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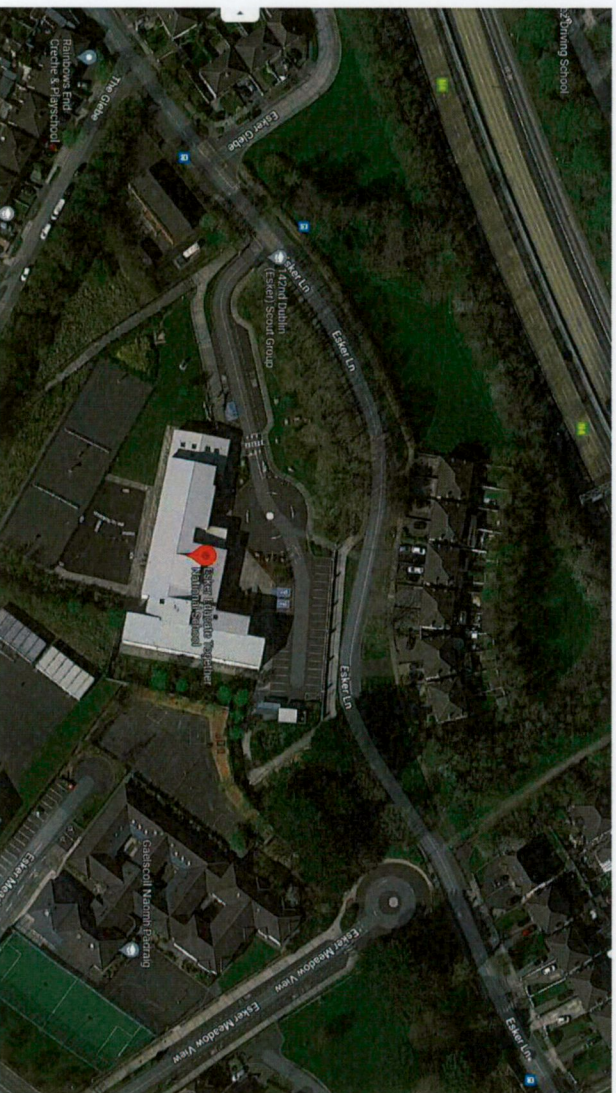
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**PROJECT:** Esker Educate Together National School, The Glebe, Esker Lane, Lucan, Co. Dublin, K78 N239

**PROJECT NO:** 21.135

**DOCUMENT TITLE:** Civil Engineering Report

**DOCUMENT NO:** 21.135-RP-02









## Document Control

Document Number 21.135-RP-02

Report (delete as appropriate):

Rev	Date	Prepared	Checked	Description
PR0	23/11/2022	MG	MG	Issued for DT Review
PR1	28/11/2022	MG	MG	Revised Red Line Boundary to Drawings.
PL0	01/12/2022	MG	MG	Issued for Planning







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## 1.0 INTRODUCTION

### 1.1 General

Description of the Project  
Please see attached Project Brief & Schedule of Additional Accommodation.  
In summary, the project will comprise:

#### SCHEDULE OF ADDITIONAL ACCOMMODATION

No. of Spaces	Type of Space	Dimensions m	Area per space m <sup>2</sup>	Total Area m <sup>2</sup>
1	MCT Classroom including en-suite toilets		80	80
2	SET Rooms		15	30
	Sub Total			110 m <sup>2</sup>
	Circulation (21%) (23.1 m <sup>2</sup> )			23 m <sup>2</sup>
	<b>Sub Total</b>			<b>133 m<sup>2</sup></b>
	Footprint for internal walls/partitions (7%) (9.31m <sup>2</sup> )			9m <sup>2</sup>
<b>School Sub Total Floor Area enclosed by external walls</b>				<b>142 m<sup>2</sup></b>
<b>Two Classroom Special Educational Needs (SEN) Base</b>				
1	Central Activities Space			80 m <sup>2</sup>
2	Classroom – Safe Base ( excluding toilets and storage ) 70 sq m each			140.00 m <sup>2</sup>
1	Toilets & Shower Area 1 x Toilet / Shower for Assisted Users 1 x Independent Use			19.20 m <sup>2</sup>
2	Small Safe Place (1 per Class Base 12 sq m)			24.00 m <sup>2</sup>
1	Multi-Sensory Room			20.00 m <sup>2</sup>
1	Staff Toilets			10.00 m <sup>2</sup>
1	Storage			25.00 m <sup>2</sup>
1	Cleaner Store/ Linen/ Sluice			05.00 m <sup>2</sup>
1	Office			20.00 m <sup>2</sup>
	<b>SEN Base Sub-Total</b>			<b>343.2 m<sup>2</sup></b>
	Internal Walls & Partitions @ 7%			24.02 m <sup>2</sup>
	*Circulation @ 21%			72.07 m <sup>2</sup>
	<b>Total</b>			<b>439.29 m<sup>2</sup></b>
	<b>SEN Base Total (Rounded off)</b>			<b>439.00 m<sup>2</sup></b>
	<b>External</b>			
	Secure hard and soft play area		200.00 m <sup>2</sup>	
	Sensory garden		100.00 m <sup>2</sup>	
	Parking spaces			6
	<b>GROSS FLOOR AREA</b>			<b>581m<sup>2</sup></b>

Collins Boyd Engineering have been engaged by the Department of Education and Skills to carry out the Civil Engineering design of the associated services for the proposed additional accommodation.







The purpose of this report is to address the civil engineering design items associated with the above, and to provide relevant back-up and design details to complement the engineering drawings as submitted as part of this application.

## **2.0 SURFACE WATER DRAINAGE**

**(See Drawings 21.135 -202 and 211)**

### **2.1 General**

The surface water drainage for this proposed development has been designed in accordance with the principles as set out in Section 3 of the publication "Recommendations for Site Development Works for Housing Areas" published by the Department of the Environment and Local Government, 1998, and in accordance with BS8301: 1985 – British Code of Practice for Building Drainage and the recommendations of the Greater Dublin Regional Code of Practice V6.0

There is currently an existing stormwater surface water sewer located within the site which receives the existing buildings roof (via rainwater harvesting) and hardstanding areas surface water flowing in a southerly direction to the existing 225mm uPVC pipe that is flowing in a easterly direction the existing petrol interceptor and attenuation syste.. There is an existing rainwater harvesting system on site which caters for the roof water from the existing buildings. In the event of a major rainfall event this then overflows to the existing storm drain.

As part of the proposed CBE have engaged with the local authority drainage department and at time of writing this report we had received no correspondence. This correspondence is included in this report.

## **2.2 Surface Water Network Design**

### **2.2.1 Rainwater Harvesting Drainage Diversion**

The existing drainage on-site for the existing school building is being diverted via a new manhole RWHAJ1.0 and the diversion flows in a northerly direction to a new rainwater harvesting drainage manhole on the existing storm line (1.0). The diversion is moving the whole system north to avoid the new extension is connecting back to the existing system via a new manhole (RWHMH1.3) Please see attached appendix I for Proposed Drainage Layout which contains the diversion.

### **2.2.2 Stormwater Drainage New Buildings**

The existing petrol interceptor, hydrobrake and attenuation tank will cater for the new extension, additional carparking and play areas. The new extension is being constructed over existing concrete footpaths and tarmadam areas. In the new proposal the downpipes will discharge to the diverted rainwater harvesting network. The proposed footpaths and car parks will be constructed using a tanked permeable paving system will discharge to the existing storm drainage network in the event of exceedance. There will be two layers of SG Intergrid to facilitate the removal of any







hydrocarbons entering the ground. No groundwater was encountered during the site investigation works.

### **2.2.3 Proposed Play/Hardstanding Areas**

The surface treatments to the soft play area will consist of porous finishes and permeable paving to pedestrian areas.

### **2.3 Water Quantity**

The existing underground attenuation system is a Stormcell Chamber type system providing 440m<sup>3</sup> of storage volume (based on records) with a hydrobrake limiting flows to 3.5l/s (based on records). As there is no additional loading to the system it is deemed that this is adequate.

### **3.0 FOUL DRAINAGE (See Drawings 21.135-202)**

#### **3.1 General**

The main foul drainage for the proposed development has been designed in accordance with the current Irish Water Code of Practice and Standards

There is currently a foul sewer laid to the existing site which flows in a easterly direction by gravity to a pumping station (within our site) and is pumped easterly off site.

A Pre-Connection Form was submitted to Irish Water to confirm if the additional loadings will be acceptable. The Confirmation of Feasibility was received on the 15<sup>th</sup> of July 2022.

### **3.2 Proposed Foul Drainage Network**

It is proposed to lay a new underground foul drainage network to serve the proposed additional accommodation scheme. The toilets in the new extension will connect to the diverted 150mm diameter foul sewer which will flow in a westerly direction to FIC1.3 which is constructed on the existing foul drainage network on site.

As there are some toilet facilities in the existing building along the western elevation a new foul drain will be laid to replace the existing and flow in a northerly direction. This will be running under the new building.

All works are to be carried out in accordance with the current Irish Water Code of Practice and Standard Details for Wastewater.

Details of the above can be seen on drawings attached in appendix II.







### **3.3 Foul Drainage Calculations**

#### **3.3.1 Estimation of Foul Volumes**

As stated in section 3.2 above, it is intended to collect the foul effluent generated by the proposed school building in a new underground gravity foul network, which will discharge towards the existing foul drainage network.

To allow for the Local Authority to fully assess the implications of the proposed development on the local public network, the total daily foul flow from the proposed school has been evaluated, and details of this calculation can be seen below.

Refer to Appendix II for details.

#### **4.0 WATER SUPPLY**

**(See Drawings 21.135-203)**

##### **4.1 General**

The potable water supply for this proposed development has been designed in accordance with the current Irish Water, Water Infrastructure Code of Practice and Standards

The existing watermain to the west is being diverted around the new building, which connects to the existing with a new sluice valve and wash out valve and is looped at the end. A minimum of 6m separation distance is to be provided in accordance with the Current Technical Guidance Document Part B for firefighting purposes. This is providing two new hydrants for firefighting purposes and a service connection to the boiler room.

The new watermain is 100mm diameter HDPE SDR 11.

New hydrants will be strategically placed along this proposed main to allow for firefighting as necessary. An individual water meter will be provided on the connection from the proposed watermain to the school to allow for the monitoring of usage levels for the school.

##### **4.2 Water Drawdown**

To allow for the Local Authority to fully assess the implications of the proposed development on the local public water network, the total daily foul flow from the proposed school has been evaluated, and details of this calculation can be seen below.

Refer to Appendix III for details.







## **5.0 BUILD-UPS/SURFACE FINISHES (See Drawings 21.135-201 and 210)**

### **5.1 General**

It is proposed to use permeable finishes throughout the new proposal to facilitate SuDS measures on site as discussed in the pre-planning meeting help with the local authority. The existing tarmacadam car park and concrete footpaths will be substituted as part of the new scheme with permeable paving. Refer to Appendix IV for details.

### **5.1 Permeable Paving Options**

Two options were examined as part of the permeable paving for the car park, Infiltration System and Tanked System. As part of the site investigation carried out by Causeway Geotech Ltd. a infiltration test was carried out. The results of the infiltration test were poor and deemed unsuitable for the implementation of infiltration drainage systems. A tanked option was chosen with a Hydradin drain connected to the existing storm drainage network on site to facilitate exceedance of the system if it occurs.

For details of the finishes, types of paving and infiltration test refer to Appendix IV.

## **6.0 TRAFFIC (See Drawings 20-197-200)**

### **6.1 General**

The new extension (to the East) is to cater for the existing student and staff population.

The proposed site is currently accessed off Esker Lane which is in charge of the local authority. The existing car park has a one vehicular junction with Esker Lane to the north west of the subject building. As part of the pre-planning process we discussed with the local authority roads engineers any specific requirements they had for the development. The indicated that a mobility management plan may be required as part of any planning application and that traffic impact assessment was not required. A traffic management plan for the construction phase would be required. Notes from the pre-planning consultation are included in Appendix V of this report.

## **6.2 External Access to Proposed Development**

As stated in section 5.1 above, access to the site is to be made via an existing 6.02m wide access road which extends into the current staff parking area. This existing junction currently operates as an entrance and exit onto Esker Lane, and it is proposed that this system should be maintained upon the proposed development of the school.







### 6.3 Internal Roads and Parking

The existing vehicular entrance/exit to the site, which currently caters for staff parking primarily and dropping and collection of existing students in Small Buses/Larger Cars/Vans for the students that require special needs assistants.

Large buses set down are currently able to set down along Esker Lane or Esker Meadow View with students disembark outside the confines of the school site.

It is envisaged that a temporary car within the site will be required during the construction phase.

Access to the side and rear of the school for fire tender access to be maintained.

The new development is to cater for the existing student and staff population currently on site. Six additional parking are allowed for in the DOES brief (see above).

### 7.0 FLOOD RISK ASSESSMENT

As part of the civil and structural engineering review the OPW Flood Information Mapping (Flood Info.ie) was assessed for potential flooding on the site. The subject site is not located within any flood risk area. Refer to Appendix VI for Extract from Floodinfo website.





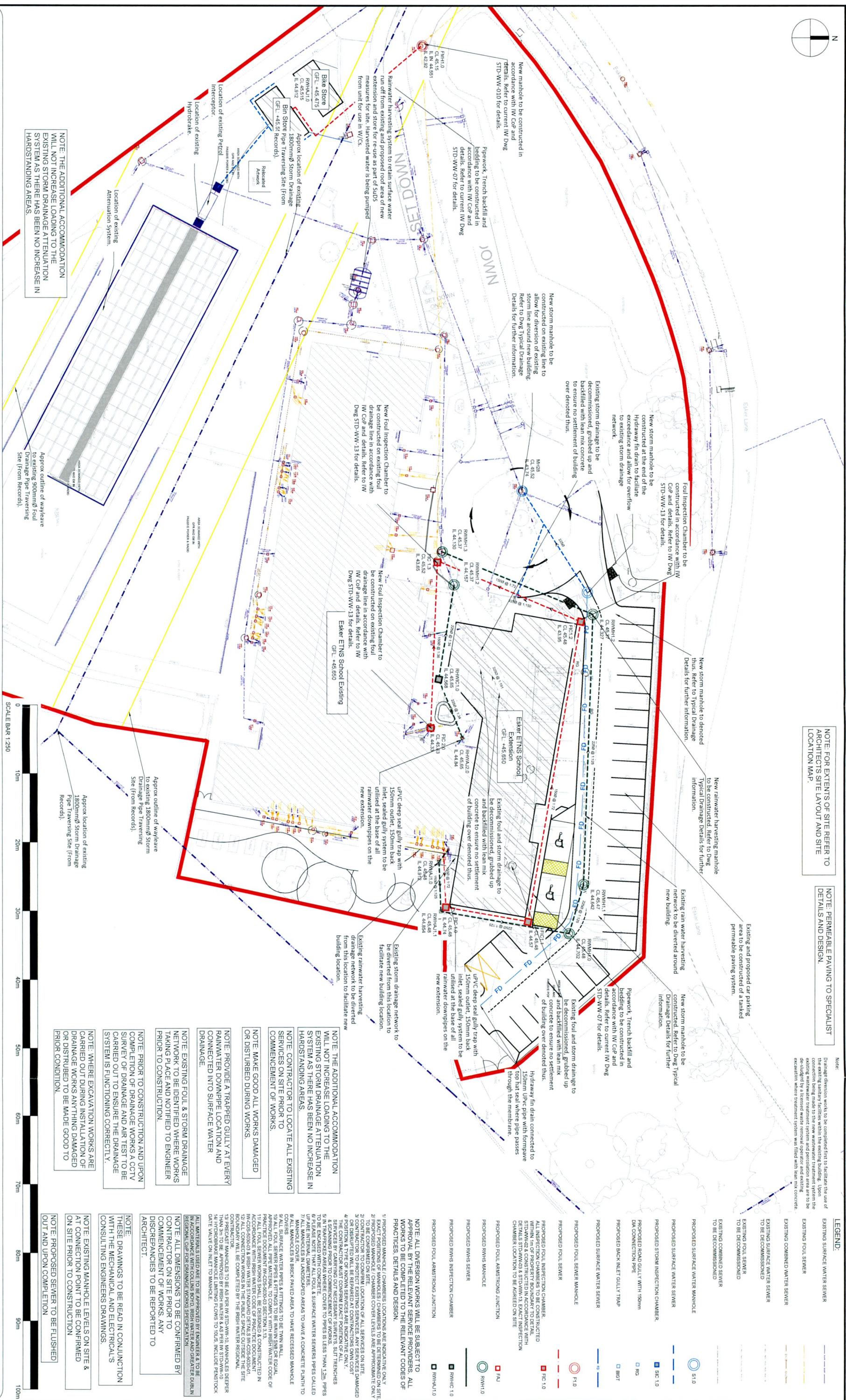


## APPENDIX I Storm Drainage







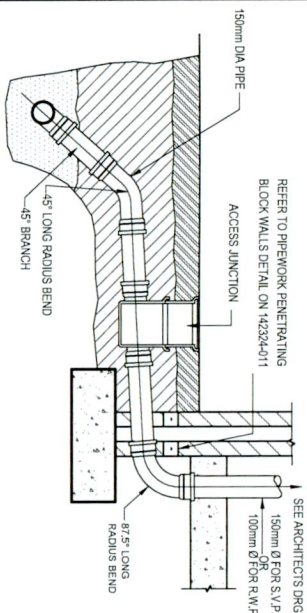


Notes:	Rev	Description	By	Date	<div><div><div>collinsboyd</div><div>ENGINEERS &amp; ARCHITECTS</div></div><div><div>Galway Road</div><div>Roscommon</div><div>Co. Roscommon</div><div>F42 V344</div></div><div><div>Phone: 090 66 34421</div><div>Fax: 090 66 34423</div><div>Email: info@collinsboydeng.com</div></div></div>	Client:	Drawing Title:	Status:	
1. This drawing is the copyright Collins Boyd Engineering Ltd. It is a confidential document and must not be copied, used or its contents divulged without prior written permission.	PRO	Issued for DT Review prior to Planning Issue	MG	23/11/2022		Bom, Esker Educate Together National School, Esker Lane	Proposed Drainage Layout	Planning	
2. DO NOT SCALE. Use figured dimensions only, if in doubt ask.	PR1	Revised Red Line Boundary	MG	24/11/2022				Date:	November 2022
	PLO	Issued for Planning	MG	01/12/2022				Scale:	1:250 @ A1
3. Drawings for Planning Permissions purposes only unless otherwise stated.								Drawn by:	MG
					JOB No.	DRG No.	REV.		
					21.135	202	PLO		

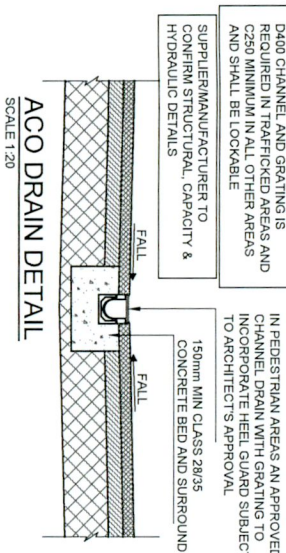




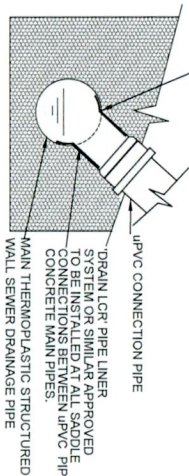




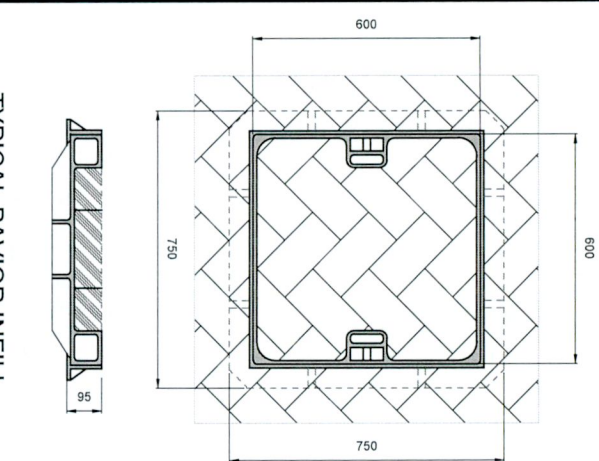
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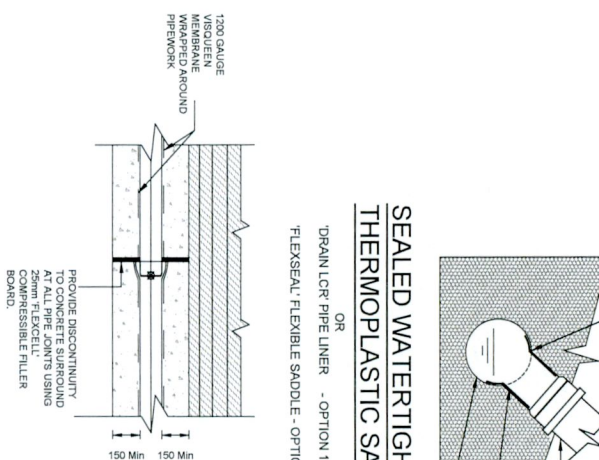
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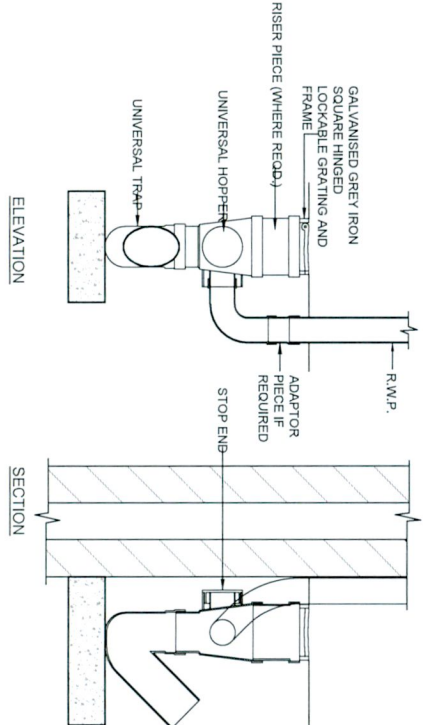
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SCALE 1:50



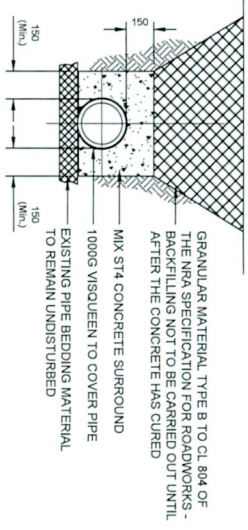
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SCALE 1:10



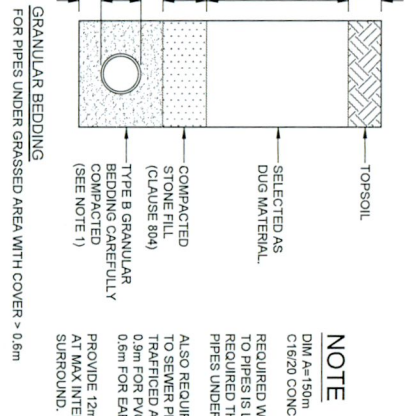
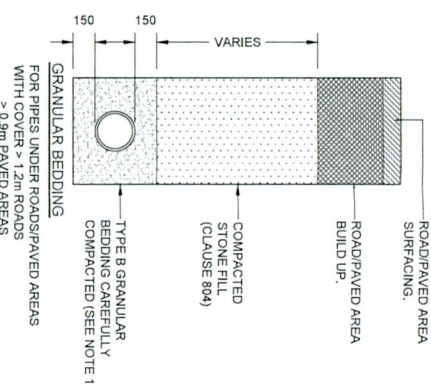
**DISCONTINUITY JOINT DETAIL**  
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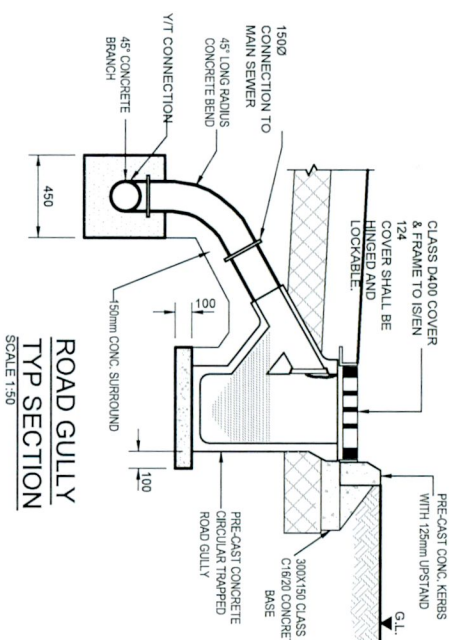
**RWP GULLY DETAIL**  
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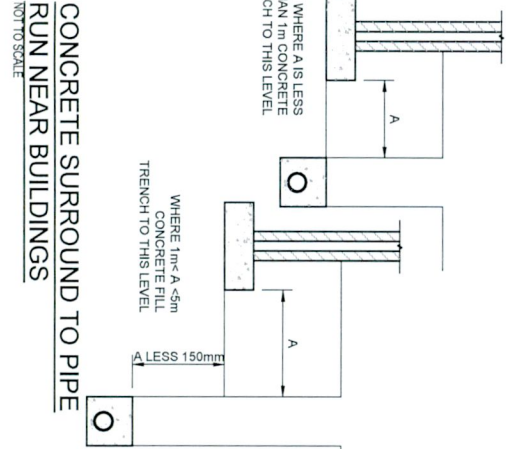
**CONCRETE SURROUND PROTECTION TO EXISTING SEWER**  
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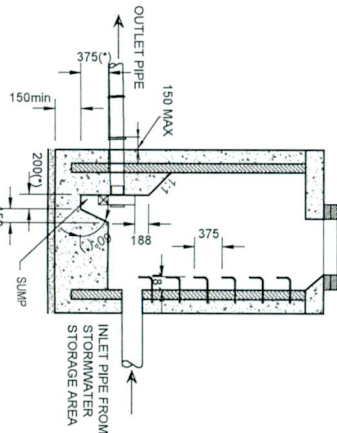
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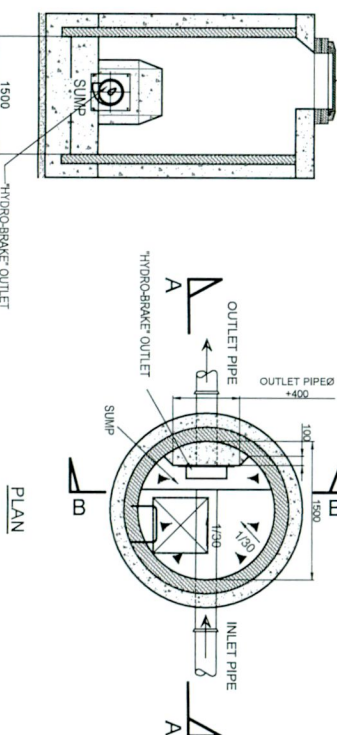
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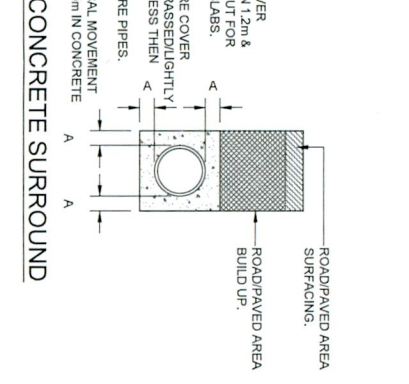
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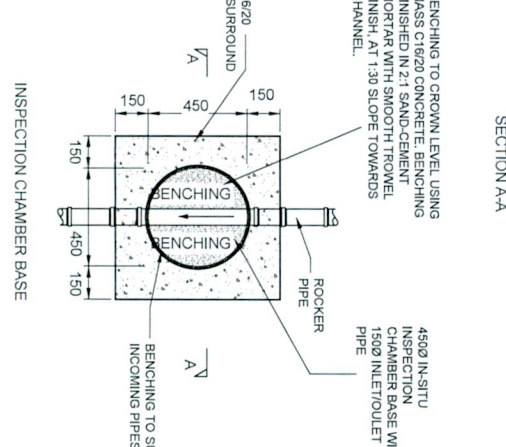
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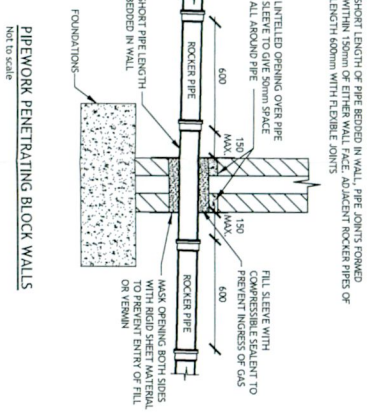
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SCALE 1:50



**CONCRETE SURROUND**  
SCALE 1:50



**TYPICAL INSPECTION CHAMBER DETAIL**  
SCALE 1:25



**PIPEWORK PENETRATING BLOCK WALLS**  
SCALE 1:50

**Notes:**

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- DO NOT SCALE. Use figured dimensions only. If in doubt ask the Architect for clarification.
- All dimensions to be checked by contractor on site. Any errors or discrepancies to be reported to the Architect.
- All works to be carried out in accordance with the current Building Control Act and Building Regulations.
- Client is obliged to forward a commencement notice to the local authority at least 14 days prior to the commencement of any works on site.
- Commencement to be informed immediately of any discrepancies before work proceeds.

**NOT FOR CONSTRUCTION**

Revisions	Rev	By	Date	Description
	P80	MG	21.11.2022	Issued for DT Review prior to Planning Issue
	P10	MG	01.12.2022	Issued for Planning

**Client:**  
B&M Eaker Educate Together National School, Eaker Lane

**Architect:**  
Opfermann, Architects & Interior Designers  
Unit D1, The Millhouse  
Fleury Street, Dublin 1

**collinsboyd**  
ENGINEERS & ARCHITECTS

**Job Title:**  
Proposed Additional Accommodation Scheme to Eaker Educate Together National School, Eaker Lane

**Drawing Title:**  
Typical Drainage Details

**Status:** Planning

**Date:** November 2022

**Scale:** AS @ A1

**Drawn by:** MG

JOB NO.	DRG NO.	REV.
21.135	211	P10















## APPENDIX II Foul Drainage























Foul wastewater discharge

Non-Boarding School = 50litres/head/day (No Cooking Facilities)

Using busiest hours as requested by IW for Proposed Staff and Student Nrs.

420 - Students, 43 Staff = 463

$463 \times 50 = 23,150$  litres = average daily demand

$23,150/32,400$  (9 Hrs) =  $0.714$  l/s + 10% consumption =  $0.785$  l/s = average hourly demand

$0.785$  l/s  $\times 1.25 = 0.981$  l/s = weekly peak demand

$0.981$  l/s / 9Hrs =  $0.109$  l/s = peak hourly demand

$0.981$  l/s  $\times 6 = 5.886$  l/s = peak demand for design purposes

Non-Boarding School = 50litres/head/day (No Cooking Facilities)

Using busiest hours as requested by IW for Proposed Staff and Student Nrs.

432 - Students, 49 Staff = 481

$481 \times 50 = 24,050$  litres = average daily demand

$24,050/32,400$  (9 Hrs) =  $0.742$  l/s + 10% consumption =  $0.816$  l/s = average hourly demand (27B)

$0.816$  s  $\times 1.25 = 1.021$  l/s = weekly peak demand

$1.021$  l/s / 9Hrs =  $0.113$  l/s = peak hourly demand (27A).

$1.021$  l/s  $\times 5 = 5.105$  l/s = peak demand for design purposes







## CONFIRMATION OF FEASIBILITY

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UISCE Éireann  
Bosca OP 448  
Oifig Sheachadha na  
Cathrach Theas  
Cathair Chorcaí  
  
Irish Water  
PO Box 448,  
South City  
Delivery Office,  
Cork City.  
[www.water.ie](http://www.water.ie)

15 July 2022

Our Ref: CDS22004442 Pre-Connection Enquiry  
The Glebe, Esker Lane, Lucan, Dublin

Dear Applicant/Agent,

### We have completed the review of the Pre-Connection Enquiry.

Irish Water has reviewed the pre-connection enquiry in relation to a Water & Wastewater connection for a Multi/Mixed Use Development of 1 unit(s) at The Glebe, Esker Lane, Lucan, Dublin, (the **Development**).

Based upon the details provided we can advise the following regarding connecting to the networks;

- **Water Connection** - Feasible without infrastructure upgrade by Irish Water
- **Wastewater Connection** - Feasible without infrastructure upgrade by Irish Water

This letter does not constitute an offer, in whole or in part, to provide a connection to any Irish Water infrastructure. Before the Development can be connected to our network(s) you must submit a connection application and be granted and sign a connection agreement with Irish Water.

As the network capacity changes constantly, this review is only valid at the time of its completion. As soon as planning permission has been granted for the Development, a completed connection application should be submitted. The connection application is available at [www.water.ie/connections/get-connected/](http://www.water.ie/connections/get-connected/)

### Where can you find more information?

- **Section A** - What is important to know?



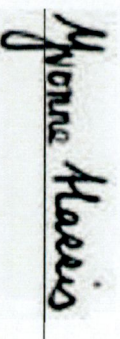




This letter is issued to provide information about the current feasibility of the proposed connection(s) to Irish Water's network(s). This is not a connection offer and capacity in Irish Water's network(s) may only be secured by entering into a connection agreement with Irish Water.

For any further information, visit [www.water.ie/connections](http://www.water.ie/connections), email [newconnections@water.ie](mailto:newconnections@water.ie) or contact 1800 278 278.

Yours sincerely,

A handwritten signature in black ink, reading "Yvonne Harris", written over a horizontal line.

Yvonne Harris  
Head of Customer Operations







## Section A - What is important to know?

What is important to know?	Why is this important?
Do you need a contract to connect?	<ul style="list-style-type: none"> <li>Yes, a contract is required to connect. This letter does not constitute a contract or an offer in whole or in part to provide a connection to Irish Water's network(s).</li> <li>Before the Development can connect to Irish Water's network(s), you must submit a connection application <u>and be granted</u> and sign a connection agreement with Irish Water.</li> </ul>
When should I submit a Connection Application?	<ul style="list-style-type: none"> <li>A connection application should only be submitted after planning permission has been granted.</li> </ul>
Where can I find information on connection charges?	<ul style="list-style-type: none"> <li>Irish Water connection charges can be found at: <a href="https://www.water.ie/connections/information/charges/">https://www.water.ie/connections/information/charges/</a></li> </ul>
Who will carry out the connection work?	<ul style="list-style-type: none"> <li>All works to Irish Water's network(s), including works in the public space, must be carried out by Irish Water*.</li> </ul> <p>*Where a Developer has been granted specific permission and has been issued a connection offer for Self-Lay in the Public Road/Area, they may complete the relevant connection works</p>
Fire flow Requirements	<ul style="list-style-type: none"> <li>The Confirmation of Feasibility does not extend to fire flow requirements for the Development. Fire flow requirements are a matter for the Developer to determine.</li> <li><b>What to do?</b> - Contact the relevant Local Fire Authority</li> </ul>
Plan for disposal of storm water	<ul style="list-style-type: none"> <li>The Confirmation of Feasibility does not extend to the management or disposal of storm water or ground waters.</li> <li><b>What to do?</b> - Contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges.</li> </ul>
Where do I find details of Irish Water's network(s)?	<ul style="list-style-type: none"> <li>Requests for maps showing Irish Water's network(s) can be submitted to: <a href="mailto:datarequests@water.ie">datarequests@water.ie</a></li> </ul>







<p>What are the design requirements for the connection(s)?</p>	<ul style="list-style-type: none"> <li>The design and construction of the Water &amp; Wastewater pipes and related infrastructure to be installed in this Development shall comply with <i>the Irish Water Connections and Developer Services Standard Details and Codes of Practice</i>, available at <a href="http://www.water.ie/connections">www.water.ie/connections</a></li> </ul>
<p>Trade Effluent Licensing</p>	<ul style="list-style-type: none"> <li>Any person discharging trade effluent** to a sewer, must have a Trade Effluent Licence issued pursuant to section 16 of the Local Government (Water Pollution) Act, 1977 (as amended).</li> <li>More information and an application form for a Trade Effluent License can be found at the following link: <a href="https://www.water.ie/business/trade-effluent/about/">https://www.water.ie/business/trade-effluent/about/</a></li> </ul> <p>**trade effluent is defined in the Local Government (Water Pollution) Act, 1977 (as amended)</p>







## APPENDIX III Watermain









NOTE: FOR EXTENTS OF SITE REFER TO ARCHITECTS SITE LAYOUT AND SITE LOCATION MAP.

NOTE: Any damage made to water main surrounding building to be repaired in accordance with current Irish Water Cop and Details. Refer to STD-W-35 for further details.

#### LEGEND

- PROPOSED 100mm Ø WATERMAIN HOPE SDR 11
- PROPOSED 200mm Ø SERVICE CONNECTION
- PROPOSED HYDRANT AS PER DETAIL STD-W-18
- PROPOSED WASHOUT HYDRANT CHAMBER AS PER DETAIL STD-W-30A EXACT LOCATION TO BE AGREED ON SITE
- PROPOSED AIR VALVE AS PER DETAIL STD-W-22
- PROPOSED SCOURPROOF BOX AS PER DETAIL STD-W-23
- PROPOSED SLUICE VALVE AS PER DETAIL STD-W-25
- PROPOSED BULK WATER TIE & LOCATION TO BE CONFIRMED BY WESTMIDLAND COUNTY COUNCIL / IRISH WATER
- EXISTING 100mm Ø PVC WATERMAIN

#### NOTES

- CONTRACTOR TO CONFIRM LOCATION OF ALL EXISTING SERVICES ON SITE.
- SITE CONTRACTOR TO PROTECT EXISTING SERVICES. ANY SERVICES DAMAGED OR DISRUPTED WILL BE REPAIRED AT CONTRACTORS OWN COST.
- POSITION & TYPE OF KNOWN SERVICES ARE INDICATIVE ONLY.
- SERVICES BY CARVEING OUT NECESSARY SURFACES, SLIT TRENCHES & SCANNING PRIOR TO COMMENCEMENT OF WORKS. SERVICES INDICATING TYPE OF FITTING, DISTANCE TO FITTING & WATERMAIN DIAMETER.
- PLEASE NOTE THAT ALL PIPE SIZES ARE INTERNAL DIAMETER.
- WATERMAIN TO BE NO LARGER THAN 150mm TO THE ROADSIDE KERB AS PER DETAIL STD-W-11.
- ALL WORKS SHALL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH CURRENT EDITION & IRISH WATER STANDARD DETAILS IW-CD3-500-01.
- CURRENT EDITION & IRISH WATER STANDARD DETAILS IW-CD3-500-01.
- ALL CONNECTION WORKS IN THE PUBLIC SPACE OUTSIDE THE SITE BOUNDARY WILL BE COMPLETED BY THE IRISH WATER REGIONAL CONTRACTOR.
- ALL MATERIALS USED ARE TO BE APPROVED BY ENGINEER & TO BE IN ACCORDANCE WITH IRISH WATER SPECIFICATION.

NOTE: ALL DIMENSIONS TO BE CONFIRMED BY CONTRACTOR ON SITE PRIOR TO COMMENCEMENT OF WORKS. ANY DISCREPANCIES TO BE REPORTED TO ARCHITECT.

NOTE: THESE DRAWINGS TO BE READ IN CONJUNCTION WITH THE MECHANICAL AND ELECTRICALS CONSULTING ENGINEERS DRAWINGS.

NOTE: WHERE EXCAVATION WORKS ARE CARRIED OUT DURING INSTALLATION OF NEW WATERMAIN WORKS ANYTHING DAMAGED OR DISTURBED TO BE MADE GOOD TO PRIOR CONDITION.

NOTE: CONTRACTOR TO LOCATE ALL EXISTING SERVICES ON SITE PRIOR TO COMMENCEMENT OF WORKS.

NOTE: MAKE GOOD ALL WORKS DAMAGED OR DISTURBED DURING WORKS.

NOTE: FOR EXTENTS OF SITE REFER TO ARCHITECTS SITE LAYOUT AND SITE LOCATION MAP.

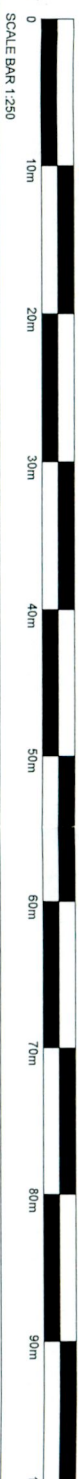
NOTE: Provide service connection to new extension in accordance with M & E Engineers drawings and details.

#### NOTE:

Any damage made to water main surrounding building to be repaired in accordance with current Irish Water Cop and Details. Refer to STD-W-35 for further details.

#### NOTE:

Where existing watermain are to be decommissioned, grubbed up and backfilled with lean mix concrete to ensure no settlement of building over denoted thus.



SCALE BAR 1:250

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Rev	Description	By	Date
PR0	Issued for DT Review prior to Planning Issue	MG	23/11/2022
PR1	Revised Red Line Boundary	MG	24/11/2022
PL0	Issued for Planning	MG	01/12/2022

**collinsboyd**  
ENGINEERS & ARCHITECTS

Galway Road  
Roscommon  
Co. Roscommon  
F42 V344  
Phone: 090 66 34421  
Fax: 090 66 34423  
Email: info@collinsboydeng.com

Client:  
BQM, Esker Educate Together  
National School, Esker Lane

Drawing Title:  
Proposed Watermain Layout

Architect:  
Collins Boyd Engineering Ltd  
Architects & Interior Designers  
Unit D1, The Millhouse  
The Steelworks,  
Foley Street,  
Dublin 1

Job Title:  
Proposed Additional Accommodation Scheme to Esker Educate Together National School, Esker Lane

Status	Planning
Date:	November 2022
Scale:	1:250 @ A1
Drawn by:	MG
JOB No.	21.135
DRG No.	203
REV.	PL0















## Calculations

Water demand

Non-Boarding School, no canteen = 36 litres/head/day

Using busiest hours as requested by IW for Existing Staff and Student Nrs.

420- Students, 43 Staff = 463

$463 \times 36 = 16,668$  litres = average daily demand

$16,668 / 32,400$  (9Hrs) = 0.514 l/s = average hourly demand

$0.514 \text{ l/s} \times 1.25 = 0.642 \text{ l/s}$  = weekly peak demand

$0.642 \text{ l/s} / 9\text{Hrs} = 0.0713/\text{s}$  = peak hourly demand

$0.642 \text{ l/s} \times 5 = 3.21\text{l/s}$  = peak demand for design purposes

Non-Boarding School, no canteen = 36 litres/head/day

Using busiest hours as requested by IW for Proposed Staff and Student Nrs.

432 - Students, 49 Staff = 343

$481 \times 36 = 17,316$  litres = average daily demand

$17,316 / 32,400$  (9Hrs) = 0.534 l/s = average hourly demand (16B)

$0.534 \text{ l/s} \times 1.25 = 0.668 \text{ l/s}$  = weekly peak demand

$0.668\text{l/s} / 9\text{Hrs} = 0.074\text{l/s}$  = peak hourly demand (16A)

$0.668 \text{ l/s} \times 5 = 3.34\text{l/s}$  = peak demand for design purposes







## CONFIRMATION OF FEASIBILITY

Mark Gallagher  
Collins Boyd Engineers  
Galway Road  
Roscommon,  
Co. Roscommon  
F42 V344

UISCE Éireann  
Bosca OP 448  
Oifig Sheachtadha na  
Cathair Theas  
Cathair Chorcaí  
  
Irish Water  
PO Box 448,  
South City  
Delivery Office,  
Cork City.  
[www.water.ie](http://www.water.ie)

15 July 2022

Our Ref: CDS22004442 Pre-Connection Enquiry  
The Glebe, Esker Lane, Lucan, Dublin

Dear Applicant/Agent,

### We have completed the review of the Pre-Connection Enquiry.

Irish Water has reviewed the pre-connection enquiry in relation to a Water & Wastewater connection for a Multi/Mixed Use Development of 1 unit(s) at The Glebe, Esker Lane, Lucan, Dublin, (the **Development**).

Based upon the details provided we can advise the following regarding connecting to the networks;

- **Water Connection** - Feasible without infrastructure upgrade by Irish Water
- **Wastewater Connection** - Feasible without infrastructure upgrade by Irish Water

This letter does not constitute an offer, in whole or in part, to provide a connection to any Irish Water infrastructure. Before the Development can be connected to our network(s) you must submit a connection application and be granted and sign a connection agreement with Irish Water.

As the network capacity changes constantly, this review is only valid at the time of its completion. As soon as planning permission has been granted for the Development, a completed connection application should be submitted. The connection application is available at [www.water.ie/connections/get-connected/](http://www.water.ie/connections/get-connected/)

### Where can you find more information?

- **Section A** - What is important to know?



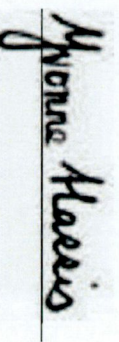




This letter is issued to provide information about the current feasibility of the proposed connection(s) to Irish Water's network(s). This is not a connection offer and capacity in Irish Water's network(s) may only be secured by entering into a connection agreement with Irish Water.

For any further information, visit [www.water.ie/connections](http://www.water.ie/connections), email [newconnections@water.ie](mailto:newconnections@water.ie) or contact 1800 278 278.

Yours sincerely,

A handwritten signature in black ink, reading "Yvonne Harris", written over a light grey rectangular background.

Yvonne Harris  
Head of Customer Operations







## Section A - What is important to know?

What is important to know?	Why is this important?
Do you need a contract to connect?	<ul style="list-style-type: none"> <li>Yes, a contract is required to connect. This letter does not constitute a contract or an offer in whole or in part to provide a connection to Irish Water's network(s).</li> <li>Before the Development can connect to Irish Water's network(s), you must submit a connection application <u>and be granted and sign</u> a connection agreement with Irish Water.</li> </ul>
When should I submit a Connection Application?	<ul style="list-style-type: none"> <li>A connection application should only be submitted after planning permission has been granted.</li> </ul>
Where can I find information on connection charges?	<ul style="list-style-type: none"> <li>Irish Water connection charges can be found at: <a href="https://www.water.ie/connections/information/charges/">https://www.water.ie/connections/information/charges/</a></li> </ul>
Who will carry out the connection work?	<ul style="list-style-type: none"> <li>All works to Irish Water's network(s), including works in the public space, must be carried out by Irish Water*.</li> </ul> <p>*Where a Developer has been granted specific permission and has been issued a connection offer for Self-Lay in the Public Road/Area, they may complete the relevant connection works</p>
Fire flow Requirements	<ul style="list-style-type: none"> <li>The Confirmation of Feasibility does not extend to fire flow requirements for the Development. Fire flow requirements are a matter for the Developer to determine.</li> <li><b>What to do?</b> - Contact the relevant Local Fire Authority</li> </ul>
Plan for disposal of storm water	<ul style="list-style-type: none"> <li>The Confirmation of Feasibility does not extend to the management or disposal of storm water or ground waters.</li> <li><b>What to do?</b> - Contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges.</li> </ul>
Where do I find details of Irish Water's network(s)?	<ul style="list-style-type: none"> <li>Requests for maps showing Irish Water's network(s) can be submitted to: <a href="mailto:datarequests@water.ie">datarequests@water.ie</a></li> </ul>







<p><b>What are the design requirements for the connection(s)?</b></p>	<ul style="list-style-type: none"> <li>The design and construction of the Water &amp; Wastewater pipes and related infrastructure to be installed in this Development shall comply with <i>the Irish Water Connections and Developer Services Standard Details and Codes of Practice</i>, available at <a href="http://www.water.ie/connections">www.water.ie/connections</a></li> </ul>
<p><b>Trade Effluent Licensing</b></p>	<ul style="list-style-type: none"> <li>Any person discharging trade effluent** to a sewer, must have a Trade Effluent Licence issued pursuant to section 16 of the Local Government (Water Pollution) Act, 1977 (as amended).</li> <li>More information and an application form for a Trade Effluent License can be found at the following link: <a href="https://www.water.ie/business/trade-effluent/about/">https://www.water.ie/business/trade-effluent/about/</a></li> </ul> <p>**trade effluent is defined in the Local Government (Water Pollution) Act, 1977 (as amended)</p>





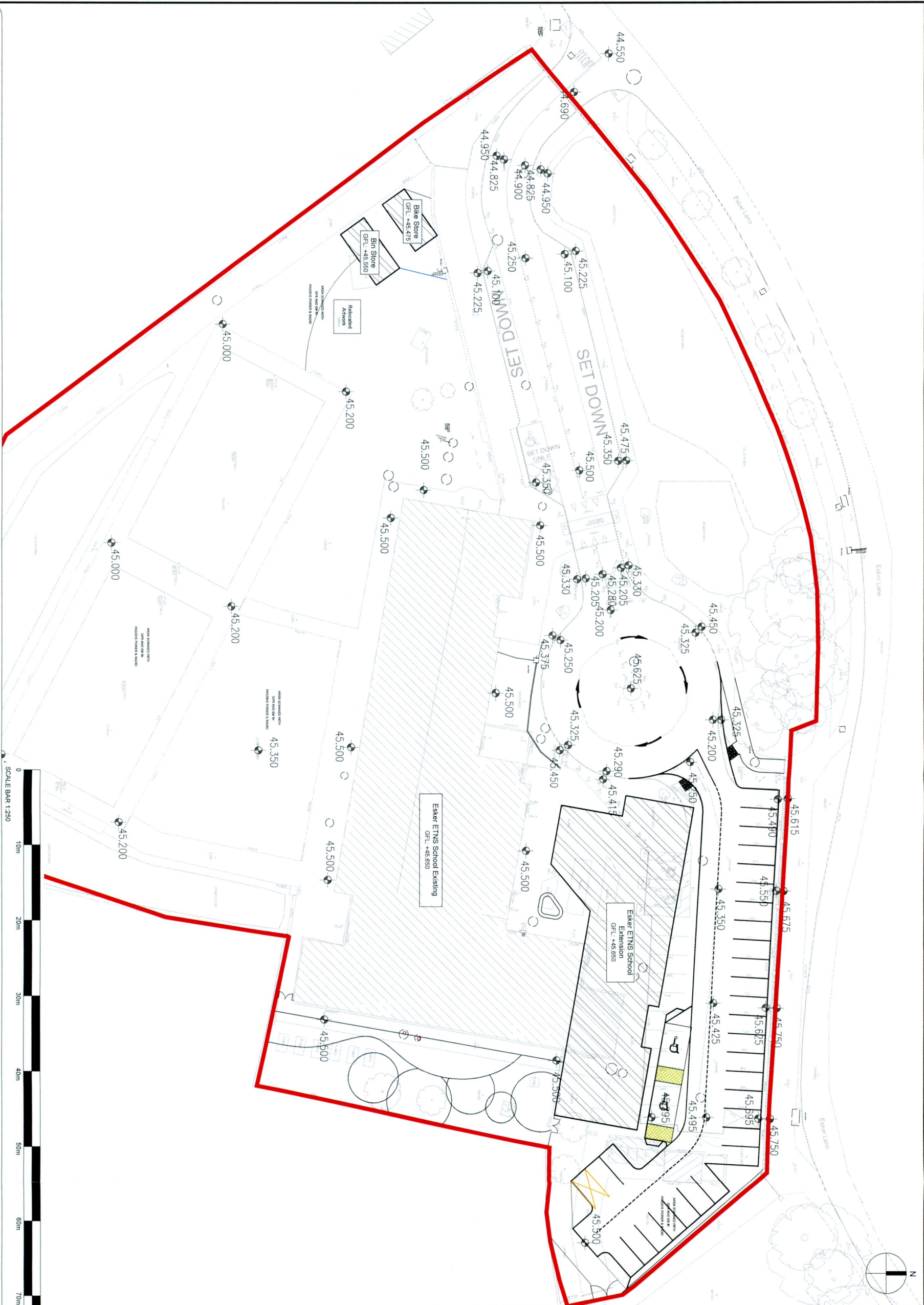


## APPENDIX IV Buildups/Hardstanding









Legend

- PROPOSED LEVELS 67.200
- PROPOSED FINISHED SURFACE GRADIENT 1/75
- EXISTING LEVEL +54.000

NOTE:

DILAPIDATION SURVEY TO BE FURNISHED TO COLLINS BOYD ENGINEERING 2 WEEKS PRIOR TO WORKS COMMENCING ON SITE.

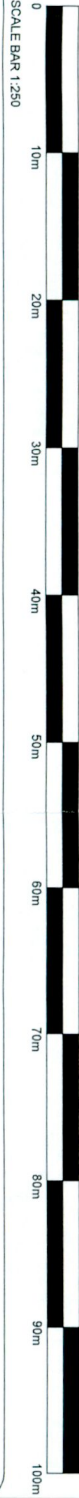
SITE HOARDING WORKS TO BE COMPLETED FIRST.

ACCESS TO SITE COMPOUND TO BE GAINED THROUGH EXISTING SERVICE ROAD. TIMES OF VEHICULAR MOVEMENTS & DELIVERIES TO SITE TO BE AGREED PRIOR TO MOBILISATION. ANY DAMAGE TO SERVICE ROAD SURFACE DURING WORKS TO BE REPAIRED AND MADE GOOD FOLLOWING COMPLETION OF THE PROJECT.

ROAD OPENING LICENCE BY MAIN CONTRACTOR (IF REQUIRED).

EXTERNAL STAIR FLIGHT INFORMATION

TOTAL RISE FFL TO FFL (MM)	150
STAIR WIDTH (MM) - TGDB 1.1.10 (c) (iii)	1800
NUMBER OF RISERS	1
HEIGHT OF RISER (MM)	150
LENGTH OF GOING (MM)	300
LENGTH OF NOSING (MM)	None



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Rev	Description	By	Date	Status	Planning
PLO	Issued for Planning	MG	01/12/2022	Date:	November 2022
				Scale:	1:250 @ A1
				Drawn By:	MG
				JOB No.	21.135
				DRG No.	200
				REV.	PLO



Gateway Road  
Roscommon  
Co. Roscommon  
F42 V344

Architect:  
Oppenheim, Eaker Designers  
Unit D1 The Millhouse  
The Streetworks,  
Foley Street  
Dublin 1

Drawing Title:  
Proposed Levels Layout

Client:  
Bord Easra Easra Together  
National School, Esker Lane

Job Title:  
Proposed Additional Accommodation Scheme to Esker  
Easra Together National School, Esker Lane









### Pedestrian Permeable Paving:

80mm Roadstone Aquaflo® paving blocks (or equivalent) on 50mm of 5mm Clean stone on 150mm of 10mm sub-base 20-5mm stone on Subgrade

Existing site boundaries to be retained.

Upon completion of works, area will be returned to grass/green area.

New tarmacadam to roundabout and existing car parking area to be installed to match existing upon completion of services connections.

Proposed buff coloured blistered type tactile paving at crossing point, all to details as set out in the document "guidance on the use of tactile paving surfaces".

1200mm Min (Wide) wide dropped kerb to access road.

New permeable paved denoted thus. Refer to typical hardstanding details drawing 21.135-210 for further information and Architects drawings for typical finish.

New permeable paved denoted thus. Refer to typical hardstanding details drawing 21.135-210 for further information and Architects drawings for typical finish.

**Trafficked Permeable Paving:**  
80mm Roadstone Aquaflo® paving blocks (or equivalent) on 50mm of 5mm Clean stone on 150mm of 10mm sub-base 20-5mm stone on 100mm Upper sub-base 63-10mm stone on SC Intergrd on 200mm Lower sub-base 63-10mm stone on SC Membrane (linked system) on 150mm (MIN) Sub base class 804 material (d.o.e. & specification for roadworks) on 360mm Clause 616 capping layer on Teram grade 14500 laid in accordance with manufacturers instructions (NOTE: 150 + X = 350mm Min, 600mm Max. Depending on CBR tests) The contractor is to carry out 1 Nr. cbr test per 400m2 of yard area.

NOTE: FOR EXTENTS OF SITE REFER TO ARCHITECTS SITE LAYOUT AND SITE LOCATION MAP.

### Legend

- PROPOSED TARMACADAM
- PROPOSED CONCRETE
- PROPOSED PERMEABLE PAVING
- PROPOSED OPEN GRADE MACADAM
- PROPOSED SOFT PLAY AREA TO ARCHITECTS SPEC
- PROPOSED SECURE PLAY AREA TO ARCHITECTS SPEC
- PROPOSED GRASSED LANDSCAPED AREA
- EXISTING GRASSED LANDSCAPED AREA

### NOTES

- 1/ ALL SIGNS AND MARKINGS SHALL BE IN ACCORDANCE WITH DO T TRAFFIC SIGNS MANUAL CURRENT EDITION. BE
- 2/ THERMOPLASTIC PAINT WITH REFLECTIVE BEADS
- 3/ ALL ROAD MARKINGS ON BRICK PAVED SURFACES TO BE
- 4/ ALL ROAD MARKINGS MATERIAL TO COMPLY WITH EU REGULATION NO. 305/2011 IN RELATION TO CE MARKINGS AND ARCHITECTS LANDSCAPE ARCHITECTS DRAWINGS ARE TO TAKE PRECEDENCE OVER THIS DRAWING IN TERMS OF FINISHES

Existing double gates to match existing fence line.

Provide for thermoplastic play area markings.

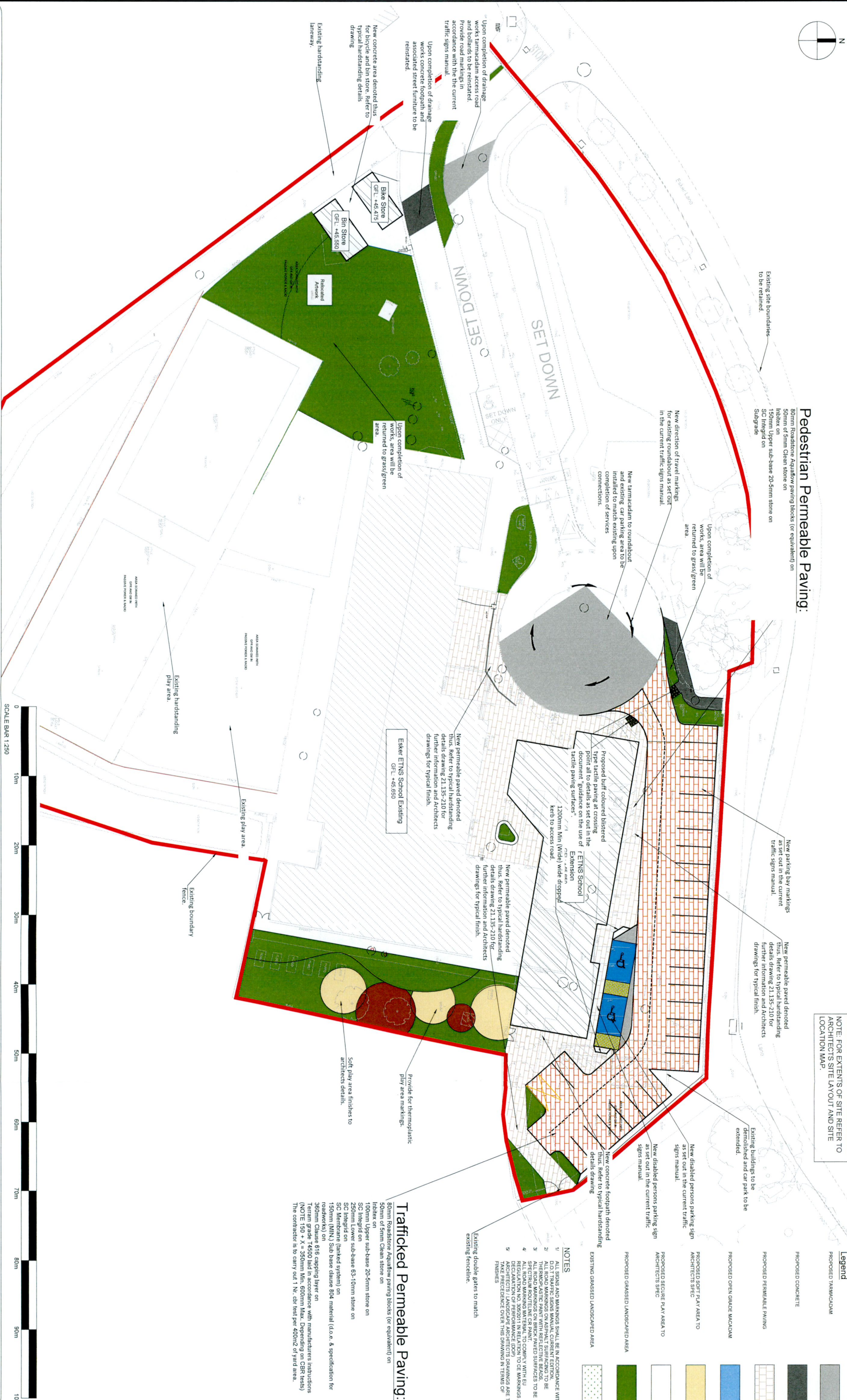
Soft play area finishes to architects details.

Existing play area.

Existing boundary fence.

Existing handstanding play area.

Existing handstanding play area.



SCALE BAR 1:250

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PRO	Issued for DT Review prior to Planning Issue	MG	23/11/2022
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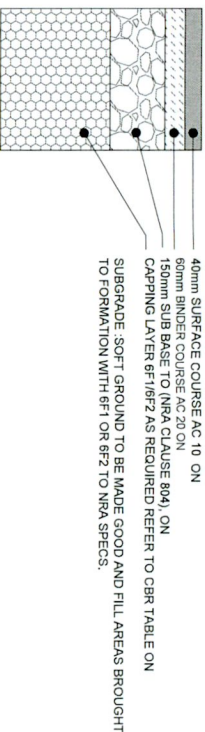
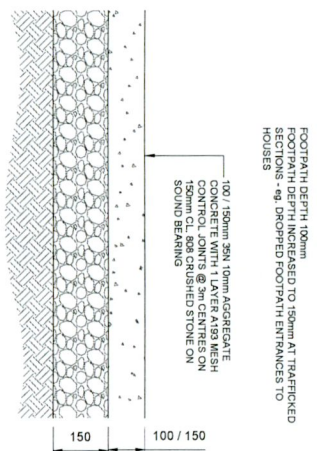
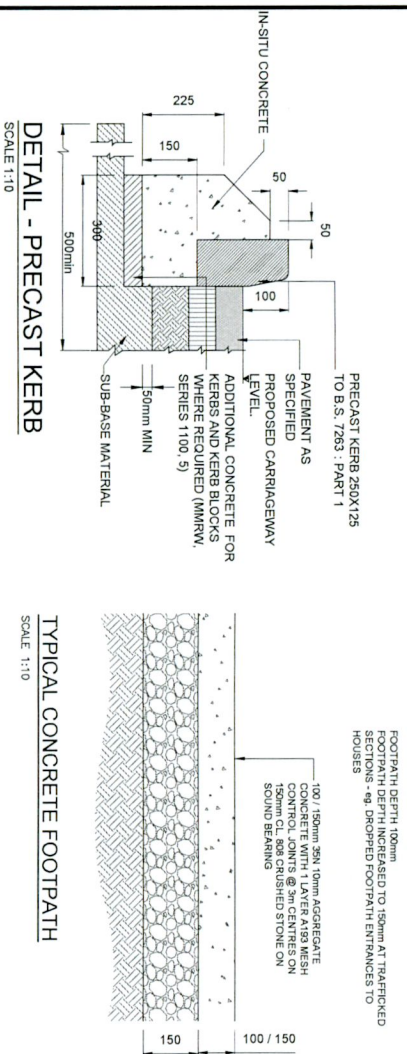
**collinsboyd**  
ENGINEERS & ARCHITECTS  
Galway Road  
Roscommon  
F42 V344  
Phone: 090 66 34421  
Fax: 090 66 34423  
Email: info@collinsboydeng.com

Client:	Bailt Eske Educate Together National School, Eske Lane
Architect:	Open Space & Interior Designers Unit D1, The Millhouse The Sheelworks, Feter Street Dublin 1
Drawing Title:	Proposed Build-Ups, Littermarking and Signage Layout
Job Title:	Proposed Additional Accommodation Scheme to Eske Educate Together National School, Eske Lane
Status:	Planning
Date:	November 2022
Scale:	1:250 @ A1
Drawn by:	MG
JOB No.	21.135
DRG No.	201
REV.	PL0

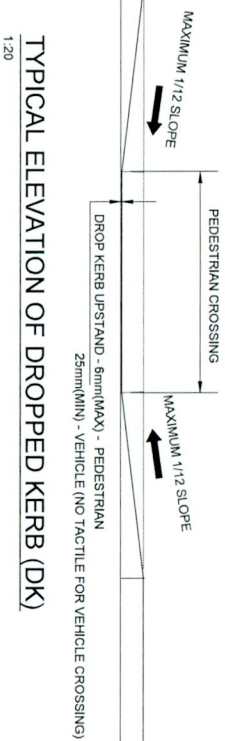




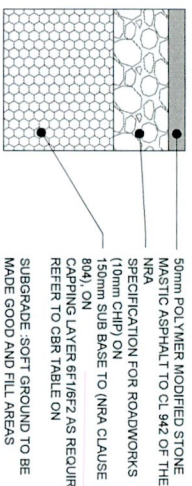
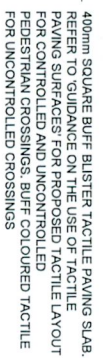




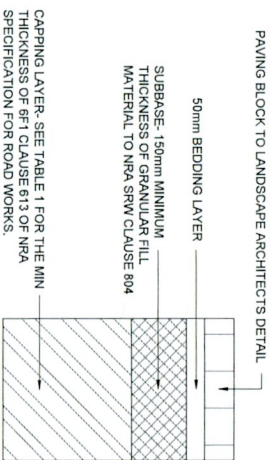
### TYPICAL ROAD BUILD-UP



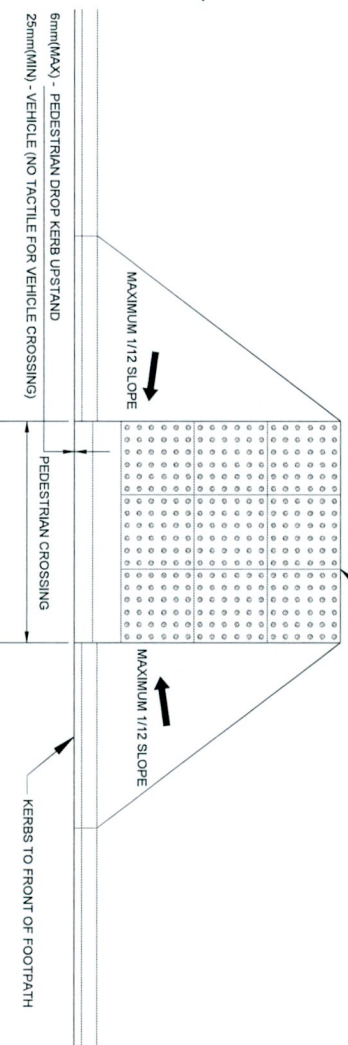
### TYPICAL ELEVATION OF DROPPED KERB (DK)



NON -TRAFFICKED PAVED AREA



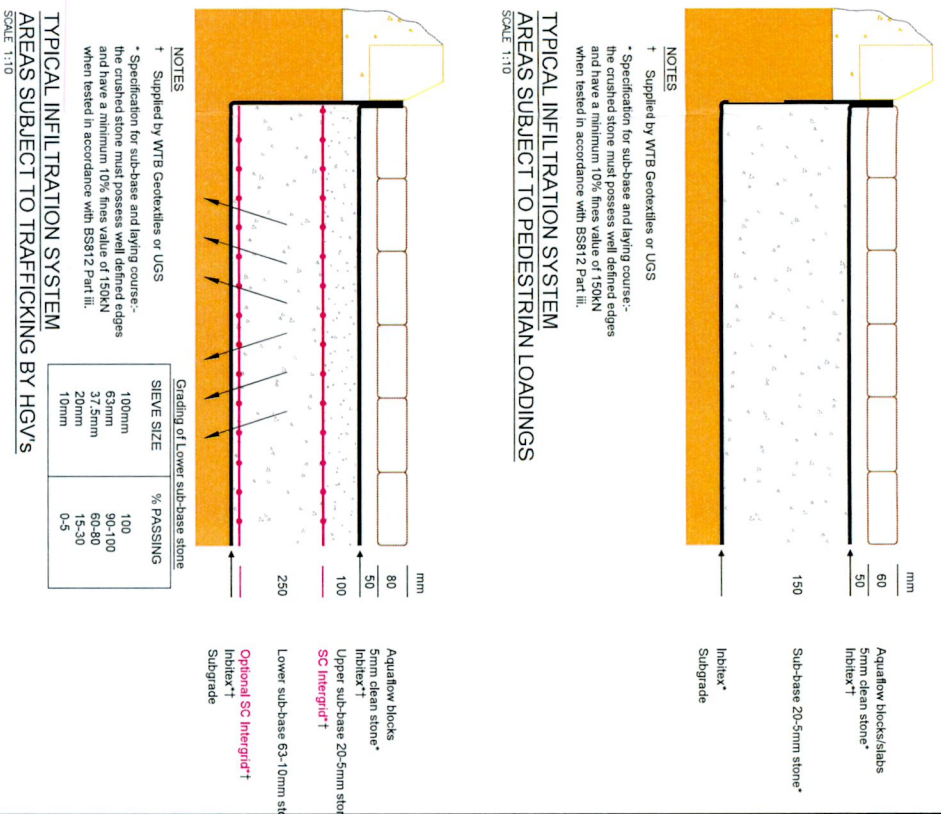
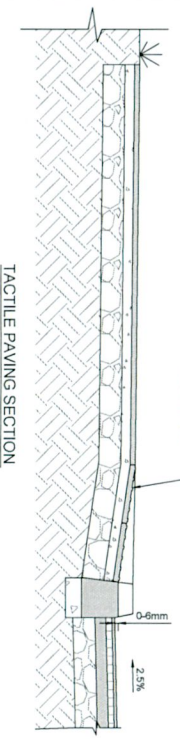
## SMA PLAY AREA BUILD-UP



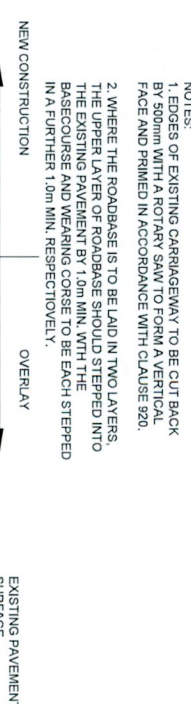
TYPICAL PLAN OF DROP KERB (DK)

*CBR TESTING TABLE:	
LOWEST SUB-GRADE CBR%	MINIMUM CAPPING LAYER THICKNESS (mm)
< 2	SEEK ADVICE FROM ENGINEER
2-5	350
5-15	150
> 15	NO CAPPING LAYER REQUIRED

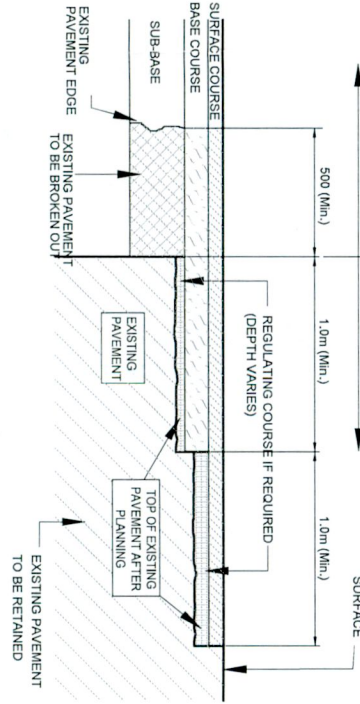
NOTE:  
1/ THE CAPPING THICKNESS SHOWN IS PRELIMINARY ONLY. THE FINAL CAPPING THICKNESS WILL BE BASED ON CBR TESTING AT FORMATION LEVEL AT 50m INTERVALS & USING THE ABOVE TABLE.  
THE RESULTS OF THE CBR TESTING SHOULD BE MADE AVAILABLE TO THE ENGINEER PRIOR TO PLACING CAPPING/GEORGIND.  
2/ CAPPING LAYER IS BASED ON FINAL SITE LOADING AND IS NOT FOR CONSTRUCTION TRAFFIC. CAPPING LAYER FOR CONSTRUCTION TRAFFIC IS AT CONTRACTOR'S DISCRETION. CBR AT 50m INTERVALS IS REQUIRED ON TOP OF CAPPING LAYER. SOFT SPOTS ARE TO BE BROKEN OUT & FILLED WITH SUITABLE FILLED MATERIAL.  
3/ FOR TENDER 350mm CAPPING LAYER TO BE ALLOW FOR ADDITIONAL TESTING REQUIRED.




### TYPICAL INFILTRATION SYSTEM AREAS SUBJECT TO PEDESTRIAN LOADINGS



## TYPICAL INFILTRATION SYSTEM



TRANSVERSE JOINT BETWEEN  
PROPOSED FLEXIBLE PAVEMENT  
& EXISTING ROAD

Notes:	Rev	Description	By	Date	<div> ENGINEERS &amp; ARCHITECTS</div> <div>Galway Road Roscommon Co. Roscommon F42 V344</div> <div>Phone: 090 66 34421 Fax: 090 66 34423 Email: info@collinsboydeng.com</div>
	PR0	Issued for DT Review prior to Planning Issue	MG	23/11/2022	
	PL0	Issued for Planning	MG	01/12/2022	
1.	This drawing is the copyright of Collinsboyd Engineering Ltd. It is a confidential document and must be copied, used or its contents divulged without prior written permission.				
2.	DO NOT SCALE. Use figured dimensions only, if in doubt ask.				
3.	Drawings for Planning Permissions purposes only unless otherwise stated.				
<div><div><div><div>Client:</div><div>Bom Esker Educate Together National School , Esker Lane</div></div><div><div>Architect:</div><div>Opfermann, Architects &amp; Interior Designers Unit D1, The Millhouse Farm, The Steewerks , F42 V344 Dublin 15</div></div></div><div><div><div><div>Drawing Title:</div><div>Typical Handrailing Details</div></div><div><div>Status:</div><div>Planning</div></div><div><div>Date:</div><div>Nov 2022</div></div><div><div>Scale:</div><div>AS @ A1</div></div></div><div><div><div><div>Job Title:</div><div>Proposed Additional Accommodation Scheme to Esker Educate Together National School , Esker Lane</div></div><div><div>Drawn by:</div><div>MG</div></div><div><div>JOB No.</div><div>21.135</div></div><div><div>DRG No.</div><div>210</div></div><div><div>REV.</div><div>PL0</div></div></div></div></div></div>					







# AQUAFLOW® PAVING SOLUTION



## AQUAFLOW® system

**Roadstone Aquaflow has used research and design to evolve the Roadstone Aquaflow permeable paving system into one of the most cost effective and functional SuDS within the marketplace.**

The Roadstone Aquaflow system has a unique sub-base design incorporating SC Intergrid which reduces construction costs whilst giving superior structural performance. Water quality improvement is realised through the use of our tried and tested Inbitex Geotextile which removes the requirement

for downstream pollution control. The patented Roadstone Aquaflow system fits neatly within any block paving project, where your paving design becomes your drainage design and vice versa.

Roadstone Aquaflow SuDS can be designed as fully attenuation, fully infiltration or as a partial infiltration system. Attenuation (tanked) systems capture storm water to be collected and released in a controlled manner into sewers and downstream watercourses. Infiltration systems allow rainwater

to be infiltrated into the ground mimicking a green field environment. Storm

water leaving the Roadstone Aquaflow system is cleaned and filtered through the Inbitex Geotextile layers that promote microbial action. Water quality improvement allows secondary non-potable uses to be carried out such as flushing toilets and watering the garden. The Roadstone Aquaflow system can be designed for use in both trafficked and pedestrianised areas, allowing the collection and treatment of storm water

from any paved surface.

### **Advantages of Roadstone Aquaflow**

- Dealing with storm water at source
- Reduces water quantity
- Improves water quality
- Lowers construction costs
- Allows collection of storm water from impermeable surfaces
- Improved maintenance programme.



