TRADE EFFLUENT LICENSE DISCHARGE

O'REGAN'S QUARRY PRODUCTS LTD.



Prepared For: -

O'Regan's Quarry Products Ltd. The Mills Commercial Park, Crookstown, Co. Cork

Prepared By: -

O' Callaghan Moran & Associates, Granary House, Rutland Street, Cork

September 2008

September 2008 (JOC/JC)

CORK COUNTY COUNCIL ENVIRONMENT DEPARTMENT

Local Government (Water Pollution) Act 1977

Local Government (Water Pollution)(Amendment) Act 1990

APPLICATION FOR LICENCE TO DISCHARGE EFFLUENT

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- (1) Trade Effluent Discharge Application Form
- (1) Attachment 1: Site location map and drawing showing effluent discharge details
- (2) Attachment 2: Particulars of Receiving Waters
- (3) Attachment 3: Text of Public Notice and Newspaper Advertisement



CORK COUNTY COUNCIL ENVIRONMENT DEPARTMENT

Local Government (Water Pollution) Act, 1977

APPLICATION FOR LICENCE to discharge trade or sewage effluent to waters

I hereby make application for a licence under Section 4 of the Local Government (Water Pollution) Act, 1977 to discharge effluent in accordance with the plans and other particulars attached. The discharge for which a license is sought is not an existing discharge as defined in Section 5(4) of the Act.

I declare, to the best of my knowledge and belief, that the information submitted in this application is correct.

Checklist

I confirm that I have enclosed: Please tick here Five copies of the application form, fully completed Х Five copies of the site location map Х Five copies of detailed plans of the facility NA Five copies of drawings showing effluent discharge details х Five copies of the particulars of receiving waters Х Five copies of full drawings of the treatment plant NA Five copies of relevant Newspaper Notice Х Fee of €380.92 Х Is the applicant's signature on the first page of the application form? Х Signed Position in Company Date_____

on behalf of _____

APPLICATION FOR LICENCE TO DISCHARGE EFFLUENT

PART II - APPLICATION FORM

Please indicate whether the application is for a discharge to Sewer, Waters or Groundwaters.

Sewer		Waters	X	Groundwaters	
New L	icence Application	X		Review of Existing Licence	
1 (a)	Full Name of Appl	icant	(O'Regan's Quarry Products Ltd.	
(b)	Contact Person		N	Ar. Martin O'Regan	
(c) (d)	Address of Applica Body Corporate Re	egistered Ad	O'I I Idress Idress	Regan's Quarry Products Ltd. Sulligmore, Dripsey, County Cork Purpose of formation Purpose of formation	
		Conse			
(e)	Company Registra	tion Numbe	r: 25	51270	

- (f) Location of Activity (if different from (b) (above): Tulligmore, Dripsey, County Cork
- (g) Name and Address of Person to whom Correspondence should be sent (Agent):

O'Callaghan Moran and Associates Granary House, Rutland Street, Cork

(h) Telephone Numbers (i) Applicant (ii) Agent 0214321521

- (i) **Telefax** Numbers (i) Applicant (ii) Agent 0214321522
- (i) **E.Mail** (i) Applicant (ii) Agent Jim@ocallaghanmoran.com
- (a) Name and Address of the premises from which the effluent or other matter is to be discharged

O'Regan's Quarry Products Ltd. Tulligmore Dripsey Co. Cork

(b) National Grid References: (i) Site x (east) = 149,163y (north) = 76,069(ii) **Discharge** x (east) = 149,235y (north) = 76,141

(c) Planning Reference Number (if appropriate) 06/11310

Newspaper Advertisement (Discharge to Waters or Groundwaters only) 3.

Publication: <u>Irish</u> Examiner

Date: 12/09/08

 Publication:
 Irish Examiner
 Only of the constraint
 Date: 12/09/08

 I hereby make application under Section 4(waters or groundwaters) of the Local

 Government (Water Pollution) Acts 1977 and 1990, to discharge trade effluent in accordance with the plans and particulars attached.

The discharge is not an existing discharge (see definition in explanatory notes) as defined in Section 5(4) of the 1977 Act.

Signed: ____

Date:

- 4. If an effluent is a trade effluent or other matter, give a description of the process or activity which gives rise to the effluent generation. (Use separate sheets if necessary): See Attachment 2
- 5. (1) Location of Points of Discharge. All discharge locations to be indicated clearly on a 1/2500 Ordnance Survey map.)

Emission Point Reference No.1 Location: (east) = 149,235 (north) = 76,141

(2) Description of Receiving Waters or Sewer - See Attachment 2

(3) Details of Size and Construction of Discharge Pipeline or Outlet

(4) Particulars of Surface Water or any other discharges from the Premises (all discharge points shall be indicated on the accompanying drawings)

See Attachment 2

(5) Date of Commencement of Discharge

1st November 2008

6. **Details of Emergency/Spillage Control Arrangements** (provide additional sheets, if necessary)

7.

8.

Lanployed on Site: second for any other we require the provided of the provid (ii) Maximum in any one day $1,464m^3$

9. Hours of Business at Premises:

The current days and hours of operation are:

Monday to Friday	0800hrs – 20:00hrs
Saturday	0800hrs - 1700hrs
Sunday	Closed
Public Holidays	Closed

Temporal Variations in Discharge (if any) None

10. Particulars of Treatment Plant

The discharge will be from settlement ponds that treat water from the on-site washing plant. As a precautionary measure, given that the receiving stream is in the catchment of the River Lee, the water entering the ponds may, if required, be treated with flocculants, using a dosing pump, to ensure that excessive or very fine suspended solids are removed and the discharge complies with the licence discharge limit.

(Full Drawings of treatment plant must be supplied)

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11. Is there an Environmental Management Plan in place in respect of the site?

Yes No In Preparati

(If yes then please supply details)

12. **Characteristics of Trade Effluent**

Complete Table 1 for all applicable characteristics giving concentration ranges where available. Concentrations in mg/l unless otherwise stated. Any other physical, chemical or other characteristic, which is pertinent to the application, should also be stated.

13. List of Raw Process Materials Utilised and Wastes Generated on Site

Table 2 should be fully completed in respect of all process raw materials and wastes.

Details of emergency procedures and facilities available to respond to unexpected 14. incidents.

See Attachment - Appendix 2

Whet require Details of Staffing on Water Pollution Control 15.

The site manager will be responsible for ensuring the discharge complies with the Cons discharge limits

Pection pu

16. **Details of Provisions Made for Sampling and Measurement of Discharge**

Table 3 should be completed to detail all existing monitoring facilities.

17. **Off Site Waste Disposal**

Table 4 should be completed to detail off site disposal routes for waste.

CORK COUNTY COUNCIL - ENVIRONMENT DEPARTMENT APPLICATION FOR WATER POLLUTION LICENCE

TABLE 1 - EMISSION TO SEWER, SURFACE WATER OR GROUNDWATER - Characteristics of Emission (1 table per emission point)

EMISSION POINT REFERENCE NO. 1									
PARAMETER	P	PRIOR TO PRE-TREATMENT				AS DISC	% REMOVAL		
	Max. Hourly average (mg/l) ⁽¹⁾	Max. Daily average (mg/l) ⁽¹⁾	Kgs./Day	Kgs./Year	Max. Hourly averagest (mg() ^(PI)	Max. daily average (mg/l) ⁽¹⁾	Kgs./day	Kgs./Year	
рН					Require	6-9			
Temperature				tion et	\$0 \	Ambient			
BOD ₍₅₎				- Decrowit		5	0.73		
COD				THE		10	1.46		
Suspended Solids				tropy		30	4.38		
Total Nitrogen (as N)				d v		NA			
Total Phosphorous (as P)			Sel	*		NA			
Oils, fats and greases			Con			NA			
Sulphates						NA			
Detergents (as MBAS)						NA			
Conductivity (uS/cm)						250-500			
Ammonia						NA			
EC List I ⁽²⁾ (Specify)						NA			
EC List II ⁽²⁾ (Specify)						NA			
Phenols						NA			

EMISSION POINT REFERENCE NO. 1									
PARAMETER	PRIOR TO PRE-TREATMENT				AS DISC		% REMOVAL		
	Max. Hourly average (mg/l) ⁽¹⁾	Max. Daily average (mg/l) ⁽¹⁾	Kgs./Day	Kgs./Year	Max. Hourly average (mg/l) ⁽¹⁾	Max. daily average (mg/l) ⁽¹⁾	Kgs./day	Kgs./Year	
Sulphides						NA			
Cyanides						NA			
Fluorides						NA			
Heavy Metals (Specify)						NA			
OTHER SIGNIFICANT SUBSTANCE NOT LISTED					att and	NĂ.			
(1) Except for pH and conductivity (2) See attached list									

CORK COUNTY COUNCIL - ENVIRONMENT DEPARTMENT APPLICATION FOR WATER POLLUTION LICENCE

TABLE 2 - DETAILS OF PROCESS RELATED RAW MATERIALS, PRODUCTS, WASTES ETC., USED OR GENERATED ON SITE

Ref. No	Material/Substance ⁽¹⁾	CAS	Danger Category	Amount Stored	Annual Usage	Nature of Use	Risk	Safety
		No.		(tonnes)	(tonnes)		Phrase ⁽²⁾	Phrase ⁽²⁾
				150				
				ther				
				17:07				
				Solforia				
				oosired '				
			, where the second s	ar edu.				
			ction	\$**				
			SP ST ST					
			COL TIPEL					
			top?					
			at of					
			-M ^{SOL}					
			C					

(1) State whether List I or List II as per attached sheet

(2) c.f. Schedules 2 and 3 of S.I. No. 77/94

CORK COUNTY COUNCIL - ENVIRONMENT DEPARTMENT APPLICATION FOR WATER POLLUTION LICENCE

TABLE 3 – MONITORING

POINT REFERENCE NUMBER	LOCATION	EQUIPMENT IN PLACE	PARAMETERS MONITORED	FREQUENCY OF MONITORING	IMPACTS
Waters					
				<u>.</u>	
				x USC	
				othe	
			ald.	and	
Groundwaters	MW-2	Yes	es a for	Annual	None detected
	MW-3	Yes	at Positiet	Annual	None detected
	MW-4	Yes	an Portect	Annual	None detected

TABLE 4 - OFF-SITE WASTE DISPOSAL



WASTE DESCRIPTION	EWC CATALOGUE NO.	QUANTITY (TONNES PER sent ANNUM) Consent	ÓŇAME OF SITE ACCEPTING WASTE	REFERENCE NUMBER OF SITE ENVIRONMENT LICENCE	STATE WHETHER RECYCLING, RECOVERY OR DISPOSAL
Canteen Waste			Healys Blue Bin Waste Disposal,	WMC 28/01	Disposal/Recovery
Waste Oils			Enva Ireland Ltd	W0-145-02	Recovery

ATTACHMENT 1

Site location map and drawing showing effluent discharge details

C:\08\139_Dripsey\05_Trade Effluent Licence\1390501

September 2008 (JOC/JC)







O' Callaghan Moran & Associates. Granary House, Rutland Street, Cork, Ireland. Tel. (021) 4321521 Fax. (021) 4321522	O'Regan's Quarry Products Limited	Roundary of the zone under water		
This drawing is the property of O'Callaghan Moran & Associates and shall not be used, reproduced or disclosed to anyone without the prior written permission of O'Callaghan Moran & Associates and shall be returned upon request.	חד∟ב Delineation of the zone under water	REV. A	DRAWING No. 3.4	SCALE

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ATTACHMENT 2

Particulars of Receiving, Waters

C:\08\139_Dripsey\05_Trade Effluent Licence\1390501

September 2008 (JOC/JC)

ASSESSMENT OF RECEIVING WATERS

AT

TULLIGMORE

O' Regan's Quarry Products Limited, The Mills Commercial Park, Crookstown, Co. Cork.

Prepared By: -

O' Callaghan Moran & Associates, Granary House, Rutland Street, Cork.

31st August 2008

August 2008 (JOC/JC)

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A] A]	PPEND PPEND	IX 1 - For inspection produces only any our IX 2 - For inspection produced in the required for any our IX 2 - Management Plan

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August 2008 (JOC/JC)

1 INTRODUCTION

O' Regan's Quarry Products Limited (O'Regans Ltd) is required to submit an application to the Council for a trade effluent licence application to discharge water accumulating within its site boundary to the adjoining river at its sand and gravel quarry at Tulligmore.

The quarrying activity involves the excavation of sands and gravels above the water table. Groundwater is used to wash the sands and gravels and this water is recirculated within the quarry via settlement lagoons. Groundwater/washwater has never been discharged to the stream, which forms part of the eastern site boundary and is a tributary of the Dripsey River.

The heavy rainfall in 2007 and 2008 has resulted in a significant increase in the water levels within the site and has flooded the western access road, which was constructed in 2005 and was in use up to the summer of 2007. Rainfall levels for August 2008 which is typically the driest month of the year were 200% above average values for the month. The water level now prevents access to central and western parts of the quarry. By June 2008 the level had dropped to a point where it would have been possible to begin using the western access road again, but the heavy rainfall since then has prevented this.

The present water management system, which involves recirculation of the water within the site boundaries, does not allow the effective drawdown of the water levels to allow permanent access. The only option is to discharge water to the nearby river over the mid Autumn to mid Spring period (October-March). It is not envisaged that any discharge will be required in the April to September period.

Cons

The application for the licence requires the determination of any particulars of receiving waters. It involves a calculation of the volumes of water that will be discharged and an assessment of the capacity of the river to accept these volumes, including an evaluation of impacts on water quality and flows.

2.1 Site Location

The site, which encompasses 32.2 ha (79.5 acres), is located in the townland of Tulligmore, approximately 3 kilometres north east of Coachford, as shown on Figure 2.1. The existing site entrance and approach route is on the R619. The majority of the site is at a level considerably lower than the surrounding lands. The quarry is located in the catchment of the Dripsey River, which is approximately 1 km to the south west. An unnamed tributary of the Dripsey forms part of the eastern site boundary.

2.2 Processes

The extracted aggregates are washed and screened in the on-site screening plant, which is located in the south central area. Water from the screening plant is obtained from a sump dug in the south western part of the site. The estimated pumping rate is $113m^3/h$ (25,000 gallons) and the pump is operational for up to 13 hours a day. The washwater is then pumped from the screening plant to settlement ponds in the northeast of the site, where sediments settle out. The clear water from the pond is channelled back to the sump.

*** only any other use

In the central part of the site the sands and gravels have been excavated to just above the normal winter water table. A haul road was constructed thorough this part of the site in 2005 to allow access to the central and northern areas, as shown on Drawing No 000523 A. The increased rainfall in 2007 and 2008 has resulted in the road being flooded throughout the year, thereby preventing access to the remaining reserves in the central and north western parts of the quarry.

Although there has not been any change in the pumping rate to the washing plant the water level in the abstraction sump in the south of the site has risen from a level of 109.97 m OD in September 2005 to 114.40 m in August 2008.

The present water management system, which involves recirculation of the water within the site boundaries, does not, even with increase pumping, allow the drawdown of the water level for a sufficient time to allow access to the central area of the site. The only practical option to reduce the water level in the central area of the site is to discharge the water to the nearby river. This should only be required over the winter period and it not envisaged that a continuous discharge will be required in the summer months.

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The stream to which it is proposed to discharge is a tributary of the Dripsey River and is approximately 9 km long. This river flows to the south and discharges into the Dripsey River 1.6km to the south. The proposed discharge point from the quarry to the stream is shown on Figure 3.1.

3.1 Winter Flow Rate at the Discharge Point

Given that the discharge of water into the stream will occur during the winter months, the determination of the DWF rate is not necessary. There are no recorded flow data for the stream, as it is in an ungauged catchment. The winter flow rate has been estimated using records from the hydrometric station 19028 (Dripsey) located on the Dripsey River 500m downstream of where the stream confluences with the Dripsey River.

The estimation of the flow rate in the stream is based on assumptions derived from hydrological equations and mass conservation theory:

- Rainfall input is uniform and consistent in both the Lee River Catchment and the Cooldorragha subcatchment.
- The Lee River catchment has an homogeneous hydrological behaviour

The data used for calculations were:

- Area of the Dripsey hydrometric station catchment $C_{tot} \approx 76 \text{ km}^2$ (EPA).
- Average winter Flow rate from the Dripsey hydrometric station $\approx 3 \text{ m}^3/\text{s}$

The delineation of the Dripsey River water catchment was drawn on MapInfo with a digital Elevation Model (DTM Digital Terrain model) as shown on Figures 3.2 and 3.3. The surface area of the catchment upstream of the discharge point on the stream (shown in green on the Figures) is 13.2 km², which corresponds to 17.4% of the catchment of the Dripsey River upstream of the Dripsey hydrometric station (76km²).





C' Callaghan Moran and Associates Granary House, Rutland street, CORK, IRELAND Tel. (021) 4321521 Fax. (021) 4321522 email. info@ocallaghanmoran.com	CLIENT	Cork County Council	LEGEND Station Catchment Area Discharge point Catchment Area		FIGURE NUMBER	3.2
	TITLE				JOB NUMBER	1390501
This drawing is the property of O'Callaghan Moran and Associates and shall not be used, reproduced or disclosed to anyone without the prior written permission of O' Callaghan Moran and Associates and shall be returned upon request.		Water Catchment Delineation	Rivers	Site	SCALE 0 1 km	4 km

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Using the mass conservation relationship, the discharge point catchment area being approximately 17.4% of the station catchment area, should contribute 17.4% of the flow rate measured at the Dripsey station. Therefore the winter flow in the receiving stream at the discharge point is estimated to be approximately 17.4 % of 3m³/s, which equates to 0.50m³/s or 500l/s.

3.2 Volume of Water to be Discharged

Water balance calculations were prepared to estimate the likely volumes of water that will be discharged into the adjacent stream. The guarry occupies an area of 32 hectares. The portion of the central area under water is estimated to be approximately $180,000m^2$. Assuming an average depth of 1.8 m, which includes provision for on-going rainfall within the quarry, the volume of water that needs to be drawn down to allow access is approximately $324,000 \text{ m}^3$.

Assessment of Hydraulic Loading 3.3

ton purposes only any other us Based on the original topography, run of from the northern portion of the quarry and the adjoining worked out areas further north originally entered the stream. The bed of the stream is now at a higher elevation (ca. 126 m OD) than the base of the quarry to the west (ca. 124 m OD), which indicates that the beet is underlain by low permeability soils (probably sandy silts) and no run-off from the site enters the stream. The excavation of the quarry resulted in a reduction in the flow in the stream due to the loss of run-off from the northern area of the site.

The discharge of water during the winter months (from October to March), into the stream will be approximately $74m^3/h$, or 20.5 l/s. The discharge will increase the flow in the receiving stream by approximately 4.1 % and in the Dripsey River by less than 0.7%. This should not result in either scouring of stream channels or any flooding downstream of the site.

A search of flood databases maintained by the Office of Public Works did not identify any records of flooding in the receiving stream. There is one record of flooding in Dripsey Village in 1986, but this was attributed to a 1 in 250 return rainfall event that caused waters to in the main River Lee channel to back up from the Inniscara Dam.

3.3 Water Quality

Previous testing of the water in the stream, carried out during the preparation of the planning application, indicates the water is of good quality and that the current activities of the quarry are not affecting the quality.

In Ireland, the water quality of streams and rivers has been assessed by the Environmental Protection Agency (EPA) using macroinvertebrates, chemistry and macroflora. The Q-Value system (Q1 - bad status to Q5 - high status) describes the relationship between water quality and the macroinvertebrate community in numerical terms. The stream and the Dripsey River have been assessed by the EPA as being of good status (Q4).

Sampling of the receiving stream was carried out on the 22nd July 2008, at the approximate location of the discharge point (SW-1). The sampling was carried out by full submergence of the sample container into the surface water body. During submergence every effort was made to keep the container steady so as to prevent sediment disturbance. The samples were stored in cooler boxes to maintain sample temperature at approximately 4°C. Field measurements of temperature, pH and electrical conductivity were recorded. The analytical results are presented in Table 3.1.and the full report is in Appendix 1.

	Poet Is in App		
Water Quality			
Parameters	Units	SW-1	
pHent	pH units	6.45	
Conductivity	mS/cm	0.215	
Temperature	°C	14.7	
DO	ppm	8.8	
рН	pH units	7.4	
Conductivity	mg/l	0.220	
Nitrate	mg/l	5.7	
Ammonia	mg/l	< 0.05	
Alkalinity	mg/l	45	
BOD	mg/l	<4	
Suspended Solids	mg/l	<5	
Total Dissolved Solids	mg/l	151	

Table 3.1: Surface Water Quality

The results indicate that the water quality in the stream good.

3.4 Assessment of Discharge on Water Quality

The water from the ponds will be a combination of rainwater and groundwater from the sands and gravels. The results of groundwater quality monitoring conducted in 2007 during the processing of the planning application established that the groundwater quality is good. The results are presented in Table 3.2.

The nitrate and alkalinity levels in the groundwater are higher that in the stream which is to be expected as the well is located in the bedrock if groundwater water quality results from bedrock are they really representative of the groundwater in the sand and gravel. . Given that the discharge will be a combination of rainwater falling within the site boundaries and groundwater in the sands and gravels it is considered that the quality of the discharge will be similar to that in stream. Using a hydraulic load value of 20.51/s and taking a winter flow rate of 5001/s, the calculated dilution factor is 24.

		150.	
Parameter	Units	MW-1	DWS*
pH	pH units	3 72	6 – 9
Dissolved Oxygen	% set a for	4.6	-
Conductivity	mS/cmrponite	234	1000
Chloride	mg/ tot	18	250
Ammonia	mg/h	<0.2	0.3
Nitrate	ung/l	17.3	50
Total Oxidise Nitrogen	mg/l	4	-
Sulphate	mg/l	13	250
OrthoPhosphate	mg/l	0.1	0.03
Calcium	mg/l	284	200
Magnesium	mg/l	4.3	50
Potassium	mg/l	2.4	5
Sodium	mg/l	9	200-
Total Organic Carbon	mg/l	2	-
Total Hardness	mg/l	89	200
Alkalinity	mg/l	180	-
Aluminium	µg/l	236	200
Chromium	μg/l	10	50
Copper	µg/l	16	30
Iron	μg/l	60	200
Manganese	µg/l	1	50
Nickel	µg/l	3	20
Zinc	µg/l	20	100
Faecal Coliforms	cfu/100ml	0	0
Total Coliforms	cfu/100ml	34	0

Table 3.2Groundwater Test Results

- No Abnormal Change

*EPA-Drinking Water Standard

<u>EPENDIX 1</u> Surface Water Quality: Resolution Surface Water Quality: Resol

August 2008 (JOC/JC)





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JS



Health Sciences

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Customer ID:	: ZOCM		
	MS ALEXANDRA BEL O'CALLAGHAN, MORAN & ASSOCIATES, GRANARY HOUSE,	Report No	: 1739S
	RUTLAND STREET,	Date of Receipt	: 22/07/08
No. Of Samples Sample Type Order Number	CORK.	Delivery Mode	: Hand
	1 Water or Wastewater	Date testing Initiated	: 22/07/08
		Date of Report	: 07/08/08
		Sample Condn. on Receipt	: Satisfactory
		Page :	1 of 1

TEST REPORT

Sample No	: 1739S1			
Customer Re	f. : SW 1 - 08-139-04 - 21/07/08		v ^e .	
Test	Test Description	Test Result	Unither	Method
124	pH VALUE	7.4	only and	ET1243 APHA 2005:4500 H:B
056	CONDUCTIVITY @ 25°C	220 ج	^{2°} δ [°] μS/cm	ET0561/APHA1998:2510:B
042	SUSPENDED SOLIDS	<5 NIP	iff ^C mg/l	ET 0422 Based on APHA 2005 2450:B
038	AMMONIA NITROGEN as N	<0.05 101 2 100	mg/l	ET0383/MEWAM1981
044	NITRATE NITROGEN (as N)	5.7 pect will	mg/l	ET2353 APHA 2005:4500NO3:1
* 058	ALKALANITY (AS CaCO3)_(pH 4.5)	45 115 oht	mg/l	ET0581/APHA 1998 2320:B
066	BOD 5d with nitrificat'n inhib	FR4 VIIE	mg/l	ET0663 APHA 2005:5210:B
* C17	TDS @ 180°C	×151	mg/l	ETC171
		onsent		

Owen Frahill

* Denote tests NOT accredited by the National Accreditation Board

Authorised By:

Supervisor, Env. Services Div. EPA Export 08-11-2011:13:03:53

ENDIX 2 Management Plan any other use. Management Plan any other use.

August 2008 (JOC/JC)

SURFACE WATER MANAGEMENT PLAN

FOR

QUARRY

AT

TULIGMORE

For insection not required for any other use. For insection not required for any other use. Frepared For: -Quarry Produr 'Is Comme-'rookst Zo O' Regan's Quarry Products Limited, The Mills Commercial Park, Co. Cork.

Prepared By: -

O' Callaghan Moran & Associates, Granary House, Rutland Street, Cork.

31st August 2008

August (JOC/JC

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		Consent of copyright own	

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1. INTRODUCTION

This Plan has been prepared to ensure that surface water and groundwater within the site at the site is managed in a manner that will not result in any impact on the surface water drainage system outside the site.

1.1 Site Operations

The site is a sand and gravel quarry that has been extensively worked. The sands and gravels are excavated using diggers and brought to a washing and screening plant using dump trucks, where they are washed and screened to produce different grades (sizes) of gravel. It is proposed to reinstate worked out areas of the site for agricultural use using imported clean soils and subsoils. It is also proposed to develop Construction & Demolition (C&D) Recycling facility at the site after a Waste Licence is obtained from the Environmental Protection Agency.

The water used in the washing plant is obtained from a sump in the southern part of the site. This is pumped to the washing plant, where it is used to clean the sands and gravel. The wash water, which contains sediment, is pumped to the settlement ponds, where the sand and silt settles out. The clear water from the ponds, and rainwater from the central and northern parts of the site, then flows in channels back to the sump in the south of the site.

A dust suppression system is provided on the main access road. It consists of water sprinkler heads at a height of approximately 500 mm and approximately 10 m apart. Water is pumped from the sump to the sprinkler heads, which spray over the vehicle manoeuvring area. The system is activated in times of dry weather and as deemed necessary by site management. A water bowser and tractor are used to damp down unpaved areas of the site in dry weather. These also act as a backup in the event of a problem with the fixed dust suppression system on the access road. They will also be used for dust suppression during the reinstatement of the site.

2.1 **Site Location**

The site, which encompasses approximately 32 ha (80 acres), is located approximately 3 kilometres north east of Coachford.

2.2 **Surrounding Landuse**

The adjacent lands are mainly used for agricultural purposes. An unnamed stream, which is a tributary of the River Dripsey, forms part of the south eastern site boundary.

2.3 Topography

In Si ion purposes only any other use carrier required for any other use The entire site has been quarried, with excavations extending up to the site boundaries. A review of the Ordnance Survey maps shows that outside the excavated area there is a gradual ACOP fall toward the stream.

2.4 **Surface Water Drainage**

The lands are located in the catchment of the Dripsey River, which is a sub-catchment of the River Lee. The main channel of the Dripsey is approximately 1.6 km to the south west. The unnamed tributary of the Dripsey forms part of the eastern site boundary. Water is not currently abstracted from this stream and it is not proposed to do so in the future.

Much of the northern and eastern area of the site has been graded to a relatively uniform level. Ponds and drainage channels have been formed in the central and western areas. Surface water run-off from the northern and central areas, which are underlain by the silty sands, including the settlement ponds, flows via a series of drainage channels to the sump in the south of the site. There are no surface water discharge points from the site and none are proposed.

The settlement lagoons are located in the east of the site. There is currently no discharge from the pond to the nearby stream, and overflow of all settled water is channelled to the abstraction sump in the south of the site.

It is proposed to provide an outlet from the ponds to the stream to reduce the water levels in the central portion of the site, so as to allow access to the reserves in the central part of the site.

2.5 Surface Water Quality

In 2007 water quality monitoring was conducted at two locations in the stream along the eastern boundary, upstream of the site and is downstream. A further sample was collected in the stream in 2008. The quality of the water in the stream is good and there is no evidence that the existing activities at the site have had any negative impacts.

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3. MANAGEMENT MEASURES

3.1 Surface Water Catchment

The Dripsey discharges to the River Lee, which is classified as a salmonid river by the South Western Regional Fisheries Board. There is a major water abstraction and treatment works on the Lee in Cork City. It is a policy objective in the County Development Plan to conserve sources of drinking water and to minimise threats to either the quality, or quantity of drinking water reserves that might result from different forms of development.

3.2 Impacts

The current gravel extraction activities are not impacting on either the flows or quality of the stream. The base of the quarry is below the level of the stream and run-off from the site is confined within the site and not contributing to flow in the stream.

The current and proposed activities do not require any abstraction from the stream. Groundwater/rainwater is and will continue to be abstracted from the sump in the south of the site for use in the screening and washing plant. While the majority of this will continue to be recirculated within the site, it is proposed to provide an overflow for the surplus water to the stream during the winter months

The water used in the dust suppression system infiltrates to ground. As the proposed C&D recycling activities are similar in nature to the gravel extraction activities it is not anticipated that there will be any impacts on the stream from this source.

3.3 Management Measures

3.3.1 Buffer Zone

There is a vegetated earthen bund along the boundary between the site and the stream. Rainfall on the site and on the western side of the earthen bund infiltrates to ground and is not directed towards the stream.

4

The vegetation on the bund prevents rapid surface water runoff from the eastern side and reduces the potential for suspended solids entering the stream. It is not proposed to carry out any re-instatement works adjacent the stream.

3.3.2 C&D Facility

The C&D recycling plant will be located in the north east of the site where the current ground conditions (silty sands) provide protection to the underlying water bearing sands and gravels. The plant will be at a lower level than the stream. Only inert waste will be accepted for processing at the facility. The only potential impact on surface water associated with this activity is inert solids entrained in surface water runoff. This run-off will either infiltrate to ground or enter the drainage system within the quarry and make its way to the abstraction sump.

3.3.3 Fuel & Oil Storage

Site activities involve the storage and handling of fuel for the site plant and trucks, and engine and lubricating oils used in plant and equipment maintenance. Diesel is stored in unbunded above ground tanks. These will be provided with bunds that have a capacity of 110% of the tank volume and will be water tight. All tank valves and outlets will be inside the bund.

Engine and lubricating oil will be stored in drums in a contained area e.g. bunded pallets, or dedicated storage mit; Waste oils generated during plant maintenance will be stored in drums in a dedicated contained area. Adequate oil spill containment and clean-up equipment are provided and maintained ready for use adjacent to the oil storage areas.

3.3.4 Wheel Wash

A closed loop wheel wash will be provided. The system will recycle all of the soiled waters and there will be no discharge of soiled water. All trucks exiting the site will pass through the wheel wash.

3.3.5 Reinstated Areas

It is proposed to reinstate the worked out areas using a combination of un-suitable materials won on-site; inert materials from the on-site C&D recycling that are not suitable for sale and imported clean soils and subsoils. In the northern area it is proposed to raise the levels to those of the road ways that form the western and northern site boundaries. There will be a gentle fall to the south east to encourage field drainage.

ATTACHMENT 3

Newspaper Advertisephene Newspaper Advertisephene on provide the second of the second

C:\08\139_Dripsey\05_Trade Effluent Licence\1390501

September 2008 (JOC/JC)

XX1 - V2

Irish Examiner Friday 12.09.2008



In Memoriam

7 CORK ROAD.

BOYLE (nee McKenna) MARIE (Arklow, Cork and Rathfarnham): On September 10, 2008, very peace-fully, after a long illness, borne with great courage and good humour. Deeply regretted by her loving hushand Michael daugh ters Jenny and Susie, sons Andrew and Stephen, also Pascal, Oisín, Annabel and Jo, her twelve grandchildren, brothers, sisters, relatives and numerous friends. R.I.P. Removal from Fanagans Funeral Home. Lower Kimmage Road to the Church of the Annunciation, Rathfarnham, arriving at 5.30pm on this (Friday) evening. Funeral on tomorrow (Saturday), after 11am Mass,

No flowers please. Dona-

tions, if desired, to Out

Lady's Hospice, Harolds

Cross.

Deaths

GEARY (Cobh): On September 11, 2008, peacefully, in the loving care of Dr. Filip Janku, the nurses and staff of St. Bernadette's Ward, Secours Hospital Ron Cork. MICHAEL (ex VCD) Rushbrooke. Ferryview, much loved husband of Kathleen (nee Forrest) adoring father of Sandra and Michael, father-in-law of Siobhán and grandfather of Fiona. Sadly missed by his heartbroken family, brothers, sisters brothers-in-law, sisters-in law, nephews, nieces, relatives and friends. Remova on today (Friday) at 7pm from the Cobh Hospital Mortuary to St. Colman's Cathedral Requiem Mass on tomorrow (Saturday) at 12 noon. Funeral immediately afterwards to Old Church Cemetery. Family flowers only. Donations, in lieu, if desired, to St Bernadette's Ward, Bon Secours Hospital, Cork. May be rest in peace

ONES ANNE IOSEPHINE ROBERTA (ROBIN) (nee Scarffe): Passed away suddenly, at home, on Sep tember 6, 2008, aged 70 vears. Robin, of Knutsford (formerly of Wensley Road, Prestwich), beloved wife o Valentine and dearly loved Mum of twins Anita and Val and much loved grand mother of Matthew and Simon and friend of many will be deeply missed Funeral Service at St Vincent de Paul Roman Catholic Church, Knutsford, on Tuesday, September 16, 2008, at 9.30am. Flowers by choice (Angela at La Fuchsia on 01565 872233) Any enquiries to the funeral director Graham Tresidder, Nantwich Funeral Service.

NOTICE TO ADVERTISERS

More, Dripsey, Co. Cork.

It is a condition of acceptance of advertisement orders that the proprietors do not guarantee the insertion of any particular advertisement on specified date or at all, although every effort will

JOE McCARTHY Town Clerk Midleton Town Council KINSALE TOWN COUNCIL

ROADS ACTS, 1993 TEMPORARY CLOSING OF PUBLIC ROADS Notice is hereby given, under Section 75 of the Roads Act, 1993.

that the following road will be closed to public traffic for the dates and times stated: from 08.00 Monday 22nd September 2008 to 18.00 Friday 10th October 2008 -

Cork Stroot and

· John Dempsey, Whitestream, Bonniconlon, Ballina, Co Mayo McNamara's Car Dismantlers Knockbrack, Ballyhaunis, Co Mayo . BS Parts Ltd, Bolies. Duleek, Co Meath . Oristown Auto Recyclers Ltd, Kells, Co Meath • Sragh Car Breakers, Sragh, Ballybay, Co Monaghan · Donal Ryan Car Repairs, Templederry, Nenagh, Co Tipperary

Donie Comerford Autospares, Capparoe, Nenagh, North Tipper ary · Ballycumber Exports Ltd, Ballycumber, Co Offaly . Condon Car Dismantlers, Cappincur Industrial Est, Tullamore, Co Offaly Duffy Bros Salvage Itd Lon

is as follows: Class 4: It is an offence for any person other than the applicant, his/her agent, Limerick County Council or the Environmental Protection Agency, to remove this site notice.

Registration) Regulations 2007

A copy of the application for the waste facility permit will be available for inspection or purchase as soon as is practicable after receipt by the Limerick County Council, at the principal offices of the Environment Dept., Limerick County Council, County Hall, Dooradovle, Limerick.

will be offered for your intentions. First Anniversary Mass in Coachford Church on Saturday September 20, 2008

In Memoriam

6.30pm

CONLON: In loving memor of MARY CONLON, Black rock, whose tenth anniversary occurs today. Time may hide the sadness, Like the smile that hides

LENEHAN (Eleventh Anni-

and

O'NEILL: In loving memory of a dear wife and mother, PEGGY O'NEIL, R.I.P., late of Knockenady, Ballineen Masses offered.

Her gentle nature and loving ways, Leave golden memorues of

happy days. Always remembered by her loving husband Donal, sons Seamus and Ted and extended Family).

Kilmashogue (Cemetery)

Jimmy Murphy Fourth ANNIVERSARY reasured memories of oving husband, dad and grandad, late of Amber Heights, Lake Road, Cobh who died 12th September

Not a day do we forget With pride we speak vour name. Life goes on without you But it will never be the (Missed greatly by your wife Mercy, sons and

family) **O'Sullivan**

loving memory of my only brother MICHAEL late of Meenishal, Newmarket, who died on September 12, 2006. R.I.P. Forever in our hearts (Always . remembered by Con Marvann. Declan).

> versary): In loving memory of WILLIAM J. (BILL), late of Mountain View, Old Cork Road, Mallow, who died on September 12, 1997. Sweet Jesus have mercy on his soul. (Always remembered by his loving family).

McCARTHY, RAY (First Anniversary): Late of Ballyvolane and Princess Street. Treasured memories of o our beloved Ray, today and every day.

ADVERTISING 39

Deaths

McAULIFFE (Newmarket): On September 10, 2008, at Mallow General Hospital TERESA (nee Twomey) Verling Place and formerly of Meenishall, beloved wife of the late Patrick and dear mother of Liam. Mary, Noelle, Conor, Colm Deeply Joseph. and mourned by her loving family, brothers, sister grandchildren Ieremy Linda and Ionathan, son brothers-in-law in-law, sisters-in-law, nephews, relatives nieces. friends. May she rest in peace. Reposing O'Reilly's Funeral Home Removal on this (Friday) evening at 8.45pm to Mary's Church. Requiem Mass tomorrow (Saturday) at 12 noon. Funeral after wards to Clonfert Cemetery House private, please.

O'DRISCOLL (Ballinahina, Whites Cross): On September 11, 2008, peacefully at Cork University Hospital CATHERINE (KITTY, nee Gleeson), dearly loved wife of the late Jack and loving mother of Marie, Catherine, Liz, Teresa and the late Dan. Sadly missed by her loving family, grandchildren, great-grandchildren, son-in-law Eddie brother Jim, sisters-in-law. brothers-in-law, nephews relatives and nieces, friends. Removal at 7pm on this (Friday) evening from Barry Bros Funeral Home. Hazelwood, Glanmire to Church of the Immaculate Conception, Carraig na bhFear. Requiem Mass at 2pm tomorrow (Saturday) Funeral afterwards to St. Patrick's Cemetery, Whitechurch.

May she rest in peace

O'SHEA (CHRIS) (Clonard, Sandyford and former of Musgraves, Cork and Dublin): On September 11, 2008, peacefully, at St. Vincent's University Hospital, beloved husband of Ber and loving father to Patrick, James, Ruth, Christopher and Rebecca and adored Papa to Aimee, Caleb, Ross and Harry, Will be sadly missed by his loving family, sister Rose, daughters-in-law Janet and Carol, son-in-law Aengus Ioanne and Declan, broth ers-in-law, sisters-in-law, nephew, relatives and many friends. Rest in peace Removal on this (Friday) evening to the Church of the Ascension of the Lord, Balally, arriving at 6pm Funeral on tomorrow (Saturday), after 10am Mass, to Mount Jerome Crematorium. Family flowers only. Donations,

Deaths

O'SULLIVAN (Carrigeen, Crookstown): On Septem ber 10, 2008, in the loving care of the staff of Bride Haven Nursing Home Mallow, DAN IOE, beloved brother of the late Jackie Cathy, Willie and Gretta. Sadly missed by his loving sister-in-law Kitty, nephews grandnephews nieces, grandnieces, relatives and friends. RIP. Requiem Mass on today (Friday) at 12 noon in St. Mary's Church, Kilmurry. Funeral afterwards to St Finbarr's Cemetery, Kilmurry.

SHERLOCK (Bracknagh, Offaly and formerl of Cloyne, Co. Cork): On September 10, 2008, in the loving care of the nurses and staff of the Regional Hospital, Portlaoise, JAMES (JIM), beloved husband of the late Margaret. Deeply regretted by his loving daughters Margie, Imelda and Christine, sons Francis and James, grandchildren, great-grandchildren, sonsin-law, daughter-in-law, nieces nephews, relatives and friends. RIP. Removal from Mahers Chapel of Rest, Portarlington on this (Friday) evening at 6.45pm, arriving at St. Brocham's Church, Bracknagh at 7.30pm. Requiem Mass on tomorrow (Saturday) a 11am. Funeral afterwards to St. Brocham's Cemetery.

STOUT (Cork): On Septem ber 11, 2008, peacefully at her home. Woodvale Road. Beaumont, in the presence of her family, CLAIRE (nee O'Mahoney), dearly loved loving wife of Gerald, mother of Geraldine, Dolores, Anthony, Mark and Daniel and sister of the late Paul. Sadly missed her loving husband family, sisters, sons-in-law, grandchildren Shane, Ian Mark Cathal and Liadh. sisters-in-law, brothers-in nieces. law, nephews, relatives and friends. Lying in repose at the Temple Hill Funeral Home. Boreenmanna Road, O'Connor Ierh Removal on this (Friday) evening at 8pm to S Michael's Church, Blackrock. Requiem Mass at 11am tomorrow (Saturday). Funeral afterwards to St Michael's Cemetery, Black-

May she rest in peace

TWOHIG (Castlefreke): On September 202080rt 08-11-2011:13:03:54