

UTS CENTRAL HYDRAULIC SERVICES

CONSTRUCTION NOTES

GENERAL:

- G1. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
- G2. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT'S DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ALL DISCREPANCIES SHALL BE REFERRED TO THE ARCHITECT AND ENGINEER FOR DECISION BEFORE PROCEEDING WITH THE WORK.
- G3. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
- G4. SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE VERIFIED BY THE BUILDER.
- G5. DURING CONSTRUCTION, THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVER-STRESSED. TEMPORARY STRUCTURES, FORMWORK, FALSEWORK, TEMPORARY BRACING, SHORING AND THE LIKE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- G6. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT EDITIONS, INCLUDING AMENDMENTS, OF THE RELEVANT SAA STANDARDS AND SAA CODES OF PRACTICE. EXCEPT AS VARIED BE THE CONTRACT DOCUMENTS AND THE LAWS AND REQUIREMENTS OF STATUTORY AUTHORITIES.
- G7. SUBSTITUTIONS ARE TO BE MADE ONLY WITH THE APPROVAL OF THE ENGINEER.
- G8. WHERE THE ENGINEERS ARE ENGAGED FOR INSPECTIONS AND/OR SUPERVISION, A MINIMUM OF 24 HOURS NOTICE SHALL BE GIVEN.

SCHEDULE OF DRAWINGS	
UTS DRAWING FILE No.	DRAWING TITLE
C802-HL53330	DEVELOPMENT APPLICATION COVERSHEET
C80201-HP53332	DEVELOPMENT APPLICATION LEVEL 1 PLAN
C80203-HP53333	DEVELOPMENT APPLICATION LEVEL 3 PLAN
C80204-HP53334	DEVELOPMENT APPLICATION LEVEL 4 PLAN
C80205-HP53335	DEVELOPMENT APPLICATION LEVEL 5 PLAN
C80206-HP53336	DEVELOPMENT APPLICATION LEVEL 6 PLAN
C80207-HP53337	DEVELOPMENT APPLICATION LEVEL 8 PLAN
C80216-HP53338	DEVELOPMENT APPLICATION LEVEL 16 PLAN
C80217-HP53339	DEVELOPMENT APPLICATION LEVEL 17 PLAN
C80218-HP53340	DEVELOPMENT APPLICATION ROOF PLAN
C802-H053341	DEVELOPMENT APPLICATION DETAIL SHEET

DRAINAGE:

- D1. SELECTIONS AND INSTALLATION OF PITS, PIPES, TANKS AND TRENCHES SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF AS/NZS3500. LOCAL AND STATUTORY REQUIREMENTS (U.N.O.)
- D2. THE CONTRACTOR SHALL IDENTIFY AND LOCATE ALL SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- D3. SEDIMENT AND EROSION CONTROLS TO BE PROVIDED IN ACCORDANCE WITH ALL LOCAL AND STATUTORY REGULATIONS.
- D4. WHERE REQUIRED, STORMWATER EASEMENTS SHALL BE OBTAINED BY THE OWNER. ALL NEGOTIATIONS/COMPENSATION PAYMENTS AND THE INTEGRATION OF ANY EASEMENTS INTO THE TITLE DOCUMENTS SHALL BE BY THE OWNER UNLESS AGREED OTHERWISE.
- D5. REFER TO ARCHITECT FOR BUILDING AND DRIVEWAY SETOUT.
- D6. DOWNPIPE LOCATIONS SHOWN INDICATIVE ONLY. REFER TO ARCHITECT FOR FINAL LOCATIONS. CONNECT ALL DOWNPIPES TO STORMWATER SYSTEM, WHETHER SHOWN OR OTHERWISE, IN ACCORDANCE WITH THE FOLLOWING TABLE:

CATCHMENT AREA(m ²)	< 100	100 TO 350	350 TO 900	> 900
PIPE DIAMETER (mm)	100	150	225	REFER TO ENGINEER

- D7. PIPE POSITIONS ARE INDICATIVE ONLY. FINAL POSITIONS TO BE DETERMINED ON-SITE AND SHALL CONFORM WITH THE INTENT OF THE DESIGN.
- D8. THE ENGINEER SHALL BE ADVISED IF ANY EXISTING STRUCTURES ARE WITHIN THE ZONE OF INFLUENCE OF AN EXCAVATION. ANY REQUIRED UNDER-PINNING OF PIERING SHALL BE PROVIDED.
- D9. WHERE EXCAVATING ADJACENT TO BOUNDARIES, ADEQUATE SHORING SHALL BE PROVIDED.
- D10. THE CONTRACTOR SHALL ENSURE THAT ALL NEW STRUCTURES ARE FOUNDED BELOW THE ZONE OF INFLUENCE OF ANY EXCAVATIONS WHETHER THEY BE FOR PIPELINES, TANKS OR OTHER DRAINAGE FACILITIES.
- D11. UNLESS NOTED OTHERWISE, THE MAXIMUM DEVIATION FROM NOMINATED LEVELS SHALL BE ±10MM, EXCEPT IN INSTANCES WHERE SUCH A DEVIATION COULD HAVE ADVERSE EFFECTS, IN WHICH CASE THE ENGINEER SHALL BE CONSULTED.
- D12. LOAD CLASS FOR COVERS/GRATES SHALL BE IN ACCORDANCE WITH AS3996-2006. COMMON CASES ARE SUMMARIZED IN THE FOLLOWING TABLE:

CLASS	LOADING	DESCRIPTION
A	10kN	INACCESSIBLE TO VEHICLES, PEDESTRIAN TRAFFIC ONLY
B	80kN	FOR USE ON FOOTWAYS WHERE IT IS POSSIBLE FOR LIGHT VEHICLES OR LIVESTOCK TO USE THE PEDESTRIAN FACILITY
C	150kN	FOR USE IN PEDESTRIAN ACCESS INCLUDING OCCASIONAL MOTOR VEHICLES WITH WHEEL LOADS NOT EXCEEDING 3.7 TONNES OR FOR USE IN MINOR RESIDENTIAL ROADS & CUL-DE-SACS CARRYING SLOW MOVING COMMERCIAL VEHICLES (GENERATING NO IMPACT LOADING) WHERE WHEEL LOADS WILL NOT EXCEED 7.5 TONNES
D	210kN	FOR USE IN CARRIAGEWAYS OF ROADS WHICH CARRY FAST MOVING HEAVY VEHICLES WITH WHEEL LOADS NOT EXCEEDING 5.2 TONNES OR FOR USE IN AREAS TRAFFICKED BY SLOW MOVING HEAVY VEHICLES WITH WHEEL LOADS WILL NOT EXCEED 7.5 TONNES

- D13. UNTIL COMPLETION OF ALL WORKS, THE CONTRACTOR SHALL FIRSTLY FILTER ALL STORMWATER IN ACCORDANCE WITH APPROVED DETAILS TO ENSURE THE REMOVAL OF ALL CONCRETE AND PLASTERING FINES, AND OTHER BUILDING SURE POLLUTANTS.
- D14. THE CONTRACTOR SHALL SEEK DIRECTION BEFORE COMMENCING ANY EXCAVATION THAT MAY RESULT IN DAMAGE TO ANY EXISTING TREES.
- D15. RETAINING STRUCTURES SHALL BE PROVIDED AS REQUIRED IN ORDER TO ACHIEVE THE LEVELS NOMINATED ON THE DRAWINGS. THESE STRUCTURES SHALL COMPLY WITH ALL LOCAL AND STATUTORY REGULATIONS, AND MAY REQUIRE DESIGN BY AN ENGINEER.
- D16. UNLESS NOTED OTHERWISE, WHERE A PIT INVERT IS BELOW THE INVERT OF THE LOWEST OUTLET PIPE, THE CONTRACTOR SHALL EITHER PROVIDE DRAINAGE HOLES IN THE BASE OF THE PIT OR ELSE FILL THE BASE OF THE PIT WITH MASS CONCRETE TO THE INVERT OF THE LOWEST OUTLET PIPE.
- D17. WHERE REQUIRED BY REGULATIONS, STEP IRONS IN ACCORDANCE WITH AS1657 SHALL BE INSTALLED IN DEEP PITS/TANKS TO ALLOW ACCESS FOR MAINTENANCE. PIT COVERS OVER DEEP PITS SHALL BE 'CHILD-PROOFED' BY BOLTING THEM DOWN, EXCEPT WHERE THE COVER WEIGHS OVER 30KG.
- D18. ALL IMPERVIOUS SURFACES SHALL BE GRADED SUCH THAT THEY ARE FREE DRAINING.
- D19. YARD PATS SHALL BE PROVIDED AS REQUIRED. YARDS SHALL BE GRADED TO FALL TO PITS UNLESS INDICATED OTHERWISE (EG. BY DESIGN CONTOURS, SPOT LEVELS OR A NOTE).
- D20. WHERE REQUIRED BY THE PRINCIPAL CERTIFIER, WORK-AS-EXECUTED DETAILS SHALL BE PREPARED BY A REGISTERED SURVEYOR/CHARTERED PROFESSIONAL ENGINEER VERIFYING THAT THE DRAINAGE SYSTEM HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE DRAWINGS. ANY DEVIATIONS FROM THE APPROVED PLANS SHALL BE NOTED AND BROUGHT TO THE ATTENTION OF THE ENGINEER. ADEQUATE INSPECTIONS SHOULD BE CARRIED OUT DURING THE COURSE OF CONSTRUCTION.
- D21. WHERE AND ENGINEER'S CERTIFICATE WILL BE REQUIRED, THE ENGINEER SHALL BE CALLED ON TO INSPECT THE WORKS PRIOR TO ANY CONCRETE POURS, PRIOR TO BACKFILLING AROUND ANY TANKS, AND AT THE COMPLETION OF WORKS. THE ENGINEER SHALL BE GIVEN A MINIMUM 0 24 HOURS NOTICE, BEFORE AN INSPECTION IS REQUIRED.
- D22. ANY PROPOSED ALTERATIONS TO THE DETAILS SHOWN ON THE DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- D23. LEAF SCREENS, SILT CONTROLS AND ANY OTHER POLLUTANT CONTROL DEVICES SHALL BE REGULARLY SERVICED TO ENSURE THAT THE DRAINAGE SYSTEM REMAINS UNBLOCKED AND OPERATES AS ORIGINALLY INTENDED.
- D24. OVERLAND FLOW PATHS SHALL BE REGULARLY MAINTAINED AND KEPT FREE OF OBSTRUCTIONS TO THE FLOW OF WATER.
- D25. SUBSOIL DRAINAGE LINES SHALL BE PROVIDED BEHIND RETAINING WALLS AND OTHER AREAS AS REQUIRED TO RELIEVE HYDROSTATIC PRESSURE AND DRAIN GROUND WATERS. CONNECT INTO THE DRAINAGE SYSTEM IN SUCH A WAY AS TO AVOID BACKFLOW OF STORMWATER INTO THE SUBSOIL DRAINAGE LINE. IF IN DOUBT REFER TO ENGINEER.
- D26. NEW FENCES, RETAINING WALLS AND OTHER LANDSCAPING ITEMS SHALL BE DETAILED IN SUCH A WAY SO AS TO AVOID IMPOUNDING OR DIVERTING SURFACE WATERS ON TO ADJOINING PROPERTIES.
- D27. UPON COMPLETION, PIPE/PIT EXCAVATIONS SHALL BE BACKFILLED WITH SUITABLE COMPACTED MATERIAL. REFER TO NOTE 28 FOR PIPE BACKFILL REQUIREMENTS.
- D28. PIPE GRADING HAS BEEN BASED ON:
- IN-SERVICE DESIGN LOAD OF SM1600 AND HLP400 LOADING
- A MINIMUM COVER OF 450MM (U.N.O.) REFER TO PIT SCHEDULE FOR REQUIRED PIPE DEPTHS
BACKFILL SUPPORT FOR CONCRETE PIPES TO BE CLASS H2 (U.N.O.)
BACKFILL SUPPORT FOR PVC PIPES TO BE IN ACCORDANCE WITH AS2566.1-1998.
ALL CONCRETE PIPES ARE TO BE GRADE 3 (U.N.O.)
INSTALLATION OF CONCRETE PIPES TO BE IN ACCORDANCE WITH AS3725-2007 'LOADS ON BURIED CONCRETE PIPE'.
ALL PVC PIPES ARE TO BE SEWER GRADE (U.N.O.)
INSTALLATION OF PVC PIPES TO BE IN ACCORDANCE WITH AS2566.1-1998 'BURIED FLEXIBLE PIPE-PART 1 STRUCTURAL DESIGN'.
THE CONTRACTOR SHALL ADEQUATELY SHIELD PIPES AGAINST CONSTRUCTION AND PERMANENT LOADS. WHERE ADEQUATE COVER CANNOT BE PROVIDED, PIPES SHALL BE ENCASED IN CONCRETE, REFER TO ENGINEER FOR DETAILS.

EROSION CONTROL:

- EC1. TEMPORARY PROTECTION FROM WIND AND WATER EROSION WILL BE UNDERTAKEN ON LANDS WHERE WORKS ARE UNLIKELY TO PROCEED FOR PERIODS OF AT LEAST TWO MONTHS AND FINAL SHAPING HAS NOT BEEN COMPLETED (EG. TOPSOIL STOCKPILES). THIS MAY BE ACHIEVED WITH A VEGETATIVE COVER. A RECOMMENDED LISTING OF PLANT SPECIES FOR TEMPORARILY COVER IS AS FOLLOWS:
- SEPTEMBER – MARCH SOWING – JAPANESE MILLET @ 50KG/HA
APRIL– AUGUST SOWING – OATS/RYECON @ 50KG/HA
– TETLA RYE @ 5KG/HA
- FOOT AND VEHICULAR TRAFFIC SHOULD BE KEPT AWAY FROM ANY REHABILITATED AREAS WHERE PRACTICAL.
- EC2. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS ARE TO KEEP MOST (NOT WET) BY SPRINKLING WITH WATER FOR DUST CONTROL.
- EC3. FINAL SITE LANDSCAPING WILL BE UNDERTAKEN ON EACH PRECINCT/AREA AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

SEDIMENT CONTROL:

- SC1. THE ARRANGEMENT OF SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN ARE INDICATIVE ONLY AND RELATE TO A PARTICULAR STAGE OF THE CONSTRUCTION WORKS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DESIGN, CONSTRUCT AND MAINTAIN ANY ADDITIONAL MEASURES THAT MAY BE REQUIRED FOR THE CONTRACTOR'S CONSTRUCTION METHODOLOGIES, IN ORDER TO MEET ALL CONDITIONS AND REQUIREMENTS IMPOSED BY ANY STATUTORY AUTHORITY.
- SC2. ALL SEDIMENT CONTROL MEASURES TO BE INSTALLED PRIOR TO ANY SIRE DISTURBANCE.
- SC3. STOCKPILES ARE NOT TO BE LOCATED WITHIN 2M OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS AND DRIVEWAYS. WHERE THEY ARE BETWEEN 2M AND 5M FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMIZE POSSIBLE POLLUTION OF DOWNSLOPE WATERWAYS (E.G. THROUGH INSTALLATION OF SEDIMENT FENCING).
- SC4. WATER IS TO BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
- SC5. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.
- SC6. A STRIP OF TURF 600MM WIDE IS TO BE PLACED IMMEDIATELY BEHIND THE KERB ON ALL NEW ROADS TO ACT AS A FILTER TRAP.
- SC7. ALL EXPOSED FILL AREAS ARE TO BE LEFT WITH A LIP AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS OPERATION.
- SC8. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND MULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATIONS.
- SC9. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) IS TO BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS AFTER THE PLACEMENT.
- SC10.TEMPORARY SEDIMENT AND EROSION CONTROL STRUCTURES ARE TO REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED AND WHEN REMOVAL IS APPROVED BY THE SITE SUPERINTENDENT.

LAND DISTURBANCE:

- L1. THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE AND PRACTICAL TO THIS END, WORKS IS TO BE UNDERTAKEN IN THE FOLLOWING GENERAL SEQUENCE:
- A) CONSTRUCTION OF SEDIMENT AND EROSION CONTROLS PRIOR TO ANY WORK COMMENCING.
- B) REHABILITATION OF ANY DISTURBED LANDS WITHIN 20 WORKING DAYS.
- C) UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS, WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT THE LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.
- L2. THE SITE MANAGER (PRINCIPAL CONTRACTOR) IS TO INFORM ALL CONTRACTORS AND SUBCONTRACTORS OF THEIR OBLIGATIONS UNDER THE EROSION AND SEDIMENT CONTROL PLAN.
- L3. TOPSOIL FROM ALL AREAS THAT WILL BE DISTURBED IS TO BE STRIPPED AND STOCKPILED AT THE NOMINATED LOCATION.
- L4. CUT AND FILL BATTER GRADIENTS TO BE 1 VERTICAL (MAX) : 2 HORIZONTAL (MIN).

INSPECTION AND MAINTENANCE:

- IM1.THE SITE MANAGER (PRINCIPAL CONTRACTOR) WILL BE ENSURE THAT ALL SEDIMENT AND EROSION CONTROL WORKS ARE LOCATED AS INSTRUCTED IN THIS SPECIFICATION OR IN ANY SUBSEQUENT SITE INSTRUCTION.
- IM2.ALL BUILDERS AND SUB-CONTRACTORS SHALL BE INFORMED OF THEIR RESPONSIBILITIES BY THE SITE MANAGER (PRINCIPAL CONTRACTOR) IN MINIMIZING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS.
- IM3.RECEPTORS FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER ARE TO BE EMPTIED AS NECESSARY. DISPOSAL OF WASTE SHALL BE IN A MANNER APPROVED BY THE SITE SUPERINTENDENT AND GENERALLY OFF SITE.
- IM4.AT LEAST WEEKLY, THE CONTRACTOR SHALL INSPECT THE SITE AND ENSURE THAT:
- a) DRAINS OPERATE EFFECTIVELY AND INITIATE REPAIR OR MAINTENANCE AS REQUIRED.
- b) SPILLED SOIL (OR OTHER MATERIAL) IS REMOVED FROM HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS, GUTTERS, PAVED AREAS AND DRIVEWAYS.
- c) SEDIMENT IS REMOVED FROM BASINS AND/OR TRAPS WHEN LESS THAN 20M OF TRAPPING CAPACITY REMAIN PER 1000M OF DISTURBED LANDS, AND/OR LESS THAN 500MM DEPTH REMAINS IN THE SETTLING ZONE. ANY COLLECTED SEDIMENT WILL BE DISPOSED IN AREAS WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS IS UNLIKELY.
- d)REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND INITIATE UPGRADE OR REPAIRS AS APPROPRIATE.
- IM5.THE CONTRACTOR SHALL PROVIDE A DETAILED 'LOG BOOK' RECORDING INFORMATION & DATA WITH RESPECT TO THE SEDIMENT & EROSION CONTROL PLAN AND TO ENSURE SEDIMENT CONTROL DEVICES ARE FUNCTIONING PROPERLY. THIS IS TO BE KEPT ON SITE AT ALL TIMES AND UPDATED DAILY.
- q)RAINFALL EVENTS
- b)RAINFALL IN MILLIMETRES
- c)RESULTS OF ANY INSPECTIONS

ADDITIONAL MATTER:

- A1. ACCEPTABLE RECEPTORS SHALL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
- A2. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN ARE TO BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
- a) PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE.
- b) ENSURING THAT NOTHING IS NAILED TO THEM.
- c) PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS:
- i) ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5M OR HALF DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICHEVER IS THE GREATER.
- ii) A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (EG. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300MM DEPTH.
- iii) CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

KERBING:

- K1. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED IN MINIMUM 75MM GRANULAR BASECOURSE COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS1289 5.2.1.
- K2. EXPANSION JOINTS (EJ) TO BE FORMED FROM 10MM COMPRESSIBLE CORK FILLER BOARD FOR FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT 12M CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN SLABS.
- K3. WEAKENED PLANE JOINTS TO BE MINIMUM 3MM WIDE AND LOCATED 3M CENTRES EXCEPT FOR INTEGRAL KERBS WHERE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN SLABS.
- K4. PROVIDE BROOM FINISH TO ALL RAMPS AND VEHICULAR CROSSINGS. ALL OTHER KERBS OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
- K5. WHERE REPLACEMENT OF EXISTING KERBING IS REQUIRED, ROAD PAVEMENT IS TO BE SAWCUT 900MM FROM LIP OF GUTTER. UPON COMPLETION OF NEW KERBS, NEW BASECOURSE AND SURFACE IS TO BE LAID 900MM WIDE. MAKE GOOD ANY DAMAGE TO SURROUNDING KERBING OR PAVEMENT. EXISTING KERBS ARE TO BE COMPLETELY REMOVED WHERE NEW KERBS ARE SHOWN.

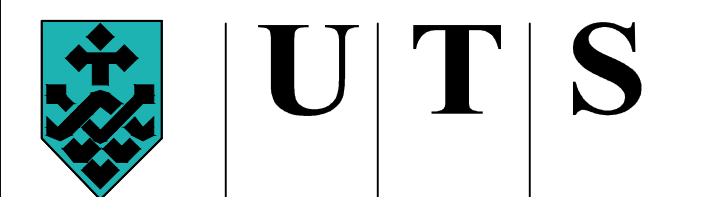
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Drawing Title

HYDRAULIC SERVICES

DEVELOPMENT APPLICATION
COVER SHEET

FMU Project Number
-

Drawn By
JH

Checked
MS

Approved By
PA

Date App.
---/---/---

Drawing Scale
NTS

Drawing Status
PRELIMINARY

UTS Drg File Name
C802-HL53330

UTS Drg File No
-

Rev No
P2

EXISTING STORMWATER & SUB SOIL PUMP
OUT FACILITY TO REMAIN.
CURRENT CAPACITY ESTIMATED AT 60KL
DISCHARGE DUTY NOT KNOWN.

ALL SUBSOIL AND WET WALL DRAINAGE IS
CONNECTED TO THE EXISTING PUMP OUT
FACILITY WHICH CURRENTLY DISCHARGES TO
THE EXISTING 300m CONCRETE STORM
WATER MAIN LOCATED IN JONES STREET.

THE EXISTING PUMP IS TO BE UTILISED
DURING DEMOLITION AND CONSTRUCTION
PHASES OF THE PROJECT ONLY AND WILL
BE RENEWED AFTER CONSTRUCTION TO A
DUAL SUBMERSIBLE UNIT ON A DUTY STAND
BY OPERATION CONTROLLED AND
MONITORED BY AN INDEPENDANT CONTROL
PANEL WITH ASSOCIATED LEVEL CONTROLS
AND ALARMS.

DISCHARGE WILL BE VIA THE ON SITE
DETENTION/ RETENTION FACILITY LOCATED
ON THE JONES STREET SIDE OF THE
PROJECT AND CAPACITY TO BE DEFINED BY
THE OUTCOME OF SYDNEY WATER SECTION
73 PROCESS TO BE SUBMITTED POST
DEVELOPMENT APPLICATION AS REQUIRED.

SUBSOIL AROUND NEW LIFT PITS TO
CONNECT TO EXISTING SUBSOIL DRAINAGE
AND FEED INTO BASEMENT PUMP OUT
FACILITY.

LIFT PITS EQUIPPED WITH 65mm REMOTE
PUMP LINE INTO A PRECAST SUMP TO
ENABLE REMOTE SUCTION PUMP TO BE
CONNECTED TO EACH LIFT WELL.

EXISTING SUB SOIL INFRASTRUCTURE IS TO
REMAIN.CCTV OF THE EXISTING SERVICES IS
TO BE COMPLETED DURING DETAILED
DESIGN STAGE ENSURING CONDITION AND
SUITABILITY OF THE EXISTING
INFRASTRUCTURE.

ALL SUBSOIL AND WET WALL DRAINAGE IS
CONNECTED TO THE EXISTING PUMP OUT
FACILITY WHICH CURRENTLY DISCHARGES TO
THE EXISTING 300m CONCRETE STORM
WATER MAIN LOCATED IN JONES STREET.

EXISTING LIFT PITS ARE TO BE
CONSOLIDATED AND EXISTING DRAINAGE IS
TO BE TERMINATED AS REQUIRED.

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P1 P2	PRELIMINARY ISSUE PRELIMINARY ISSUE	- 21.04.16

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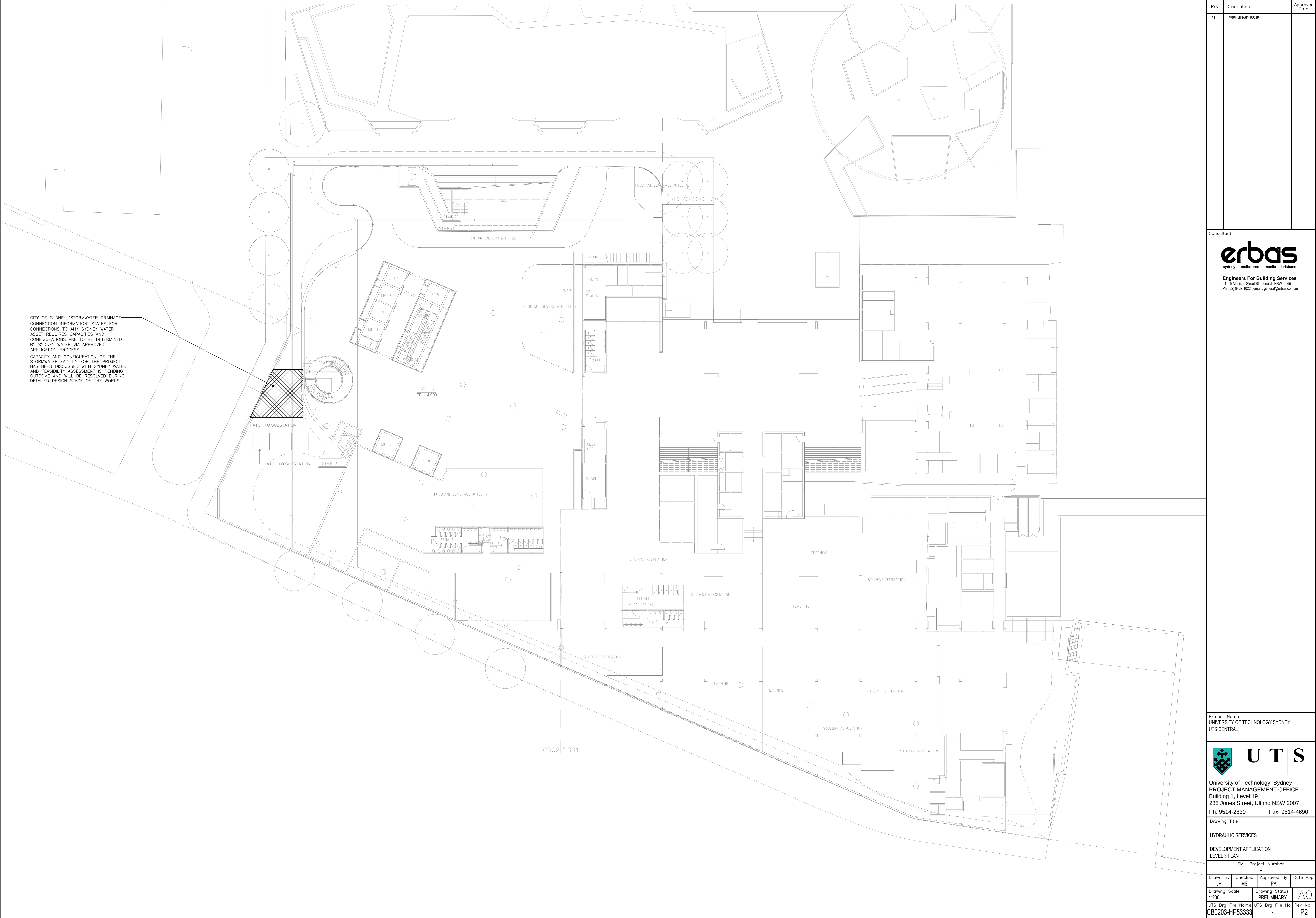
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Drawing Title			
HYDRAULIC SERVICES			
DEVELOPMENT APPLICATION LEVEL 1 PLAN			
FMU Project Number -			
Drawn By JH	Checked MS	Approved By PA	Date App. ---/---/---
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Rev.	Description	Approved Date
P1	PRELIMINARY ISSUE	-

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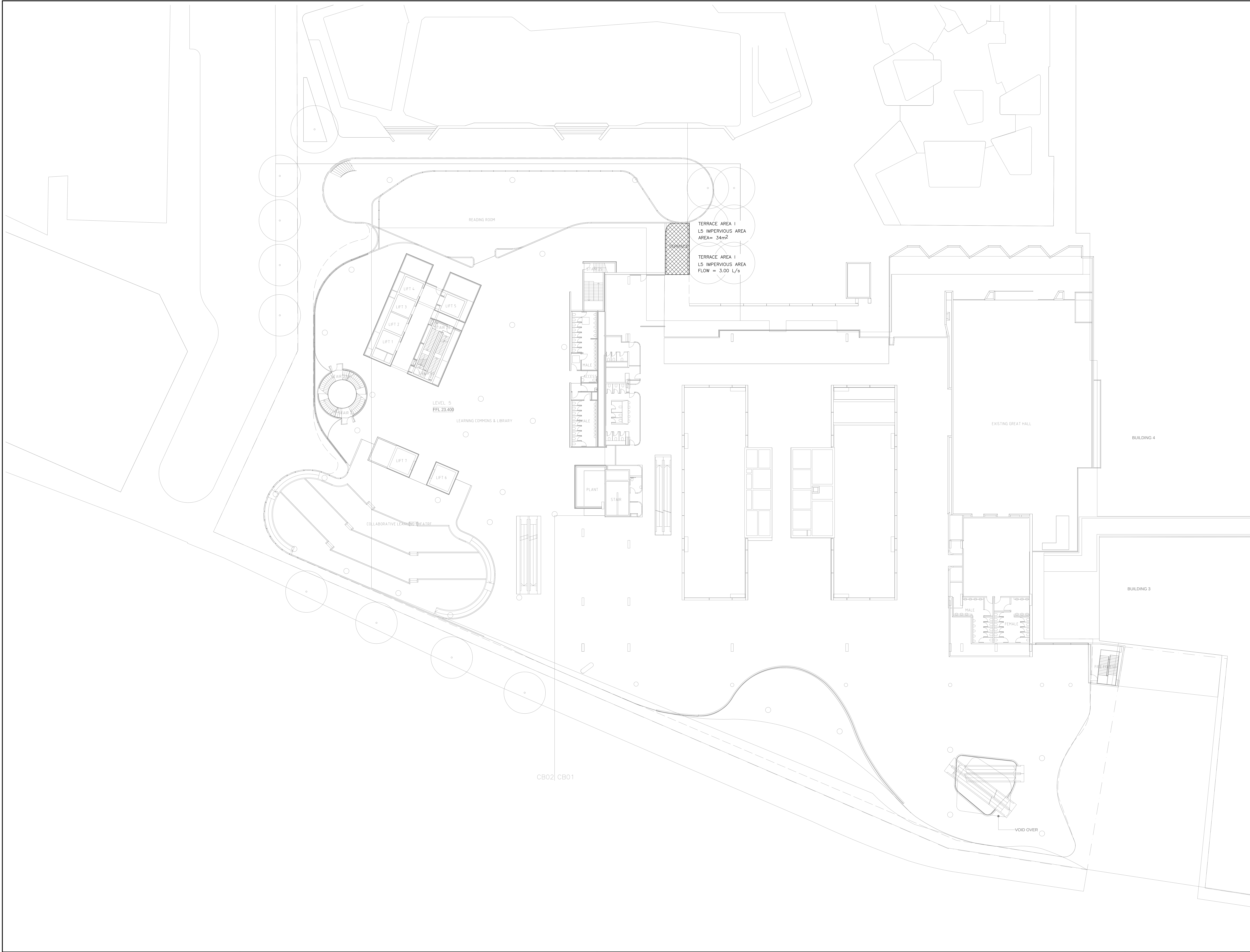
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Drawing Title			
HYDRAULIC SERVICES			
DEVELOPMENT APPLICATION LEVEL 3 PLAN			
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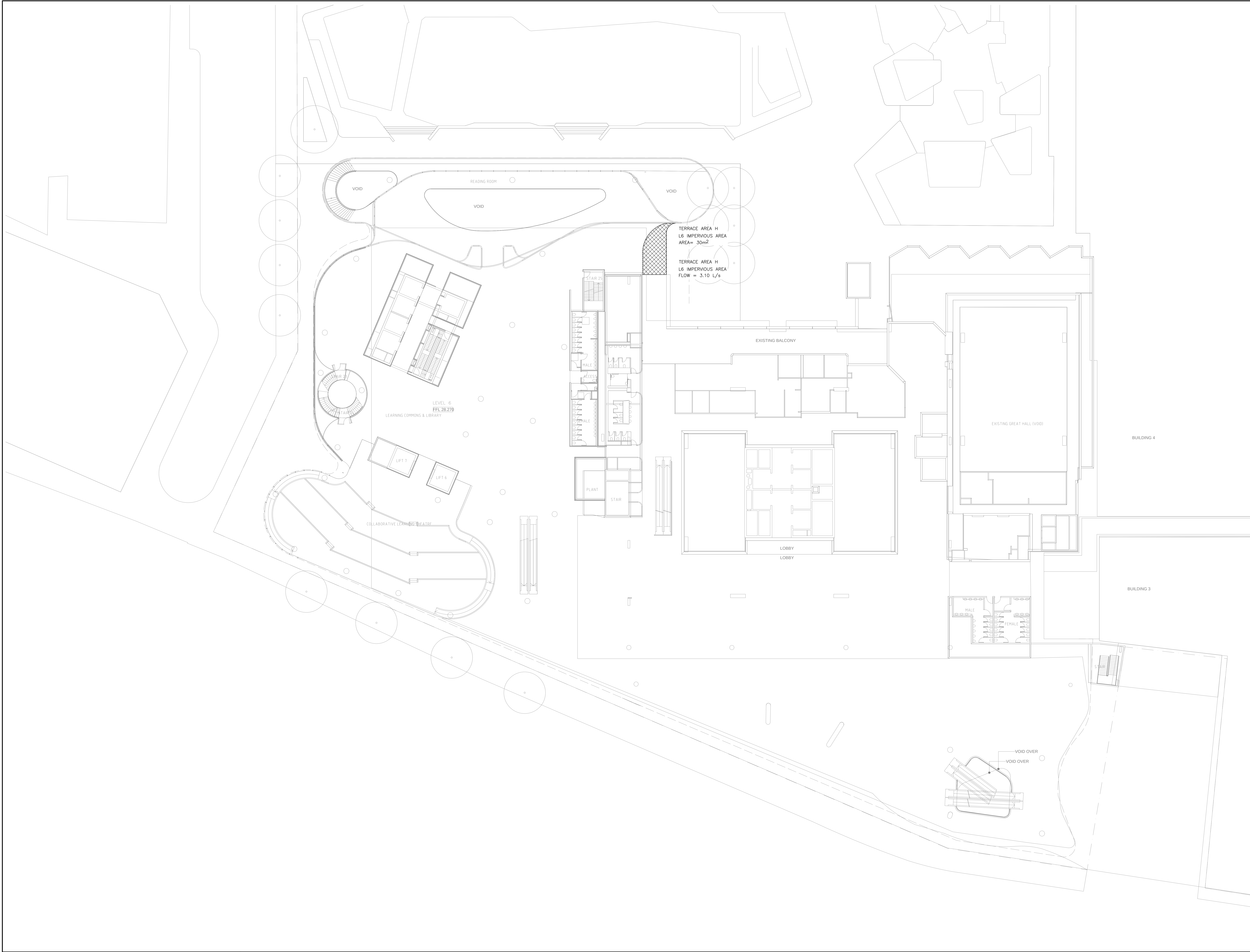
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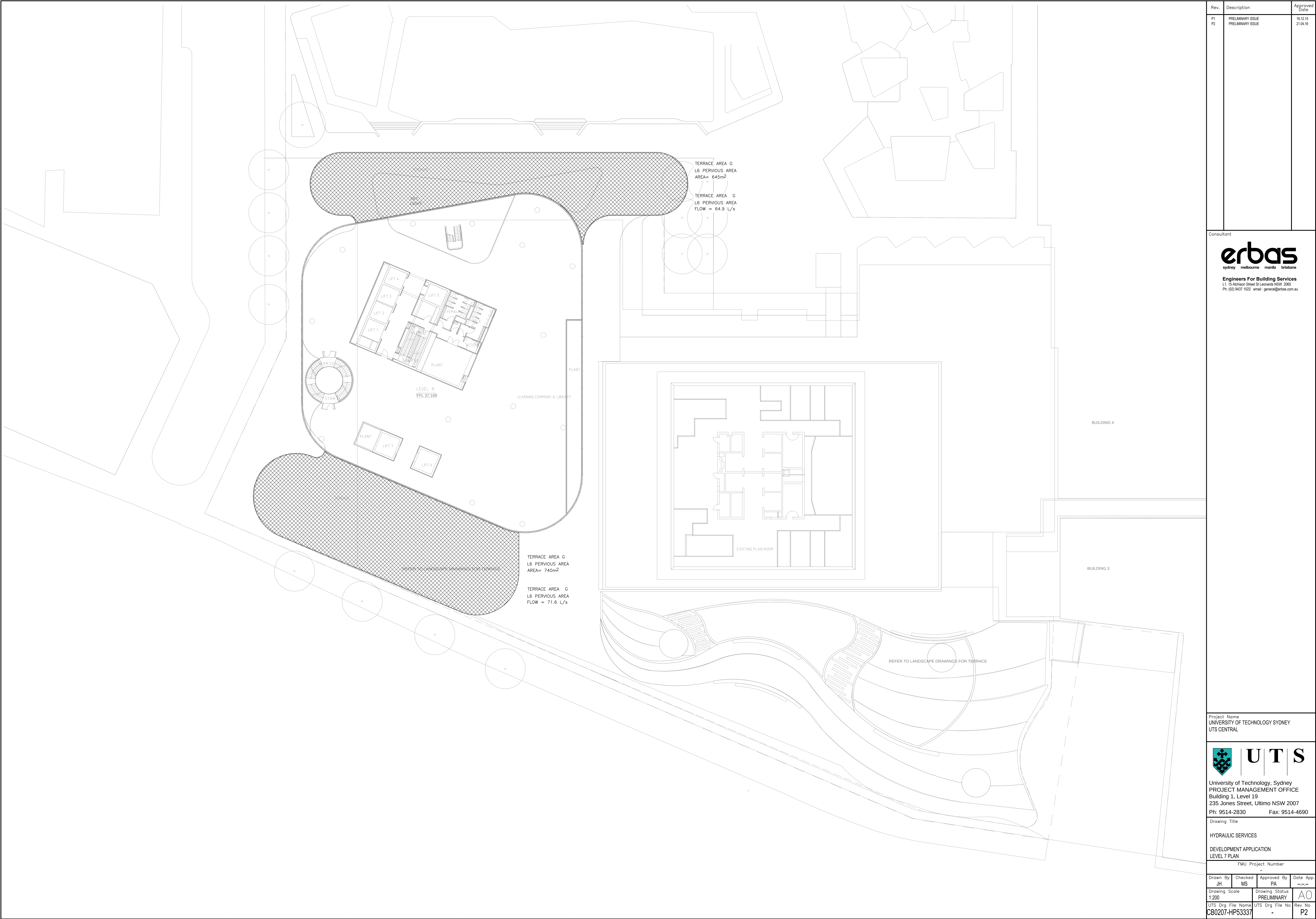
Drawing Title

HYDRAULIC SERVICES

DEVELOPMENT APPLICATION
LEVEL 6 PLAN

FMU Project Number
-

Drawn By JH	Checked MS	Approved By PA	Date App. ---
Drawing Scale 1:200	Drawing Status PRELIMINARY	A0	
UTS Drg File Name CB0206-HP53336	UTS Drg File No -	Rev No P2	



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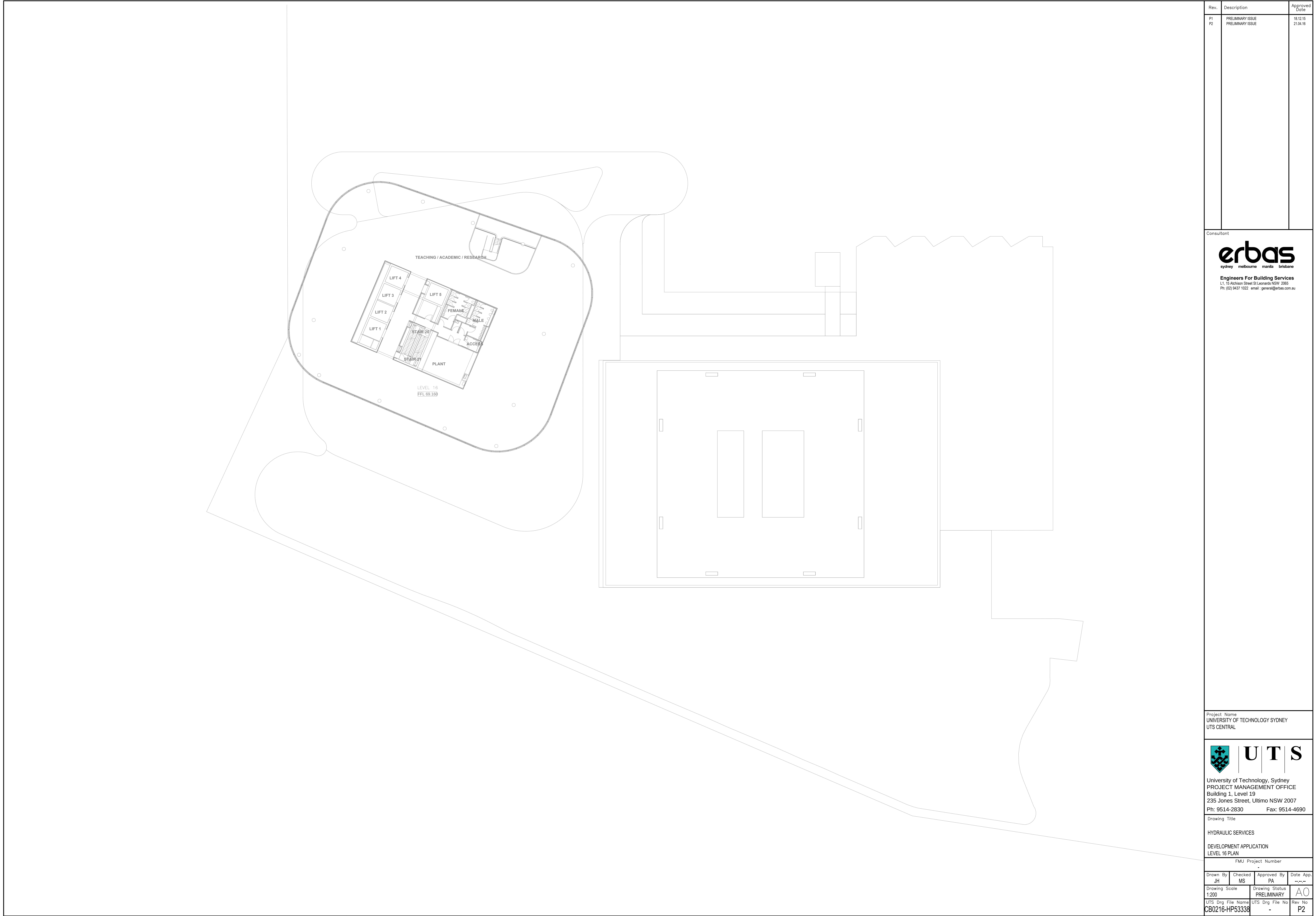
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Drawing Title			
HYDRAULIC SERVICES			
DEVELOPMENT APPLICATION LEVEL 7 PLAN			
FMU Project Number			
-			
Drawn By JH	Checked MS	Approved By PA	Date App. ---/---/---
Drawing Scale 1:200	Drawing Status PRELIMINARY	A0	
UTS Drg File Name CB0207-HP53337	UTS Drg File No -	Rev No P2	



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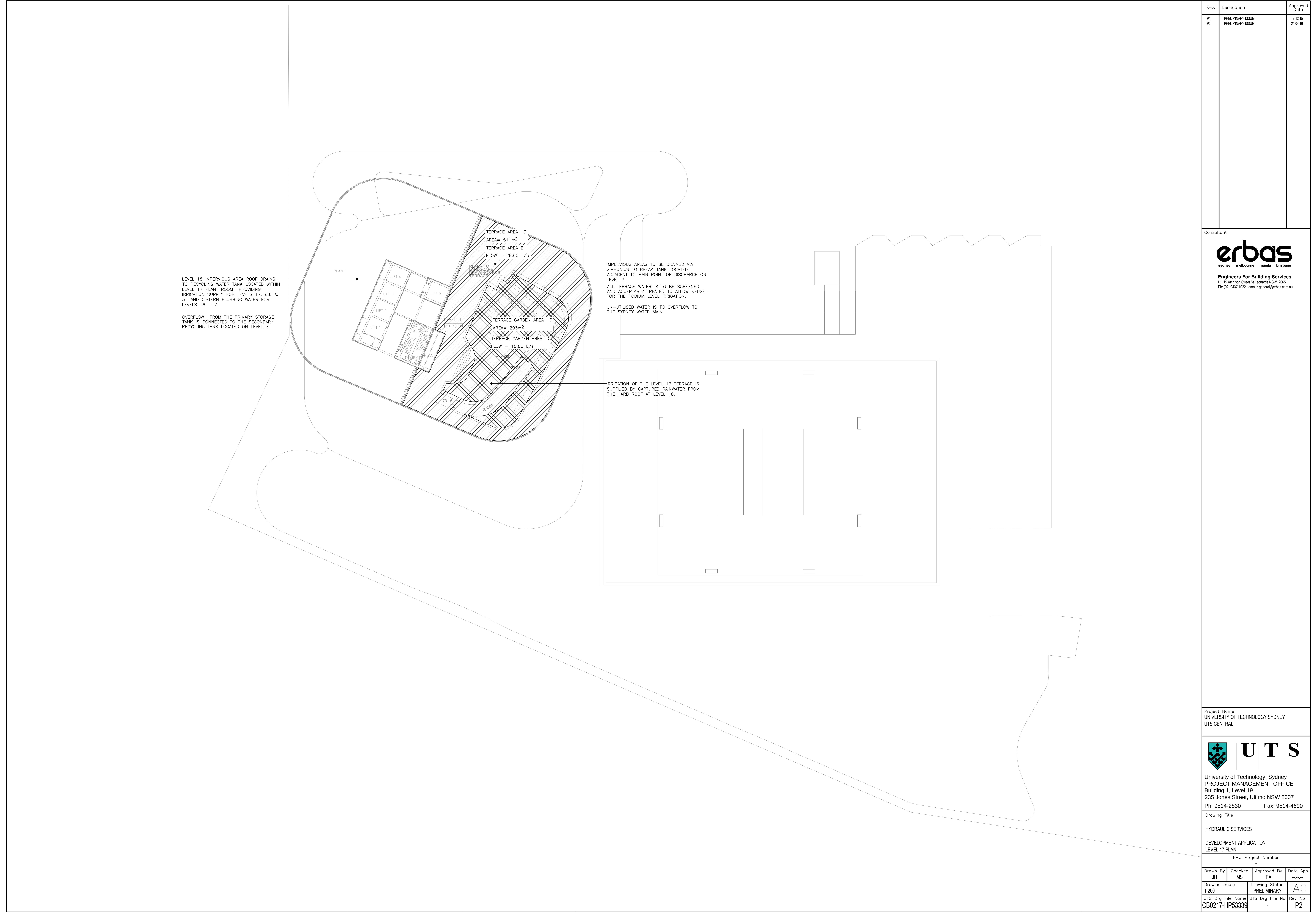
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Drawing Title							
HYDRAULIC SERVICES							
DEVELOPMENT APPLICATION							
LEVEL 16 PLAN							
FMU Project Number							
-							
Drawn By	Checked	Approved By	Date App.				
JH	MS	PA	---				
Drawing Scale	Drawing Status						
1:200	PRELIMINARY			A0			
UTS Drg File Name	UTS Drg File No	Rev No					
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Drawing Title			
HYDRAULIC SERVICES			
DEVELOPMENT APPLICATION			
LEVEL 17 PLAN			
FMU Project Number			
-			
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JH	MS	PA	---
Drawing Scale	Drawing Status		
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UTS Drg File Name	UTS Drg File No	Rev No	
CB0217-HP53339	-	P2	

ROOF CALCULATIONS							
ROOF	ROOF AREA (m ²)	TOTAL AREA RECEIVED (m ²)	No. OF DP's	SIZE OF DP's	GUTTER TYPE	MINIMUM GUTTER HEIGHT	MINIMUM GUTTER
A	654	654	N/A	150	FLAT ROOF	N/A	N/A
B	497	506.5	N/A	150	TERRACE	N/A	N/A
C	321	321	N/A	150	TERRACE	N/A	N/A
D	2131	2181	N/A	100	TERRACE	N/A	N/A
E	916	916	N/A	100	TERRACE	N/A	N/A
F	195	207.5	N/A	100	TERRACE	N/A	N/A
G	42	47	N/A	100	TERRACE	N/A	N/A
H	66	73	N/A	100	TERRACE	N/A	N/A
TOTAL ROOF AREA : 4814 m ²				RAINWATER : 3593 m ²		74.64%	
BASIC REQUIREMENT : 30 m ²				STORMWATER : 1221 m ²		25.36%	
COUNCIL : SYDNEY CITY				1:100 ARI 5min : 269.88 mm/hr			
1:10 ARI 60min : 62.69 mm/hr				1:20 ARI 5min : 210.3 mm/hr			

IMPERVIOUS AREA ROOF DRAINS TO RECYCLING WATER TANK LOCATED WITHIN LEVEL 17 PLANT ROOM PROVIDING IRRIGATION SUPPLY FOR LEVELS 17, 8,6 & 5 AND CISTERN FLUSHING WATER FOR LEVELS 16 – 4.

OVERFLOWS ARE CONNECTED TO A SECONDARY RECYCLING TANK LOCATED ON LEVEL 7 TO CONTRIBUTE TO IRRIGATED WATER SUPPLY FOR THE LEVEL 8 OUTDOOR ZONES AND WINTER GARDENS. Q

ROOF A
AREA= 654 m²
ROOF A
FLOW = 38.20 L/s

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Description

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Drawing Title

HYDRAULIC SERVICES

DEVELOPMENT APPLICATION
LEVEL 18 PLAN

FMU Project Number
-

Drawn By
JH

Checked
MS

Approved By
PA

Date App.
---/---/---

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1:200

Drawing Status
PRELIMINARY

Rev No
A0

UTS Drg File Name
CB0218-HP53340

UTS Drg File No
-

Rev No
P2

ENVIRONMENTAL NOTES

1. IMMEDIATELY FOLLOWING SETTING OUT OF THE WORKS, BUT PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORKS, THE CONTRACTOR AND SUPERINTENDENT SHALL WALK THE SITE TO NOMINATE THE LOCATIONS AND TYPES OF SEDIMENT AND EROSION CONTROL MEASURES TO BE ADOPTED. THESE MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CLEARING OR EARTHWORKS AND MAINTAINED UNTIL THE WORKS ARE COMPLETED AND NO LONGER POSE AN EROSION HAZARD, UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT.
2. IMMEDIATELY FOLLOWING SETTING OUT OF THE WORKS, BUT PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORKS, THE CONTRACTOR AND SUPERINTENDENT SHALL WALK THE SITE TO IDENTIFY AND MARK TREES WHICH ARE TO BE PRESERVED. NOTWITHSTANDING THE ABOVE, THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS TO MINIMISE DISTURBANCE TO EXISTING VEGETATION AND GROUND COVER OUTSIDE THE MINIMUM AREAS REQUIRED TO COMPLETE THE WORKS AND SHALL BE RESPONSIBLE FRO RECTIFICATION, AT ITS OWN COST, OF ANY DISTURBANCE BEYOND THOSE AREAS.
3. PROVIDE STRAW BALE FILTERS AT 3m (MAXIMUM) DOWNSTREAM OF ALL OUTLETS AND AT 20m (MAXIMUM) CENTRES ALONG OPEN CHANNELS AND AROUND FIELD INLETS.
4. PROVIDE GULLY GRATE INLET SEDIMENT TRAPS AT ALL GULLY PITS.
5. PROVIDE SILT FENCING ALONG PROPERTY LINE AS DIRECTED BY SUPERINTENDENT.
6. ADDITIONAL CONTROL DEVICES TO BE PLACED WHERE DIRECTED BY THE PRINCIPLE.
7. ALTERNATIVE DESIGNS TO BE APPROVED BY SUPERINTENDENT PRIOR TO CONSTRUCTION.
8. WASH DOWN/RUMBLE AREA TO BE CONSTRUCTED WITH PROVISIONS RESTRICTING ALL SILT AND TRAFFICKED DEBRIS FROM ENTERING THE STORM SYSTEM.
9. NO WORK OR STOCKPILING OF MATERIALS TO BE PLACED OUTSIDE OF SITE WORKS BOUNDARY.
10. APPROPRIATE EROSION AND SEDIMENT CONTROLS TO BE USED TO PROTECT STOCKPILES AND MAINTAINED THROUGH OUT CONSTRUCTION.
11. IT IS THE CONTRACTORS RESPONSIBILITY TO TAKE DUE CARE OF NATURAL VEGETATION. NO CLEARING IS TO BE UNDERTAKEN WITHOUT PRIOR APPROVAL FROM THE SUPERINTENDENT.
12. TO AVOID DISTURBANCE TO EXISTING TREES, EARTHWORKS WILL BE MODIFIED AS DIRECTED ON-SITE BY THE SUPERINTENDENT.
13. THE LOCATION OF EROSION AND SEDIMENTATION CONTROLS WILL BE DETERMINED ON SITE BY THE SUPERINTENDENT.
14. ACCESS TRACKS THROUGH THE SITE WILL BE LIMITED TO THOSE DETERMINED BY THE SUPERINTENDENT AND THE CONTRACTOR PRIOR TO ANY WORKS COMMENCING.
15. ALL SETTING OUT IS THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO WORKS COMMENCING ON SITE. THE SUPERINTENDENT'S SURVEYOR SHALL PEG ALL ALLOTMENT BOUNDARIES, PROVIDE COORDINATE INFORMATION TO THESE PEGS AND PLACE BENCH MARKS. THE CONTRACTOR SHALL SET OUT THE WORKS FROM AND MAINTAIN THESE PEGS.
16. PLANS ARE MINIMUM REQUIREMENTS AND ARE TO BE USED AS A GUIDE ONLY. EXACT MEASURES USED SHALL BE DETERMINED ON SITE IN CONJUNCTION WITH PROGRAM OF CONTRACTORS WORKS, ETC.

CONSTRUCTION SEQUENCE

PRE-CONSTRUCTION

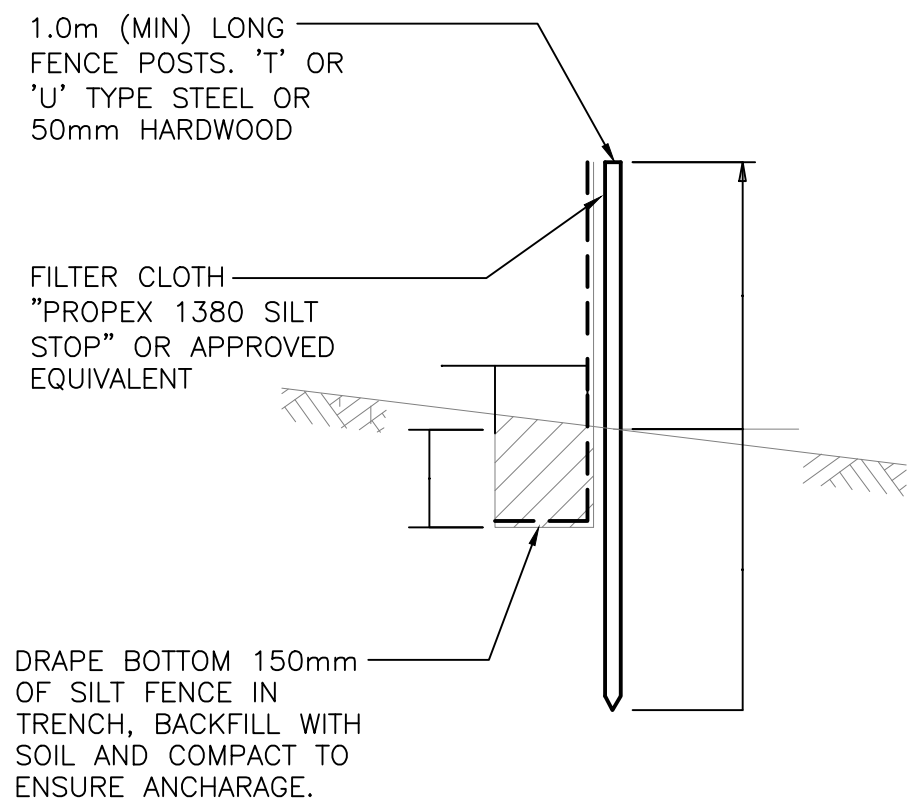
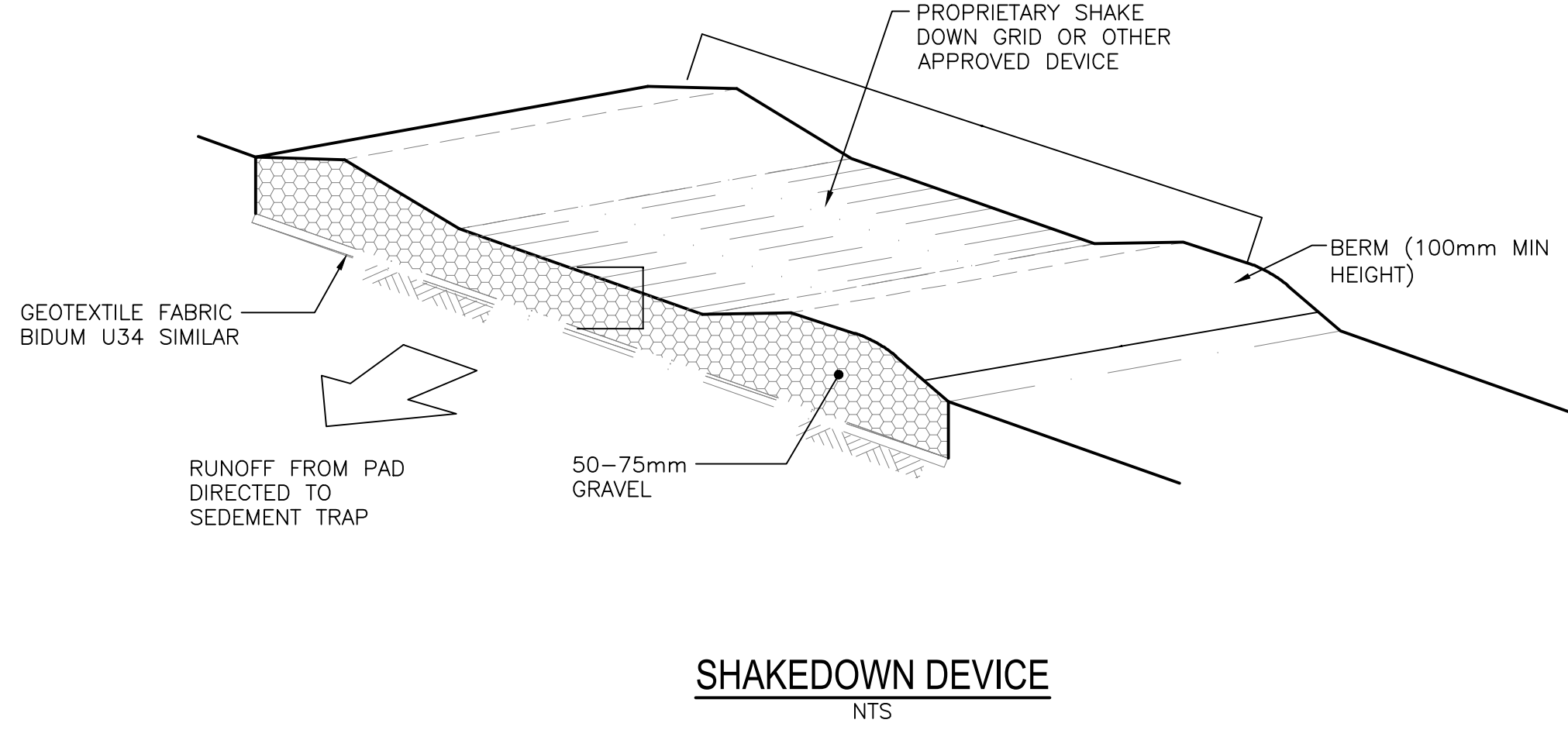
1. IDENTIFY THE EXTREMITIES OF SITE OF WORKS AND AREAS TO BE DISTURBED BY THE WORKS.
2. INSTALL PERIMETER SEDIMENT FENCE, CUTOFF DRAINS AND MULCH BUNDS AS NECESSARY TO REDIRECT OVERLAND FLOW AROUND PERIMETER OF SITE WHERE POSSIBLE IN ACCORDANCE WITH THE PRE-CONSTRUCTION EROSION AND SEDIMENT CONTROL PLAN.
3. CLEAR AREAS OF VEGETATION AS NECESSARY IN ORDER TO CARRY OUT WORKS.
4. AFTER CLEANING RE-ASSESS AREAS OF DISTURBANCE AND INSTALL FURTHER EROSION AND SEDIMENT CONTROL DEVICES AS NECESSARY TO SUIT SITE CONDITIONS.

DURING CONSTRUCTION

1. IDENTIFY CONSTRUCTION PHASING AND IMPLEMENT AND MAINTAIN SEDIMENT AND EROSION CONTROL DEVICES AS DETAILED ON THE SEDIMENT AND EROSION CONTROL PLAN FOR USE DURING CONSTRUCTION.
2. CARRY OUT INSPECTIONS TO ENSURE THE SEDIMENT AND EROSION CONTROL DEVICES ARE MAINTAINED IN WORKING ORDER. INSPECTIONS SHALL BE CARRIED OUT:
 - AT LEAST DAILY WHEN RAIN IS OCCURRING
 - AT LEAST WEEKLY EVEN IF WORK IS NOT BEING CARRIED OUT ON SITE.
 - WITHIN 24HRS PRIOR TO EXPECTED RAINFALL.
 - WITHIN 18 HOURS OF A RAINFALL EVENT.
3. REPAIR, REINSTATE AND OR MODIFY INSTALLED EROSION AND SEDIMENT CONTROL DEVICES AS NECESSARY TO SUIT CHANGING SITE CONDITIONS.
4. UNDERTAKE PROGRESSIVE REVEGETATION OF THE SITE AS STAGES OF THE WORKS ARE COMPLETED.

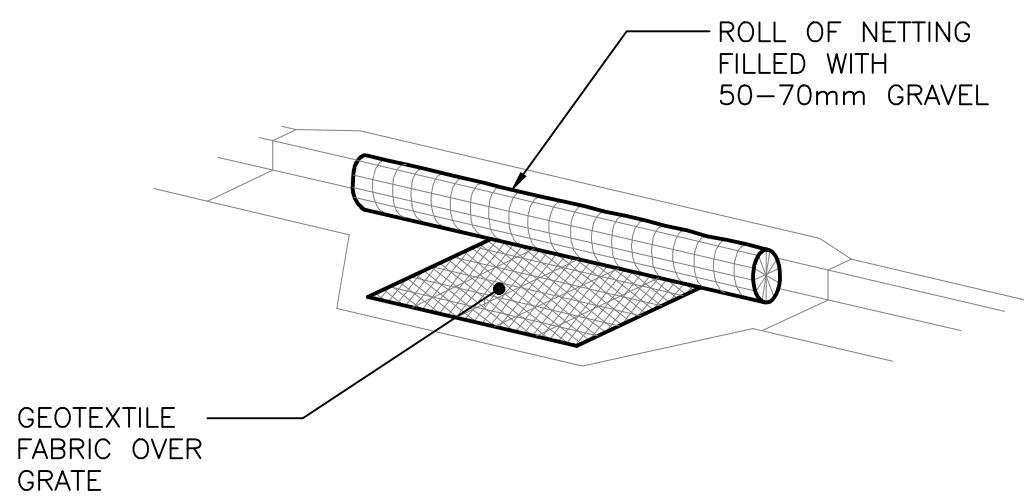
POST CONSTRUCTION

1. IMPLEMENT EROSION AND SEDIMENT CONTROL DEVICES AS DETAILED ON THE POST CONSTRUCTION EROSION AND SEDIMENT CONTROL PLAN.
2. MONITOR THE PERFORMANCE OF THE DEVICES DURING THE MAINTENANCE PERIOD AND REPAIR, REINSTATE AND OR MODIFY AS NECESSARY TO SUIT SITE CONDITIONS.
3. REMOVE EROSION AND SEDIMENT CONTROL DEVICES ONCE REVEGETATION OF THE SITE IS SUFFICIENT TO CONTROL EROSION AND SEDIMENT RUNOFF.



NOTES:

1. FILTER CLOTH TO BE FASTENED SECURELY TO POSTS WITH GALVANISED WIRE TIES, STAPLES OR ATTACHMENT BELTS.
2. POSTS SHOULD NOT BE SPACED MORE THAN 3.0m APART.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 150mm AND FOLDED.
4. FOR EXTRA STRENGTH TO SILT FENCE, WOVEN WIRE (14mm GAUGE, 150mm MESH SPACING) TO BE FASTENED SECURELY BETWEEN FILTER CLOTH AND POSTS BY WIRE TIES OR STAPLES.
5. INSPECTIONS SHALL BE PROVIDED ON A REGULAR BASIS, ESPECIALLY AFTER RAINFALL AND EXCESSIVE SILT DEPOSITS REMOVED WHEN "BULGES" DEVELOP IN SILT FENCE.



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Drawing Title			
HYDRAULIC SERVICES			
DEVELOPMENT APPLICATION DETAILS SHEET			
FMU Project Number -			
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UTS Drg File Name C802-HP53341	UTS Drg File No -	Rev No P2	