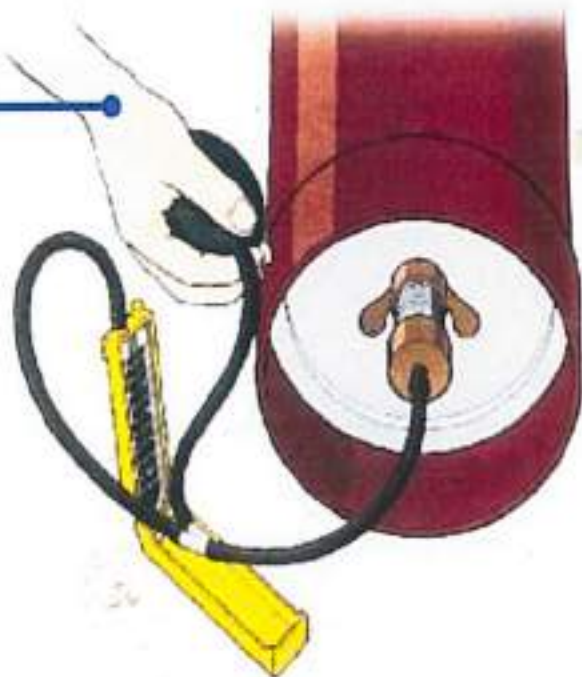
Client: STW	Test date:
Drainage Check Sheet Ref no: 10	Test. Ref. No: 10

Pipe Run	Air gauge pressure		Pipe dia.(ø)	Test Time	Result	Remarks
	Initial	Final				
SUP1 - FW16	100	100	100			
SUP2 - FW16	100	99	100			
SUP3 - FW16	100	100	100			
FW15 - FW16	100	100	150			
SUP4 - FW16	100	100	150			

Signed: (Technician)	Witnessed by: [Signature]
Verified By: Julian Thana (Technical Manager)	Date: 10/02/21

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no dirt is trapped between seal of plug and plates. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose via 'Y' piece to nipple, 'U' gauge and hand bellows.
4. Fill 'U' gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 100mm on the open side of the gauge and the lower limb below zero on the closed side. The level should settle to less than 15mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 75mm within the specified time the pipe section is leaking.









PROJECT NAME: CLARENDON ROAD - PHASE 3A

Manhole / Drainage run Check Sheet

		Check Sheet No:	011	
		Drg Ref & Rev no:	B101 C15	
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location <u>D2</u> Manhole/pipe run Ref <u>1C03</u> Gridline Ref <u>See attached</u> Highlighted location plan attached <u>(Yes/No)</u>		✓	
2	Manhole size	<u>φ450mm</u>	✓	
3	Invert level	<u>23.250m</u>	✓	
4	Manhole cover : Spec, size, orientation & cover level	<u>24.190, PPIC</u>	✓	
5	Excavation to correct dimensions/support systems checked		✓	
6	Branches & benching: position, line, level checked		✓	
7	Rocker pipes installed (if applicable) checked		✓	
8	Rings and cover placed as per vertical & horizontal alignment checked.		✓	
9	Brickwork & surround filled as per detail/specification checked.		✓	
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type :		N/A	
11	Manhole accessible for future use/maintenance	<u>(Yes/No)</u>	✓	
12	Pipe run details <u>1C03 - SW060</u>	Material <u>clay</u> Diameter <u>φ150</u> Length <u>-</u>	✓	
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓	
14	SVP/RWPs installed to correct position, level and capped off.		✓	
15	Anchor blocks to correct detail at specified locations		✓	
16	Bedding & surround as specified		✓	
17	Air testing passed/witnessed:		✓	
18	Photos attached		✓	

Originator - GCL Site Manager		Client Representative	
Name : <u>Julian Thorne</u>		Name : <u>MARK KUMAR</u>	
Signature: <u>Julian.T</u>	Date: <u>10.02.21</u>	Signature: <u>[Signature]</u>	Date: <u>10.2.21</u>

PROJECT NAME: Clarendon Road - Phase 3A

Drainage Air Test Sheet

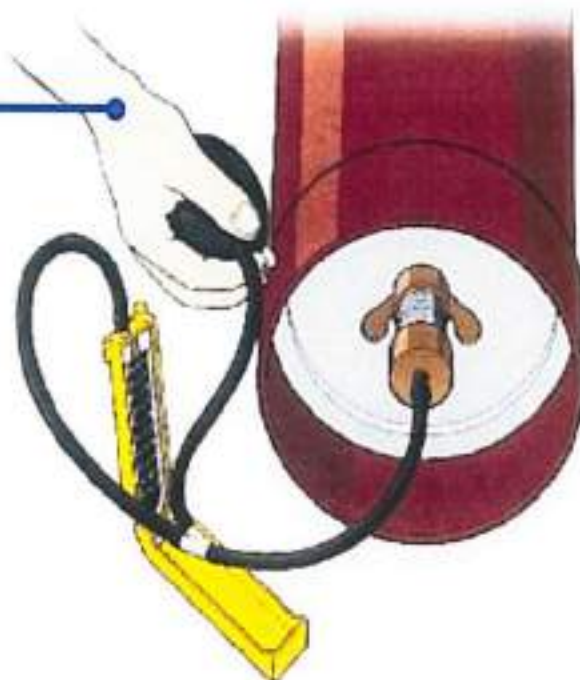
Client: STW	Test date: 10.02.2021
Drainage Check Sheet Ref no: 011	Test. Ref. No: 011

Pipe Run	Air gauge pressure		Pipe dia.(ø)	Test Time	Result	Remarks
	Initial	Final				
1C03-SW06a	100	95	150	10:05	Good	

Signed: (Technician)	Witnessed by: [Signature]
Verified By: (Technical Manager) Julian Thana	Date: 11.02.21

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no dirt is trapped between seal of plug and plates. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose via Y piece to nipple, U gauge and hand bellows.
4. Fill U gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 100mm on the open side of the gauge and the lower limb below zero on the closed side. The level should not fall to less than 75mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 75mm within the specified time the pipe section is leaking.











PROJECT NAME: CLARENDON ROAD - PHASE 3A

Manhole / Drainage run Check Sheet

		Check Sheet No:	012	
		Drg Ref & Rev no:	8101 C15	
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location <u>D2</u> Manhole/pipe run Ref <u>SW06a</u> Gridline Ref <u>-</u> Highlighted location plan attached <u>(Yes/No)</u>		✓	
2	Manhole size	<u>φ450</u>	✓	
3	Invert level	<u>23.050</u>	✓	
4	Manhole cover : Spec, size, orientation & cover level	<u>24.300, PPIC</u>	✓	
5	Excavation to correct dimensions/support systems checked		✓	
6	Branches & benching: position, line, level checked		✓	
7	Rocker pipes installed (if applicable) checked		✓	
8	Rings and cover placed as per vertical & horizontal alignment checked.		✓	
9	Brickwork & surround filled as per detail/specification checked.		✓	
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type :		N/A	
11	Manhole accessible for future use/maintenance	<u>(Yes/No)</u>		
12	Pipe run details <u>RWP0 - SW06a</u>	Material <u>-</u> Diameter <u>-</u> Length <u>-</u>		
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓	
14	SVP/RWPs installed to correct position, level and capped off.		✓	
15	Anchor blocks to correct detail at specified locations		✓	
16	Bedding & surround as specified		✓	
17	Air testing passed/witnessed:		✓	
18	Photos attached		✓	

Originator - GCL Site Manager		Client Representative	
Name : <u>Julian Thomas</u>		Name : <u>Mark Kitchell</u>	
Signature: <u>Julian T</u> Date: <u>10/02/21</u>		Signature: <u>Mark Kitchell</u> Date: <u>10/2/21</u>	

PROJECT NAME: CLARENDON ROAD PHASE 3A
Drainage Air Test Sheet

Client: SWT	Test date: 10/2/21
Drainage Check Sheet Ref no: 012	Test. Ref. No: 012

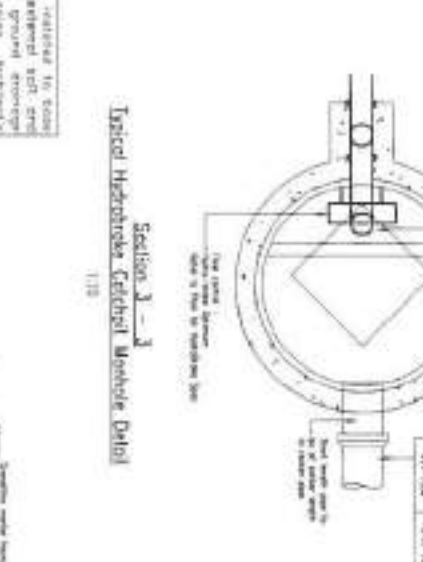
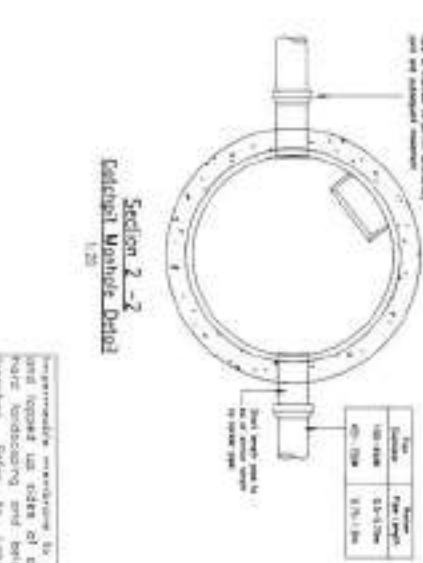
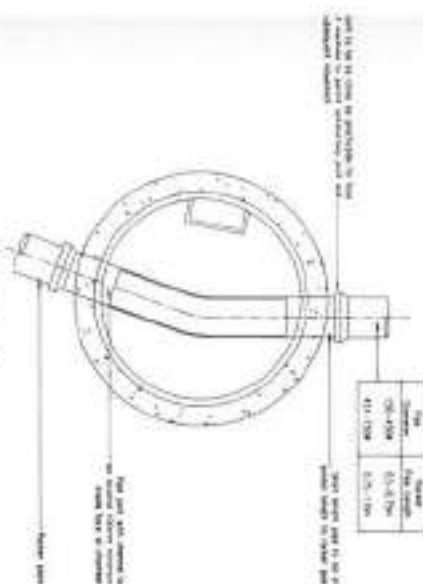
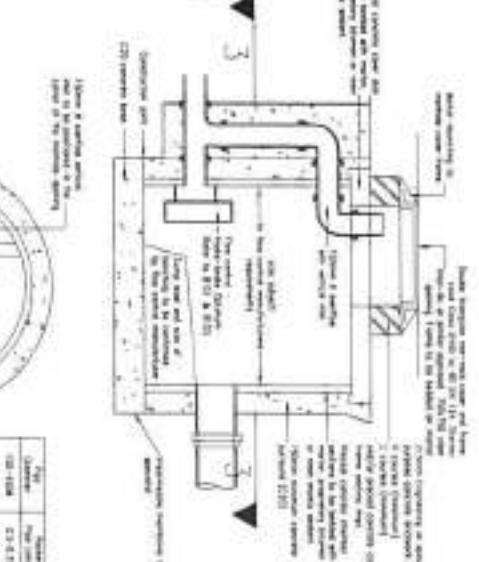
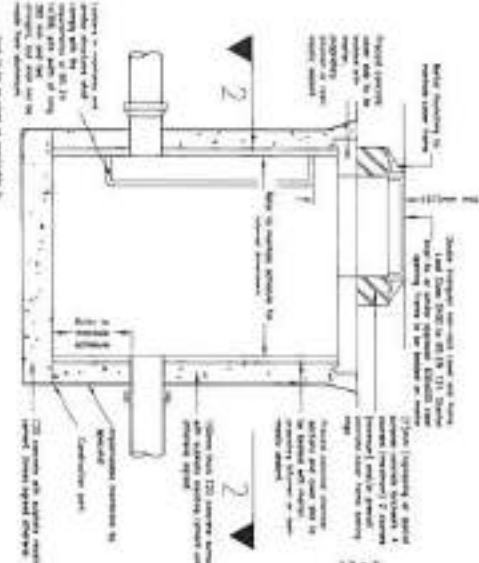
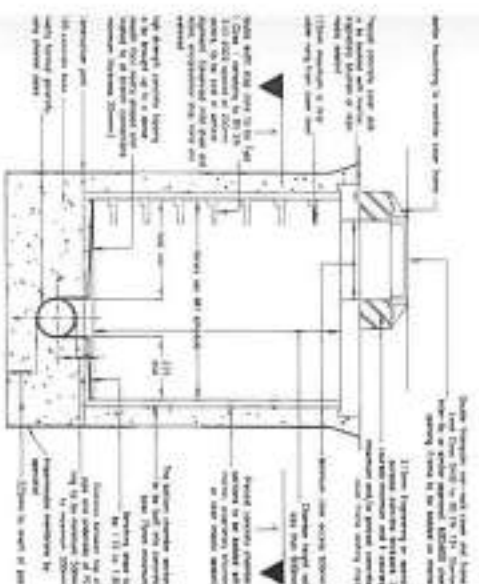
Pipe Run	Air gauge pressure		Pipe dia.(ø)	Test Time	Result	Remarks
	Initial	Final				
RWP1 - SW06a	100	100	ø150	12:00	Good	

Signed: (Technician)	Witnessed by:
Verified By: Julian Tlig-a (Technical Manager)	Date: 10/2/21

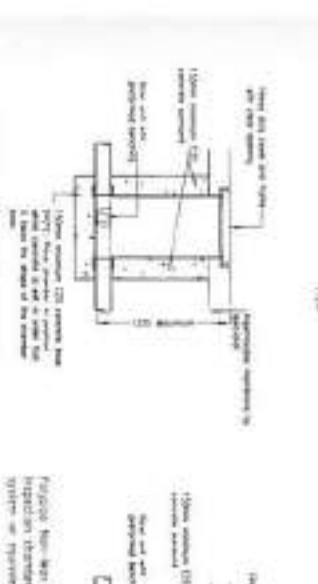
Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no dirt is trapped between seal of plug and plates. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose via 'Y' piece to nipple, 'U' gauge and hand bellows.
4. Fill 'U' gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 100mm on the open side of the gauge and the lower limb below zero on the closed side. The level should not fall to less than 15mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 15mm within the specified time the pipe section is leaking.





Section 1 -- 1
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**450/600 Tia Plastic Injection
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in Vehicularized Areas**

450/600 On Restricted Access
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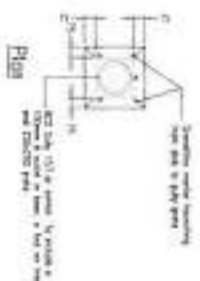
Polystyrene Interaction Chamber
Internal Plot View
1.27

Section/Division
Internet Only Detail

Section 2 -2
Estadigyl Mande Deter
1/25

Section 3 - 3
Typical Hydroponic Cultivation Methods Detail
1.18

Impermeable membranes to be attached to coils and topped up with an oil or mineral seal and made waterproof and below ground storage openings. Refer to waterproofing specialist for details of construction and sealing. For waterproofing materials, visit the website: www.civil.co.uk



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FOR CONSTRUCTION

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Drainage Standard Details
Sheet 1 of 2[illegible]



PROJECT NAME: CLARENDON ROAD PHASE 3A

Manhole / Drainage run Check Sheet

Check Sheet No:		013		
Drg Ref & Rev no:		8101 C15/		
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location D2 Manhole/pipe run Ref Gridline Ref Highlighted location plan attached	SWOG - SWOG SWOG - RWP See attached Yes/No	✓	
2	Manhole size	450	✓	
3	Invert level	22.970 IL	✓	
4	Manhole cover : Spec. size, orientation & cover level	yes	✓	
5	Excavation to correct dimensions/support systems checked		✓	
6	Branches & benching: position, line, level checked		✓	
7	Rocker pipes installed (if applicable) checked		✓	
8	Rings and cover placed as per vertical & horizontal alignment checked.		✓	
9	Brickwork & surround filled as per detail/specification checked.		✓	
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type :		N/A	
11	Manhole accessible for future use/maintenance	Yes/No	✓	
12	Pipe run details SWOG - SWOG SWOG - RWP	Material Diameter Length Clay/PPIC 150 Ø 10 meters	✓	
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓	
14	SVP/RWPs installed to correct position, level and capped off.		✓	
15	Anchor blocks to correct detail at specified locations		N/A	
16	Bedding & surround as specified		✓	
17	Air testing passed/witnessed:		✓	
18	Photos attached		✓	

Originator - GCL Site Manager		Client Representative	
Name :	ERNAI - MERI	Name :	George Ndulue
Signature:		Signature:	
Date:	18/02/24	Date:	11/02/24

PROJECT NAME: CLARENDON ROAD PHASE 3

Drainage Air Test Sheet

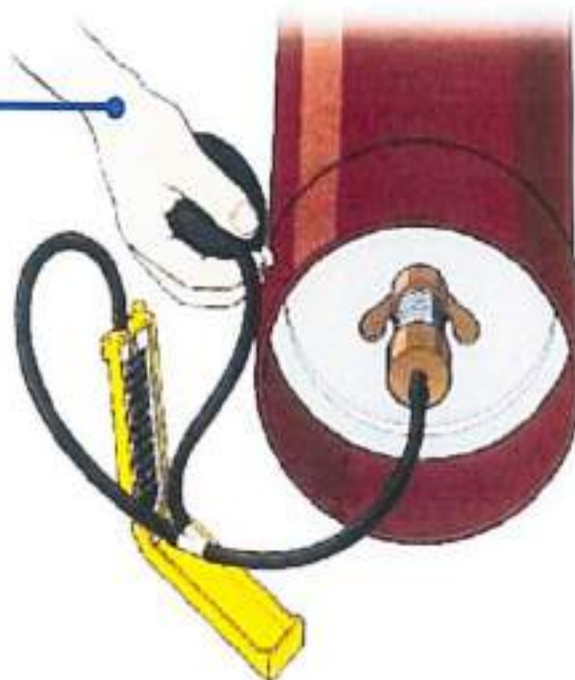
Client: <u>SWT</u>	Test date: <u>11/02/21</u>
Drainage Check Sheet Ref no: <u>013</u>	Test. Ref. No: <u>013</u>

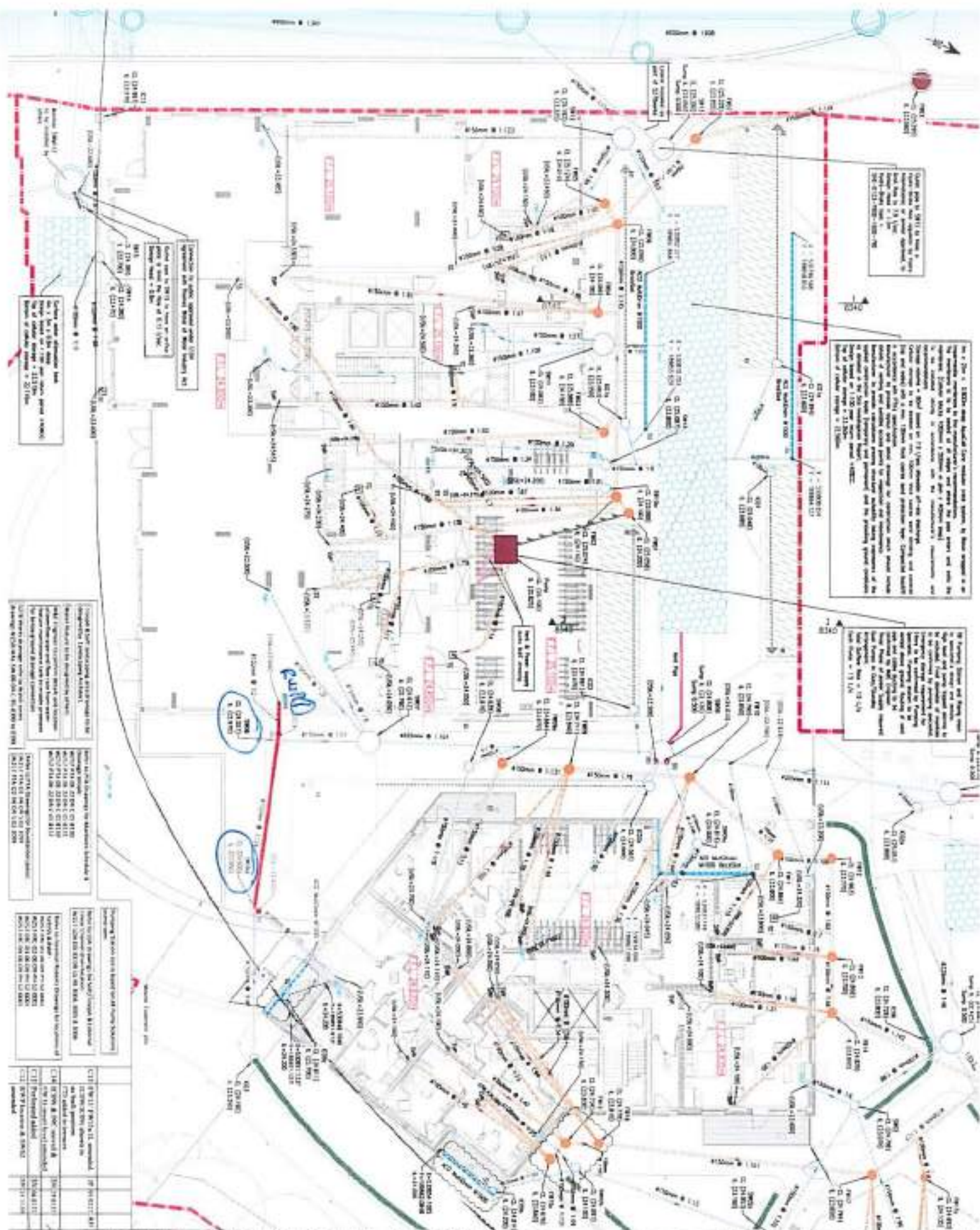
Pipe Run	Air gauge pressure		Pipe dia. (ø)	Test Time	Result	Remarks
	Initial	Final				
<u>SW06a - SW06</u>	<u>90</u>	<u>87</u>	<u>150ø</u>		<u>GOOD</u>	
<u>SW06 - RWP0</u>	<u>90</u>	<u>88</u>	<u>150ø</u>		<u>GOOD</u>	

Signed: (Technician)	Witnessed by: <u>[Signature]</u>
Verified By: (Technical Manager) <u>[Signature]</u>	Date: <u>11/02/21</u>

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no dirt is trapped between seal of plug and plates. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose via 'Y' piece to nipple, 'U' gauge and hand bellows.
4. Fill 'U' gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 100mm on the open side of the gauge and the lower limb below zero on the closed side. The level should not fall to less than 100mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 100mm within the specified time the pipe section is leaking.





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10. **Training, Education and Staffing:** The program should be designed to ensure that the staff and personnel involved in the program are properly trained and educated to be successful. Staff education or training is an essential part of program success. The program should be designed to ensure that staff are properly trained and educated to be successful. The program should be designed to ensure that staff are properly trained and educated to be successful.

Exercise 15.10: Suppose each of the 1000 people in the sample has a different opinion on the issue. Assume that the opinions are independent and that the proportion of people who support the issue is 0.5. What is the probability that the sample proportion is within 0.05 of the true proportion?

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 Boulder, CO 80502
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1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

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For more information, visit www.pearsoncmg.com

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

1. The first step is to identify the key components of the system. This includes understanding the hardware, software, and data involved. It also involves identifying the users and their roles within the system.

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It is not a big discussion in the press. But it is a subject of intense interest to business leaders.





Manhole / Drainage run Check Sheet

No	Location	Manhole & Drainage run construction	Check Sheet No:	Drg Ref & Rev no:	Details		Manhole/pipe run Ref	Highlighted location plan attached	Invert level	Manhole cover : Spec, size, orientation & cover level	Excavation to correct dimensions/support systems checked	Branches & benching: position, line, level checked	Rocker pipes installed (if applicable) checked	Rings and cover placed as per vertical & horizontal alignment checked	All Specialists are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.)	Manhole accessible for future use/maintenance	Pipe run details iron to clay	Material	Diameter	Length	Spurs for lateral connections: Position, level & co-ordinates checked	SVP/RWPs installed to correct position, level and capped off.	Anchor blocks to correct detail at specified locations	Bedding & surround as specified	Air testing passed/witnessed:	Photos attached	
					Yes/No	Yes/No																					
1	D2				014	8101 C15/8130 C1/8131 C3																					
2	Manhole size																										
3	Invert level																										
4	Manhole cover : Spec, size, orientation & cover level																										
5	Excavation to correct dimensions/support systems checked																										
6	Branches & benching: position, line, level checked																										
7	Rocker pipes installed (if applicable) checked																										
8	Rings and cover placed as per vertical & horizontal alignment checked																										
9	All Specialists are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.)																										
10	Manhole accessible for future use/maintenance																										
11	Pipe run details iron to clay																										
12	Pipe run details iron to clay																										
13	Spurs for lateral connections: Position, level & co-ordinates checked																										
14	SVP/RWPs installed to correct position, level and capped off.																										
15	Anchor blocks to correct detail at specified locations																										
16	Bedding & surround as specified																										
17	Air testing passed/witnessed:																										
18	Photos attached																										

GCL-Q4-002

Name : Julian Thorne Date: 12.02.21 Signature: <i>[Signature]</i>	Name : M. E. E. E. E. Date: 15/2/21 Signature: <i>[Signature]</i>
Originator - GCL Site Manager	Client Representative

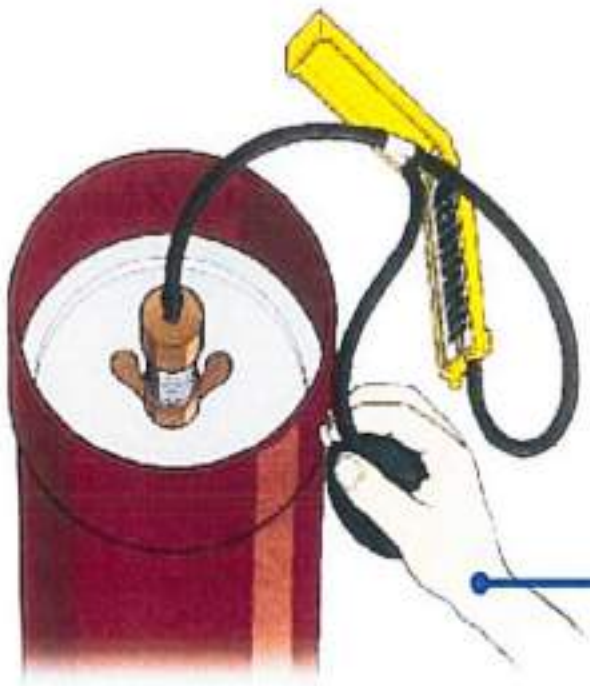
PROJECT NAME: CLARENDON ROAD

Drainage Air Test Sheet

Client: <i>STW</i>	Drainage Check Sheet Ref no:
Test date:	Test. Ref. No:

Pipe Run	Air gauge pressure		Pipe dia.(ø)	Test Time	Result	Remarks
	Initial	Final				
FW12 - FW13	100	100	150			
TG1 - TG2	100	99	100			

Signed: _____	Witnessed by: <i>Matthew</i>	Date: <i>15-09-2024</i>
(Technician)		
Verified By: <i>Julian Thomas</i>		
(Technical Manager)		



- ### Air Test - Testing Guidelines
- 1 Seal pipe section with appropriate size down test plug
 - 2 Remove any grease or foreign material from installation point. Ensure no dirt is trapped between seat of plug and gasket. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
 - 3 Fit test rig to one of the down test plugs.
 - 4 Connect rubber hose via 'T' piece to supply 'U' gauge and hand bellows.
 - 5 Fill 'U' gauge with water to zero.
 - 6 Agitate the hand bellows gently until the level reaches 100mm in the open side of the gauge and the lower limit below zero on the closed side. The level should not fall in less than 10mm during a period of 5 minutes. Without further pumping, allow settling a suitable time for stabilization of temperature. If a drop below 10mm within the specified time the pipe section is leaking.

1. In all cases, the pipe shall be installed in accordance with the applicable code requirements.
2. The pipe shall be installed in accordance with the applicable code requirements.
3. The pipe shall be installed in accordance with the applicable code requirements.
4. The pipe shall be installed in accordance with the applicable code requirements.
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10. The pipe shall be installed in accordance with the applicable code requirements.

1. The pipe shall be installed in accordance with the applicable code requirements.

2. The pipe shall be installed in accordance with the applicable code requirements.

3. The pipe shall be installed in accordance with the applicable code requirements.

4. The pipe shall be installed in accordance with the applicable code requirements.

5. The pipe shall be installed in accordance with the applicable code requirements.

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7. The pipe shall be installed in accordance with the applicable code requirements.

8. The pipe shall be installed in accordance with the applicable code requirements.

9. The pipe shall be installed in accordance with the applicable code requirements.

10. The pipe shall be installed in accordance with the applicable code requirements.

11. The pipe shall be installed in accordance with the applicable code requirements.

12. The pipe shall be installed in accordance with the applicable code requirements.

13. The pipe shall be installed in accordance with the applicable code requirements.

14. The pipe shall be installed in accordance with the applicable code requirements.

15. The pipe shall be installed in accordance with the applicable code requirements.

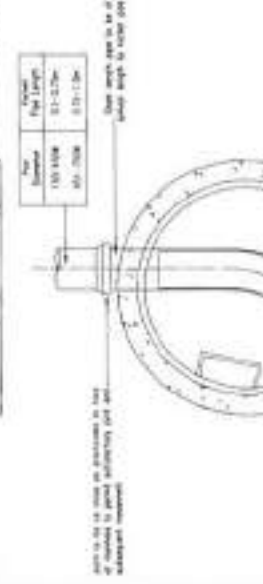
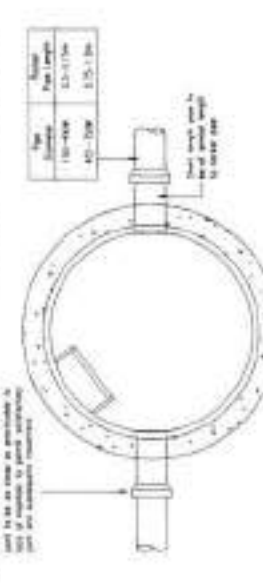
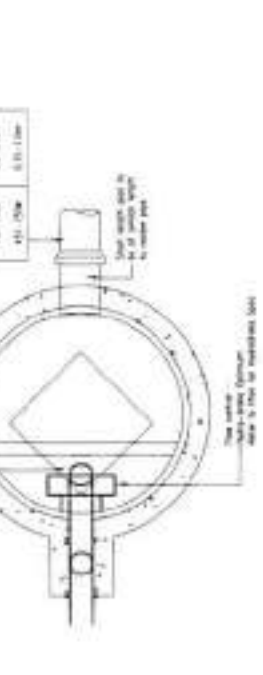
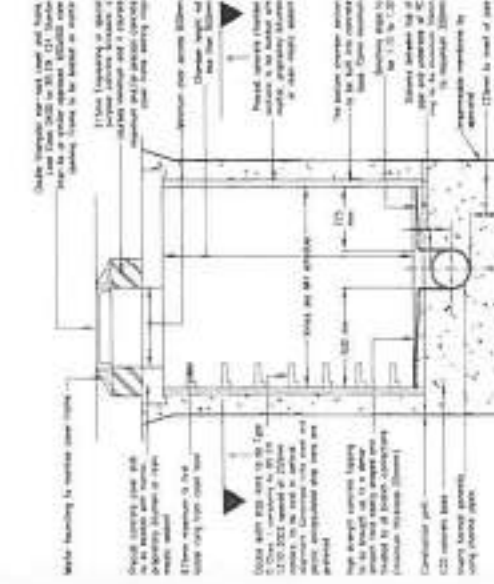
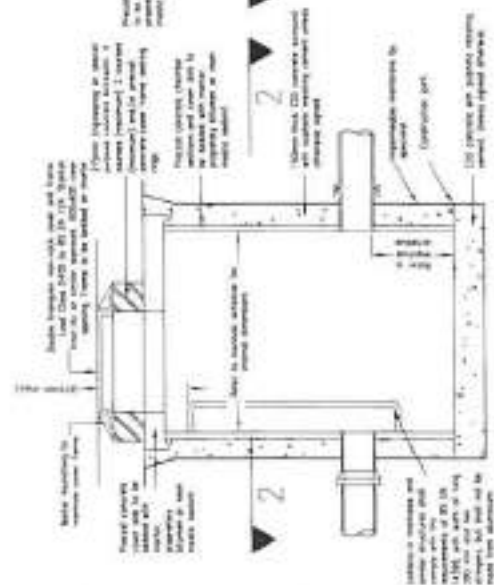
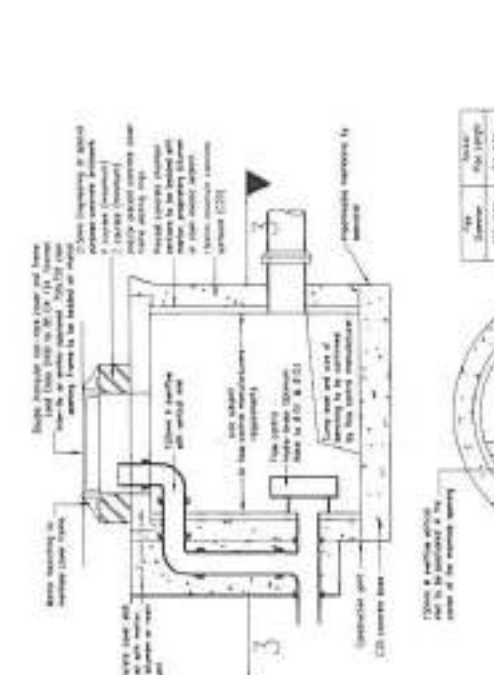
16. The pipe shall be installed in accordance with the applicable code requirements.

17. The pipe shall be installed in accordance with the applicable code requirements.

18. The pipe shall be installed in accordance with the applicable code requirements.

19. The pipe shall be installed in accordance with the applicable code requirements.

20. The pipe shall be installed in accordance with the applicable code requirements.



Section 1-1
Isolated Hydrostatic Collection Manhole Detail

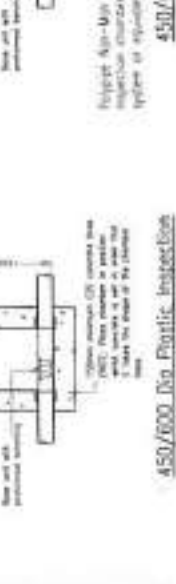
Section 2-2
Collection Manhole Detail

Section 3-3
Isolated Hydrostatic Collection Manhole Detail

Impervious membrane to be installed in lower and upper 1/2" of all exterior walls and floor. This includes the lower 1/2" of the exterior walls and the upper 1/2" of the floor. The membrane shall be installed in accordance with the applicable code requirements.

Impervious membrane to be installed in lower and upper 1/2" of all exterior walls and floor. This includes the lower 1/2" of the exterior walls and the upper 1/2" of the floor. The membrane shall be installed in accordance with the applicable code requirements.

Impervious membrane to be installed in lower and upper 1/2" of all exterior walls and floor. This includes the lower 1/2" of the exterior walls and the upper 1/2" of the floor. The membrane shall be installed in accordance with the applicable code requirements.



Section 1-1
Isolated Hydrostatic Collection Manhole Detail

Section 2-2
Collection Manhole Detail

Section 3-3
Isolated Hydrostatic Collection Manhole Detail







PROJECT NAME: CLARENDON ROAD - PHASE 3

Manhole / Drainage run Check Sheet

		Check Sheet No:	015	
		Drg Ref & Rev no:	B101 C15 / B130 C1 / B131 C3	
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location D2	Manhole/pipe run Ref		
		Gridline Ref		
		Highlighted location plan attached		
		(Yes/No)		
2	Manhole size	—		
3	Invert level	—		
4	Manhole cover : Spec, size, orientation & cover level	—		
5	Excavation to correct dimensions/support systems checked		✓	
6	Branches & benching: position, line, level checked		✓	
7	Rocker pipes installed (if applicable) checked		✓	
8	Rings and cover placed as per vertical & horizontal alignment checked.		—	
9	Brickwork & surround filled as per detail/specification checked.		✓	
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type :		N/A	
11	Manhole accessible for future use/maintenance		—	
12	Pipe run details	Material	✓	
		Diameter		
		Length		
		clay		
		150		
		—		
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓	
14	SVP/RWPs installed to correct position, level and capped off.		✓	
15	Anchor blocks to correct detail at specified locations		✓	
16	Bedding & surround as specified		✓	
17	Air testing passed/witnessed:		✓	
18	Photos attached		✓	

Originator - GCL Site Manager		Client Representative	
Name :	Julian Thana	Name	MARK ELLERY
Signature:	Julian.T	Signature:	[Signature]
Date:		Date:	15-02-21

PROJECT NAME: CLARENDON ROAD - PHASE 3

Drainage Air Test Sheet

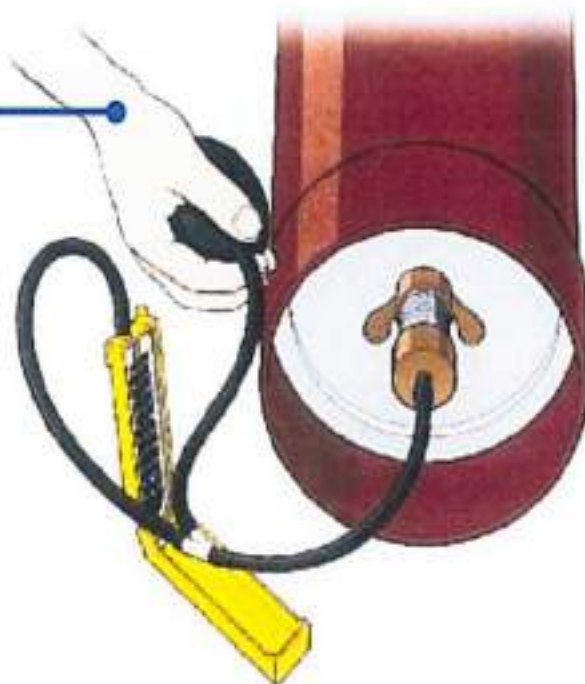
Client: STW	Test date:
Drainage Check Sheet Ref no:	Test Ref. No:

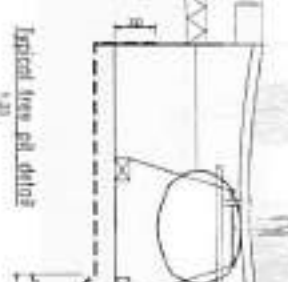
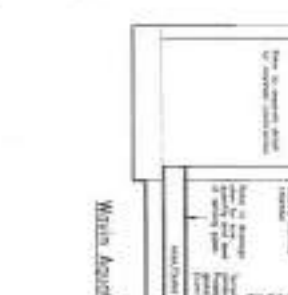
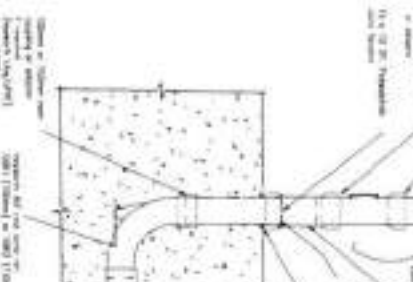
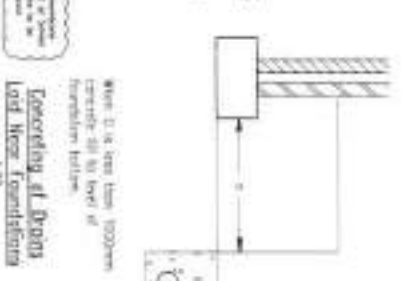
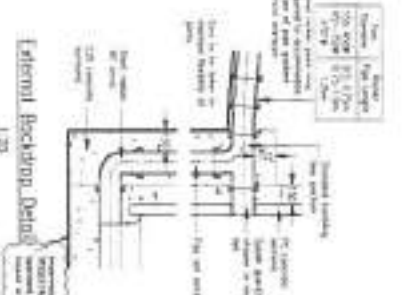
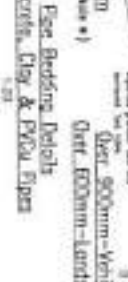
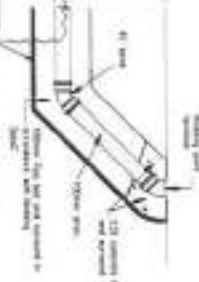
Pipe Run	Air gauge pressure		Pipe dia.(ϕ)	Test Time	Result	Remarks
	Initial	Final				
SW06-SW07	100	100	150			

Signed: (Technician)	Witnessed by:
Verified By: (Technical Manager) Julian Thoma	Date: 15.02.21

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no dirt is trapped between seal of plug and plates. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose via 'Y' piece to nipple, U' gauge and hand bellows.
4. Fill U' gauge with water to zero.
5. Squeeze the hand bellows gently until the level reaches 100mm on the open side of the gauge and the lower limb below zero on the closed side. The level should not fall to less than 75mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 75mm within the specified time the pipe section is leaking.



[illegible]





PROJECT NAME: CLARENDON ROAD - PHASE 3A

Manhole/ Drainage run Check Sheet

Check Sheet No:		016		
Drg Ref & Rev no:		8101 C15/8130 C1/8131 C3		
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location D2 Manhole/pipe run Ref Gridline Ref Highlighted location plan attached	FW13 (Yes/No)	✓	
2	Manhole size	φ450 mm	✓	
3	Invert level	23.700	✓	
4	Manhole cover : Spec, size, orientation & cover level	24.8EB, PPK	✓	
5	Excavation to correct dimensions/support systems checked		✓	
6	Branches & benching: position, line, level checked		✓	
7	Rocker pipes installed (if applicable) checked		✓	
8	Rings and cover placed as per vertical & horizontal alignment checked.		✓	
9	Brickwork & surround filled as per detail/specification checked.		✓	
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type :		N/A	
11	Manhole accessible for future use/maintenance	(Yes/No)	✓	
12	Pipe run details Material Diameter Length	 	—	
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓	
14	SVP/RWPs installed to correct position, level and capped off.		✓	
15	Anchor blocks to correct detail at specified locations		✓	
16	Bedding & surround as specified		✓	
17	Air testing passed/witnessed:		✓	
18	Photos attached		✓	

Originator - GCL Site Manager		Client Representative	
Name :	Julian Thana	Name :	[Signature]
Signature:	Julian.T	Signature:	[Signature]
Date:	12.02.21	Date:	15/02/21

PROJECT NAME: CLARENDON ROAD - PHASE 3A

Drainage Air Test Sheet

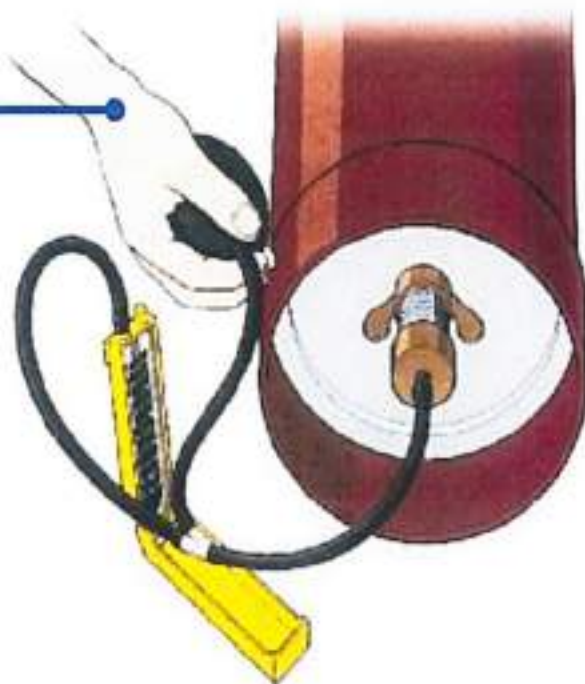
Client: STW	Test date:
Drainage Check Sheet Ref no:	Test. Ref. No:

Pipe Run	Air gauge pressure		Pipe dia.(ø)	Test Time	Result	Remarks
	Initial	Final				
FW13 - FW14	100	98	150			
SUP1 - FW13	100		100			
SUP2 - FW13	100		100			

Signed: (Technician)	Witnessed by: 
Verified By: Julian Thana (Technical Manager)	Date:

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no dirt is trapped between seal of plug and plates. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose via 'Y' piece to nipple, 'U' gauge and hand bellows.
4. Fill 'U' gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 100mm on the open side of the gauge and the lower limb below zero on the closed side. The level should not fall to less than 75mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 75mm within the specified time the pipe section is leaking.







PROJECT NAME: CLARENDON ROAD - PHASE 3

Manhole / Drainage run Check Sheet

Check Sheet No:		017		
Drg Ref & Rev no:		8101 C15 / 8130 C1 / 8131 C3		
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location D2	Manhole/pipe run Ref FW14	✓	
	Gridline Ref			
	Highlighted location plan attached	(Yes/No)		
2	Manhole size	φ450mm	✓	
3	Invert level	23.650m	✓	
4	Manhole cover : Spec, size, orientation & cover level	24.829m, PP10	✓	
5	Excavation to correct dimensions/support systems checked		✓	
6	Branches & benching: position, line, level checked		✓	
7	Rocker pipes installed (if applicable) checked		✓	
8	Rings and cover placed as per vertical & horizontal alignment checked.		✓	
9	Brickwork & surround filled as per detail/specification checked.		✓	
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type :		N/A	
11	Manhole accessible for future use/maintenance	(Yes/No)	✓	
12	Pipe run details iron to clay	Material	✓	
	Diameter			
	Length			
13	Spurs for lateral connections: Position, level & co-ordinates checked		✓	
14	SVP/RWPs installed to correct position, level and capped off.		✓	
15	Anchor blocks to correct detail at specified locations		✓	
16	Bedding & surround as specified		✓	
17	Air testing passed/witnessed:		✓	
18	Photos attached		✓	

Originator - GCL Site Manager		Client Representative	
Name : Julian Thana		Name : [Signature]	
Signature: Julian.T	Date:	Signature: [Signature]	Date: 15/12

PROJECT NAME: CLARENDON ROAD - PHASE 3

Drainage Air Test Sheet

Client: STW	Test date:
Drainage Check Sheet Ref no:	Test. Ref. No:

Pipe Run	Air gauge pressure		Pipe dia.($\varnothing$)	Test Time	Result	Remarks
	Initial	Final				
SVP1 - FW14	100		100			
SVP2 - FW14	100		100			
SVP3 - FW14	100		100			

Signed: (Technician)	Witnessed by:
Verified By: (Technical Manager)	Date:

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no dirt is trapped between seal of plug and plates. Ensure plug is inserted square to pipe wall. Ensure ring nut and sealing cap are tight.
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