

### **REVISION 01**

TABLE D.1(i)(a): EMISSIONS TO SURFACE/GROUND WATERS - REVISED

(Primary Discharge Point)

Discharge Point Code: SW01PASS

Source of Emission:		Passage West/Monksto	own Agglomeration					
Location:		Cork Lower Harbour To	Cork Lower Harbour Townland Pembroke					
Grid Ref. (12 digit, 6	E, 6N):	E176559, N069260						
Name of receiving wa	aters:	River Lee West Passag	je, Cork Harbour					
River Basin District:		South Western River B	South Western River Basin District					
Designation of receiving waters:		Sensitive Waters	ses dily day at					
Flow rate in receiving waters:			20°. x0°	idal			ory Weather Flow sec <sup>-1</sup> 95%ile flow	
Emission Details:		FOLIN	ight.					
(i) Volume emitted		entolog						
Normal/day	811 m <sup>3</sup>	Maximum/day					1187 m³	
Maximum rate/hour	Not Available	Period of emission (avg)			60min/hr	24 hr/day	<u>365</u> day/yr	
Dry Weather Flow	0.00939 m <sup>3</sup> /sec							

Cork County Council

Note: DWF is estimated. Discharges include seawater intrusion.

#### **REVISION 01**

TABLE D.1(ii)(a): EMISSIONS TO SURFACE/GROUND WATERS - REVISED

(Secondary Discharge Point) (1 table per discharge point)

Discharge Point Code: <u>SW02PASS</u>

Carres of Emission		Danca and March (March sets	Andrew Andrew State					
Source of Emission:		Passage West/Monkstown Agglomeration						
Location:		Cork Lower Harbour To	Cork Lower Harbour Townland Lackaroe					
Grid Ref. (12 digit, 6	E, 6N):	E177181, N067448						
Name of receiving wa	aters:	River Lee West Passag	age, Cork Harbour					
River Basin District:		South Western River B	South Western River Basin District					
Designation of receiv	ing waters:	Sensitivie Sensitivie						
Flow rate in receiving	waters:		m <sup>3</sup> .sec <sup>-1</sup> Dry Weather	r Flow				
		<u>.</u>	Tidalm³.sec <sup>-1</sup> Dry Weatherm³.sec <sup>-1</sup> 95%ilo	e flow				
Emission Details:		Fol Ar	opited.					
(i) Volume emitte	ed	nsentolic						
Normal/day	680m <sup>3</sup>	Maximum/day	730	) m <sup>3</sup>				
Maximum rate/hour	Not Available	Period of emission (avg)	<u>60</u> min/hr <u>24</u> hr/day <u>365</u> day	y/yr				

Note: Flows include seawater intrusion.

0.00752

Dry Weather Flow

TABLE D.1(ii)(a): EMISSIONS TO SURFACE/GROUND WATERS - REVISED

(Secondary Discharge Point) (1 table per discharge point)

Discharge Point Code: SW03PASS

		r						
Source of Emission:		Passage West/Monkstown Agglomeration						
Location:		Cork Lower Harbour Townland Monkstown						
Grid Ref. (12 digit, 6E	E, 6N):	E177235, N066512						
Name of receiving wa	ters:	River Lee West Passag	ge, Cork Harbour					
River Basin District:		South Western River B	South Western River Basin District					
Designation of receivi	ng waters:	Sensitive	विषेत्रं विष्					
Flow rate in receiving waters:			Deitor purpositied to	Tidal		m³.sec <sup>-</sup>	¹ Dry We	ather Flow
		4	Dection terms			n	n <sup>3</sup> .sec <sup>-1</sup> 9	5%ile flow
Emission Details:		For Art	right.					
(i) Volume emitte	ed	nsent dis						
Normal/day	619 m <sup>3</sup>	Maximum/day					Not	Available
Maximum rate/hour	Not Available	Period of emission (avg)	_	60 min/hr _	24	_hr/day _	365	day/yr
Dry Weather Flow	0.00683 m³/sec							

Note: DWF is estimated. Discharges include seawater intrusion.

**Table E.4 – Sampling Data** 

		SW01			Glenbrook Outfall					Monkstown C		1		1
Sample Date	7/8/2008				Sample Date	7/8/2008	Average	Kg/Day	Kg/Year	Sample Date	7/8/2008			
Sample	Outfall	Average	Kg/Day	Kg/Year	Sample	Outfall				Sample	Outfall	Average	Kg/Day	Kg/Year
Flow M <sup>3</sup> /Day	811	811	*	*	Flow M <sup>3</sup> /Day	680	680	*	*	Flow M <sup>3</sup> /Day	618	618	*	*
рН	7.9	7.9	*	*	рН	7.6	7.9	*	*	pH	7.4	7.4	*	*
Temperature °C	*	*	*	*	Temperature °C	*	*	*	*	Temperature ℃	*	*	*	*
Cond 20°C	584	584	*	*	Cond 20°C	2530	2530	*	*	Cond 20°C	13070	13070	*	*
SS mg/L	192	192	155.712	56834.88	SS mg/L	83	83	56.44	20600.6	SS mg/L	75	75	46.35	16917.75
NH₃ mg/L	22.4	22.4	18.1664	6630.736	NH₃ mg/L	16.6	16.6	11.288	4120.12	NH₃ mg/L	8.8	8.8	5.4384	1985.016
BOD mg/L	152.5	152.5	123.6775	45142.29	BOD mg/L	87.6	87.6	59.568	21742.32	BOD mg/L	61.6	61.6	38.0688	13895.11
COD mg/L	552	552	447.672	163400.3	COD mg/L	117	117	79.56	29039.4	COD mg/L	247	247	152.646	55715.79
TN mg/L	32.414	32.414	26.28775	2567.4	TN mg/L	60.14	60.14	40.8952	2567.4	TN mg/L	26.559	26.559	16.41346	5990.914
Nitrite mg/L	0.014	0.014	0.011354	4.14421	Nitrite mg/L	3.24	3.24	2.2032	804.168	Nitrite mg/L	0.259	0.259	0.160062	58.42263
Nitrate mg/L	<1.78	<1.78	<1.44358	<526.9067	Nitrate mg/L	8.8	8.8	5.984	2184.16	Nitrate mg/L	1	1	0.618	225.57
TP mg/L	4.95	4.95	4.01445	1465.274	TP mg/L	2.49	2.49	1.6932	618.018	TP mg/L	1.81	1.81	1.11858	408.2817
O-PO4-P mg/L	2.82	2.82	2.28702	834.7623	O-PO4-P mg/L	2.05	2.05	1.394	508.81	O-PO4-P mg/L	2.25	2.25	1.3905	507.5325
SO4 mg/L	43.6	43.6	35.3596	12906.25	SO4 mg/L	128.6	128.6	87,448	31918.52	SO4 mg/L	624.6	624.6	386.0028	140891
Phenols μg/L	50	50	*	*	Phenols μg/L	50	چ 50	9 160 ×	*	Phenols μg/L	150	150	*	*
Atrazine μg/L	<0.01	<0.01	<0.00001	<0.00365	Atrazine μg/L	<0.02	<0.01	<0.00001	<0.00365	Atrazine μg/L	< 0.03	<0.03	<0.00002	<0.00730
ichloromethan	.5.0	.5.0	.0.00400	4 40400	Dichloromethane	F 0	oeciton fer reas	.0.00040	4 044	Dichlorometha		.5.0	.0.00000	1 10705
e μg/L	<5.0 <0.01	<5.0 <0.01	<0.00406 <0.0001	<1.48190 <0.00365	μg/L	<5.0 <0.02	0.01	<0.00340 <0.00001	<1.241 <0.00365	ne μg/L Simazine μg/L	<5.0 <0.03	<5.0 <0.03	<0.00309 <0.00002	<1.12785 <0.00730
Simazine µg/L	<0.01	<0.01	<0.0001	<0.05840	Simazine μg/L	<0.02	<0.01	<0.0001	<0.00363	Toluene μg/L	0.7	0.7	0.00002	0.15695
Toluene μg/L Γributyltin μg/L	<0.2	<0.2	<0.00016	<0.03640	Toluene μg/L Tributyltin μg/L	<0.05	<0.2	<0.00014	<0.03110	Tributyltin μg/L	<0.05	<0.05	<0.00043	<0.01095
Xylenes μg/L	<0.05	<0.03	<0.00004	<0.01460	Xylenes μg/L	<0.03 <0.2	<0.05	<0.00014	<0.01093	Xylenes μg/L	0.7	0.7	0.00043	0.15695
	<2.0	<2.0	<0.00162	<0.03840		<2.0	<2.0	<0.0014	<0.49640		3.1	3.1	0.00043	0.7008
Arsenic μg/L	<2.0	<2.0	<0.00102	<0.59150	Arsenic μg/L	<2.0	<2.0	<0.00130	<0.49040	Arsenic μg/L Chromium	3.1	3.1	0.00192	0.7008
Chromium ug/L	<10	<10	<0.00811	<2.96015	Chromium ug/L	<10	<10	<0.00680	<2.482	ug/L	<10	<10	<0.00618	<2.25570
Copper ug/L	45.4	45.4	0.036819	13.43908	Copper ug/L	39.2	45.4	0.030872	11.26828	Copper ug/L	88.8	88.8	0.05488	20.0312
Cyanide μg/L	<5.0	<5.0	<0.00406	<1.48190	Cyanide μg/L	<5	<5.0	<0.24480	<1.241	Cyanide μg/L	7	7	0.00433	1.58045
Fluoride ug/l	360	360	0.29196	106.5654	Fluoride ug/l	290	360	0.07812	28.5138	Fluoride ug/l	380	380	0.23484	85.7166
Lead ug/L	<3	<3	<0.00243	<0.88695	Lead ug/L	4.1	<3	<0.00204	<0.74460	Lead ug/L	<3	<3	<0.00185	<0.67525
Nickel ug/L	<5	<5	<0.00406	<1.48190	Nickel ug/L	<5	<5	<0.00340	<1.241	Nickel ug/L	<5	<5	<0.00309	<1.12785
Zinc ug/L	53	53	0.04298	15.6877	Zinc ug/L	13.2	53	0.03604	13.1546	Zinc ug/L	<10	<10	<0.00618	<2.25570
Boron ug/L	<200	<200	0.1622	<59.20300	Boron ug/L	220	<200	<0.13600	<49.64	Boron ug/L	1460	1460	0.90228	329.3322
Cadmium ug/L	<1	<1	<0.00081	<0.29565	Cadmium ug/L	<1	<1	<0.00068	<0.24820	Cadmium ug/L	<1	<1	<0.00062	<0.22630
Mercury μg/L	<0.2	<0.2	<0.00016	<0.05840	Mercury μg/L	<0.2	<0.2	<0.00014	<0.05110	Mercury μg/L	<0.2	<0.2	0.00012	0.0438
Selenium μg/L	<2.0	<2.0	<0.00162	<0.59130	Selenium μg/L	<2.0	<2.0	<0.00136	<0.49640	Selenium μg/L	6.67	6.67	0.00412	1.5038
Barium ug/L	24.7	24.7	0.020032	7.311571	Barium ug/L	22.5	24.7	0.016796	6.13054	Barium ug/L	27.5	27.5	0.016995	6.203175



## **Accreditation Certificate**

## **Cork County Council**

Wastewater Testing Laboratory, Inniscarra, Co. Cork

**Testing Laboratory** 

Registration number: 016T

is accredited by the Irish National Accreditation Board (INAB) to undertake testing as detailed in the Schedule bearing the Registration Number detailed above, in compliance with the International Standard ISO/IEC 17025:2005 2<sup>nd</sup> Edition "General Requirements for the Competence of Testing and Calibration Laboratories" (This Certificate must be read in Conjunction with the Annexed Schedule of Accreditation)

Date of award of accreditation: 01:10:2002

Date of last renewal of accreditation: 20:09:2007

Expiry date of this certificate of accreditation: 01:10:2012

This Accreditation shall remain in force until further notice subject to continuing compliance with INAB accreditation criteria, ISO/IEC 17025 and any further requirements specified by the Irish National Accreditation Board.

Manager: Tom Dompay

Chairperson

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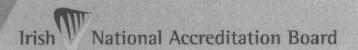
Mr Tom Dempsey

Issued on 23 June 2008

Organisations are subject to annual surveillance and are re-assessed every five years. The renewal date on this Certificate confirms the latest date of renewal of accreditation. To confirm the validity of this Certificate, please contact the Irish National Accreditation Board.

The INAB is a signatory of the European co-operation for Accreditation (EA) Testing Multilateral Agreement (MLA) and the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement.

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## Schedule of Accreditation



(Annex to Accreditation Certificate)

Permanent Laboratory:

Category A

### **CORK COUNTY COUNCIL**

**Chemistry Testing Laboratory** 

Initial Registration Date: 2

25-April-1991

Postal Address:

Waste Water Laboratory

(Address of other locations

Inniscarra 🔊

as they apply)

Co. Cork

+353 (24) 4532700

Telephone:

+353 (21) 4532777

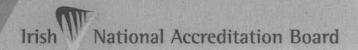
Fax: E-mail:

Contact Name:

Ms M Cherry

Facilities:

Normally not available for Public testing



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# Schedule of Accreditation



Permanent Laboratory: Category A

THE IRISH NATIONAL ACCREDITATION BOARD (INAB) is the Irish body for the accreditation of organisations including laboratories.

Laboratory accreditation is available to testing and calibration facilities operated by manufacturing organisations, government departments, educational institutions and commercial testing/calibration services. Indeed, any organisation involved in testing, measurement or calibration in any area of technology can seek accreditation for the work it is undertaking.

Each accredited laboratory has been assessed by skilled specialist assessors and found to meet criteria which are in compliance with ISO/IEC 17025 or ISO/IEC 15189 (medical laboratories). Frequent audits, together with periodic inter-laboratory test programmes, ensure that these standards of operation are maintained.

### Testing and Calibration Categories:

Category A: Pe

Permanent laboratory calibration and testing where the laboratory is erected on a fixed

location for a period expected to be greater than three years.

Category B:

Site calibration and testing that is performed by staff sent out on site by a permanent

laboratory that is accredited by the Irish National Accreditation Board.

Category C:

Site calibration and testing that is performed in a site/mobile laboratory or by staff sent

out by such a laboratory, the operation of which is the responsibility of a permanent

laboratory accredited by the Irish National Accreditation Board.

Category D:

Site calibration and testing that is performed on site by individuals and organisations that do not have a permanent calibration/testing laboratory. Testing may be performed using

(a) portable test equipment

(b) a site laboratory

(c) a mobile laboratory or

(d) equipment from a mobile or site laboratory

#### Standard Specification or Test Procedure Used:

The standard specification or test procedure that is accredited is the issue that is current on the date of the most recent visit, unless otherwise stated.

#### Glossary of Terms

#### Facilities:

Public calibration/testing service:

Commercial operations which actively seek work from others.

Conditionally available for public

Established for another primary purpose but, more commonly than not,

calibration/testing:

is available for outside work.

Normally not available for public calibration/testing:

**c** Un

Unavailable for public calibration/testing more often than not.

Laboratory users wishing to obtain assurance that calibration or test results are reliable and carried out to the Irish National Accreditation Board criteria should insist on receiving an accredited calibration certificate or test report. Users should contact the laboratory directly to ensure that this scope of accreditation is current. INAB will, on

request, verify the status and scope.



## Cork County Council

### **Chemical Testing Laboratory**

Permanent Laboratory: Category A

(P9)	lassification number als/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766	Waters	Chemical analysis:	Documented in-house methods based on
			Standard Methods for the Examination of Water
.01	Waters for		& Wastewater 21 st Edition APHA (See Note 1)
	domestic purposes	Biochemical Oxygen Demand	No. 1 Membrane electrode
	Surface and ground	2 - 145,000 mg/l	
	waters	ally any	
		pH poses all	CP No. 5 Electrometry
		2 - 12 On Pill reduit	
		in Section net	
		Biochemical Oxygen Demand  2 - 145,000 mg/l  pH  2 - 12  For its period purply required for any of the support of the period of	CP No. 3 Gravimetric
18		0.5 - 17,500 mg/l	21
		Cor	A
		Chemical Oxygen Demand	CP No. 6 Reflux - colourmetric method
		21 - 135 mg/l	* "
		120 - 670,000 mg/l	
		A2	
1		Total phosphorus	US-EPA Approved method/HACH
		0.2 - 5,300 mg/l	Method CP No.20
		Ammonia	Documented in-house method CP22 by Konelab
		0.1 - 1,000 mg/l NH <sub>3</sub> - N	based on Method for the Examination of Waters
			and
1			Associated Material HMSO:1981



## Cork County Council

Permanent Laboratory:
Category A

## Chemical Testing Laboratory

(P9)	lassification number als/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766	Waters		
.01	Waters for	Orthophosphate as P (Konelab)	CP No. 23 Ascorbic Acid Method
	domestic purposes	Range: 0.005-1.00 mg O-PO4 P/L	
	Surface and ground	High Range: 1000 mg O-PO4 P/L	Tige.
	waters	Method Detection Limit: 0.02 mg O-PO4 P/L6	
		Chloride (Konelab)  Range: 25-250 mg/L Cl- High Range Conc.: 86,000 mg/L Cl- Method Detection Limit: 25 mg/L Cl-	CP No. 24 Ferricyanide Method
		High Range Conc.: 86 000 mg/L Cl-	
		Method Detection Limit: 25 mg/L Cl-	
		Sulphate (Konelab)	CP No. 25 Documented in-house method by
		Range: 30-250 mg/L SO4/L	Konelab based on method for the examination
		High Range Conc.: 35,000 mg/L SO4/L	of waters and waste waters and associated
		Method Detection Limit: 30 mg SO4/L	material HMSO: 1981
		***	
Charles and		W. # 0 - 2	
		34	
		12 12 12 12 12 12 12 12 12 12 12 12 12 1	
		South South	



**Cork County Council** 

Permanent Laboratory:

Category A

### **Chemical Testing Laboratory**

INAB Classification number (P9) Materials/products tested		Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766	Waters	Chemical analysis	Documented in-house methods based on Standard  Methods for the Examination of Water&
.05	Trade Wastes Industrial effluents Urban Wastewater Municipal Wastewater	Biochemical Oxygen Demand 2 - 145,000 mg/l	Wastewater 21 st Edition APHA (See Note 1)  CP No. 1 Membrane electrode
	mame par masternates	Biochemical Oxygen Demand  2 - 145,000 mg/l  pH  2 - 12  For inspection purposes of the second of th	CP No. 5 Electrometry
		Suspended solids  0.5 - 175500 mg/l	CP No. 3 Gravimetric
		Chemical Oxygen Demand 21 - 135 mg/l 120 - 670,000 mg/l	CP No. 6 Reflux - colourmetric method
		Total phosphorus 0.2 - 5,300 mg/l	US-EPA Approved method/HACH Method CP No.20
		Ammonia 0.1 - 1,000 mg/l NH3-N	Documented in-house method CP22 by Konelab based on Method for the Examination of Waters and Associated Material HMSO: 1981.

Notes
1. APHA American Public Health Association, USA, 21st Edition



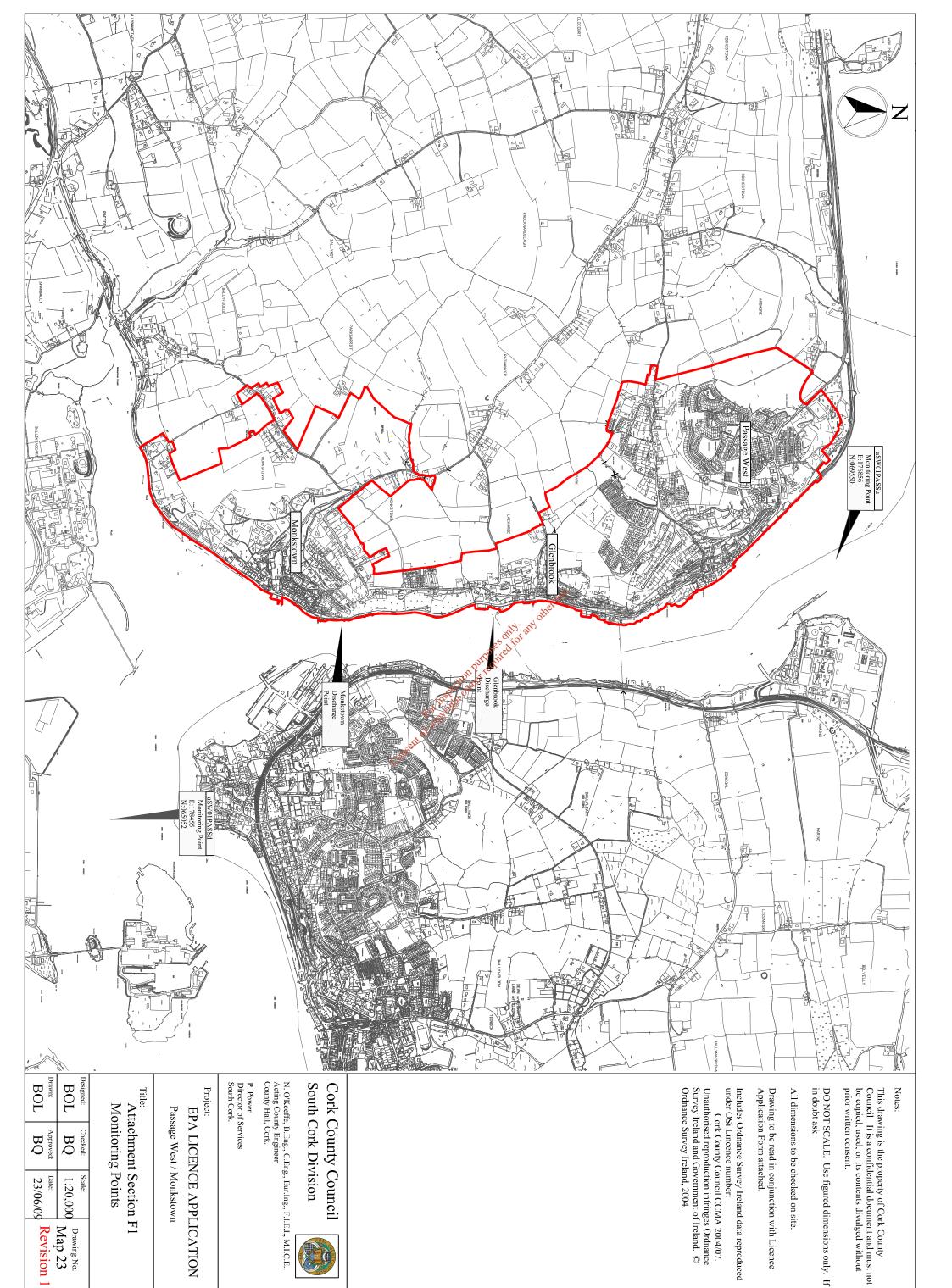
### **Cork County Council**

## Chemical Testing Laboratory

Permanent Laboratory: Category A

INAB Classification number (P9) Materials/products tested		Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used		
766	Waters	Chemical analysis	Documented in-house methods based on Standard		
			Methods for the Examination of Water&		
.05	Trade Wastes		Wastewater 21 st Edition APHA (See Note 1)		
	Industrial effluents		CR No. 1 Membrane electrode		
	Urban Wastewater	W. 44	Offic		
	Municipal Wastewater	Orthophosphate as P (Konegabyred Loft and Range: 0.005 - 1.00 and 0.004 P/L			
		Orthophosphate as P (Konelabilical	CP No. 23 Ascorbic Acid Method		
		Range: 0.005 - 1.00 mg Q:PO4 P/L			
		High Range: 1000 mg 0-P04 P/L			
		Method Detection Limit: 0.02 mg 0-			
		PO4 P/L of cot			
		Chloride (Konelab)	CP No. 24 Ferricyanide Method		
		Range: 25-250 mg/L Cl-			
		High Range Conc.: 86,600 mg /L Cl-			
		Method Detection Limit: 25mg / L Cl-			
		Sulphate (Konelab))	CP No. 25 Documented in-house method by		
		Range: 30-250 mg/L SO4 /L	Konelab based on method for the examination of		
		High Range Conc.: 35,000 mg/L SO4 /L	waters and waste waters and associated material		
		Method Detection Limit: 30 mg SO4 /L	HMSO: 1981		
		177			
			Sa .		





Drawing No. Map 23

Revision 1