

Didsbury High School

Pitch drainage to connection into existing chamber
CL = 31.339
IL = 30.899
ADDITIONAL MAINTENANCE TO BE CARRIED OUT AT CHAMBER DUE TO ACUTE ANGLE. CHAMBER TO BE INSPECTED EVERY 3 MONTHS

Proposed Flow Control Chamber restricting flows to 21ls
CL = 31.950
IL = 30.950

Old Burial Ground

GENERAL

Do not scale from this drawing.

All dimensions are in millimetres unless noted otherwise.

All setting out to architects drawings.

Drawing to be read in conjunction with all other SEA drawings and architects drawings.

This scheme has been designed using the survey information provided by others. It shall be the responsibility of the contractor to verify levels, boundaries etc prior to commencing any works on site. SEA Structural Engineers Ltd. shall not accept any responsibility for errors resulting from the survey.

All setting to be in accordance with the Architect's drawings, the Contractor is to check all dimensions and levels prior to commencement of work and report any discrepancies to the Engineer, including any encountered during construction works.

All dimensions should be checked on site prior to construction. Please notify the Engineer of any discrepancies before commencing or continuing any work.

HEALTH, SAFETY & THE ENVIRONMENT

In accordance with the Health and Safety at Work etc Act 1973 and the Construction (Design and Management) Regulations 2015, designs and details on this drawing have been the subject of a Designers Risk Assessment, to identify risks in construction, use, or demolition of the scheme.

It is not considered necessary for Designers to highlight obvious and/or common risks (such as deep excavations, manual handling and working around heavy plant) which Contractors should be familiar with.

So as far as is reasonably practicable, risks inherent in the design have been eliminated. Where it has been considered that elimination of a risk (or part of a risk) is not reasonably practicable, it has been reduced.

Significant unusual residual risks are identified below, beside the measures which have been adopted to eliminate and/or reduce them:

None identified.

STORM DRAINAGE DESIGN STATEMENT

In accordance with the storm drainage hierarchy we have considered use of infiltration techniques, outfall to watercourse and finally outfall to sewers, each presented below;

Outfall to ground (infiltration)

The ground investigation carried out by Soiltechnics confirmed that the underlying made ground exhibited some permeability, however due to contamination they recommend that soakaways are not used. Therefore their use has been discounted.

Outfall to watercourse

There are no watercourses within the vicinity of the site, therefore the use of watercourses has been discounted.

Outfall to Sewers

There are existing private storm water drainage adjacent to the pitch which can be used for storm water outfall from the pitch

Design Criteria

The drained area for the proposed pitch used in the design calculations = 3470m²

Based on the above drained area a greenfield runoff rate has been calculated using the SUDS UK online tool. Qbar for has been calculated as 0.68/s. Flow less than 1/s are not considered practical due to the risk of blockage and maintenance. Therefore the drainage from the pitch shall be restricted to 21/s

Causeway flow has been used to model the Attenuation for the pitch which will be provided within the 250mm type 3 permeable subbase with 30% voids. The pitch has been designed not to flood for the 1 in 100 + 40% year storm event.

Water Quality

The use of SUDS has been considered and the use of a permeable subbase for the pitch drainage will provide adequate water quality treatment in accordance with the SUDS manual.

Overland Flows

In the unlikely event of system failure. Overland flows will be directed away from any buildings towards the west of the pitch towards the watercourse.

DRAWING KEY:

- Existing surface water drain
- Proposed storm drainage run
- Pitch drainage as advised by McArdle Sport Tec.
- Proposed extent of 250mm deep permeable subbase. Provided with a 1 in 300 fall as indicated. Subbase provides attenuation for the 1 in 100 + 40% year storm event
- Pitch gradient
- Overland Flow Routes

DRAINAGE MAINTENANCE

Maintenance of the pitch will be undertaken by Didsbury High School. The following maintenance schedule shall be used

Pipe systems, inspection chamber and manholes

Maintenance Category	Required Action	Frequency
Regular Maintenance	Inspect and identify areas that are not operating correctly. If required, take remedial action	Monthly (for the first 3 months) then six monthly
	Debris removal from catchment surface (where may cause risk to performance)	Monthly
	Remove sediment from pre-treatment structures	Annually or as required
Remedial Actions	Remove blockages	As required
	Cleaning/jetting	As required
	Repair/rehabilitation of system	As required
Monitoring	Inspect/check all part of piped system and inspection chambers to ensure that they are in good condition and operating as required	Annually and after large storms

Permeable pitch surfacing and porous subbase

Maintenance Category	Required Action	Frequency
Regular Maintenance	Brushing (stended correct sweep over whole surface)	Once a year, after the autumn leaf fall, or reduced frequency as required, based on site specific observation of clogging or manufacturer's recommendations. Particular attention to be paid to areas where water into porous surface from adjacent impermeable areas as this area is most likely to collect sediment
Occasional maintenance	Stabilise and mow contributing adjacent areas	As required
Remedial Actions	Removal of weeds or overgrowth using appropriate application directly into the weeds by an applicator rather than spraying	As required - once per year on less frequently based on site observations
	Remediate any landscaping which, through vegetation maintenance etc, has been related to within 50mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked surfacing considered detrimental to the performance or a hazard to users	As required
Monitoring	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10-15 years or as required (if infiltration performance is reduced due to significant clogging)
	Initial inspection	Monthly for 3 months after installation
	Inspect for evidence of poor operation and/or weed growth - if required, take remedial action	3-monthly, 48 hours after large storms in first 6 months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chamber	Annually

A 20.04.22 WRA Note regarding additional maintenance added to outfall chamber

SEA
STRUCTURAL ENGINEERS
[CONSULTING CIVIL & STRUCTURAL ENGINEERS]
E: andy@seastructuralengineers.co.uk
T: 07940 340792

PROJECT
PROPOSED NEW PITCH
DIDSBURY HIGH SCHOOL

DRAWING
PROPOSED DRAINAGE LAYOUT

SCALE: 1:250 @A1
DATE: DEC 2021
DRAWN BY: SEA
REV: A
STATUS: PRELIMINARY

DWG No: 21090/E02
A