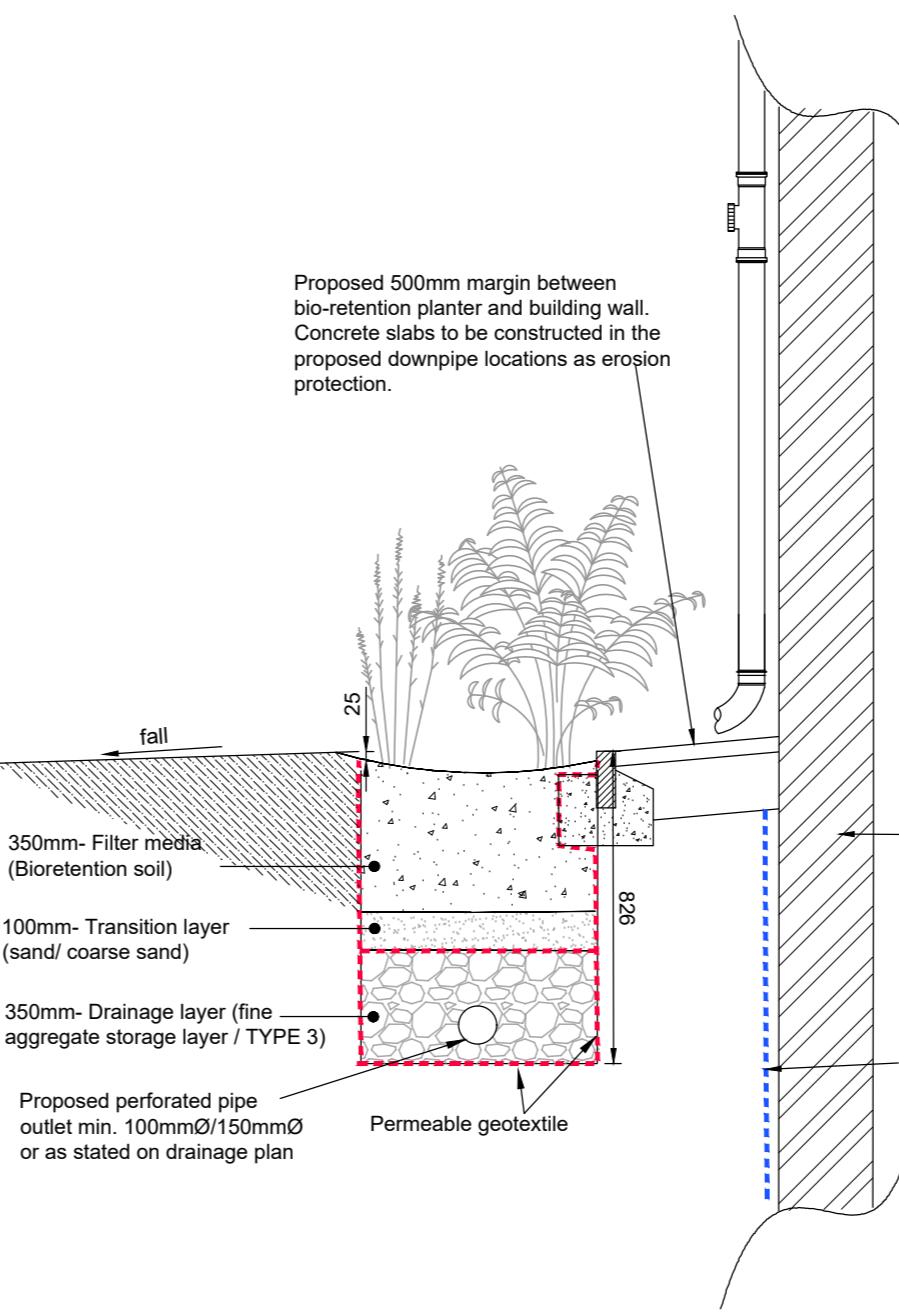


RAIN GARDENS TO BE PLANTED WITH A MINIMUM OF 10 SPECIES LISTED BELOW			
COMMON NAME	SCIENTIFIC NAME	HABIT	SUNLIGHT AND ASPECT
GUELDER ROSE	VIBURNUM OPULUS	PERENNIAL SHRUB	ANY
DOGWOOD	CORNUS SANGUINEA	PERENNIAL SHRUB	ANY
CULVERS ROOT	VERONICASTRUM VIRGINICUM	HERBACEOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
ASTER	ASTER SPP.	HERBACEOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
BLACK EYED SUSAN	RUDbeckia BIRTA	HERBACEOUS ANNUAL OR BIENNIAL	FULL SUN OR PARTIAL SHADE
STINKING HELLEBORE	HELLEBORUS FOETIDUS	HERBACEOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
MONTBRETIA	CROCOSMIA SPP.	DECIDUOUS RHIZOMATOUS PERENNIAL	PARTIAL SHADE
BUGLE	AJUGA REPTANS	RHIZOMATOUS PERENNIAL	PARTIAL SHADE
COLUMBINE	AQUILEGIA SPP.	HERBACEOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
INULA	INULA HOOKERI	HERBACEOUS PERENNIAL	PARTIAL SHADE
HEMP AGROMY	EUPATORIUM CANNABINUM	HERBACEOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
BELLFLOWER	CAMPANULA GLOMERATA	HERBACEOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
SNEEZEWEED	HELENIUM SPP.	HERBACEOUS PERENNIAL	FULL SUN
LESSER PERIWINKLE	VINCA MINOR	PERENNIAL SUB-SHRUB	ANY
ELEPHANTS EAR	BERGENIA SPP.	RHIZOMATOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
PLANTAIN LILIES	HOSTA SPP.	HERBACEOUS PERENNIAL	PART SHADE
YELLOW FLAG	IRIS PSEUDOCORUS	RHIZOMATOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
SIERRAN FLAG	IRIS SIBERICA	RHIZOMATOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
GARLIC AND ONIONS	ALLIUM SPP.	BULBOS PERENNIAL	FULL SUN
SOFT RUSH	JUNCUS EFFUSUS	EVERGREEN PERENNIAL	FULL SUN OR PARTIAL SHADE
PENDULOUS SEDGE	CAREX PENDUL	RHIZOMATOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
ZEBRA GRASS	MISANTHIS SINENSIS	PERENNIAL, DECIDUOUS GRASS	FULL SUN
SWITCH GRASS	PANICUM VIRENTUM	DECIDUOUS PERENNIAL GRASS	FULL SUN
ROYAL FERN	OSMUNDA REGALIS	DECIDUOUS FERN	ANY
MALE FERN	DRYOPTERIS FELIX-MAS	"DECIDUOUS OR EVERGREEN FERN"	PARTIAL SHADE OR FULL SHADE
BROAD BUCKLER FERN	DRYOPTERIS DILATATA	"DECIDUOUS OR EVERGREEN FERN"	PARTIAL SHADE OR FULL SHADE



Proposed Bio-retention Unit
Typical Detail
(Scale 1:20)

Site Specific Notes

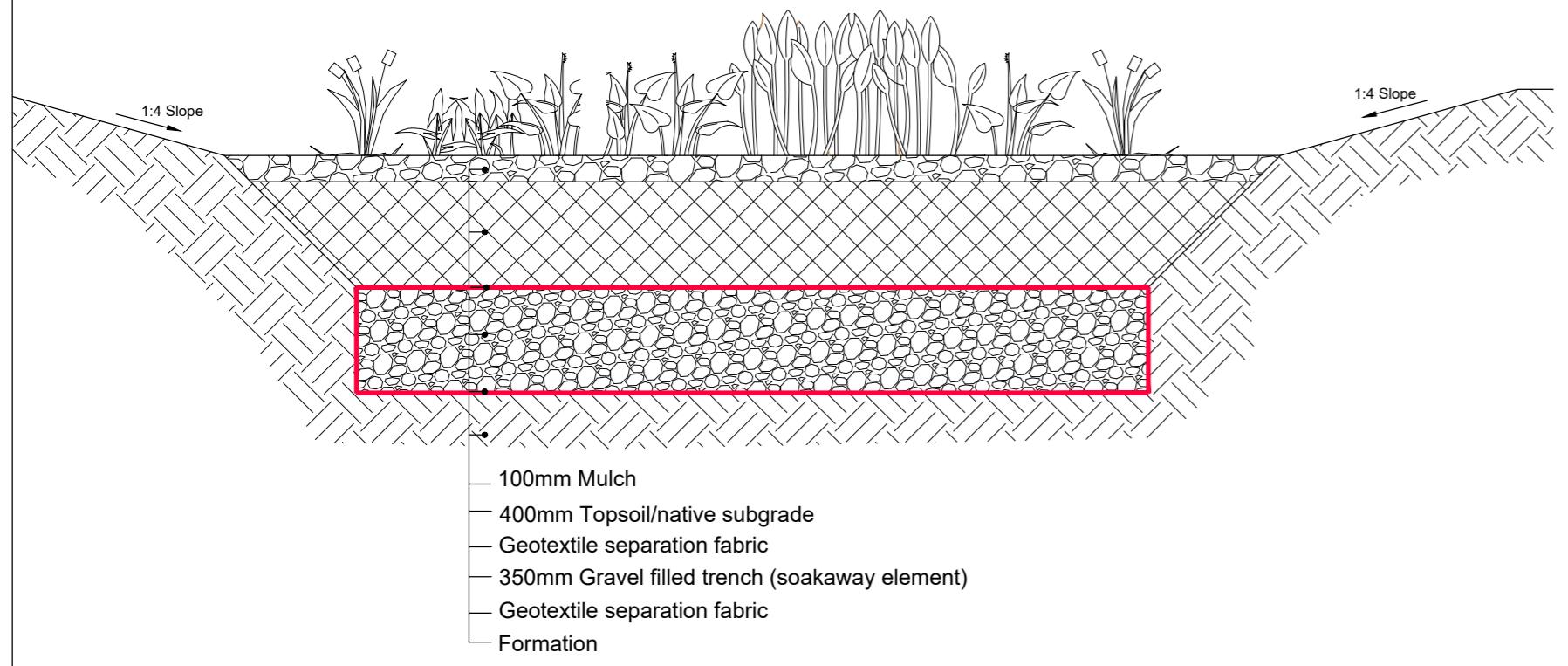
- Proposed SW and FW drainage designed based on desktop study, infiltration test results, BGS Map viewer website and from information provided from site.
- Based on the site walkover and existing drainage, CCTV, it was confirmed that surface water runoff from the existing building discharges either onto the ground or into the existing ditch. The site's topography indicates that any overflow flows are directed toward the existing ditch, flowing into the ground depression located northwest, adjacent to Slaughan Lane. Surface water runoff then discharges into wetland, from where it flows towards third-party land and ultimately into the existing shallow ditch, which directed surface water into the existing Slaughan Mill Pond.
- The proposed surface water management strategy involves collecting runoff and directing it into onsite bio-retention planters. Any excess runoff will then be discharged into the onsite rain garden, where it will infiltrate into the ground.
- The proposed bio-retention planters will facilitate both infiltration and runoff interception, effectively reducing the required downstream storage and ensuring that the proposed rain garden half-empty time remains under 24 hours.
- The proposed rain garden has been designed to accommodate the Critical 1 in 100 year + 45% CC rainfall event.
- Drainage layout subject to external levels design by others.
- Driveaway to be constructed using permeable self-draining surface. Final surface construction to Client specifications.
- Due to the proposed site being located within the area not served by public sewers, foul water is to be discharged into the onsite cesspool. Foul water is then to be tanked away once per month.
- Proposed Cesspool tank location, size and type to be confirmed at detailed design stage.
- All external levels to be designed by others. All surface levels shown for drainage purposes only. All the proposed external levels to be agreed prior construction.



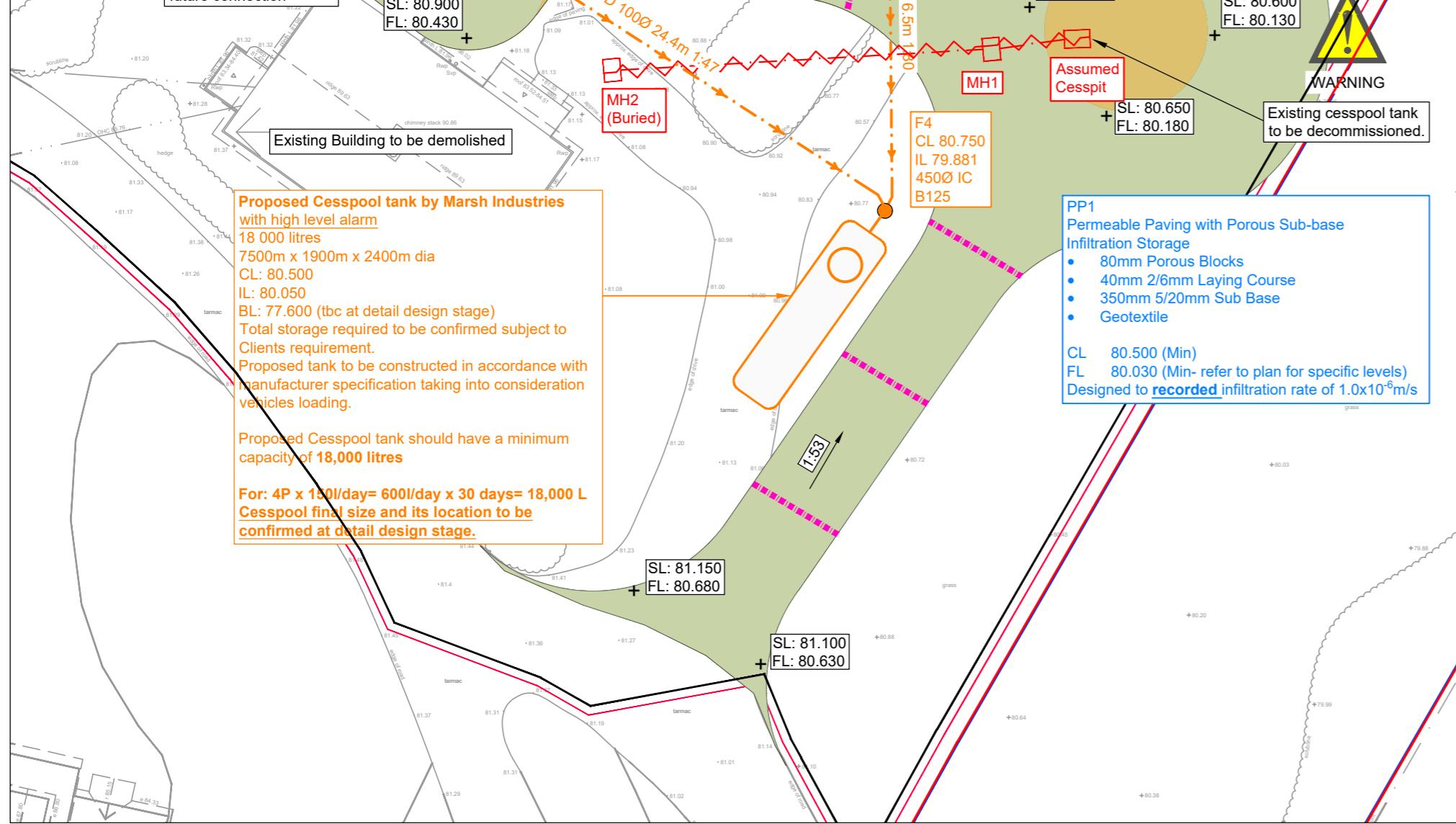
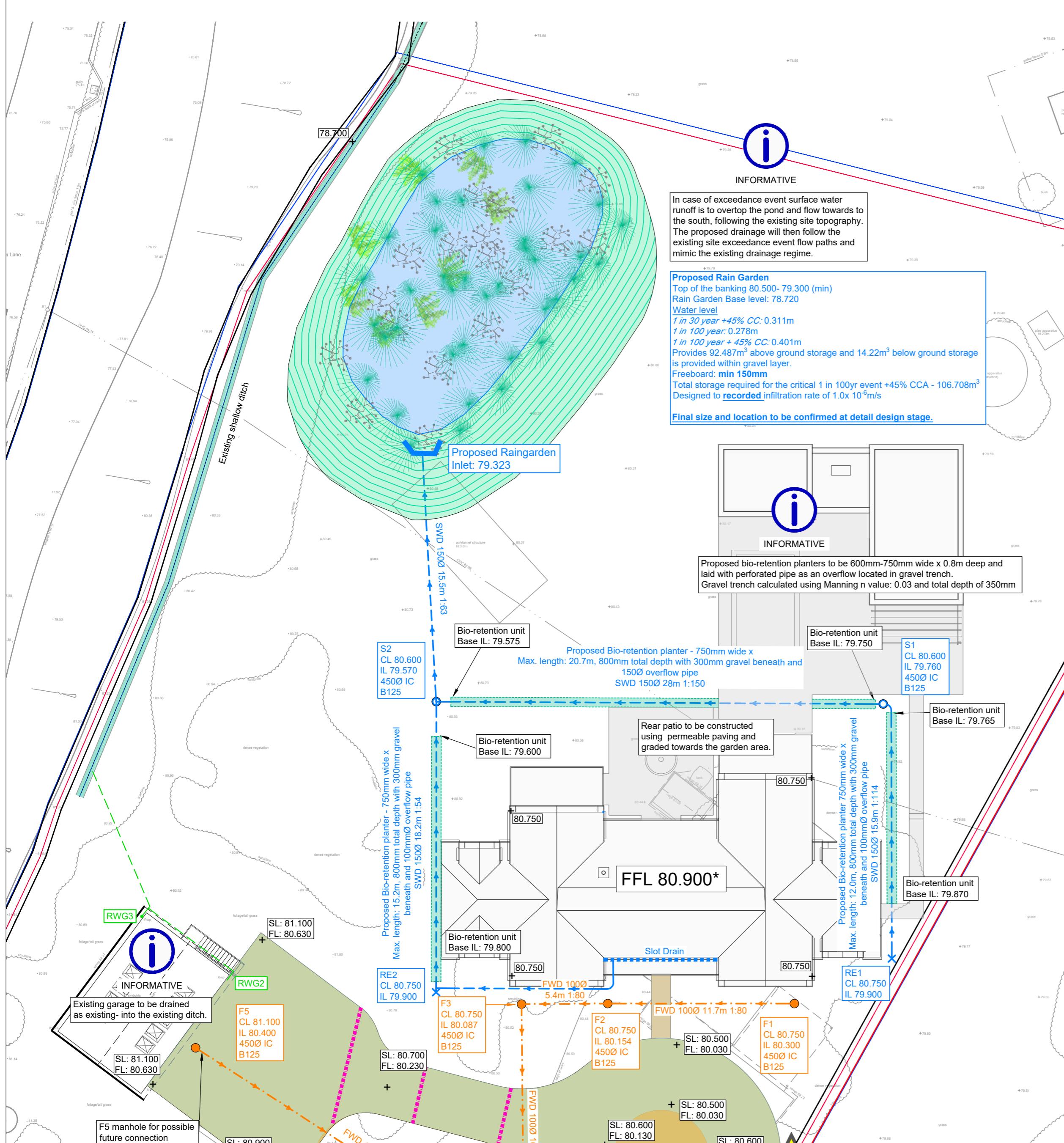
STANDARD DRAINAGE NOTES

- DO NOT SCALE FROM THIS DRAWING, REFER TO FIGURED DIMENSIONS ONLY. THE CONTRACTOR SHOULD CHECK ALL DIMENSIONS ON SITE.
- ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS ARE IN METERS UNLESS NOTED OTHERWISE.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECT AND ENGINEERING DETAILS, DRAWINGS AND SPECIFICATIONS.
- ANY DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT AND/OR ENGINEER IMMEDIATELY, SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO THE COMMENCEMENT OF WORK.
- BEFORE COMMENCING CONSTRUCTION THE CONTRACTOR MUST CHECK THE INVERT LEVELS OF EXISTING SEWERS TO WHICH CONNECTIONS ARE MADE. IN ADDITION THE CONTRACTOR MUST LOCATE AND DETERMINE INVERT LEVELS OF THE EXISTING SPURS TO WHICH CONNECTIONS ARE PROPOSED. ANY DISCREPANCIES ARE TO BE NOTIFIED TO THE ENGINEER IMMEDIATELY, PRIOR TO CONSTRUCTION.
- ALL DRAINAGE WORKS SHOULD COMMENCE AT THE PROPOSED DOWNSTREAM CONNECTING PIPE. WORKS COMMENCE ONCE THE CONTRACTOR HAS CONFIRMATION OF THE TIE-IN INVERT LEVELS TO THE ENGINEER. CONNECTIONS TO MANHOLES OR LARGER SIZED PIPES ETC. SHOULD BE SOFFIT TO SOFFIT UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. IF THIS IS NOT POSSIBLE INFORM THE ENGINEER IMMEDIATELY.
- COVER LEVELS SHOWN ARE APPROXIMATE. COVERS AND FRAMES SHALL BE SET TO FINISHED GROUND LEVELS AND FALLS.
- ALL UN-REFERENCED PIPES ARE TO BE 100mm DIA.
- ALL PIPES TO BE ADOPTED, OR CONNECTING TO ADOPTED SEWERS, TO BE VITRIFIED CLAY TO BS EN 295 AND BS5511 (SWs ONLY), OR CONCRETE PIPES TO BE EN 1916 AND BS5511 PART 1.
- ROAD GULLY OUTLET PIPES ARE TO BE 150mm DIA. WITH CONCRETE SURROUND AND FLEXIBLE JOINTS. ALL GULLIES SHALL BE FITTED WITH GRADE D400 GRATING AND FRAMES TO BS EN 1214 UNLESS OTHERWISE STATED.
- ALL ADAPTABLE SEWERS SHALL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATION LAID DOWN IN 'SEWERS FOR ADOPTION' 6th EDITION, WITH A VIEW TO ADOPTION UPON COMPLETION OF WORKS.
- ALL PRIVATE DRAINAGE TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS APPROVED DOCUMENT 'PART-H', AND TO THE SATISFACTION OF THE BUILDING CONTROL INSPECTOR.
- THE CONTRACTOR IS TO KEEP A RECORD OF ANY VARIATIONS MADE ON SITE, INCLUDING THE RELOCATION OF SEWERS OR DRAINS, SO THAT AN AS CONSTRUCTED DRAWING CAN BE PREPARED UPON COMPLETION OF THE PROJECT.
- STUB CONNECTIONS TO ADOPTABLE MANHOLES SHALL BE MADE FROM VITRIFIED CLAY AND CONSIST OF TWO ROCKER PIPES LAID AT THE SAME GRADIENT AS THE UP OR DOWNSTREAM PIPE.
- IF ANY SUB SOIL DRAINAGE SYSTEMS ARE UNCOVERED DURING THE WORKS CONTACT THE ENGINEER FOR INSTRUCTIONS. SUB SOIL DRAINS ARE TO BE DIVERTED AROUND NEW WORKS AND CONNECTED INTO THE SURFACE WATER.
- NO PRIVATE AREAS ARE TO DRAIN ONTO ADOPTABLE AREAS AND VICE VERSA.
- ALL EXISTING MANHOLE COVERS, GULLIES, ETC. ARE TO BE RAISED/DOWNERED TO SUIT NEW LEVELS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONFIRM THE LOCATION AND DEPTH OF ALL EXISTING SERVICES AND UTILITIES THAT MAY BE PRESENT
- UPON COMPLETION BUT PRIOR TO HANDOVER, CONTRACTOR TO CARRY OUT FULL CCTV SURVEY OF DRAINAGE SYSTEM WHICH IS TO BE REVIEWED BY ENGINEER TO ENSURE SATISFACTORY INSTALLATION
- MANHOLE AND CHAMBER COVER GRADES:

 - 'A15' IN ALL LANDSCAPED AREAS AND ON FOOTPATHS
 - 'B125' IN ALL DRIVEWAYS
 - 'C250' IN PRIVATE PARKING AREAS
 - 'D400' IN CARRIAGEWAY/ACCESS ROAD



Typical Rain Garden Detail



DESIGN SUBJECT TO THE APPROVAL OF:
PLANNING AUTHORITY
BUILDING CONTROL
WATER AUTHORITY

DESIGN SUBJECT TO THE CONFIRMATION OF:
EXTERNAL LEVELS DESIGN
LOCATION AND DEPTH OF EXISTING UTILITIES
ROOT PROTECTION AREAS

DRAINAGE LEGEND

EXISTING FEATURES

- Ex SWD - Existing surface water sewer/drain and manhole (as taken from CCTV survey)
- Ex FWD - Existing foul water sewer/drain and manhole (as taken from CCTV survey)

PROPOSED FEATURES

- FWD - Foul Drainage
- SWD - Surface Water Drainage
- SWD - Pipe crossing (thickening denotes pipe above)
- Storm water office flow control chamber (5000)
- Storm water access chamber (3000)
- Storm water inspection chamber (4500)
- Storm water rodding eye
- Proposed permeable driveway- acting as self-draining area
- Proposed impermeable footpath and patio areas
- Proposed bio-retention planter
- Foul water access chamber (3000)
- Foul water inspection chamber (4500)
- Proposed subbase concrete baffle (See drainage 'Permeable Paving Calculations')
- Pipe info - diameter, length, gradient, bedding type
- Proposed surface and formation level- indicative only for drainage purposes. Surface levels to be designed by others.
- Fall in surface and gradient
- Finished floor level (assumed)

ABBREVIATIONS

- MH - MANHOLE
- IC - INSPECTION CHAMBER
- AC - ACCESS CHAMBER
- CP - CATCHPIT
- BC - BRAKE CHAMBER
- RE - RODDING EYE
- IL - SUNK LEVEL
- SL - SURFACE LEVEL
- RA - REINFORCED ACCESS COVER
- CL - COVER LEVEL
- TL - TOP OF CELLULAR SA
- BL - BASE OF CELLULAR SA
- FL - FORMATION LEVEL

Site Boundary (as taken from Thornton Architecture + Design 'Proposed Site Plan' drawing no: 2315.100; dated: 26.10.23)

Prefixed to drawing numbers shall signify the following:-	
PL = PLANNING	Shall not be used for contract or construction purposes
P = PRELIMINARY	Shall not be used for contract or construction purposes
T = TENDER	Shall not be used for construction purposes
C = CONSTRUCTION	These are the only drawings that shall be used for construction purposes
R = RECORD	Record of actual completed work

P3	18.12.25	UPDATED TO NEW SITE PLAN	KCK	CS	CS
P2	19.03.25	UPDATED TO LPA COMMENTS	TZ	CS	CS
P1	30.01.25	UPDATED TO CLIENT COMMENTS	MR	TZ	CS
P-	18.12.24	PRELIMINARY ISSUE	MR	TZ	CS

REV DATE DESCRIPTION BY CHK APP

cgs
CIVILS
Consulting Civil Engineers

CLIENT	DAVID SIMPSON & PHIL MARSHALL		
ARCHITECT	THORNTON ARCHITECTURE + DESIGN		
JOB TITLE	OLD PARK LODGE, WARNINGLID, RH17 5TJ		
DRAWING TITLE	PROPOSED DRAINAGE STRATEGY		
DRAWN	MR	ENGINEER	TZ
DATE		CHECKED	TZ
DECEMBER 2024		APPROVED	CS
1:200			
JOB No.	STATUS	DRAWING No.	REV
C3424	PL	101	P3

FOR PLANNING