

LIVERPOOL CIVIC PLACE - PHASE B CIVIL & STORMWATER DEVELOPMENT APPLICATION



LOCALITY AERIAL
NOT TO SCALE

SOURCE : NEARMAP

DRAWING SCHEDULE		
DWG. No.	DRAWING TITLE	REV
0100 Arrangement and Overview Plans		
C-A-0101-PB-MW	Cover Sheet	1
C-A-0102-PB-MW	Specification Notes	1
C-A-0103-PB-MW	Existing Survey	1
0200 Sediment and Erosion Control		
C-A-0201-PB-MW	Sediment & Erosion Control Plan	1
C-A-0202-PB-MW	Sediment & Erosion Control Details	1
0400 Siteworks Plans		
C-A-0401-PB-MW	Siteworks Plan	1
C-A-0402-PB-MW	Siteworks Details	1
0500 Road Longitudinal and Cross Sections		
C-A-0501-PB-MW	Road Longitudinal Sections	1
0600 Stormwater Drainage		
C-A-0601-PB-MW	Stormwater Layout Plan	1
C-A-0602-PB-MW	Stormwater Pit Schedule	1
C-A-0603-PB-MW	Stormwater Catchment Plan	1
C-A-0604-PB-MW	Stormwater Typical Drainage Details	1
C-A-0605-PB-MW	WSUD Treatment Devices Typical Details	1

CLIENT



PROJECT MANAGER



ARCHITECT



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Consulting Engineers

■ Hydraulic

■ Fire

■ Civil

■ Utilities Infrastructure





TITLE

COVER SHEET

SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	M.T.	M.Cz.	L.S.	L.S.
JOB No.	DRAWING No.		ISSUE	
6734000	C-A-0101-PB-MW		2	
DATE	STATUS			
NOVEMBER 2020	DEVELOPMENT APPLICATION			

Plot Date

York X:\734000_TB_AH1
 Cad File: T:\734000\Drawings\AutoCAD\Civil\Drawings\Civil_20\Phase E\Main works\PB-MW-C1_02_Specification Notes.dwg
 Log Name: NG2024
 Print Date: 11/12/2020@14:39:12

PRELIMINARY - NOT FOR CONSTRUCTION

GENERAL

- G1.

DESIGN HEREIN HAS BEEN PREPARED BY WARREN SMITH AND PARTNERS PTY LTD CONSULTING CIVIL ENGINEERS, LEVEL 9, 233 CASTLEREAGH ST, SYDNEY NSW 2000. TEL:- (02) 9299 1312, FAX:- (02) 9290 1295.
- G2.

THE DRAWINGS HEREIN SHALL BE READ AS REQUIRED IN CONJUNCTION WITH ARCHITECT DRAWINGS BY: FJMT LEVEL 5/70 KING STREET SYDNEY, NSW 200 TEL: (02) 9251 7077
- G3.

ALL DIMENSIONS IN MILLIMETRES UNO. REDUCED LEVELS AND CHAINAGES ARE IN METRES. DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS.
- G4.

THE PROPOSED WORKS DETAILED HEREIN SHALL BE CONSTRUCTED TO THE REQUIREMENTS OF COUNCIL GENERALLY AS DETAILED HEREUNDER.
- G5.

ALL EXISTING SERVICES SHALL BE VERIFIED FOR DEPTH AND HORIZONTAL POSITION BY PHYSICAL MEANS PRIOR TO EXCAVATION. ANY DISCREPANCIES SHALL BE BROUGHT FORTHWITH TO THE PROJECT MANAGER'S ATTENTION.
- G6.

REFERENCE SHALL BE MADE TO THE CONSTRUCTION MANAGEMENT PLAN FOR ALL SITE WORKS DETAILED HEREIN.

STORMWATER & SUB-SOIL DRAINAGE MATERIALS:

- STW1.

PIPES AND FITTINGS FOR STORMWATER DRAINAGE SHALL BE AS FOLLOWS UNO ON THE DRAWINGS:
A. SEWER GRADE uPVC (SN8) WITH SOLVENT WELDED JOINTS FOR BELOW GROUND DRAINAGE UP TO 225mm.
B. REINFORCED CONCRETE WITH RUBBER RINGS, CLASS 3, FOR PIPE DIA'S GREATER THAN 225mm OR WHERE REQUIRED BY AS3600 FOR EXCESSIVE DEPTH.
C. INSTALL IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- STW2.

PIPES & FITTINGS FOR SUBSOIL DRAINAGE SHALL BE SLOTTED POLYVINYL CHLORIDE (PVC) WITH SOLVENT WELDED JOINTS, MIN. 150mm DIAMETER.
- STW3.

IN GROUND DRAINAGE PIPEWORK SERVING DP's SHALL BE MINIMUM 150mm DIA. UNO.
- STW4.

GRATED DRAINS SHALL BE 150mm NOM.
A. 150mm NOM. WIDTH IN NON TRAFFICABLE AREAS.
B. 225mm NOM. WIDTH IN TRAFFICABLE AREAS.
- STW5.

STORMWATER PITS ARE AS SHOWN & SPECIFIED ON THE PLANS . PRECAST TYPE ACCEPTABLE WITH STEP IRONS FOR DEPTH GREATER THAN 1200. BENCH ALL PITS MIN. 50mm & FORM SMOOTH TRANSITION FROM INLET TO OUTLET.
- STW6.

SELECT FILL SHALL BE MATERIAL OBTAINED FROM EXCAVATION OF THE PIPE TRENCH OR IMPORTED WITH A PARTICLE SIZE FOR ROCK NOT GREATER THAN 75mm OR FOR OTHER THAN ROCK NOT GREATER THAN 150mm.
- STW7.

IMPORTED FILL SHALL BE EITHER, AND GENERALLY CONSIST OF SINGLE SIZED AGGREGATE WITH PARTICLE SIZE NOT GREATER THAN 5mm WRAPPED ALL ROUND WITH GEOTEXTILE FILTER FABRIC OR APPROVED HIGH COMPACTION SAND OR APPROVED CRUSHED ROAD GRAVEL CONFORMING TO RTA FORM 3051 OR SIMILAR.
- STW8.

STORMWATER PITS AND GRATES TO CONFORM WITH STANDARD COUNCIL REQUIREMENTS, WHERE ON PUBLIC LAND. GRATES TO BE SUPPLIED IN CLASS SHOWN ON THE DRAWINGS.

INSTALLATION REQUIREMENTS:

- STW9.

PIPES SHALL BE TRUE TO GRADES SHOWN AND ALIGNED SO THAT THE CENTRES OF THE INLET PIPES INTERSECT WITH THE CENTRE OF THE OUTLET PIPE AT THE DOWNSTREAM FACE OF THE PIT.
- STW10.

MINIMUM GRADES FOR GRAVITY STORMWATER DRAINAGE SHALL CONFORM TO AS3600 PART3 AS FOLLOWS, UNO:
1% FOR 100 AND 150 mm DIA.
0.5% FOR 225 mm DIA
0.5% FOR 300 mm DIA
0.4% FOR 375 mm DIA
- STW11.

MINIMUM DEPTH OF COVER SHALL BE :-
- 300mm IN PRIVATE PROPERTY (NON VEHICULAR TRAFFIC).
- 450mm IN PUBLIC AREAS.
- 600mm IN VEHICULAR TRAFFICABLE AREAS (FOOTWAY/ROADWAY)

- STW12.

BED ALL PIPES FIRMLY AND EVENLY ONTO IMPORTED BEDDING FILL MATERIAL.
- STW13.

LAY AND JOINT ALL PIPES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND AS 3725-1989 BURIED FLEXIBLE PIPELINES AS 2666-1998 LOADS ON BURIED FLEXIBLE PIPELINES AS 1597-2-1996 PRECAST REINFORCED CONCRETE BOX CULVERTS. AS 3600-1990 NATIONAL PLUMBING & DRAINAGE CODE. PART 2. SANITARY PLUMBING AND SANITARY DRAINAGE. SYDNEY WATER REQUIREMENTS.
- STW14.

ALLOW TO TEST ALL PIPES AND PITS TO MANUFACTURERS REQUIREMENTS.

CONCRETE WORKS

- C1.

ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600, THE STANDARDS ASSOCIATION AUSTRALIA, STANDARDS CITED IN AS3600, THE DRAWINGS AND THE SPECIFICATION.
- C2.

ALL CONCRETE SHALL BE 80mm NOMINAL SLUMP, 20mm MAXIMUM AGGREGATE WITH NO ADMIXTURES OR FLY ASH, UNLESS OTHERWISE APPROVED. ALL CONCRETE WORK IN CONTACT WITH SEWER TO HAVE TYPE SL PORTLAND CEMENT, OTHERWISE TYPE A CEMENT FOR BRIDGE WORKS, A MAXIMUM 56 DAYS SHRINKAGE OF 600 MICROSTRAIN, A MINIMUM CEMENT CONTENT 350kg/m3 AND MAXIMUM WATER:CEMENT RATIO OF 0.40.
- C3.

STRENGTH GRADE OF CONCRETE SHALL BE : 25 MPa (KERBS, EDGE STRIPS & CONCRETE ENCASEMENT) AND 32 MPa ELSEWHERE.
- C4.

CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USED ONLY WHERE SHOWN OR APPROVED. GENERALLY FOR HAND PLACED KERB & GUTTER 6mm THICK APPROVED BITUMINOUS MASTIC JOINTING MATERIAL SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 6m. FOR MACHINE PLACED KERB & GUTTER 6mm THICK APPROVED BITUMINOUS MASTIC JOINTING MATERIAL SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 12m & GUILLOTINED DUMMY GROOVED JOINTS, 25mm IN DEPTH, SHALL BE FORMED EVERY 3m OF GUTTER. JOINTS ARE ALSO REQUIRED AT EACH END OF GUTTER CROSSING AND GULLY PITS. JOINTS SHALL BE SET VERTICAL AND SQUARE TO THE KERB.
- C5.

REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- C6.

ELDING OR SPLICES IN REINFORCEMENT SHALL BE USED ONLY IN POSITIONS APPROVED BY THE ENGINEER.
- C7.

CONCRETE CURING SHALL BE IN ACCORDANCE WITH AS3600. CURING SHALL BE COMMENCED WITHIN TWO HOURS OF FINISHING OPERATIONS AND SHALL BE CONTINUED FOR A MINIMUM OF SEVEN DAYS BY AN APPROVED PROPRIETARY COMPOUND OR BY KEEPING CONTINUOUSLY WET.
- C8.

FORMWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH AS3610. FORMWORK SHALL NOT BE STRIPPED NOR PROPS REMOVED WITHOUT APPROVAL.
- C9.

FABRIC LAP DETAILS SHALL BE IN ACCORDANCE WITH FIG.13.2.4 OF AS3600.
- C10.

HOOKS, LAPS AND BENDS SHALL BE IN ACCORDANCE WITH AS3600 UNO.
- C11.

ALL CHEMICAL ANCHORS SHALL BE EITHER 'CHEMSET' BY 'RAMSET' WITH THE GLASS CAPSULE SYSTEM INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS OR HILTI HVU ADHESIVE ANCHOR WITH FOIL CAPSULE SYSTEM INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTION.
- C12.

ALL CHEMICAL ANCHORS SHALL BE HOT DIPPED GALVANIZED AND BE MIN M16 DIA. U.N.O.

GENERAL EARTHWORKS, SITEWORKS & FILLING: FILLING:

- SGE1.

THESE CLAUSES SHALL BE READ IN CONJUNCTION WITH THE GEOTECHNICAL INVESTIGATION REPORT.
- SGE2.

THE RECOMMENDATIONS CONTAINED IN THE GEOTECH REPORT SHALL OVERRIDE THE CLAUSES PRESENTED HEREIN.
- SGE3.

STRIP ALL TOPSOIL AND UNDERLYING FILL AND STOCKPILE TOPSOIL FOR LATER REUSE FOR LANDSCAPING PURPOSES.
- SGE4.

NEW FILL REQUIRED TO REINSTATE CUT LEVELS TO PROPOSED BENCHING LEVELS SHALL BE SOURCED FROM OTHER PARTS OF THE EXCAVATION AS SELECT FILL OR IMPORTED FILL AS SPECIFIED BELOW IN SGE 5 AND SGE 6.
- SGE5.

SELECT FILL SHALL CONSIST OF LOCALLY DERIVED OR

- SGE6.

CUT NATURAL CLAYS. IMPORTED FILL SHALL CONSIST OF RIPPED SANDSTONE OR SHALE OR SIMILAR MATERIAL WITH MAXIMUM PARTICLE SIZE NOT GREATER THAN 120mm AND A MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.
- SGE7.

ALL FILL (COHESIVE SOIL) SHALL BE PLACED IN LAYERS OF 200mm MAXIMUM THICKNESS, COMPACTED BY MACHINE ROLLING TO ACHIEVE A DRY DENSITY RATIO OF NOT LESS THAN 98% STANDARD MAXIMUM AT A CORRESPONDING MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.
- SGE8.

IN AREAS WHERE HIGH IMPACT ROLLING IS USED TEST EACH FINAL LAYER OF NOT GREATER THAN 300mm TO 400mm TO ACHIEVE A DRY DENSITY SGE8. RATIO OF NOT LESS THAN 98% STANDARD MAXIMUM AT A CORRESPONDING MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.

- EXCAVATION BATTERS:

SGE9.

ALL TEMPORARY BATTERS CUT IN CLAY SUBSTRATE SHALL BE 1 HORIZ : 1 VERT. ALL LONG TERM EXPOSED BATTERS CUT IN CLAY SUBSTRATE SHALL BE 2 HORIZ : 1 VERT. ALL DETENTION BASIN BATTERS IN CLAY SUBSTRATE SHALL BE 3 HORIZ : 1 VERT. ALL DETENTION BASIN BATTERS IN ROCK SUBSTRATE SHALL BE NEAR VERTICAL.
- SGE10.

GEOTECHNICAL TESTING IS TO BE UNDERTAKEN TO AT LEAST LEVEL 1 CONTROL OF FILL COMPACTION STANDARD, AS DEFINED IN AS. 3738 AS FOLLOWS
- FOR GENERAL FILL OR CUT AREAS OVER THE AREA PROVIDE ONE (1) TEST PER 200mm LAYER, OVER AN AREA NOT GREATER THAN 50m²
- FOR GENERAL FILL AREAS IN CONCENTRATED AREAS ADJACENT TO AND BEHIND THE STRUCTURE AND ADJACENT TO AND BEHIND RETAINING WALLS PROVIDE ONE (1) TEST PER 200mm LAYER, OVER AN AREA NOT GREATER THAN 50m²
- SGE11.

SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN SMITH & PARTNERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

EARTH WORKS FOR SERVICES

- E1.

EXCAVATE TRENCHES AND STOCKPILE ALL MATERIAL FOR INSPECTION WITH REGARD TO RE-USE FOR TRENCH BACKFILL. REMAINING MATERIAL TO BE REMOVED FROM SITE.
- E2.

BEDDING MATERIAL SHALL CONSIST OF IMPORTED FILL ONLY. THICKNESS OF BEDDING LAYER SHALL BE 75mm IN O.T.R. AND 200mm IN ROCK.
- E3.

EMBED ALL PIPES WITH IMPORTED FILL. PROVIDE 200mm SIDE SUPPORT AND 150mm OVERLAY ABOVE PIPE CROWN.
- E4.

TRENCH FILL ABOVE THE EMBEDMENT ZONE TO THE UNDERSIDE OF THE ROAD PAVEMENT OR FOOTWAY FILL MATERIAL SHALL BE AS FOLLOWS :

UNDER ROADWAY

- E5.

TRENCH FILL MATERIAL SHALL CONSIST OF IMPORTED FILL AS SPECIFIED HEREIN OF EITHER HIGH GRADE COMPACTION SAND OR APPROVED CRUSHED ROAD GRAVEL CONFORMING TO RTA FORM 3051 OR SIMILAR.

OTHER THAN ROADWAY

- E6.

TRENCH FILL MATERIAL EXCAVATED SHALL CONSIST OF SELECT FILL AS SPECIFIED HEREIN AND SHALL NOT CONTAIN MORE THAN 20% OF STONES OF SIZE BETWEEN 75mm & 150mm AND NONE LARGER THAN 150mm. PRIOR TO THE USE OF THE EXCAVATED MATERIAL IT SHALL BE INSPECTED AND APPROVED BY THE CONSULTANT.
- E5.

COMPACT BEDDING, EMBEDMENT AND TRENCH FILL MATERIALS AS FOLLOWS:

EMBEDMENT:-
FOR GRANULAR FILL MATERIAL (NON-COHESIVE SOILS) EG. COARSE AGGREGATE FILL, HIGH GRADE COMPACTION SAND, THE DENSITY INDEX (ID) SHALL BE NOT LESS THAN 70%.

TRENCH FILL:-
FOR GRANULAR MATERIAL (NON-COHESIVE SOILS), THE DENSITY INDEX (ID) SHALL BE NOT LESS THAN 70%.

FOR NON-GRANULAR FILL MATERIAL (COHESIVE SOILS), THE DRY DENSITY RATIO (RD) SHALL BE NOT LESS THAN 95%.

MEASURE OF COMPACTION:-
THE DEGREE OF COMPACTION SHALL BE MEASURED BY ONE OF THE FOLLOWING PARAMETERS :-

GRANULAR FILL (NON-COHESIVE SOILS). THE DENSITY

- E7.

GEOTECHNICAL TESTING IS TO BE UNDERTAKEN TO AT LEAST LEVEL 1 CONTROL OF FILL COMPACTION STANDARD, AS DEFINED IN AS. 3738 AS FOLLOWS:

- TEST EACH 300mm LAYER ABOVE PIPE CROWN.
- TEST BASE & SUB-BASE LAYERS WHERE APPLICABLE.
- TESTS SHALL BE REQUIRED AT EACH 50m CENTRES WHERE THE LENGTH OF TRENCH IS WITHIN THE 50m REQUIREMENT.
- E8.

SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN SMITH & PARTNERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

RESTORATION:

- RES1.

RESTORE ALL TRAFFIC AREAS TO PRE EXISTING CONDITION.
- RES2.

FOR ALL SURFACES OTHER THAN IN TRAFFIC AREAS RESTORE DISTURBED SURFACES TO PRE-EXISTING CONDITIONS AND COMPACT AS SPECIFIED.
- RES3.

RESTORE ALL AUTHORITY OWNED AREAS TO COUNCIL STANDARDS

ROAD WORKS, DRIVEWAYS & CARPARKS

- R1.

ALLOW FOR LEVEL 2 TESTING AND SUB-GRADE CONDITIONS & PAVEMENT THICKNESS TO BE VERIFIED BY GEOTECHNICAL CONSULTANT AFTER INSPECTION OF PRELIMINARY BOXING.
- R2.

ALLOW FOR ANY SUB-GRADE REPLACEMENT WORK TO BE DETERMINED AS REQUIRED BY GEOTECHNICAL CONSULTANT AT THE TIME OF PAVEMENT CONSTRUCTION.
- R3.

MINIMUM DRY DENSITY RATIOS (AS 1289 3.4.1-1993) TO BE:
BASE COURSE: 98% MODIFIED
SUB-BASE: 95% MODIFIED
SUB-GRADE: 100% STANDARD
SUB-GRADE REPLACEMENT: 100% STANDARD
- R4.

PAVEMENT MATERIALS TO COMPLY WITH RMS SPECIFICATION No. 3051 OR SIMILAR AS APPROVED BY GEOTECHNICAL CONSULTANT.
- R5.

PROVIDE (1) TEST FOR EACH LAYER NOT EXCEEDING 250mm THICK BEING BASECOURSE, SUB-BASE & SUB-GRADE OVER AN AREA NOT GREATER THAN 500m²
- R6.

SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN SMITH & PARTNERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

APPROVALS

- A1.

THE AS CONSTRUCTED WORKS SHALL BE INSPECTED BY DESIGN CONSULTANT. MINIMUM 48 HOURS' NOTICE SHALL APPLY TO ALL INSPECTIONS.
- A2.

THE DESIGN PLANS HEREIN ARE SUBJECT TO LOCAL COUNCIL. APPROVAL PRIOR TO CONSTRUCTION. OBTAIN EXPRESS (WRITTEN) ADVICE TO PROCEED FROM PROJECT MANAGER PRIOR TO COMMENCEMENT.
- A3.

SUBMIT WORK-AS-EXECUTED DRAWINGS IN CIVILCAD OR DXF DIGITAL FORMAT AND HARD COPY FORMAT. VERIFY ALL CONSTRUCTION WORKS SHOWN HEREON.
- A4.

CERTIFY THAT THE AS CONSTRUCTED SYSTEM HAS BEEN BUILT IN ACCORDANCE WITH THE APPROVED PLANS ISSUED FOR CONSTRUCTION.

SERVICES UNDER ROAD SURFACES

- S1.

ALL OTHER SERVICES INCLUDING BUT NOT LIMITED TO WATER, HYDRANT, GAS, SEWER, ELECTRICAL AND COMMUNICATIONS CONDUITS OR CABLES SHALL BE LAID WITH MINIMUM 600mm U.N.O. COVER BELOW PROPOSED ROAD SURFACE OR APPROVED OTHER MEANS TO PROTECT DURING CONSTRUCTION.

ROAD SIGNS & LINE MARKING

- RS1.

ALL SIGNS AND LINEMARKING SHALL BE TO ROADS & TRAFFIC AUTHORITY STANDARDS AND SPECIFICATIONS AND AS.1742, MANUAL OF UNIFORM TRAFFIC CONTROL

- DEVICES

RS2.

ALL LINEMARKING SHALL BE AUGMENTED BY RETROREFLECTIVE RAISED PAVEMENT MARKERS (RRPMs) AND ALL SHALL BE TO AS 1742.2 - 1994 AND AS 1742.2 /AMDT 1/1997-10-05
- RS3.

ALL ROAD SIGNS AND POSTS SHALL BE TO AS 1742.2 - 1994 AND AS 1742.2 /AMDT 1/1997-10-05

PROTECTION OF FLORA - REFER SPECIFICATION

1.

ANY TRENCHES WITHIN 3m OF TREES SHALL BE HAND DUG TO AVOID DAMAGE TO TREE ROOTS.
2.

IF IT IS CONSIDERED NECESSARY TO PERFORM ANY WORK ON TREES, INCLUDING TRIMMING, LOPPING, ROOT CUTTING, REPAIR AND REMOVAL, APPLICATION IN WRITING SHALL BE MADE BY THE CONTRACTOR TO THE SUPERINTENDENT. ANY WORK PERMITTED TO BE DONE ON TREES TO BE RETAINED SHALL BE PERFORMED IN ACCORDANCE WITH THE ARBORISTS REPORT.
3.

MATURE TREES AND SHRUBS ARE TO BE REMOVED IN ACCORDANCE WITH THE ARBORISTS REPORT.

AUTHORITY STANDARDS

- LGA 1.

THE DRAWINGS HEREIN SHALL BE READ IN CONJUNCTION WITH LIVERPOOL CITY COUNCIL STANDARDS & SPECIFICATIONS WHICH SHALL OVERRIDE SPECIAL DETAILS SHOWN ON THE DRAWINGS.

TRAFFIC NOTE:

1.

A TRAFFIC CONTROL PLAN IS TO BE PREPARED BY AN ACCREDITED RMS 1. TRAFFIC CONTROLLER AND SUBMITTED TO COUNCIL. THIS TRAFFIC PLAN IS TO BE CERTIFIED BY AND IMPLEMENTED TO THE SATISFACTION OF AN ACCREDITED RMS TRAFFIC CONTROLLER

PRIOR TO COMMENCEMENT OF WORK

2.

ALL TRAFFIC CONTROL WORKS SHALL ONLY BE CARRIED OUT BY 2. ACCREDITED RMS TRAFFIC CONTROLLERS.

CLOSED CIRCUIT COLOUR TV (CCTV)

- CCTV 1.

UNDERTAKE A CCTV INSPECTION OF ALL THE COMPLETED DRAINAGE IN ACCORDANCE WITH THE GUIDELINES OF THE AUSTRALIAN CONDUIT CONDITION EVALUATION MANUAL (ACCEM)
- CCTV 2.

APPLY THE FOLLOWING REQUIREMENTS TO THE CCTV INSPECTION:-
A. USE DATA CAPTURE SOFTWARE APPROVED BY SYDNEY WATER

B. USE CERTIFIED CCTV OPERATORS C. THE CCTV FOOTAGE SHALL BE OF QUALITY TO ALLOW ACCURATE ASSESSMENT OF THE INTERNAL CONDITION OF THE PIPE. FURNISH TO THE DESIGN CONSULTANT.-
- CCTV 3.

A. VIDEOS IN MPG FORMAT
B. CCTV REPORT AND SURVEY DATA IN PDF FORMAT

PROTECTION OF TREES

- T1.

WHERE STORMWATER DRAINAGE IS LAID WITHIN THE VICINITY OF TREES / CANOPIES OF TREES, WORK IS TO BE COMPLETED TO THE PROJECT ARBORISTS REQUIREMENTS AND SPECIFICATIONS.

DO NOT SCALE FROM DRAWINGS. CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK.

THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH AND PARTNERS.

SPECIFICATION NOTES

SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	N.G.	M.CZ.	L.S.	L.S.
JOB No.		DRAWING No.		ISSUE
6734000		C-A-0102-PB-MW		2
DATE	STATUS			
NOVEMBER 2020	DEVELOPMENT APPLICATION			

LEGEND

SITE BOUNDARY

EXISTING SEWER LINE

EXISTING POTABLE WATER

EXISTING ELECTRICITY

EXISTING TELECOMMUNICATIONS LINE

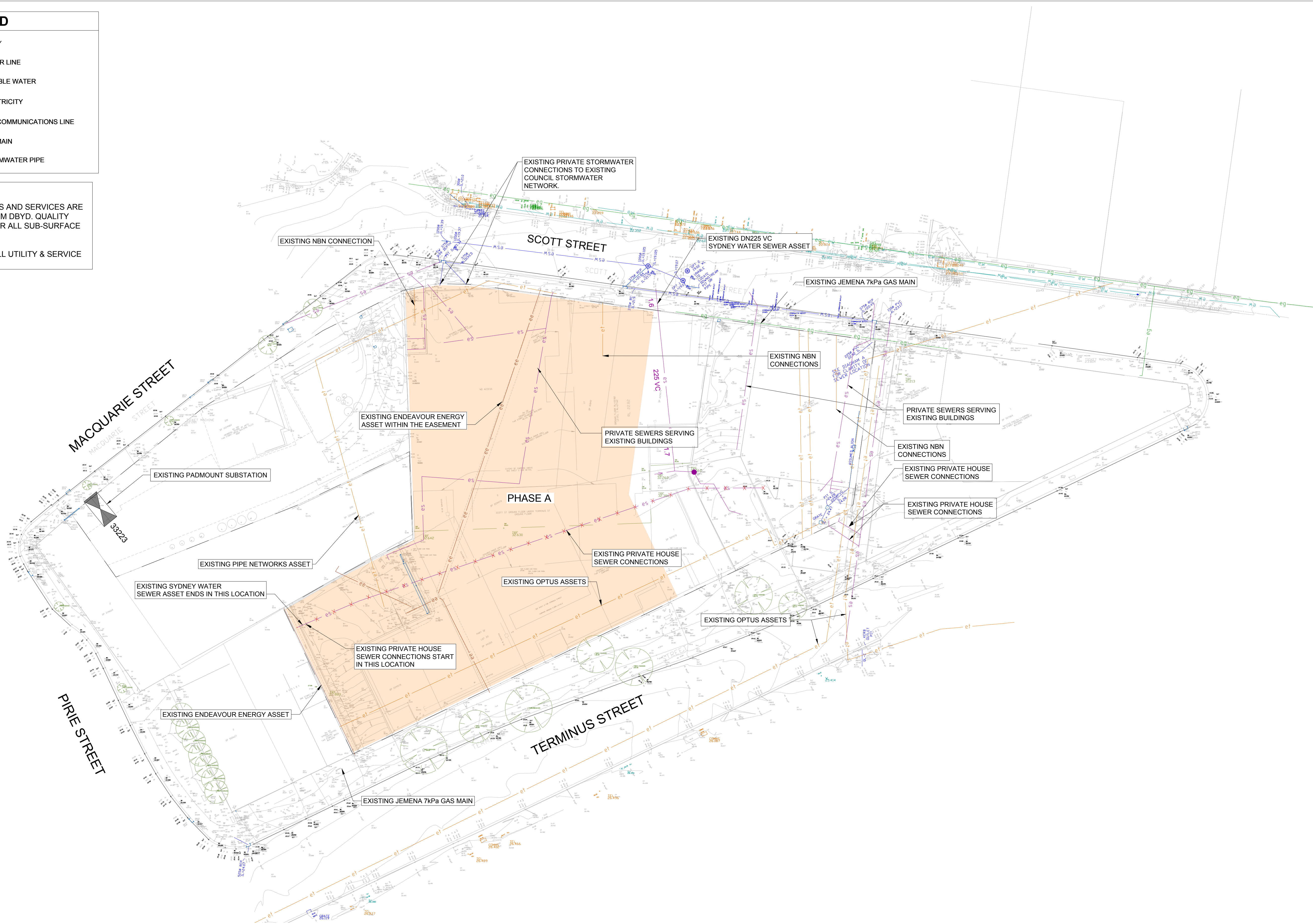
EXISTING GAS MAIN

EXISTING STORMWATER PIPE

- NOTES:
1.

LOCATIONS OF ALL UTILITIES AND SERVICES ARE INDICATIVE AND TAKEN FROM DBYD. QUALITY LEVEL 'D' TO BE APPLIED FOR ALL SUB-SURFACE SERVICES & UTILITIES.
2.

CONTRACTOR TO VERIFY ALL UTILITY & SERVICE LOCATIONS.



PRELIMINARY - NOT FOR CONSTRUCTION

Notes: X:\274000\10_Plan\X\274000\10_SU_Survey\X\274000\10_SU_Survey.dwg
Plot Date: 11/12/2020 14:42:55
User Name: NG2024
C:\Program Files\Autodesk\AutoCAD 2020\Drawing\103\Phase B\main\wspg\PB-MW-C1-03 Building Survey.dwg

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NORTH

50

60

70

80

90

100

110

120

130

140

150

5

0

5

10

15

20m

PLAN

SCALE 1:400

A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUE FOR DEVELOPMENT APPLICATION	27/11/20			
2	ISSUE FOR DEVELOPMENT APPLICATION	11/12/20			

CLIENT

LIVERPOOL CITY COUNCIL

PROJECT

LIVERPOOL CIVIC PLACE

PREPARED BY

Warren Smith & Partners

Warren Smith & Partners Pty Ltd
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Consulting Engineers

Hydraulic Fire Civil Utilities Infrastructure

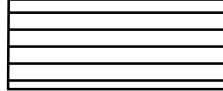
GCC

100,000+ Certified

SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

SCALE		DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN		M.T.	M.C.Z.	L.S.	L.S.
JOB No.		DRAWING No.		ISSUE	
6734000		C-A-0103-PB-MW		2	
DATE		STATUS			
NOVEMBER 2020		DEVELOPMENT APPLICATION			

LEGEND

	SITE BOUNDARY
	SITE FENCE
	SITE GATE
	SEDIMENT FENCE
	GEOTEXTILE INLET FILTER - DROP INLET SEDIMENT TRAP
	STABILISED SITE ACCESS
	SEDIMENT TRAP FOR KERB INLET -SAND BAGS



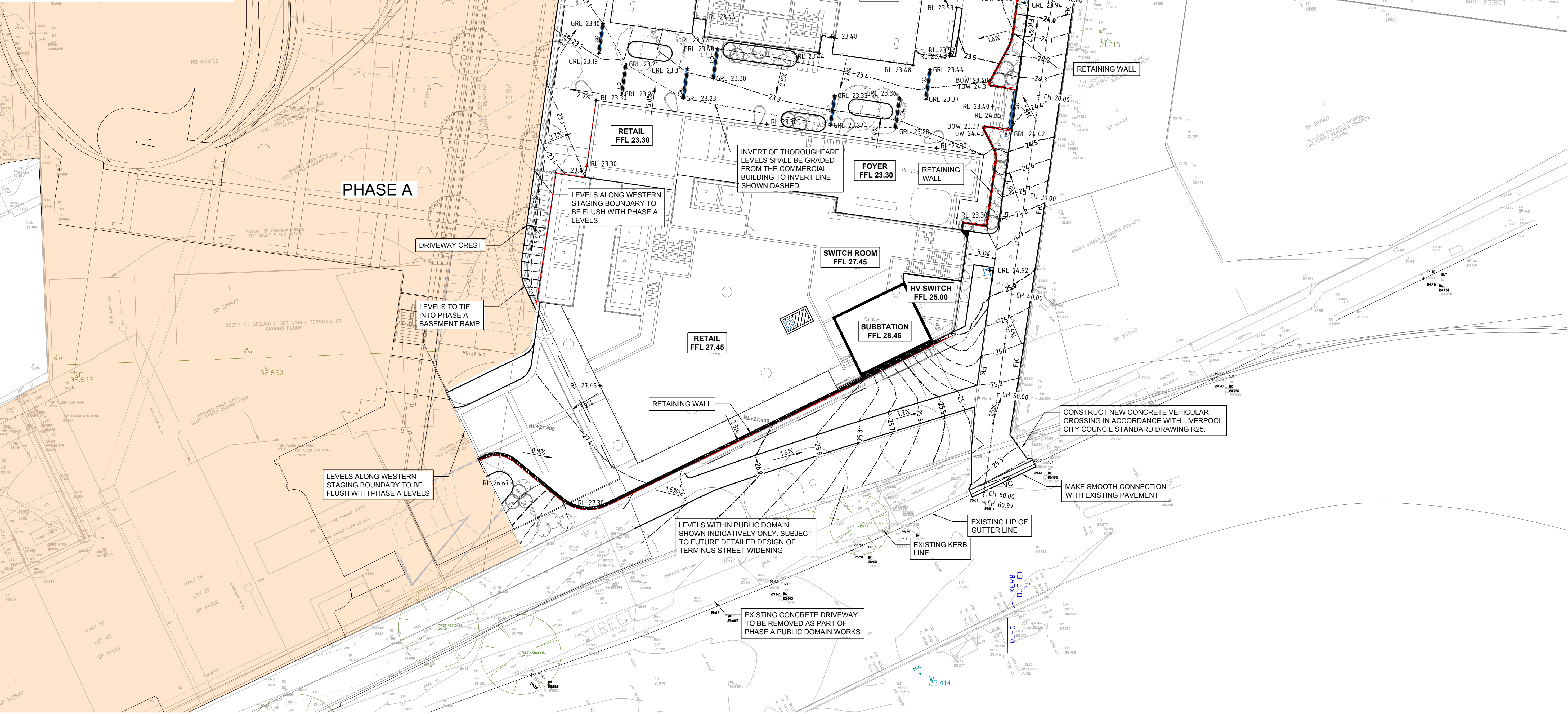
TITLE				
SEDIMENT & EROSION CONTROL PLAN				
SCALE AS SHOWN	DRAWN M.T.	DESIGNED M.Cz.	CHECKED L.S.	APPROVED L.S.
JOB No. 6734000		DRAWING No. C-A-0201-PB-MW		ISSUE 2
DATE NOVEMBER 2020	STATUS DEVELOPMENT APPLICATION			

LEGEND

- SITE BOUNDARY
- LIMIT OF WORKS
- DESIGN CONTOUR (MAJOR)
- DESIGN CONTOUR (MINOR)
- FLUSH KERB
- FK
- V.C.
- VEHICULAR CROSSING (V.C.)
- RETAINING WALL
- MTE
- NEATLY MATCH TO EXISTING PAVEMENT LEVEL
- FFL
- FINISHED FLOOR LEVEL

NOTES:

LEVELS ARE INDICATIVE AND SUBJECT TO CHANGE PENDING DETAILED DESIGN DEVELOPMENT. AMENDMENTS TO THE LANDSCAPE AND PUBLIC DOMAIN TO BE MADE IN ACCORDANCE WITH FUTURE ENDORSED PUBLIC DOMAIN PLAN, AS PER UNDER CONDITIONS 4, 5, 6 AND 13 OF DA-585/2019.



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NORTH

SCALE 1:200
PLAN
SCALE 1:200
A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUE FOR DEVELOPMENT APPLICATION	27/11/20			
2	ISSUE FOR DEVELOPMENT APPLICATION	11/12/20			

CLIENT

LIVERPOOL CITY COUNCIL

PROJECT

LIVERPOOL CIVIC PLACE

PREPARED BY

Warren Smith & Partners

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Level 9, 233 Castlereagh Street, Sydney 2000 NSW Australia
02 9299 1312 wsp@warrensmith.com.au
www.warrensmith.com.au ABN 36 300 430 126

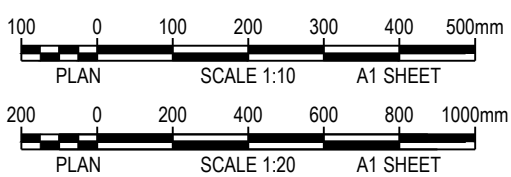
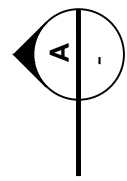
Consulting Engineers

Hydraulic Fire Civil Utilities Infrastructure

GCC
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TITLE		SITeworks PLAN	
SCALE	AS SHOWN	DRAWN	M.T.
DESIGNED	M.Cz.	CHECKED	L.S.
APPROVED	L.S.	ISSUE	2
JOB No.		C-A-0401-PB-MW	
DATE	NOVEMBER 2020	STATUS	DEVELOPMENT APPLICATION

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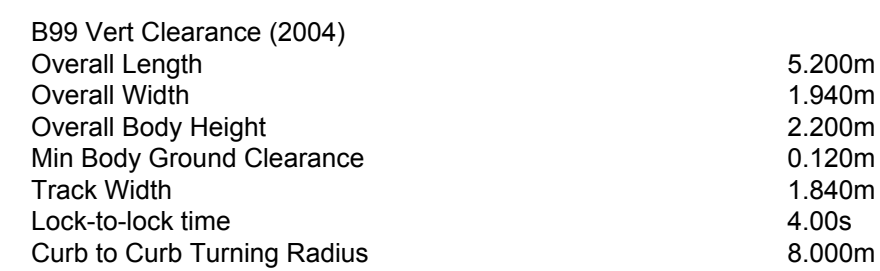


- SCALE 1:10



1. STANDARD VEHICLE CROSSING PLAN, SECTIONS AND NOTES AS PER LIVERPOOL CITY COUNCIL'S STANDARD DRAWING R25. KERB PROFILES AS PER LIVERPOOL CITY COUNCIL'S STANDARD DRAWINGS R02.
2. DRIVE CROSSING TO HAVE GRANITE FINISH AS PER COUNCIL REQUIREMENTS TBC BY LCC FOLLOWING REVIEW OF FUTURE ENDORSED PUBLIC DOMAIN PLAN

TITLE				
SITEWORKS DETAILS				
SCALE AS SHOWN	DRAWN M.T.	DESIGNED M.Cz.	CHECKED L.S.	APPROVED L.S.
JOB No. 6734000		DRAWING No. C-A-0402-PB-MW		ISSUE 2
DATE NOVEMBER 2020	STATUS DEVELOPMENT APPLICATION			



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LIVERPOOL
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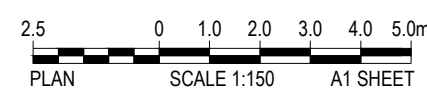
SCALE AS SHOWN	DRAWN M.T.	DESIGNED I.O.	CHECKED L.S.	APPROVED L.S.
JOB No. 6734000		DRAWING No. C-A-0501-PB-MW		ISSUE 2
DATE NOVEMBER 2020	STATUS DEVELOPMENT APPLICATION			

LEGEND	
	BOUNDARY
	EXISTING STORMWATER PIPE
	EXISTING STORMWATER PIPE TO BE REMOVED
	INDICATIVE OVERLAND FLOW ROUTE
	PIPE DIAMETER AND DIRECTION OF FLOW
	STORMWATER PIPE (SIZE <Ø1050)
	GRATED INLET PIT
 GD	GRATED TRENCH DRAIN
	LANDSCAPING (BY OTHERS)

1. LEVELS ARE INDICATIVE AND SUBJECT TO CHANGE PENDING DETAILED DESIGN DEVELOPMENT. AMENDMENTS TO THE LANDSCAPE AND PUBLIC DOMAIN TO BE MADE IN ACCORDANCE WITH FUTURE ENDORSED PUBLIC DOMAIN PLAN, AS PER UNDER CONDITIONS 4, 5, 6 AND 13 OF DA-585/2019.
2. AS PER ESD FRAMEWORK REQUIREMENT, RAINFALL INTENSITIES HAVE BEEN INCREASED ABOUT 16% AND ADOPTED IN STORMWATER DESIGN.
3. STORMWATER NETWORK FOR THE PROPOSED DEVELOPMENT HAS BEEN DESIGNED SUCH THAT THE POST DEVELOPMENT DISCHARGE FROM THE SITE SHALL NOT EXCEED THE PRE DEVELOPMENT DISCHARGE FOR ALL THE STORM EVENTS.
4. PITS 1/2, 1/3, 1/4, 1/5, 1/6, 1/7, 1/8, 1/9 ARE TO BE CONNECTED TO PIT 1/13, AND PITS 1/1, PITS 1/10, PITS 1/11 ARE TO BE CONNECTED TO PIT 1/12 VIA INTERNAL HYDRAULIC DRAINAGE. HYDRAULIC DRAINAGE RETICULATION TO BE DEVELOPED DURING DETAILED DESIGN STAGE.



NORTH

[illegible]

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JOB No.		DRAWING No.		ISSUE

6734000	C-A-0601-PB-MW	2
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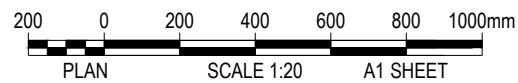
DATE	STATUS
NOVEMBER 2020	DEVELOPMENT APPLICATION

refs: X-6734000-TB_A1H; X-6734000-SU_Survey; X-6734000-AR_PB_Lower Ground Floor; X-6734000-SW_PB_Layout; X-6734000-PB_SU_Boundary; X-6734000-AR_PB_Upper Ground Floor; 6734000 - Design Surface - Phase B; X-6734000-PB_AR_Landscape
 of Date: 11.12.2020@14:53:27
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REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUE FOR DEVELOPMENT APPLICATION	27/11/20			
2	ISSUE FOR DEVELOPMENT APPLICATION	11/12/20			

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TITLE

STORMWATER PIT SCHEDULE

SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	M.T.	M.C.Z.	L.S.	L.S.

JOB No.

6734000

DRAWING No.

C-A-0602-PB-MW

ISSUE

2

DATE

NOVEMBER 2020

STATUS

DEVELOPMENT APPLICATION

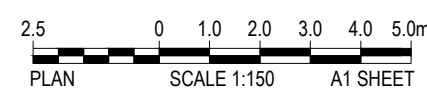
NAME	SURFACE ELEV. (m)	PIT DEPTH (m)	PIT SIZE AND TYPE	FROM	TO	LENGTH (m)	U/S IL (m)	D/S IL (m)	SLOPE (%)	PIPE TYPE	DIA INTERNAL (ID) (mm)	No. PIPES
Pit 1/1	24.92		450SQ PIT WITH CLASS B GRATE							CONNECTION TO INTERNAL HYDRAULIC DRAINAGE		
Pit 1/2	23.37-23.44	0.20m - 0.22m	3.00m LONG K200 ACO TRENCH DRAIN SLOPED CHANNEL WITH CLASS B HEELSAFE ANTI-SLIP GRATE							CONNECTION TO INTERNAL HYDRAULIC DRAINAGE		
Pit 1/3	23.28-23.36	0.20m - 0.22m	3.00m LONG K200 ACO TRENCH DRAIN SLOPED CHANNEL WITH CLASS B HEELSAFE ANTI-SLIP GRATE							CONNECTION TO INTERNAL HYDRAULIC DRAINAGE		
Pit 1/4	23.27-23.33	0.20m - 0.22m	3.00m LONG K200 ACO TRENCH DRAIN SLOPED CHANNEL WITH CLASS B HEELSAFE ANTI-SLIP GRATE							CONNECTION TO INTERNAL HYDRAULIC DRAINAGE		
Pit 1/5	23.30-23.40	0.20m - 0.22m	3.00m LONG K200 ACO TRENCH DRAIN SLOPED CHANNEL WITH CLASS B HEELSAFE ANTI-SLIP GRATE							CONNECTION TO INTERNAL HYDRAULIC DRAINAGE		
Pit 1/6	23.23-23.31	0.20m - 0.22m	3.00m LONG K200 ACO TRENCH DRAIN SLOPED CHANNEL WITH CLASS B HEELSAFE ANTI-SLIP GRATE							CONNECTION TO INTERNAL HYDRAULIC DRAINAGE		
Pit 1/7	23.21-23.30	0.20m - 0.22m	3.00m LONG K200 ACO TRENCH DRAIN SLOPED CHANNEL WITH CLASS B HEELSAFE ANTI-SLIP GRATE							CONNECTION TO INTERNAL HYDRAULIC DRAINAGE		
Pit 1/8	23.10-23.19	0.20m - 0.22m	3.00m LONG K200 ACO TRENCH DRAIN SLOPED CHANNEL WITH CLASS B HEELSAFE ANTI-SLIP GRATE							CONNECTION TO INTERNAL HYDRAULIC DRAINAGE		
Pit 1/9	23.01-23.04	0.20m - 0.22m	3.00m LONG K200 ACO TRENCH DRAIN SLOPED CHANNEL WITH CLASS B HEELSAFE ANTI-SLIP GRATE							CONNECTION TO INTERNAL HYDRAULIC DRAINAGE		
Pit 1/10	24.42		450SQ PIT WITH CLASS B GRATE AND 4m LONG K200 ACO TRENCH DRAIN SLOPED CHANNEL WITH CLASS B HEELSAFE ANTI-SLIP GRATE							CONNECTION TO INTERNAL HYDRAULIC DRAINAGE		
Pit 1/11	23.94		450SQ PIT WITH CLASS B GRATE							CONNECTION TO INTERNAL HYDRAULIC DRAINAGE		
Pit 1/12	23.65		1200SQ PIT WITH CLASS B GRATE AND 4.6m LONG K200 ACO TRENCH DRAIN SLOPED CHANNEL WITH CLASS D HEELSAFE ANTI-SLIP GRATE	Pit 1/12	Existing Pit in Scott Street	3.83	22.97	22.65	8.4	uPVC (SN8)	225	1
Pit 1/13	23.05		1200SQ PIT WITH CLASS B COVER	Pit 1/13	Pit 2/13	3.87	22.3	21.84	11.9	RCP (CLASS 3)	300	1
Pit 2/13	22.77		600 x 900 PIT WITH CLASS D BUTTERGLY V-GRATE									

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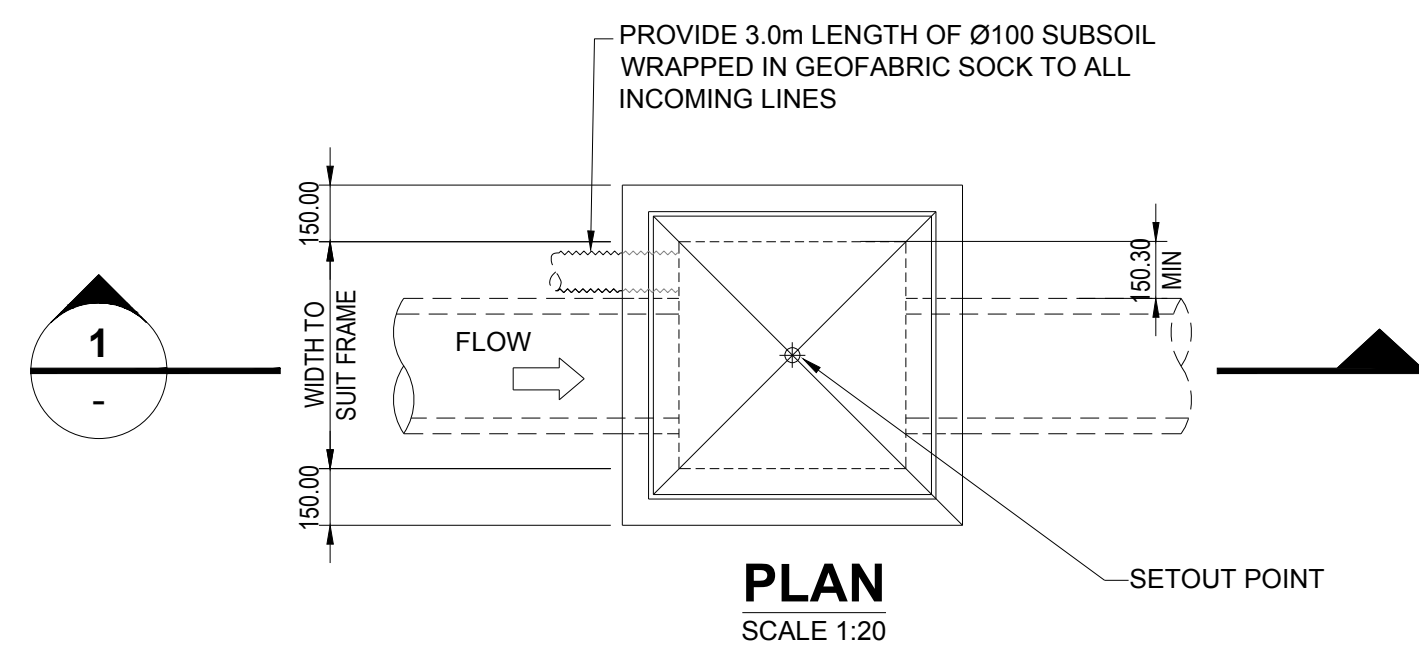
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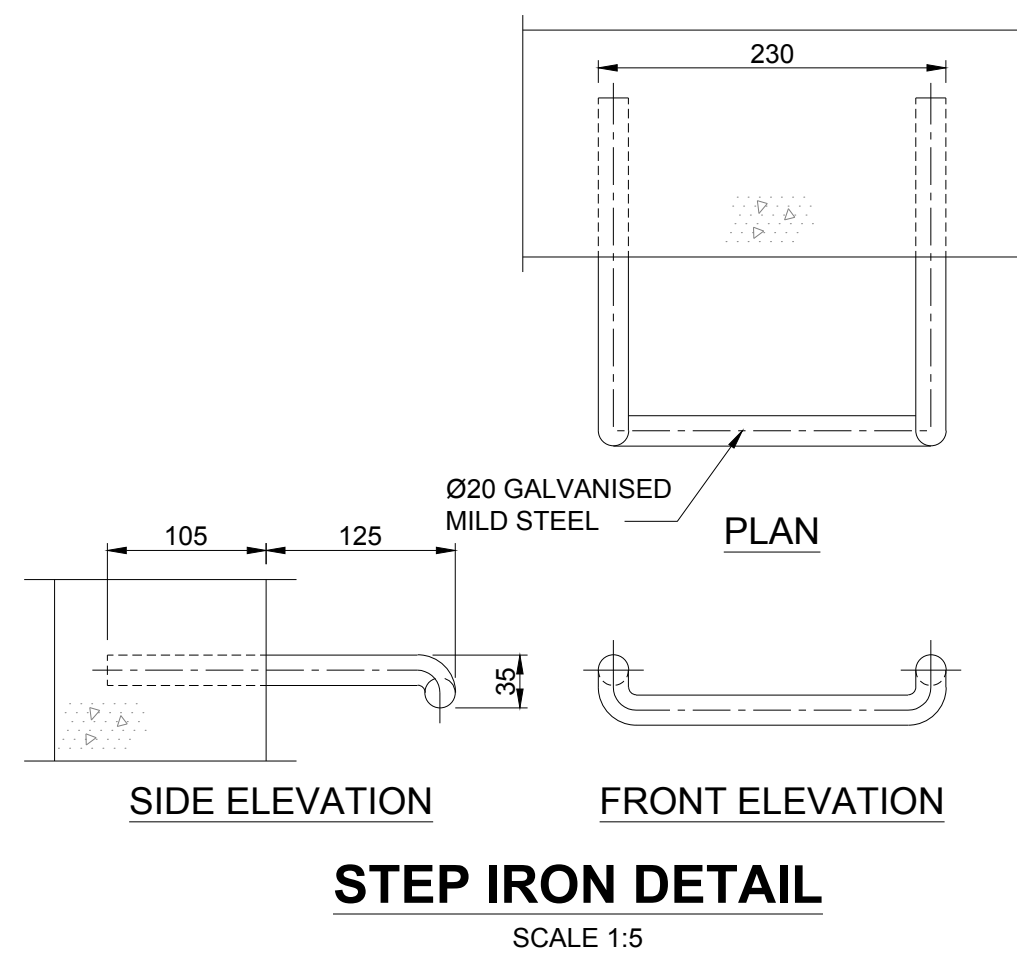
LIVERPOOL
CIVIC PLACE

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TITLE				
STORMWATER CATCHMENT PLAN				
SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	M.T.	M.Cz.	L.S.	L.S.
JOB No.	DRAWING No.			ISSUE
6734000	C-A-0603-PB-MW			2
DATE	STATUS			
NOVEMBER 2020		DEVELOPMENT APPLICATION		

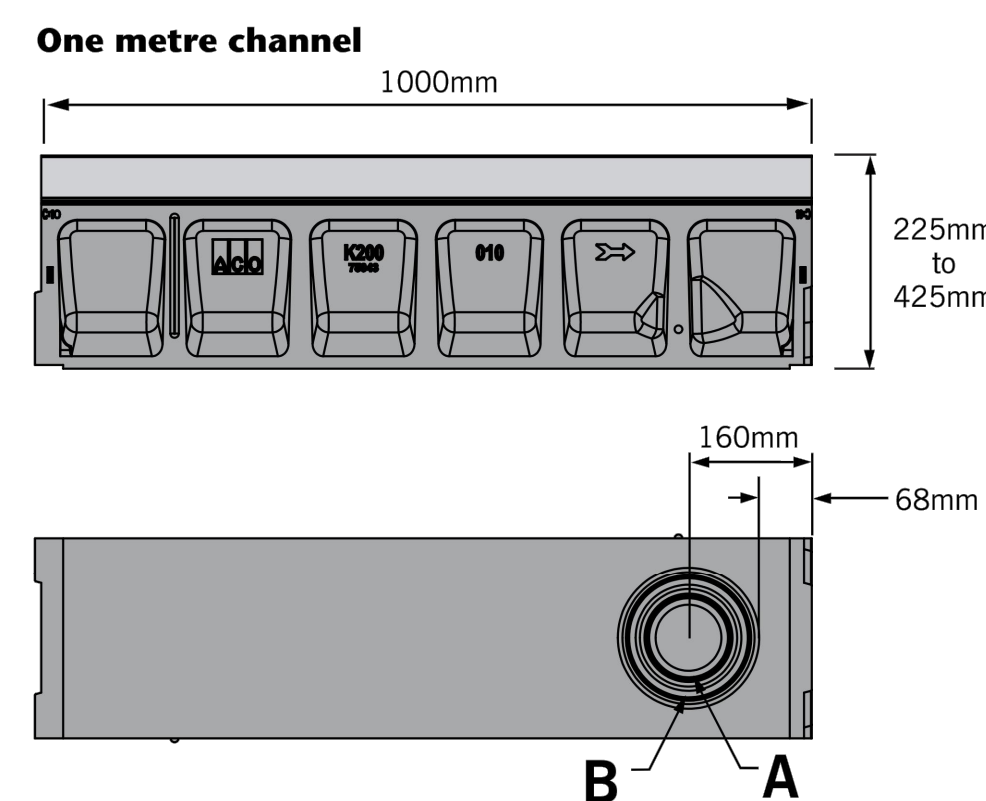
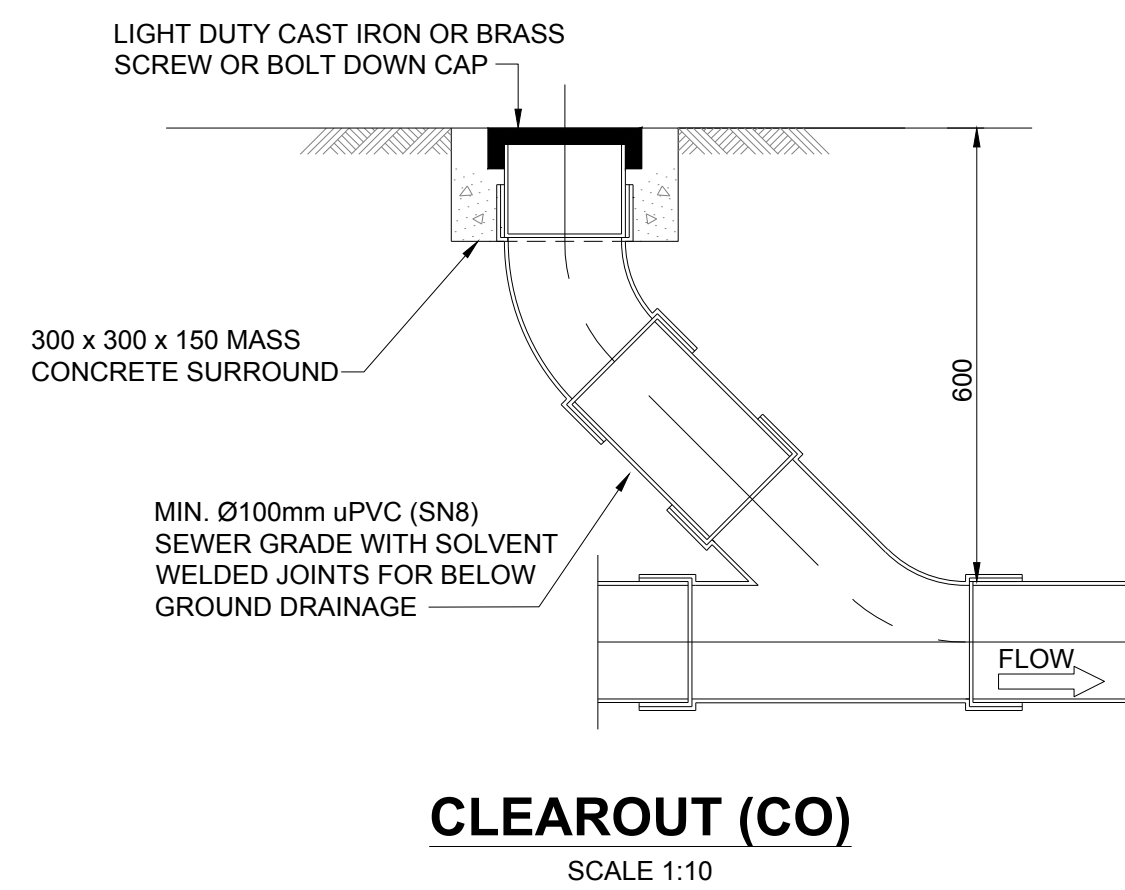
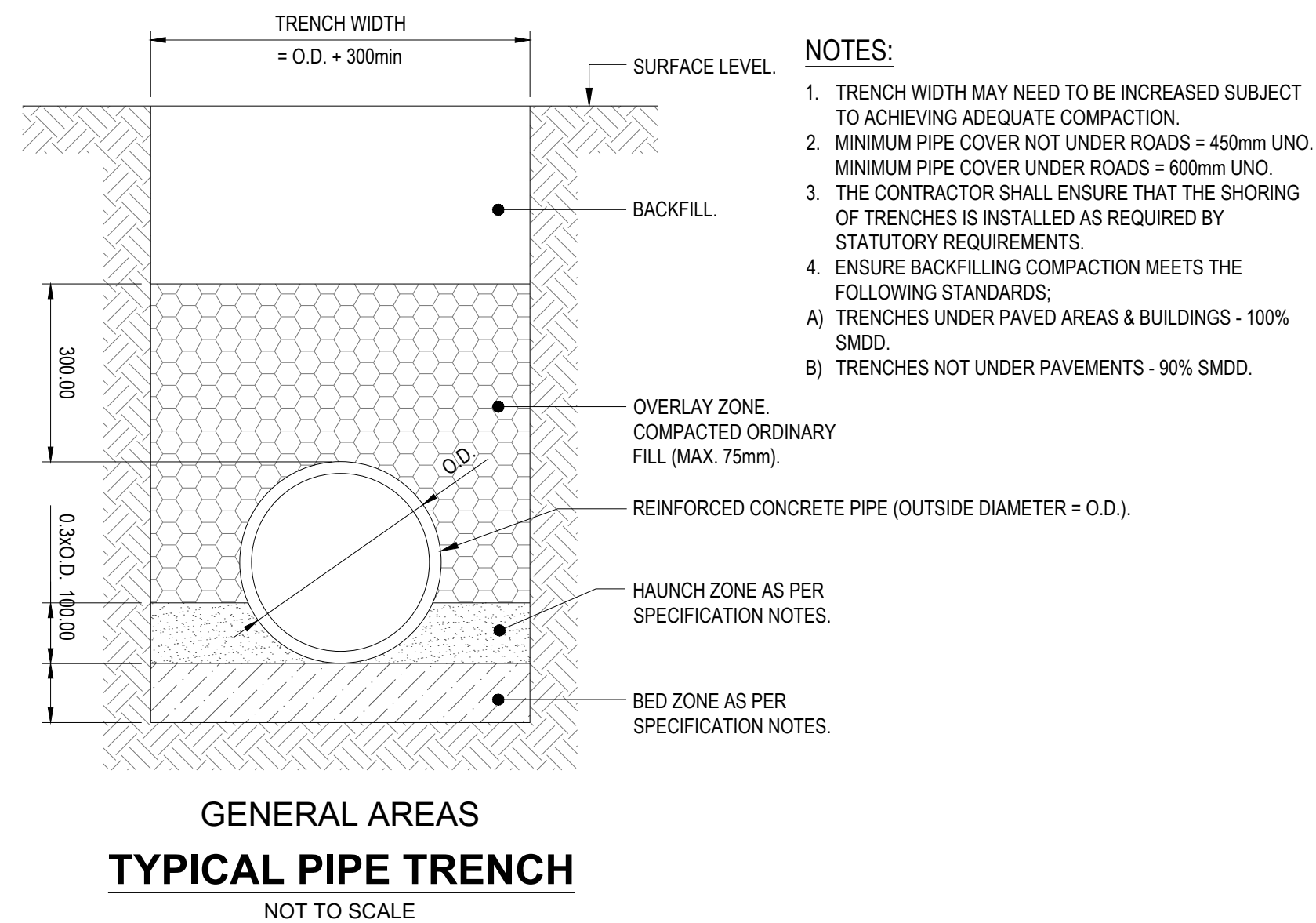


600 - 900SQ SURFACE INLET PITS

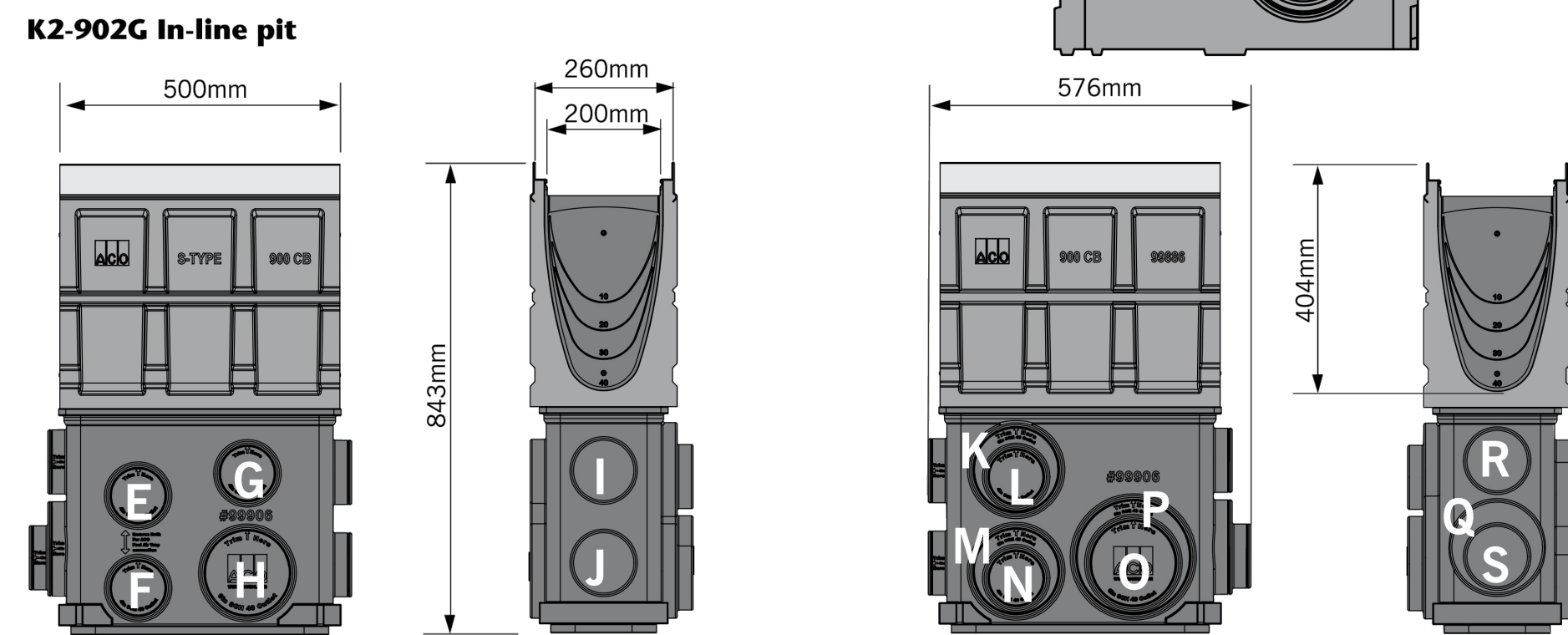
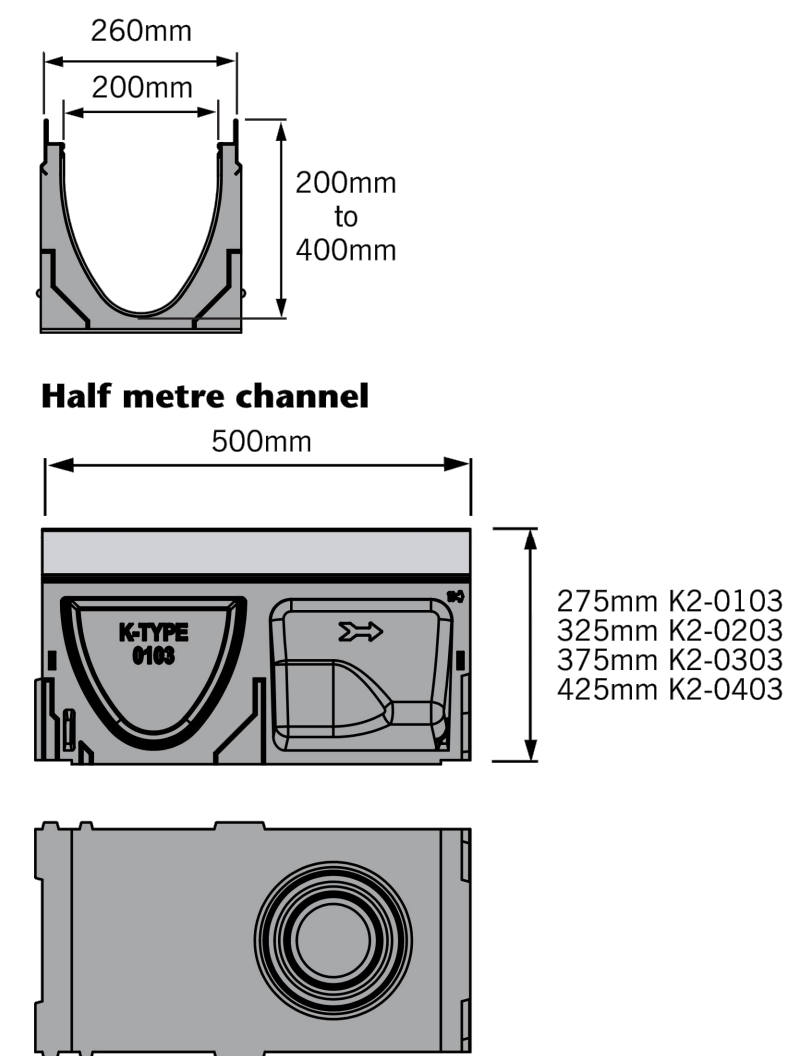


STEP IRON PLACEMENT TO PIT WALL

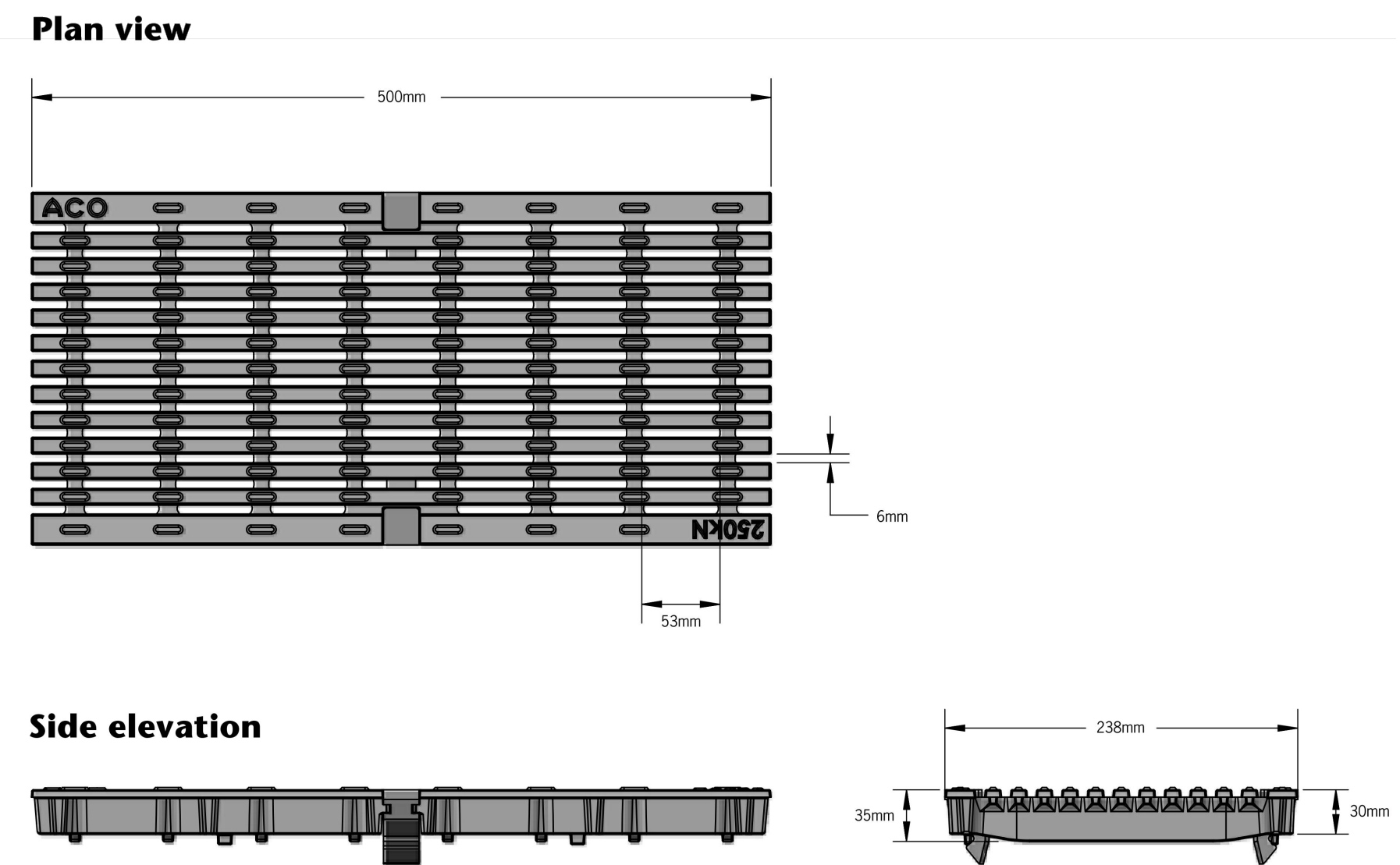
SCALE NTS



Knock-outs included on every 5th channel



ACO K200 KLASSIK DRAIN DETAILS



TYPE 676D IRON INTERCEPT HEELSAFE
ANTI-SLIP GRATE
NOT TO SCALE

[illegible]

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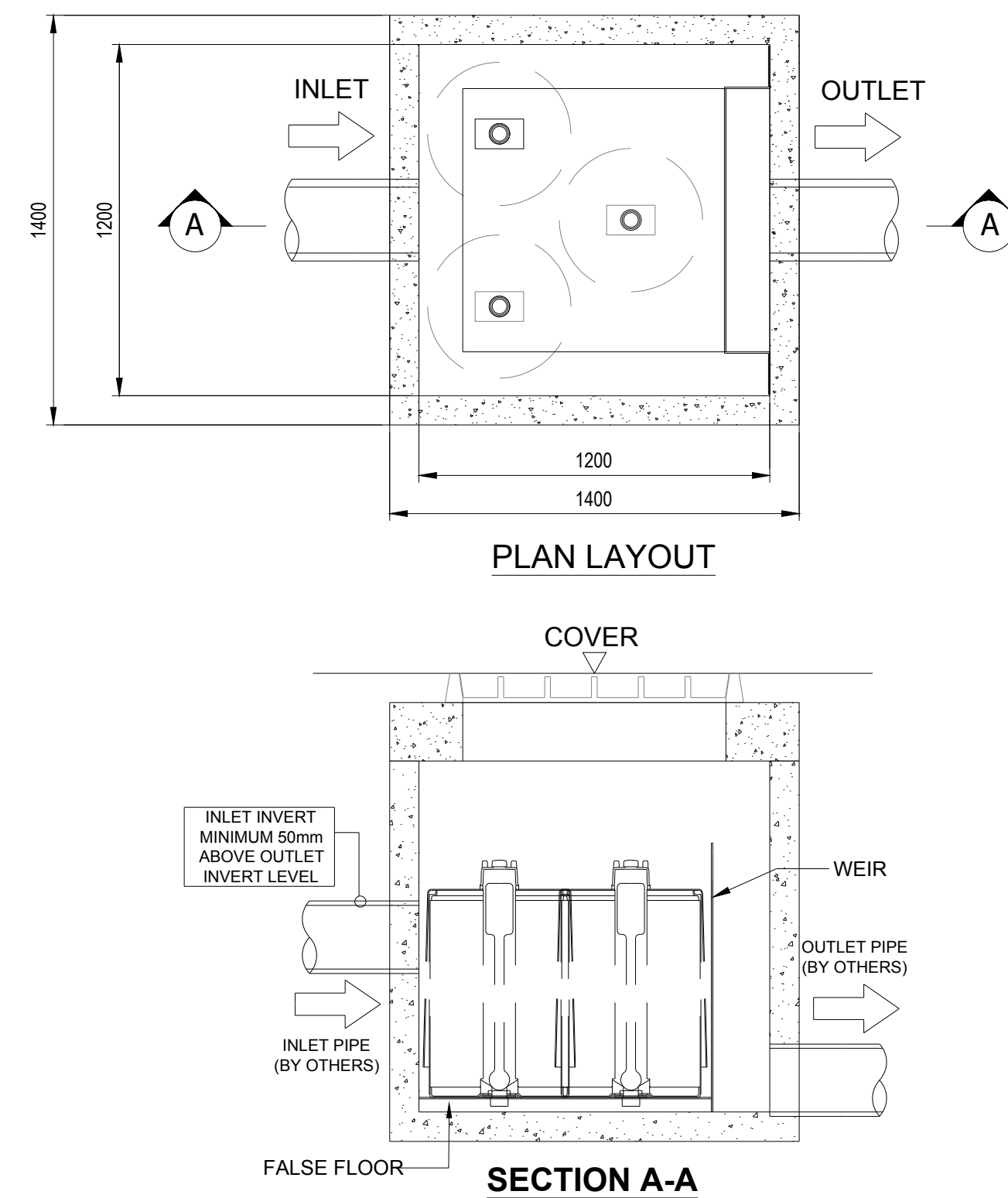
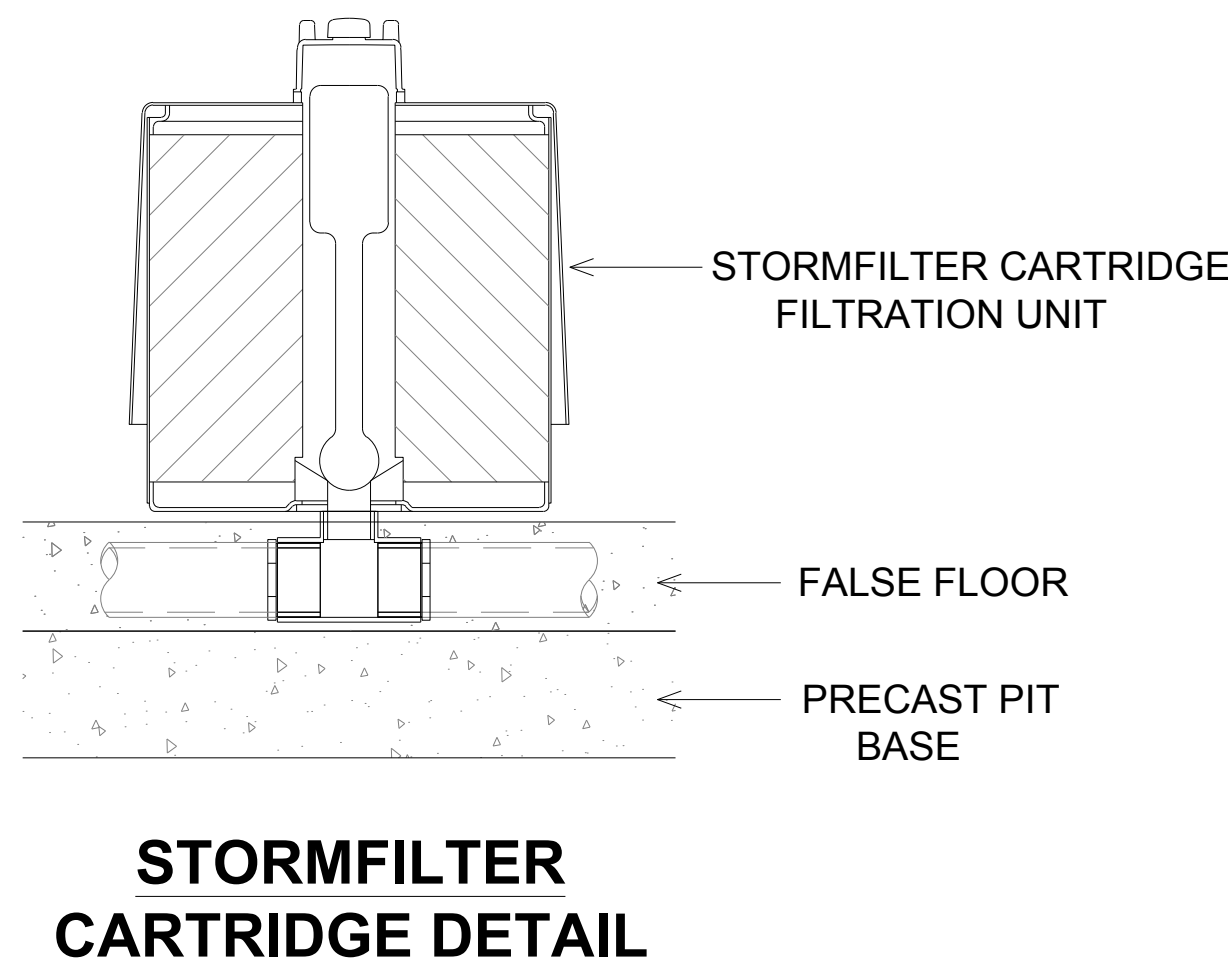
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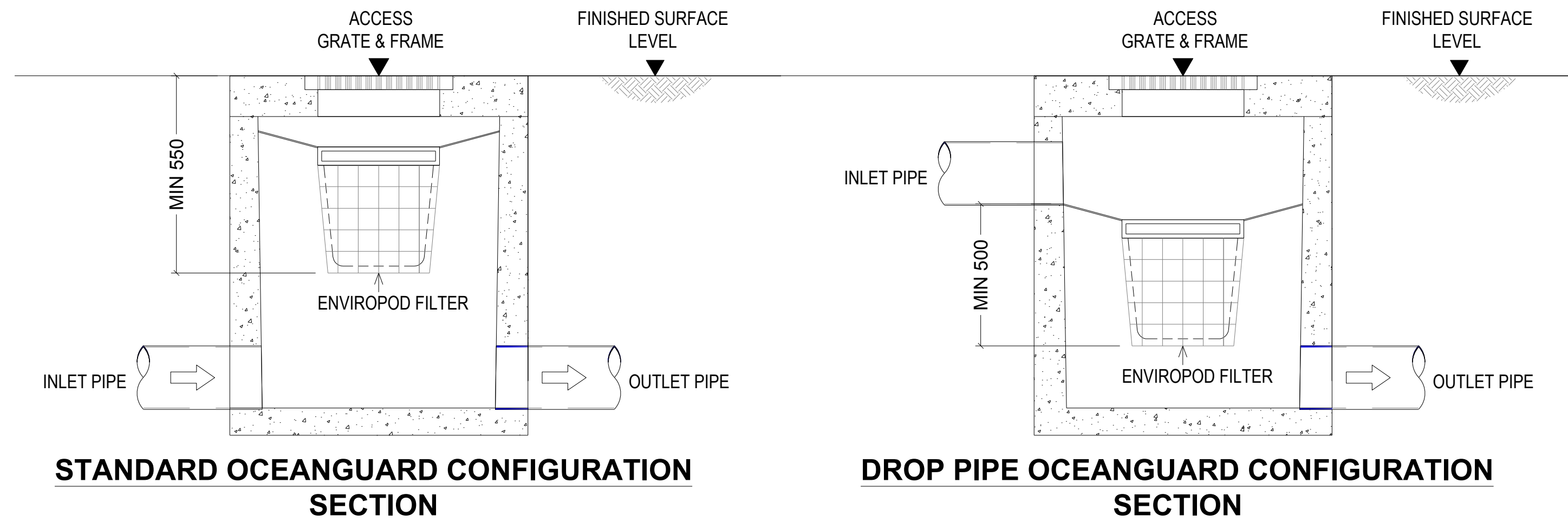
TITLE

STORMWATER TYPICAL
DRAINAGE DETAILS

SCALE AS SHOWN	DRAWN M.T.	DESIGNED M.Cz.	CHECKED L.S.	APPROVED L.S.
JOB No. 6734000		DRAWING No. C-A-0604-PB-MW		ISSUE 2
DATE NOVEMBER 2020	STATUS DEVELOPMENT APPLICATION			



**TYPICAL DETAIL OF WATER QUALITY TREATMENT PIT
WITH 690 PSORB STORMFILTER**
SCALE 1:20



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1	ISSUE FOR DEVELOPMENT APPLICATION	27/11/20			
2	ISSUE FOR DEVELOPMENT APPLICATION	11/12/20			

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**LIVERPOOL
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TITLE

**WSUD TREATMENT DEVICES
TYPICAL DETAILS**

SCALE AS SHOWN	DRAWN M.T.	DESIGNED M.Cz.	CHECKED L.S.	APPROVED L.S.
JOB No. 6734000		DRAWING No. C-A-0605-PB-MW		ISSUE 2
DATE NOVEMBER 2020		STATUS DEVELOPMENT APPLICATION		

PRELIMINARY - NOT FOR CONSTRUCTION

PROJECT NAME : Liverpool Civic Place Main Works PHASE B

PROJECT NO.: 6734000

CLIENT : FMJT Studio

REVISION: 2

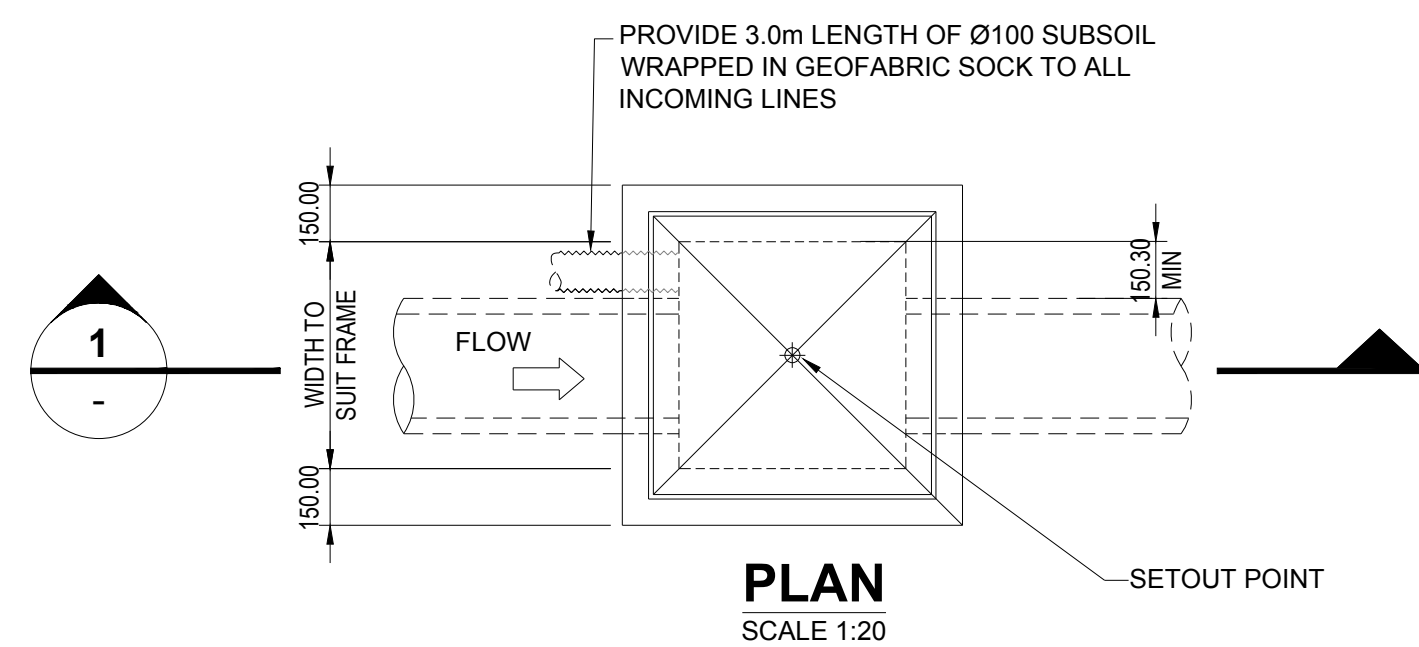
DATE: 11/12/2020

DISCIPLINE : CIVIL

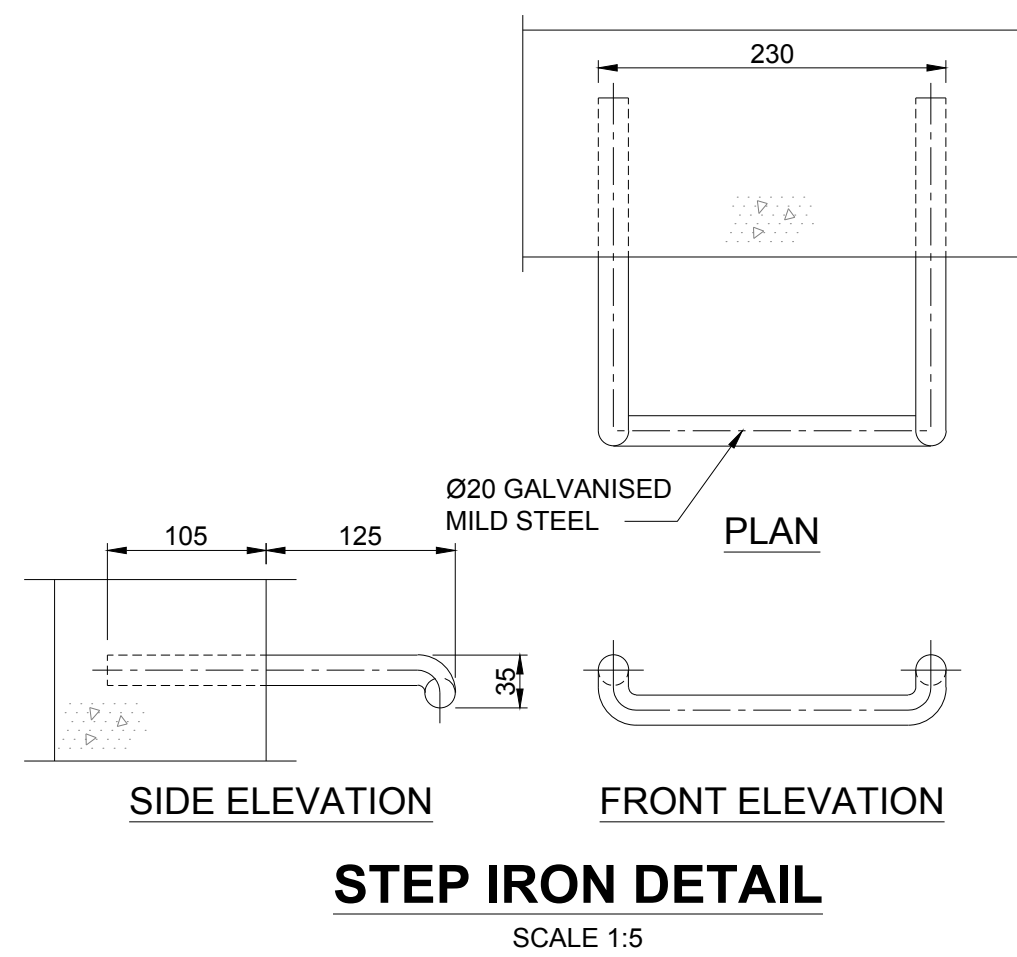
ISSUED BY: Laura Shaughnessy



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		Day	27	11											
		Month	11	12											
		Year	20	20											
Drawing Number	Drawing Title														
MW-C1.01	Cover Sheet	1	2												
MW-C1.02	Specification Notes	1	2												
MW-C1.03	Existing Survey Plan	1	2												
MW-C2.01	Sediment and Erosion Control Plan	1	2												
MW-C2.02	Sediment and Erosion Control Details	1	2												
MW-C4.01	Siteworks Key Plan	1	2												
MW-C4.02	Siteworks Details	1	2												
MW-C6.01	Stormwater Layout Plan	1	2												
MW-C6.02	Stormwater Pit Schedule	1	2												
MW-C6.03	Stormwater Catchment Plan	1	2												
MW-C6.04	Stormwater Details	1	2												
MW-C6.05	WSUD Treatment Devices Typical Details	1	2												
Distribution															
Built		E	E												
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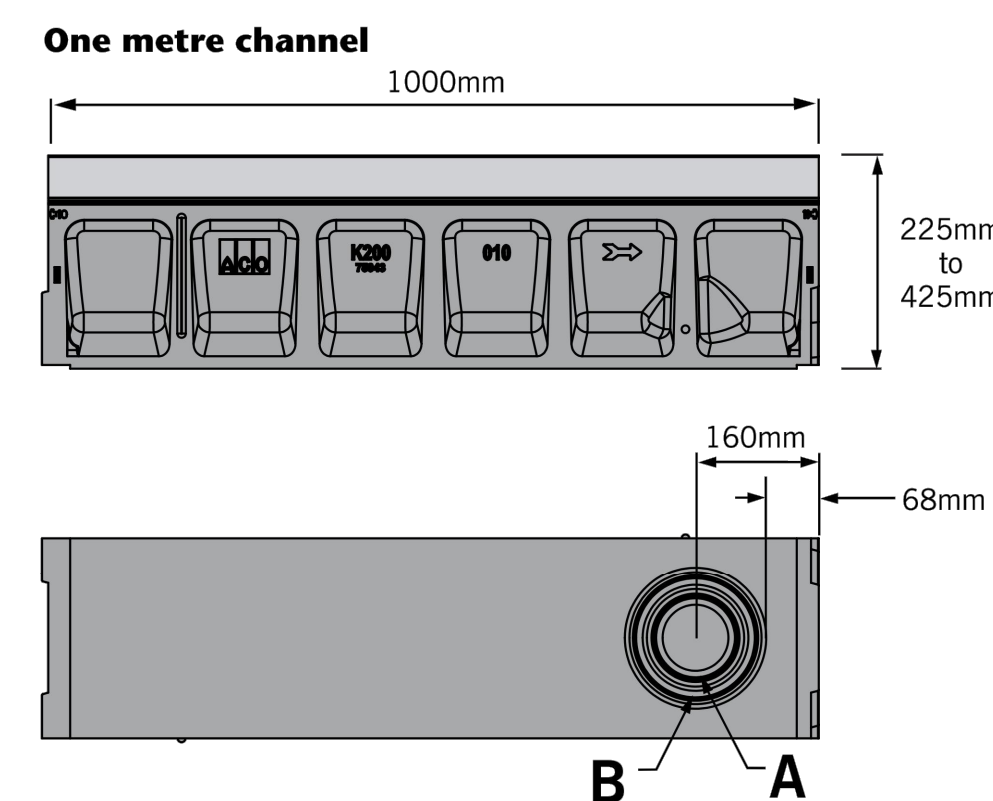
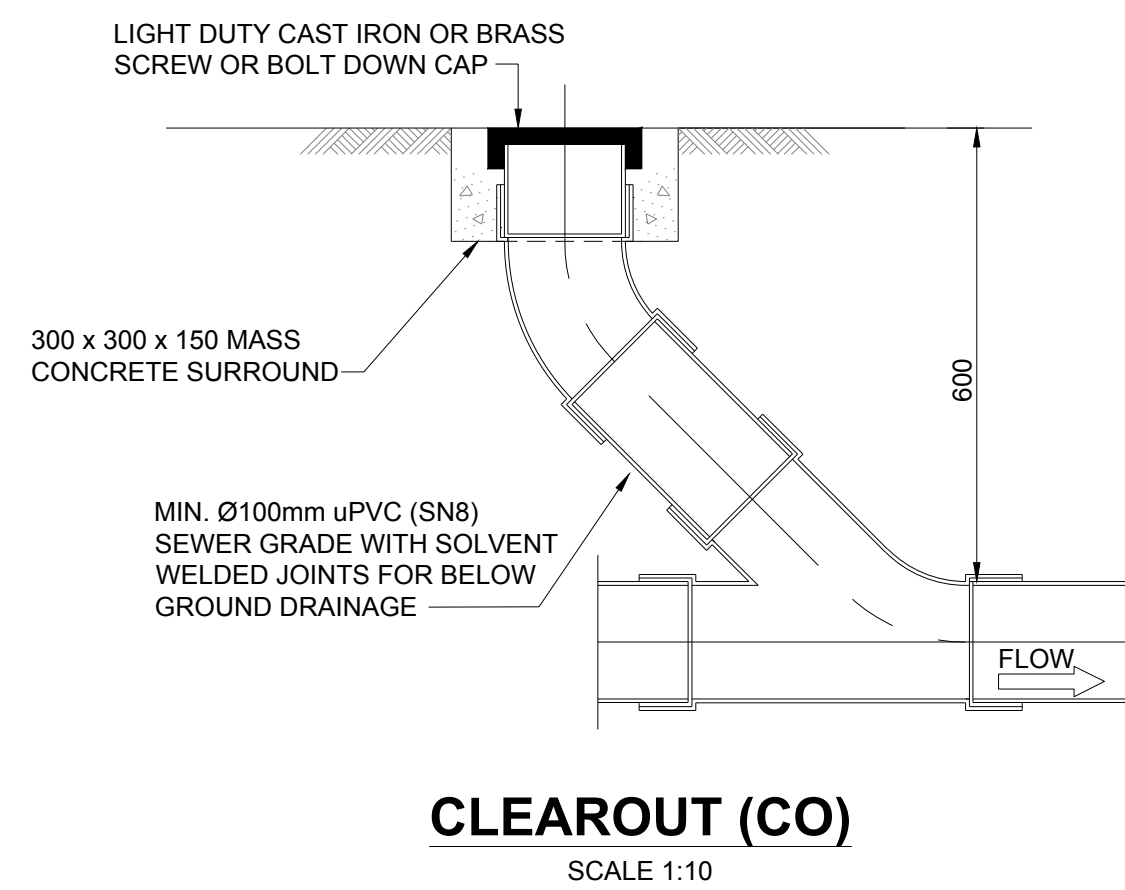
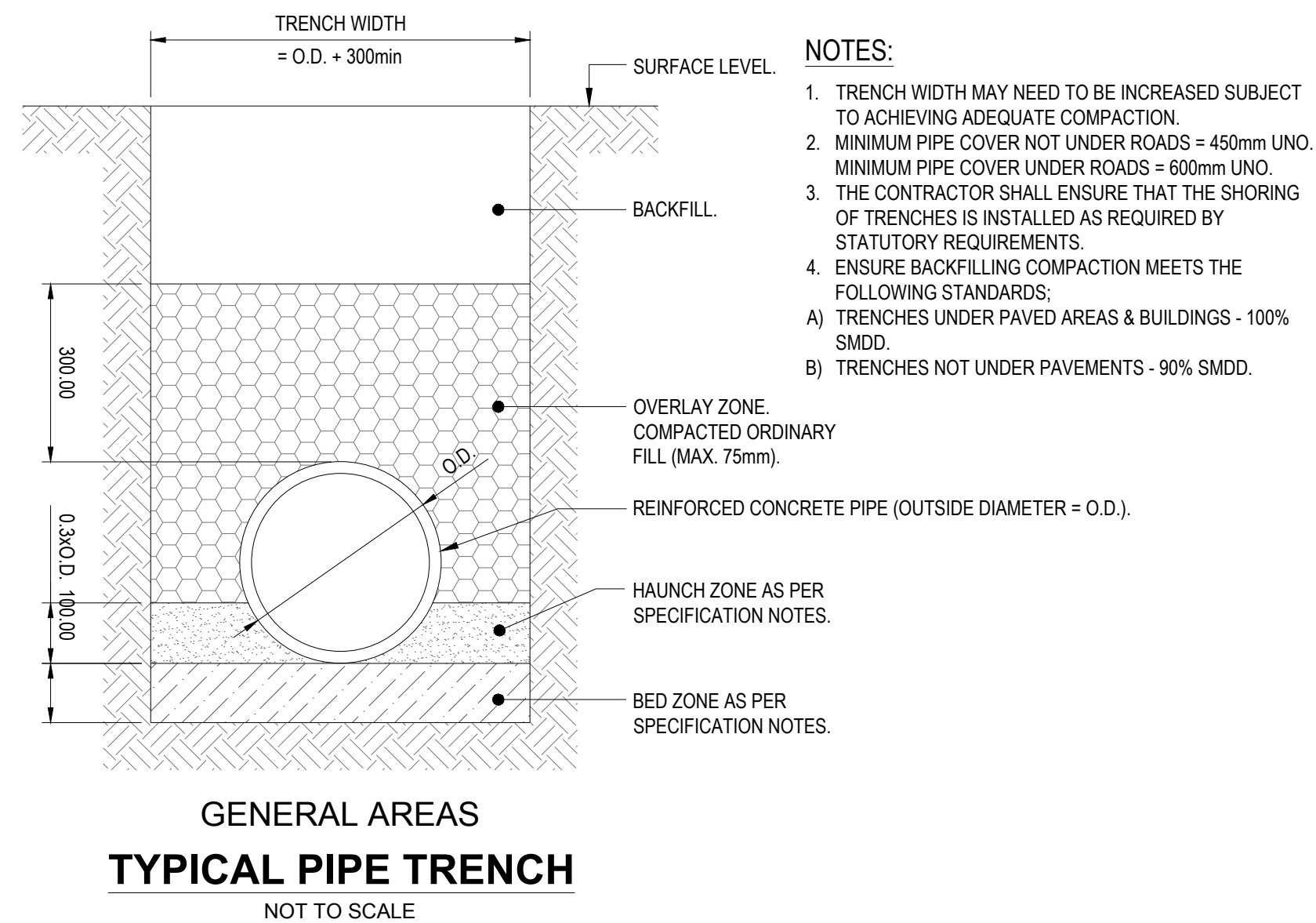


600 - 900SQ SURFACE INLET PITS

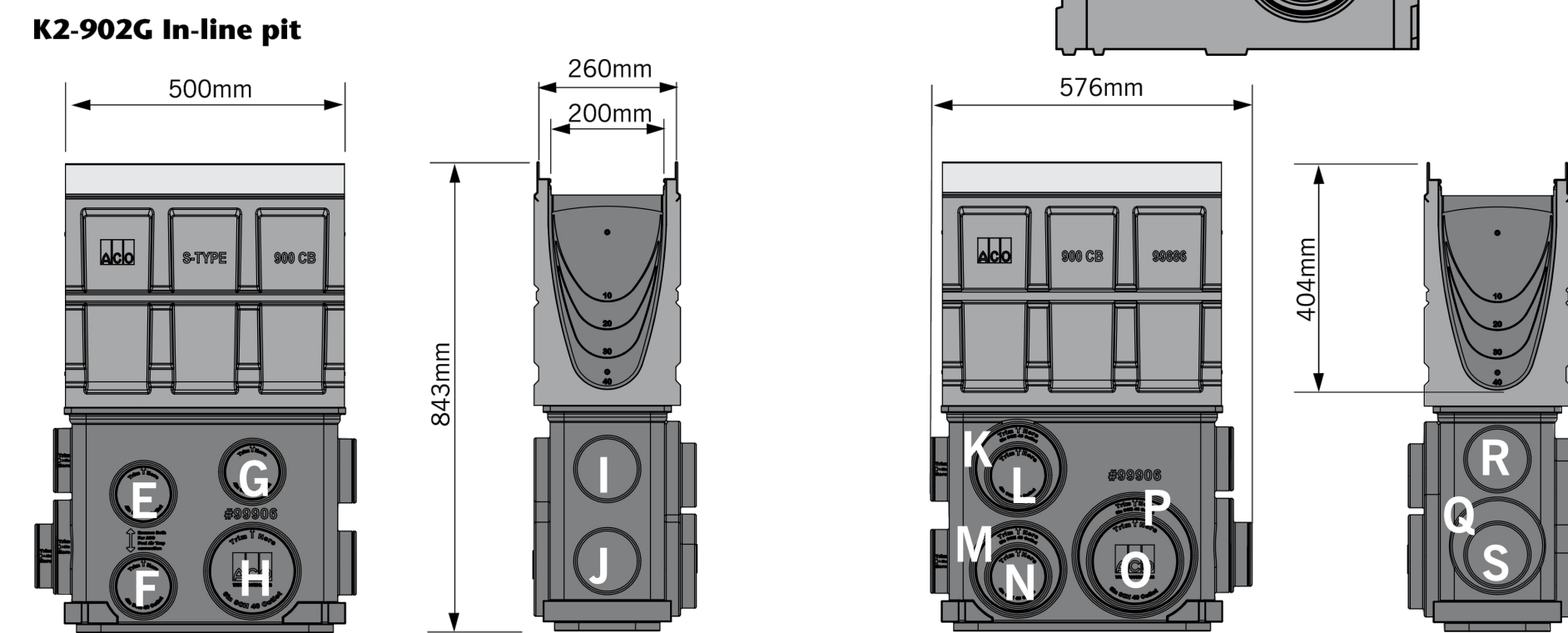
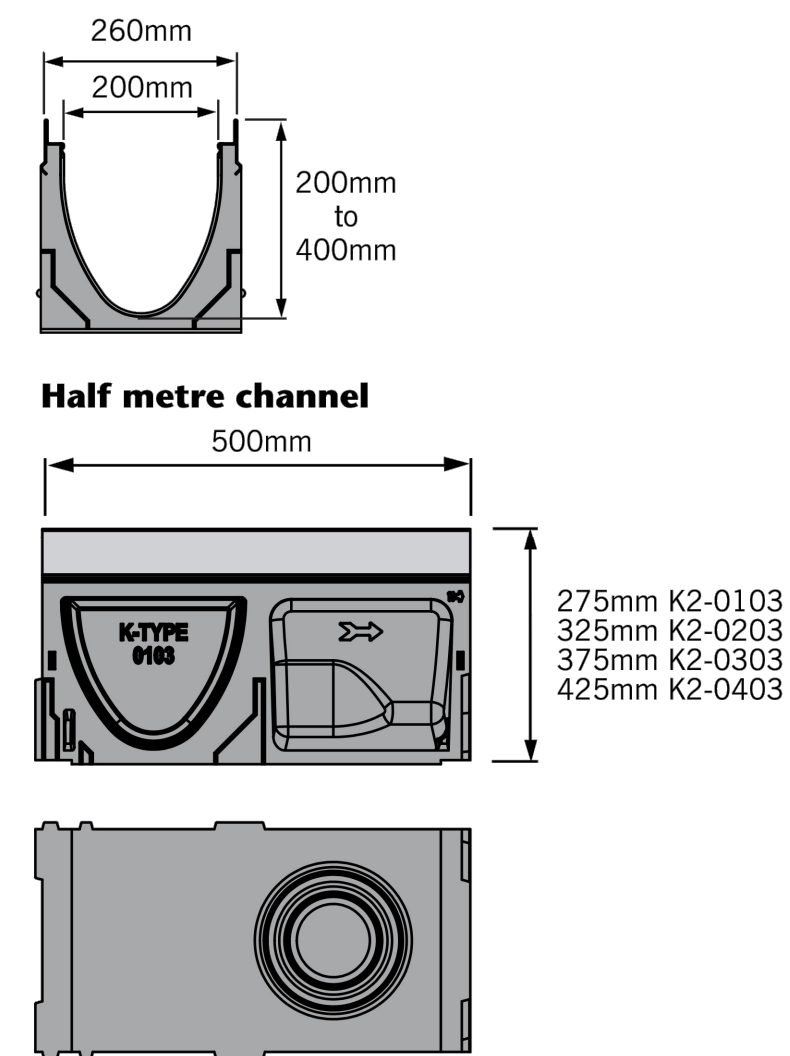


STEP IRON PLACEMENT TO PIT WALL

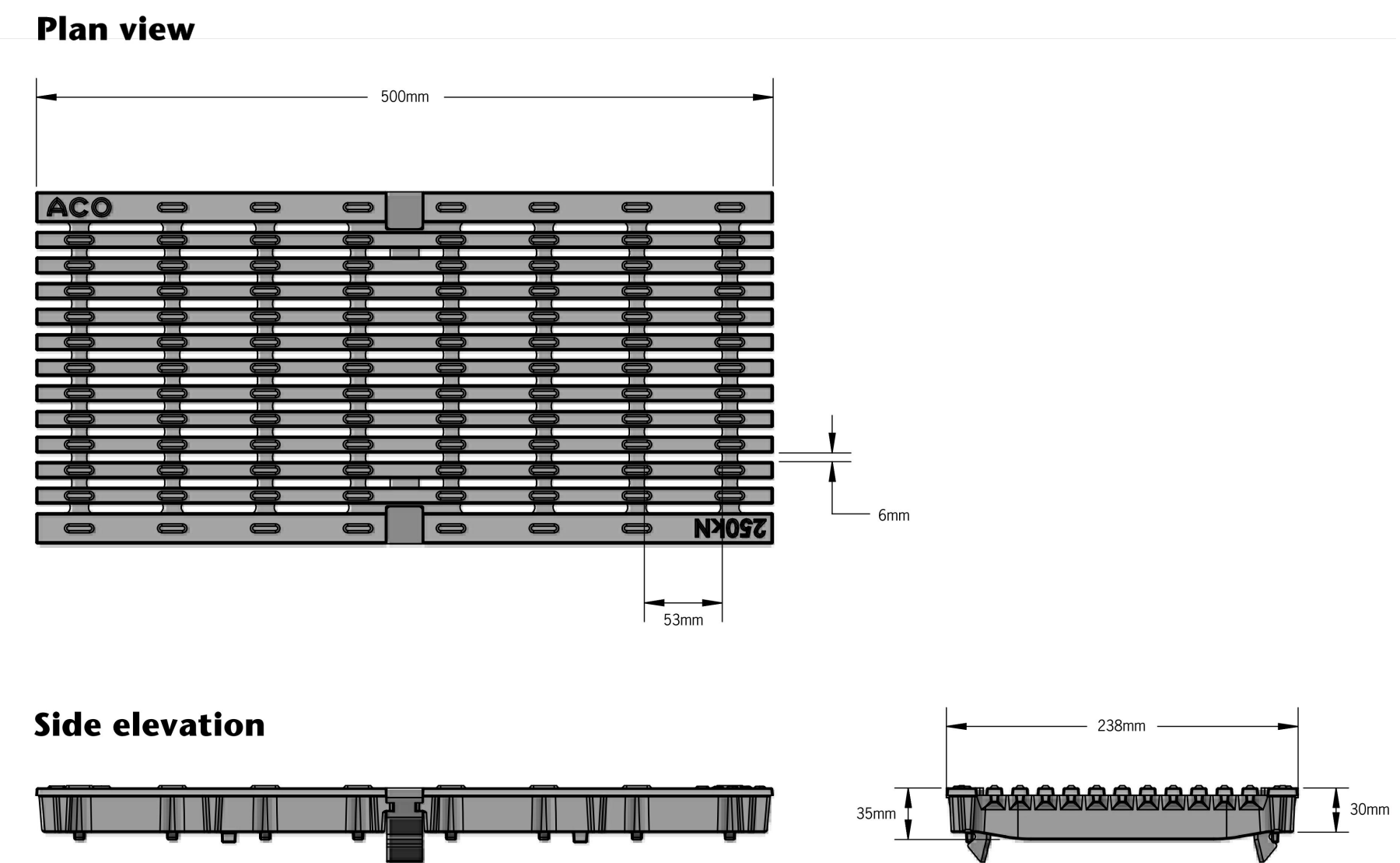
SCALE NTS



Knock-outs included on every 5th channel



ACO K200 KLASSIK DRAIN DETAILS

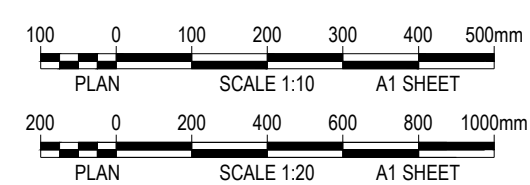


TYPE 676D IRON INTERCEPT HEELSAFE
ANTI-SLIP GRATE
NOT TO SCALE

Xrefs: X-6734000-TB_A1H
 Plot Date: 11.12.2020@14:57:00 Login Name: NGupta
 Cad File: T:\6734000\Drawings\AutoCAD\Civil\Design\Civil 2D\Phase B\main works\PB-MW-C6.04 Stormwater Typical Drainage Details.dwg

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	TITLE
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STORMWATER TYPICAL DRAINAGE DETAILS

SCALE AS SHOWN	DRAWN M.T.	DESIGNED M.Cz.	CHECKED L.S.	APPROVED L.S.
JOB No. 6734000		DRAWING No. C-A-0604-PB-MW	ISSUE 2	
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