

N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	<i>Issue</i> 0	<i>Date</i> 12/5/14
		<i>Ident No.</i> MS-N60-05 Rev 0	

Version Issue.			
Issue	Date	Version Details	Revised by
0	12/5/14	First Issue	

Acceptance / Approvals.			
	Name	Signature	Date
Prepared by:	M Blackweir		12/5/14
Reviewed by:	A McGinley		12/5/14
Accepted by:	D Meade		12/5/14

N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	<i>Issue</i> 0	<i>Date</i> 12/5/14
		<i>Ident No.</i> MS-N60-05 Rev 0	

Title: Drainage

Location: N60 Balla to Claremorris Road Realignment at Heathlawn Scheme

Task at Hand

This method statement outlines the procedure and methodology for the installation of drainage.

Timing of Task

To be advised subject to Contractor appointment.

Supervision of Task

	Name	Contact Number
Contracts Manager:	TBC	
Site Agent:	TBC	
Foreman:	TBC	
Site Engineer:	TBC	
Suitably Qualified Ecologist:	TBC	

Employees Involved

- Plant Operators
- Site Supervisor
- Pipe Layers
- General operatives

Equipment to be used






20-30 Ton Excavator
A20-30 Volvo Dump Trucks
5-9 ton dumpers

Specific Training

- All site personnel shall have FAS 'Safe Pass' certification.
- All Excavator & Dumper drivers shall have CSCS certification.
- CSCS certified representative in underground service location

N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	Issue 0	Date 12/5/14
		Ident No. MS-N60-05 Rev 0	

Personal Protective Equipment

Safety Gloves	Hearing Protection	Eye Protection	Respiratory Protection	Coveralls	Other
 Hand protection must be worn in this area		 Eye protection must be worn		 Protective clothing must be worn at all times	Hi Vis- Vest Hard Hats Boots
Yes	Where required	Yes	Where required	No	Yes

Methodology

The design location of the proposed drainage is shown on detailed design drawings. The drains shall be installed to NRA details RCD/500/01 filter drains and RCD /500/2 for carrier drains.

General

- All personnel entering the site shall have received a site safety induction and have attended a job toolbox talk.
- Before any excavations shall commence a permit to excavate shall be issued by the site engineer and all persons involved in the task shall be fully briefed

Excavation

- The location of the proposed drainage will be set out on the ground by marking with spray paint and pegs at pit locations. Where works are along edge of existing roadway traffic light or stop/go system shall be set up to carry out works. A trench will then be excavated between pits using an excavator with material loaded to dump truck. The trench width will vary depending on the size of the pipe.

Installation

- Where drains are being installed a layer of geotextile material shall be placed along the outline of the trench and a layer of filter stone shall then be placed in base of trench to receive pipe work. The pipe work shall then be laid to the correct line and level by using a grade laser.

N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	<i>Issue</i> 0	<i>Date</i> 12/5/14
		<i>Ident No.</i> MS-N60-05 Rev 0	

Backfilling of Ducting

- The remaining stone shall then be placed by six ton dumper up to underside of capping where geotextile shall be turned out under capping layer. The remainder of the drain shall be topped up once surfacing works are carried out up to wearing course level. Installation of layer of Geogrid shall also be carried out at this stage.
- All chambers on the drain lines shall be constructed with pre-cast concrete catch pits and shall be placed as pipeline proceeds.

Petrol Interceptors

- Excavate a hole with sufficient length and width to accommodate the tank and a min of 300mm surround to a depth for the burial of the unit plus the base slab and haunch.
- Construct a suitable base.
- Pour no more than 300mm of depth of water into the unit, avoiding shock loads. For units with more than one chamber, add water to each chamber simultaneously. Do not overfill as units are not designed to hold water whilst unsupported.
- Backfill to approximately 300mm depth under and to the sides of the tank ensuring good compaction to remove voids. Continue adding backfill, simultaneously keeping the internal water level no more than 200mm above the backfill level at all times, until the backfill is just below the underside of the outlet drain, giving sufficient room to connect the inlet and outlet pipe work.

Grass Surface Water Channel

- The verge shall be filled to top of capping layer with an acceptable fill material.
- After the Binder course is laid the shape of the verge is formed using an acceptable class 2 fill.
- In the areas where Narrow Filter Drain has been installed filter stone shall be topped up to top of capping level.
- This fill material shall be shaped, compacted and top-soiled to depth of 50mm as detailed in the Design.
- Specific grass mix to be utilised, specification to be developed with grass seed specialist.

Swales & Soakaways

- The area will be cleared and leveled out to allow for the construction of the swale or soakaway.
- Excavations will be executed in accordance with the design.
- Once the area of the swale has been shaped & checked it will be backfilled with suitable fill and topsoiled as required.

N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	<i>Issue</i> 0	<i>Date</i> 12/5/14
		<i>Ident No.</i> MS-N60-05 Rev 0	

- Soakaway excavation shall be backfilled with clean stone and the terram lapped over top of soakway, in accordance with the design and completed to original ground with excavated material/topsoil.

SAMPLE

N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	<i>Issue</i> 0	<i>Date</i> 12/5/14
		<i>Ident No.</i> MS-N60-05 Rev 0	

Potential Ecological / Environmental Impacts, including impacts on Balla Turlough cSAC and/ or other European sites

NIS / EAR: Relevant Extracts:

Potential Impacts (in the absence of below Mitigation):

- Potential Surface & groundwater contamination during construction.
- Potential decrease in groundwater supply to Turlough during construction.
- Potential Increase in run-off volumes to Turlough during construction.
- Pollution from Surface Water run-off during Construction.

Mitigation:

- Construction works carried out in the vicinity of the Turloughs will be monitored by a suitably qualified ecologist.
- To reduce potential increases in flows into the drainage system and downstream Turloughs during construction, the period of exposure of bare areas and uncontrolled runoff from new hardstanding areas will be limited. Early covering/seeding/planting of exposed surfaces will be undertaken.
- The grassed surface water channel, interceptor ditch and filter drain with 25m centre outfalls and petrol interceptor (as detailed in 32103901/PDD/Figure 01 & included in Appendix A) between Ch1000 and Ch 1500 on the south western side of the carriageway, will be constructed and operating prior to excavation of Cutting 1 (Ch 1260 to 1340). These drainage features are adjacent to Balla Turlough SAC, to facilitate the controlled discharge of any intercepted groundwater back into the Turlough habitats in the case of the water being intercepted during excavations. The outfalls to the Turlough will be open during construction only, and closed during operation.
- Material stockpiles will be kept to a minimum size, covered and located at least 10m from the drainage system and 100m from Turloughs.
- To prevent contaminated or silt-laden runoff from entering the Turloughs, a range of temporary measures will be implemented, including silt fences, cut-off ditches, silt traps, straw bales, entrapment matting and drainage to vegetated areas.
- Runoff will be controlled and, if required, directed to settlement ponds or sumps. Any temporary attenuation and treatment facilities will be designed and implemented in accordance with CIRIA C697 (2007). All temporary treatment systems will be regularly inspected and maintained.
- The extent of construction activities will be controlled to limit vegetation removal and the exposure and/or compaction of soils. Land surrounding the immediate construction area will be fenced off, or otherwise demarcated, to prevent inadvertent intrusion from construction plant.

N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	<i>Issue</i> 0	<i>Date</i> 12/5/14
		<i>Ident No.</i> MS-N60-05 Rev 0	

- The scheme drainage system will be inspected daily, or after storm events, to check for blockages during construction.
- Construction works will be avoided during prolonged periods of very heavy rainfall adjacent to the Balla Turlough cSAC and Un-named Turlough.
- No construction plant or construction vehicles to enter the Balla Turlough cSAC boundary other than where this boundary has already been generally encroached by the existing road.
- Refuelling of machinery shall be carried out off-site, or when on-site not within 100m of Turlough habitat.
- All fuels, oils, greases, hydraulic fluids and chemical storage areas will be stored in bunded compounds/areas on impermeable bases at least 10m from the proposed drainage system and 100m from the cSAC and Un-named Turlough.
- Drip-trays shall be utilised for refueling of machinery, machine servicing, concrete-mixing, etc.
- No machinery to enter Turlough habitats, no temporary access or haul routes are located in Turlough habitats and no temporary storage areas, plant or other obstacles are located within Turlough habitats.
- Monitoring of turbidity (suspended solids) levels in Balla Turlough SAC and the Un-named Turlough will be undertaken on a monthly basis for a minimum of 6 months prior to construction and will include monitoring during the winter season when Turlough water levels are most likely to be present. Monitoring will also be undertaken on a weekly basis during construction for turbidity (suspended solids). In the event of suspended solids concentrations that are higher than the 95th %ile of those monitored during the pre-construction monitoring period, a review of the Sediment and Erosion Control measures and plan will be implemented and additional sediment control measures put in place as required. Daily visual inspections of Balla Turlough SAC and the Un-named Turlough will also be undertaken during the construction phase to confirm the absence of sediment from construction works.
- The N60 Balla to Claremorris Erosion and Sediment Control Plan shall be implemented to prevent sediment or pollutants from reaching the Balla or Un-named Turloughs.
- Untreated sewage will be collected and be disposed of off-site via a licensed contractor.
- The following Construction Industry Research and Information Association (CIRIA) best practice guidance will be adhered to:
 - CIRIA C648 – Control of Water Pollution from Linear Construction Projects.
 - CIRIA C649 – Control of Water Pollution from Linear Construction Projects: Site Guide.
 - CIRIA C697 – The SUDS Manual.
 - CIRIA C698 – Site handbook for the construction of SUDS.
- All mitigation contained within the N60 Environmental Assessment Report and NATURA Impact Statement shall be implemented in full.

N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	<i>Issue</i> 0	<i>Date</i> 12/5/14
		<i>Ident No.</i> MS-N60-05 Rev 0	

Relaying of Information; To each operative:

“I wish to confirm that the information in this method statement has been communicated to me and I have understood it. I shall bring to the attention of the supervisor any issues, which may affect Safety whilst carrying out the task”.

Information provided by Supervisor; _____

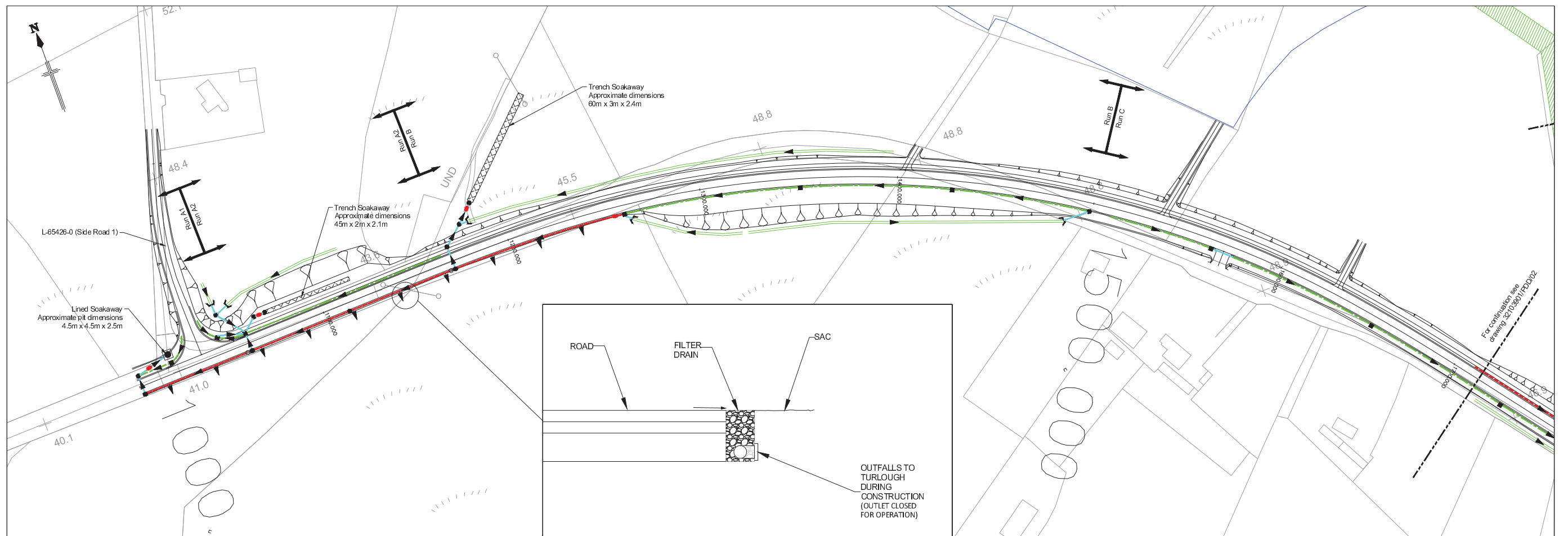
NAME (BLOCK)	Signature	DATE

In the event of the need for a deviation from the Method Statement, no further work will be done until agreement has been reached and recorded in writing between the client & the contractor on the method of work to be followed in the new circumstances.

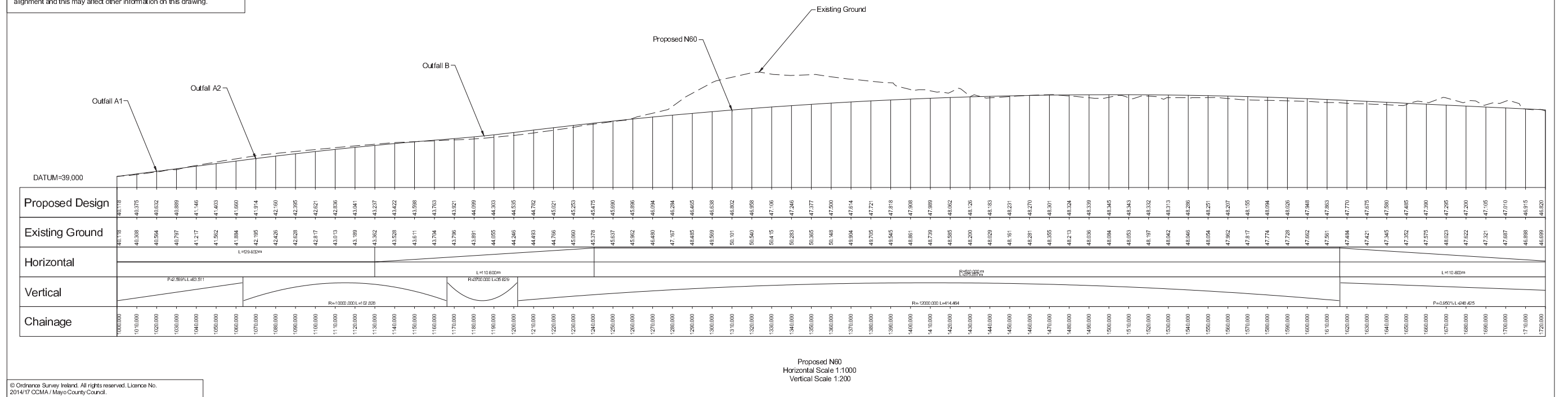
N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	<i>Issue</i> 0	<i>Date</i> 12/5/14
		<i>Ident No.</i> MS-N60-05 Rev 0	

Appendix A

SAMPLE



Whilst this proposed improvement has been designed sufficiently to be shown as a practical scheme, the design will be further refined during the detailed design process which may result in changes to parts of the alignment and this may affect other information on this drawing.



© Ordnance Survey Ireland. All rights reserved. Licence No. 2014/17 CCMA / Mayo County Council.



MAYO COUNTY COUNCIL
 Áras an Chontae,
 The Mall,
 Castlebar,
 Tel: +353 94 9024444
 www.mayococo.ie

JACOBS
 Merrion House
 Merrion Road
 Dublin 4
 Tel: +353 1 2695666
 Fax: +353 1 2695706
 www.jacobs.com

- Key:
- Filter Drain
 - Grassed Surface Water Channels (GSWC)
 - Carrier Pipe
 - Interceptor Ditch
 - Trench Soakaway
 - Lined Soakaway
 - Catchpit
 - Rodding Eye
 - GSWC Outlet
 - Headwall
 - Oil / Petrol Interceptor

Rev	By	Date	Description
0	MW	JAN 14	For Publication

Project: N60 BALLA TO CLAREMORRIS ROAD PROJECT AT HEATHLAWN
 Component: ENVIRONMENTAL ASSESSMENT REPORT
 Title: DRAINAGE DESIGN SHEET 1 OF 5
 Designed: MW
 Drawn: MM
 Checked: CP
 File Name:
 Original scale: 1:1000 @ A1, 1:2000 @ A3
 Date: 07/12/13
 Drawing No: 32103901/PDD/01

N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	<i>Issue</i> 0	<i>Date</i> 12/5/14
		<i>Ident No.</i> MS-N60-05 Rev 0	

Risk Assessments –

(Civil Works)

SAMPLE

N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	<i>Issue</i> 0	<i>Date</i> 12/5/14
		<i>Ident No.</i> MS-N60-05 Rev 0	

APPENDIX B

Risk Assessments Hazard/Risk Assessment Proforma

Project:	N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Risk Assessment No:	N60/RA011 Rev 0	Review Dates:	May 2014
Operation/Task:	Installation of drains	Method Statement Title:	Installation of drains		
Location/Area:	All locations	Method Statement No:	MS-N60-05 Rev 0		

CATEGORY OF PERSONS AT RISK AND MEANS OF BRIEFING

CATEGORY OF PERSONS		Means of Briefing		
		RAMS	SCS	Other
Occupations involved in Activity (Specify):	Plant operators, general operatives ,	Y		
Others Persons at Work (Specify):	N/A			
Public or Other Parties (Specify):	NA			

Description of the task/operation
1. Excavation of trenches to receive new filter drains along edge of existing road and along verge of new carriage way..

N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	<i>Issue</i> 0	<i>Date</i> 12/5/14
		<i>Ident No.</i> MS-N60-05 Rev 0	

KEY: S = Severity Rating

- 1. Negligible
- 2. Minor
- 3. Notifiable/Major/Fatal

L = Likelihood of Occurrence

- 1. Improbable
- 2. Reasonably likely
- 3. Certain or near certain

RR = Risk Rating

		1	2	3
Severity	3	3	6	9
	2	1	4	6
	1	1	2	3
		1	2	3
		Likelihood		

- 9** Unacceptable risk, plan out or add further controls
- 4-6** Acceptable only if no other method viable and with high level controls in place
- 2-3** Acceptable if suitable controls
- 1** Acceptable, no further action required

Risk Assessment Prepared by (Name): _____

Signature: _____

Date: _____

Risk Assessment Reviewed by (Name): _____

Signature: _____

Date: _____

N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	Issue 0	Date 12/5/14
		Ident No. MS-N60-05 Rev 0	

Item	Activity	Hazards/Risks Identified	Pre-Control Risk Rating			Control Measures	Residual Risk Rating			Responsibility	Monitoring Responsibility
			S	L	RR		S	L	RR		
01	<i>Excavations</i>	<ul style="list-style-type: none"> Work on or near steep embankments Work in trenches or near saturated ground / high water table. Excavation Collapse Trench Collapse Falls from Height into excavations 	2	1	1	<ul style="list-style-type: none"> Detailed Method Statements and Risk Assessments to be carried out pertaining to each particular activity Permit to Dig System to be Implemented Area to be surveyed by a person qualified in FAS CSCS location of underground services Suitable Plant to be utilized in excavation Operations All excavations to be monitored on a daily basis and AF2 form completed Competent Machine Operators to be utilised FAS CSCS qualifications Adequate Trench Support Systems to be utilised i.e. trench boxes/sheets Dewatering systems to be implemented where required. Suitable access to be provided to trenches Perimeter fencing and signage to be put in place and secure excavations 	1	1	1	Full site Team	Contractor

N60 Balla to Claremorris Road Realignment at Heathlawn Scheme	Method Statement: Drainage	Issue 0	Date 12/5/14
		Ident No. MS-N60-05 Rev 0	

Item	Activity	Hazards/Risks Identified	Pre-Control Risk Rating			Control Measures	Residual Risk Rating			Responsibility	Monitoring Responsibility
			S	L	RR		S	L	RR		
02	Heavy Plant and Equipment	<ul style="list-style-type: none"> Struck by site transport Falls from vehicles. Splashed by fuel during refuelling. Tipping or overturning of vehicles. Contact with moving parts of machinery. Struck by mater dropped while in lift. 	3	2	6	<ul style="list-style-type: none"> Detailed Method Statements and Risk Assessments to be carried out for all activities to address the movement use of heavy equipment. Worker Briefings to be carried out Plant to be operated by Competent Personnel Plant to be in good order and inspected prior to commencement of any works on site Auxiliary devices and visual aids on plant as highlighted in Schedule 6 of 2006 Construction Regulations. Carry out plant checks and record on plant checklists Vehicle Banksmen to be utilised where required Segregate traffic from public and work force where possible Implement work exclusion zones where appropriate Implement Traffic Management Plans Ensure all personnel were appropriate PPE and high visibility clothing 	3	1	3	Full site Team	Contractor