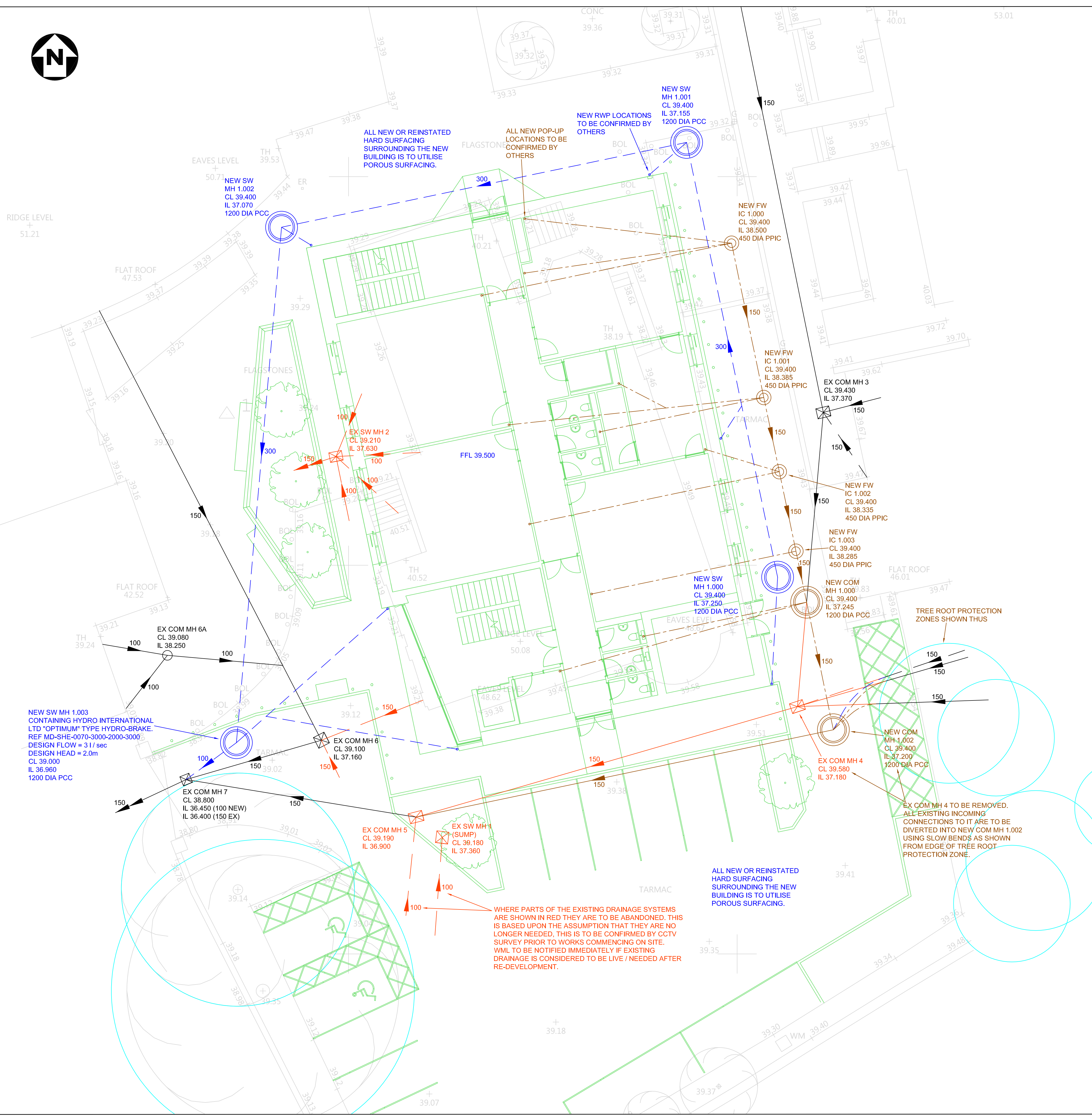




DRAINAGE STRATEGY

THE PROPOSED DEVELOPMENT IS TO BE DRAINED VIA SEPARATE FOUL AND SURFACE WATER DRAINAGE SYSTEMS.

SURFACE WATER DRAINAGE PROPOSALS

THE SURFACE WATER DRAINAGE PROPOSALS FOR THE DEVELOPMENT WILL INCORPORATE THE PRINCIPLES OF THE NPPF AND THE SUDS MANUAL.

THE PROPOSED DRAINAGE SYSTEM WILL BE DESIGNED IN ACCORDANCE WITH BS EN 752-4 AND THE BUILDING REGULATIONS APPROVED DOCUMENT H (2010), WHICH INDICATES THE FOLLOWING HIERARCHY FOR THE DISPOSAL OF SURFACE WATER DRAINAGE FROM NEW DEVELOPMENT SITES:

- DISCHARGE VIA INFILTRATION
- DISCHARGE TO WATERCOURSE
- DISCHARGE TO SEWER

THESE OPTIONS ARE DISCUSSED FURTHER BELOW.

SURFACE WATER DISCHARGE VIA INFILTRATION - THE NEAR SURFACE GROUND CONDITIONS IN THE VICINITY OF THE SITE ARE DESCRIBED AS DEVENSIAN GLACIAL TILL, MAINLY COMPRISING CLAY LOCALLY INTERBEDDED WITH SANDS AND GRAVELS.

CLAYEY GROUND CONDITIONS SUCH AS THIS TEND TO BE RELATIVELY IMPERMEABLE. HENCE IT IS CONSIDERED THAT THE USE OF SOAKAWAYS OR OTHER INFILTRATION TECHNIQUES ARE UNLIKELY TO BE APPROPRIATE FOR DISCHARGING ALL THE RUNOFF GENERATED BY THE PROPOSED BUILDING'S ROOF AREA.

HOWEVER, IT IS CONSIDERED THAT THE PROPOSED HARD LANDSCAPED AREAS COULD STILL UTILISE POROUS SURFACING, SO THAT SOME INFILTRATION WILL BE ACHIEVED.

THE GROUND CONDITIONS WILL BE CONFIRMED BY INTRUSIVE SITE INVESTIGATIONS PRIOR TO DETAILED DESIGN STAGE, AND IF, DURING THESE INVESTIGATIONS, IT APPEARS THAT THE GROUND CONDITIONS MAY SUPPORT THE USE OF INFILTRATION, THEN THIS SHOULD BE CONFIRMED BY BRE365 COMPLIANT INFILTRATION TESTING TO INFORM THE DESIGN OF INFILTRATION DEVICES.

SURFACE WATER DISCHARGE VIA WATERCOURSE - FROM THE ORDNANCE SURVEY MAPPING COVERING THE AREA AROUND THE SITE, IT CAN BE SEEN THAT THERE ARE NO EXISTING WATERCOURSES WITHIN, OR IN THE VICINITY OF THE PROPOSED DEVELOPMENT.

HENCE IT WILL NOT BE FEASIBLE TO DISCHARGE THE SURFACE WATER RUNOFF VIA THIS ROUTE.

SURFACE WATER DISCHARGE VIA THE PUBLIC SEWERAGE SYSTEM - GIVEN THE ABOVE IT IS CONSIDERED THAT IT WILL BE NECESSARY TO DISCHARGE THE SURFACE WATER RUNOFF FROM THE PROPOSED BUILDING'S ROOF AREA TO THE PUBLIC DRAINAGE SYSTEM, AS THE AREA DOES CURRENTLY.

DESIGN OF THE PROPOSED SURFACE WATER DRAINAGE SYSTEM

THE EXISTING SITE IS A BROWN FIELD SITE. THEREFORE, IN LINE WITH CURRENT GUIDANCE, THE SURFACE WATER RUNOFF RATES FROM THE RE-DEVELOPED SITE SHOULD ACHIEVE A 50% BETTERMENT WHEN COMPARED AGAINST THE EXISTING SITUATION FOR ALL STORM EVENTS UP TO AND INCLUDING THE CRITICAL 1 IN 100 YEAR EVENT PLUS A 40% CLIMATE CHANGE ALLOWANCE.

TO THIS END, IT IS PROPOSED THAT THE ALLOWABLE DISCHARGE RATE FROM THE DEVELOPMENT BE RESTRICTED TO 3 l/sec FOR ALL STORM EVENTS UP TO AND INCLUDING THE CRITICAL 1 IN 100 YEAR EVENT PLUS A 40% CLIMATE CHANGE ALLOWANCE.

AS THE DEVELOPMENT DOES NOT INVOLVE A SIGNIFICANT REDUCTION IN IMPERMEABLE AREA, ATTENUATION STORAGE AND FLOW CONTROL WILL BE REQUIRED TO ENSURE THE REDUCED ALLOWABLE RUNOFF RATE IS NOT EXCEEDED.

FOUL WATER DRAINAGE PROPOSALS

THE FOUL DRAINAGE FLOWS GENERATED BY THE PROPOSED DEVELOPMENT WILL BE DIRECTED TO THE EXISTING ON-SITE PRIVATE FOUL DRAINAGE SYSTEM, WHICH IN TURN DISCHARGES INTO THE PUBLIC FOUL DRAINAGE SYSTEM LOCALLY.

KEY

- EXISTING COMBINED SEWERS TO BE RETAINED SHOWN THUS
- EXISTING COMBINED SEWERS TO BE ABANDONED SHOWN THUS
- EXISTING SURFACE WATER SEWERS TO BE RETAINED SHOWN THUS
- EXISTING SURFACE WATER SEWERS TO BE ABANDONED SHOWN THUS
- PROPOSED SURFACE WATER SEWERS SHOWN THUS
- PROPOSED FOUL SEWERS SHOWN THUS

GENERAL NOTES

DO NOT SCALE FROM THIS DRAWING WORK TO FIGURED DIMENSIONS ONLY.

NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS ALLOWED WITHOUT PRIOR PERMISSION IN WRITING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.

THE CONTRACTOR SHALL INCORPORATE ALL THE REQUIREMENTS OF THE PRE-TENDER STAGE HEALTH AND SAFETY PLAN.

FOR DETAILS OF MATERIALS AND WORKMANSHIP REFER TO THE SPECIFICATION.

MAINTENANCE OF THE BELOW GROUND DRAINAGE SYSTEM

THE BELOW DRAINAGE PROPOSALS INDICATED ARE RELATIVELY TRADITIONAL IN NATURE, AND SHOULD PROVIDE YEARS OF RELATIVELY LOW MAINTENANCE OPERATION IN RELATION TO THE ANTICIPATED LIFESPAN OF THE PROPOSED DEVELOPMENT.

IN LINE WITH CURRENT GOOD PRACTICE:-

GULLIES AND LINEAR DRAINAGE CHANNELS SHOULD BE INSPECTED AND / OR CLEANED OUT AT 6 MONTHLY INTERVALS.

INSPECTION CHAMBERS, MANHOLES, CATCHPITS, ETC. SHOULD BE INSPECTED AT 6 MONTHLY INTERVALS TO ENSURE THAT THE PIPEWORK AND AND INFILTRATION DEVICES ASSOCIATED WITH THEM ARE OPERATING EFFECTIVELY.

ANY PROBLEMS HIGHLIGHTED BY THESE INSPECTIONS WILL NEED TO BE INVESTIGATED, POSSIBLY BY CCTV SURVEY, TO CONFIRM THE NATURE OF THE PROBLEM AND TO ALLOW IT TO BE REMEDIED IN A TIMELY MANNER.

IT IS UNDERSTOOD THAT THE MONITORING AND ROUTINE MAINTENANCE OF THE BELOW GROUND DRAINAGE SYSTEM WILL BE CARRIED OUT BY THE COLLEGE'S MAINTENANCE STAFF WITH ADDITIONAL HELP PROVIDED BY EXTERNAL SPECIALIST DRAINAGE PROFESSIONALS BROUGHT IN AS REQUIRED.

THE AREAS OF POROUS SURFACING SHOULD BE REGULARLY SWEEPED, VACUUMED OR BLOWN TO REMOVE LEAVES AND OTHER DEBRIS THAT MAY LEAD TO THE PORES WITHIN THE SURFACING BECOMING BLOCKED. IT IS ANTICIPATED THAT THIS CLEANING WILL BE REQUIRED TWICE PER YEAR, HOWEVER THE EFFECTIVENESS OF THIS CLEANING FREQUENCY WILL NEED TO BE MONITORED, AND MAY NEED TO BE INCREASED. AREAS OF POROUS SURFACING SHOULD NOT BE USED FOR THE STORAGE OF ANY MATERIALS THAT MAY CLOG THE PORES WITHIN THE SURFACING. SIMILARLY THE USE OF SAND OR OTHER NON-SOLUBLE MATERIALS FOR SNOW AND ICE CONTROL SHOULD BE AVOIDED.

IT IS UNDERSTOOD THAT THE EXTERNAL AREAS OF THE SITE WILL BE ROUTINELY INSPECTED AND MAINTAINED BY BY THE COLLEGE'S MAINTENANCE STAFF, THOUGH IT MAY BE NECESSARY TO CALL IN EXTERNAL SPECIALIST CONTRACTORS IF VACUUMING OF THE SURFACINGS ARE REQUIRED.

PRELIMINARY

P03	AMENDED TO SUIT UPDATED SITE LAYOUT.	05.9.23	KPT	LOG
P02	AMENDED TO SUIT UPDATED SITE LAYOUT.	19.5.23	KPT	LOG
P01	PRELIMINARY ISSUE.	24.3.23	KPT	LOG

Rev.	Amendment	Date	By	Chkd
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Project
NEW SCIENCE BLOCK

Client
XAVERIAN COLLEGE

Title
PROPOSED DRAINAGE STRATEGY

WML Job No.	Drawn	Checked	Date	Scale
10961	KPT	LOG	MARCH 2023	1:100 AT A1

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Drawing No.								
Project	Originator	Volume	Level	Type	Role	Number	Rev	
10961	WML	- 00	- XX	- DR	- C	- 1001	P03	