

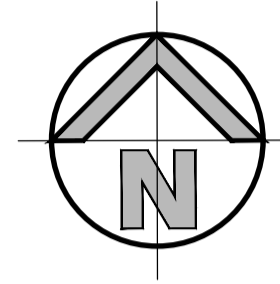
# THE HILLS MARKETPLACE

## 287 MONA VALE ROAD, TERREY HILLS, NSW 2084

### CIVIL ENGINEERING WORKS

#### GENERAL NOTES:

- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL'S SPECIFICATION. CONTRACTOR TO OBTAIN AND RETAIN A COPY ON SITE DURING THE COURSE OF THE WORKS.
- ALL NEW WORKS ARE TO MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS AND MARRY IN A 'WORKMANLIKE' MANNER.
- THE CONTRACTOR IS TO VERIFY THE LOCATION OF ALL SERVICES WITH EACH RELEVANT AUTHORITY. ANY DAMAGE TO SERVICES SHALL BE RECTIFIED BY THE CONTRACTOR OR THE RELEVANT AUTHORITY AT THE CONTRACTOR'S EXPENSE. SERVICES SHOWN ON THESE PLANS ARE ONLY THOSE EVIDENT AT THE TIME OF SURVEY OR AS DETERMINED FROM SERVICE DIAGRAMS. H & H CONSULTING ENGINEERS PTY. LTD CANNOT GUARANTEE THE INFORMATION SHOWN NOR ACCEPT ANY RESPONSIBILITY FOR INACCURACIES OR INCOMPLETE DATA.
- SERVICES & ACCESSES TO THE EXISTING PROPERTIES ARE TO BE MAINTAINED IN WORKING ORDER AT ALL TIMES DURING CONSTRUCTION.
- ADJUST EXISTING SERVICE COVERS TO SUIT NEW FINISHED LEVELS TO RELEVANT AUTHORITY REQUIREMENTS WHERE NECESSARY.
- REINSTATE AND STABILISE ALL DISTURBED LANDSCAPED AREAS.
- MINIMUM GRADE OF SUBSOIL SHALL BE 0.5% (1:200) FALL TO OUTLETS.
- ALL TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES ARE TO BE CONSTRUCTED, PLACED AND MAINTAINED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS, EROSION AND SEDIMENTATION CONTROL PLAN AND NORTHERN BEACHES COUNCIL'S REQUIREMENTS WHERE APPLICABLE.
- CONTRACTOR TO CHECK AND CONFIRM SITE DRAINAGE CONNECTIONS ACROSS THE VERGE PRIOR TO COMMENCEMENT OF SITE DRAINAGE WORKS.
- PROPERTIES AFFECTED BY THE WORKS ARE TO BE NOTIFIED IN ADVANCE WHERE DISRUPTION TO EXISTING ACCESS IS LIKELY.



#### LOCALITY SKETCH

N.T.S.

#### DRAWING SCHEDULE

Code	Description
21F99_DA_C000	COVER SHEET, DRAWING SCHEDULE, NOTES & LOCALITY SKETCH
21F99_DA_C100	GENERAL ARRANGEMENT PLAN
21F99_DA_C101	DETAIL PLAN, SHEET 1 OF 2
21F99_DA_C102	DETAIL PLAN, SHEET 2 OF 2
21F99_DA_C200	STORMWATER MISCELLANEOUS DETAILS AND PIT LID SCHEDULE
21F99_DA_C201	BIO-BASIN PLAN AND SECTIONS
21F99_DA_C501	PAVEMENT & JOINTING PLAN, SHEET 1 OF 2
21F99_DA_C502	PAVEMENT & JOINTING PLAN, SHEET 2 OF 2
21F99_DA_SE01	SEDIMENT & EROSION CONTROL PLAN
21F99_DA_SE02	SEDIMENT & EROSION CONTROL TYPICAL DETAILS
21F99_DA_BE01	BULK EARTHWORKS - CUT AND FILL PLAN

#### SITWORKS NOTES

- DATUM: A.H.D.
- ORIGIN OF LEVELS: REFER TO BENCH OR STATE SURVEY MARKS WHERE SHOWN ON PLAN.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO THE COMMENCEMENT OF WORK.
- ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS & THE DIRECTIONS OF THE SUPERINTENDENT.
- EXISTING SERVICES UNLESS SHOWN ON THE SURVEY PLAN HAVE BEEN PLOTTED FROM SERVICES SEARCH PLANS AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
- WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS ACHIEVED.
- THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.
- CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATION IS TO BE UNDERTAKEN OVER TELSTRA OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
- CONTRACTOR TO OBTAIN AUTHORITY APPROVALS WHERE APPLICABLE.
- MAKE SMOOTH TRANSITION TO EXISTING SURFACES AND MAKE GOOD.
- THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED LANDSCAPE, ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS OR WRITTEN INSTRUCTIONS THAT MAY BE ISSUED RELATING TO DEVELOPMENT AT THE SITE.
- TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MINIMUM OF 50mm IN BITUMINOUS PAVING.
- ALL BRANCH GAS AND WATER SERVICES UNDER DRIVEWAYS AND BRICK PAVING SHALL BE LOCATED IN Ø80 uPVC SEWER GRADE CONDUITS EXTENDING A MINIMUM OF 500mm BEYOND EDGE OF PAVING.
- GRADES TO PAVEMENTS TO BE AS IMPLIED BY RL'S ON PLAN. GRADE EVENLY BETWEEN NOMINATED RL'S. AREAS EXHIBITING PONDING GREATER THAN 5mm DEPTH WILL NOT BE ACCEPTED UNLESS IN A DESIGNATED SAG POINT.
- ALL COVERS AND GRATES ETC TO EXISTING SERVICE UTILITIES ARE TO BE ADJUSTED TO SUIT NEW FINISHED SURFACE LEVELS WHERE APPLICABLE.

#### EXISTING SERVICES & FEATURES

- THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF ALL EXISTING SERVICES IN AREAS AFFECTED BY WORKS WITHIN THE CONTRACT AREA OR AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT.
- THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.
- PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN APPROVAL OF HIS PROGRAM FOR THE RELOCATION/ CONSTRUCTION OF TEMPORARY SERVICES.
- CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN SUPPLY TO EXISTING BUILDING REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED, THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.
- INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE TO THE PRINCIPAL CONTRACTOR TO GAIN APPROVAL FROM THE SUPERINTENDENT FOR TIME OF INTERRUPTION.
- EXISTING SERVICES, BUILDINGS, EXTERNAL STRUCTURES AND TREES SHOWN ON THESE DRAWINGS ARE EXISTING FEATURES PRIOR TO ANY DEMOLITION WORKS.
- EXISTING SERVICES UNLESS SHOWN ON SURVEY PLAN HAVE BEEN PLOTTED FROM SERVICES SEARCH PLANS AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE A 'DIAL BEFORE YOU DIG' SEARCH AND TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
- ALL BRANCH GAS AND WATER SERVICES UNDER DRIVEWAYS AND BRICK PAVING SHALL BE LOCATED IN Ø80 uPVC SEWER GRADE CONDUITS EXTENDING A MINIMUM OF 500mm BEYOND EDGE OF PAVING.

#### SUBSOIL DRAINAGE NOTES

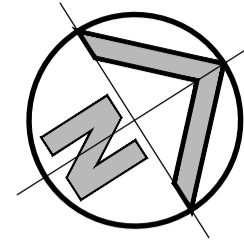
- GENERALLY PROVIDE SUBSOIL DRAINS TO INTERCEPT GROUNDWATER SEEPAGE AND PREVENT WATER BUILD-UP BEHIND WALLS AND UNDER FLOORS AND PAVEMENTS. CONNECT SUBSOIL TO SURFACE DRAINS OR TO THE STORMWATER DRAINAGE SYSTEM AS APPLICABLE.
- PIPE DEPTH: PROVIDE THE FOLLOWING MINIMUM CLEAR DEPTH, MEASURED TO THE CROWN OF THE PIPE, WHERE THE PIPE PASSES BELOW THE FOLLOWING ELEMENTS:
  - 100mm BELOW FORMATION LEVEL OF THE PAVEMENT, KERB OR CHANNEL.
  - 100mm BELOW THE AVERAGE GRADIENT OF THE BOTTOM OF FOOTINGS.
- JOINTING: AT JUNCTIONS OF SUBSOIL PIPES PROVIDE TEES, COUPLINGS OR ADAPTORS TO AS2439.1.
- TRENCH WIDTH MINIMUM 300mm.
- PIPE UNDERLAY: GENERAL: GRADE THE TRENCH FLOOR EVENLY TO THE GRADIENT OF THE PIPELINE. IF THE TRENCH FLOOR IS ROCK, CORRECT ANY IRREGULARITIES WITH COMPACTED BEDDING MATERIAL. BED PIPING ON A CONTINUOUS UNDERLAY OF BEDDING MATERIAL, AT LEAST 75mm THICK AFTER COMPACTION. LAY THE PIPE WITH ONE LINE OF PERFORATIONS AT THE BOTTOM. CHASES: IF NECESSARY TO PREVENT PROJECTIONS SUCH AS SOCKETS AND FLANGES FROM BEARING ON THE TRENCH BOTTOM OR UNDERLAY.
- PIPE SURROUNDS: GENERAL: PLACE THE MATERIAL IN THE PIPE SURROUND IN LAYERS SMALLER THAN OR EQUAL TO 200mm LOOSE THICKNESS, AND COMPACT WITHOUT DAMAGING OR DISPLACING PIPING. DEPTH OF OVERLAY: TO THE UNDERSIDE OF THE BASE OF OVERLYING STRUCTURES SUCH AS PAVEMENTS, SLABS AND CHANNELS TO WITHIN 150mm OF THE FINISHED SURFACE OF UNPAVED OR LANDSCAPED AREAS.
- FILTER SOCKS: PROVIDE POLYESTER PERMEABLE SOCKS CAPABLE OF RETAINING PARTICLES OF 0.25mm SIZES. SECURELY FIT OR JOIN THE SOCK AT EACH JOINT.

#### SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY THE SURVEYOR SPECIFIED IN THE TITLE BLOCK. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. HENRY AND HYMAS PTY. LTD. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS. SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT HENRY AND HYMAS PTY. LTD. THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM ORIGINAL SURVEY DOCUMENTS.

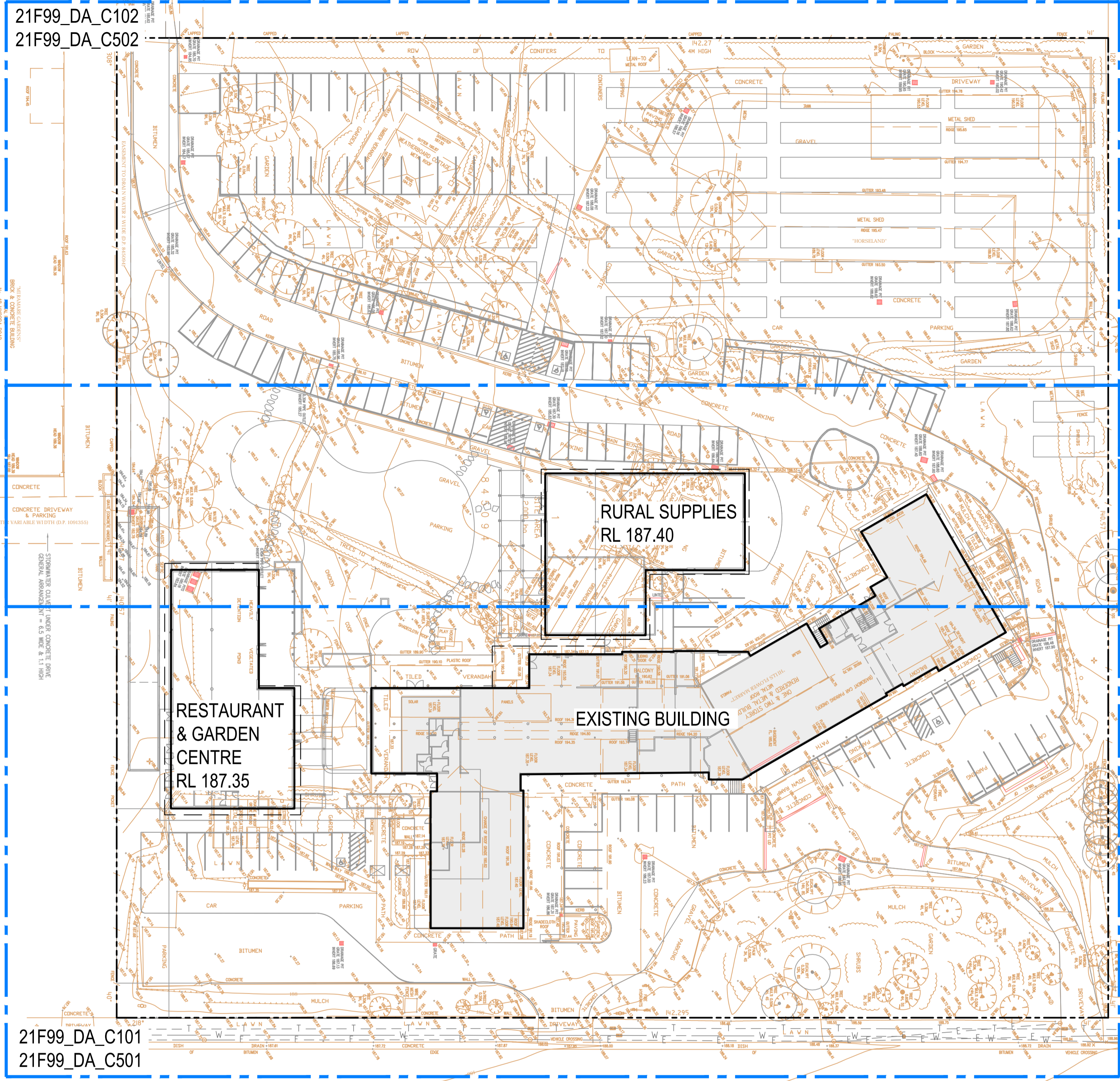
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SURVEYED BY BEE&LETHBRIDGE		HILLS MARKETPLACE PTY LTD.		287 MONA VALE ROAD, TERREY HILLS, NSW 2084		S.Chen		M.Mishevski		OCT 2022	
DATUM: A.H.D.		Architect: BN		Title: COVER SHEET, DRAWING SCHEDULE, NOTES & LOCALITY SKETCH		Checked: A.Francis		Approved: A.Francis		Scale: NTS	
ORIGIN OF LEVELS: PM 50080 RL 199.895		This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.		Drawing number: 21F99_DA_C000		Revision: 03					
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02	ISSUED FOR PRELIMINARY	MP	MM	21.11.2022							
01	ISSUED FOR PRELIMINARY	SC	MM	19.10.2022							



21F99\_DA\_C102  
21F99\_DA\_C502

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21F99\_DA\_C501



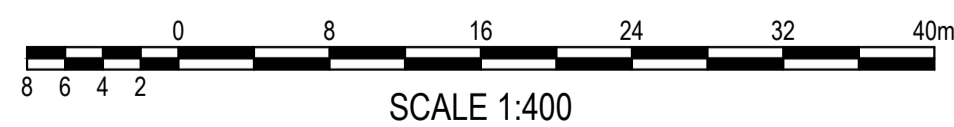
MONA VALE ROAD

**GENERAL ARRANGEMENT PLAN**

SCALE: 1:400

**LEGEND**

- EXISTING BOUNDARY
- EXTENT OF WORKS
- PROPOSED JUNCTION PITS
- PROPOSED SURFACE INLET PITS
- PROPOSED LINTEL ON GRADE & SAG PITS
- PROPOSED PIT TAG
- LINE LETTER  
PIT NUMBER
- STORMWATER UPSTREAM INVERT RL
- STORMWATER PIPE DIAMETER & CLASS
- STORMWATER PIPE LENGTH
- STORMWATER PIPE GRADE
- STORMWATER DOWNSTREAM INVERT RL
- EXISTING STORMWATER PIPE
- PROPOSED STORMWATER PIPE
- EXISTING STORMWATER PIPE TO BE DEMOLISHED
- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPOSED SPOT LEVEL
- PROPOSED RIDGE LINE
- PROPOSED VALLEY LINE
- EXISTING ELECTRICAL MAINS LINE
- EXISTING GAS LINE
- EXISTING SEWER LINE
- EXISTING TELSTRA LINES
- EXISTING WATER LINE
- EXISTING PITS
- PROPOSED BATTER LINE
- PROPOSED RETAINING WALL



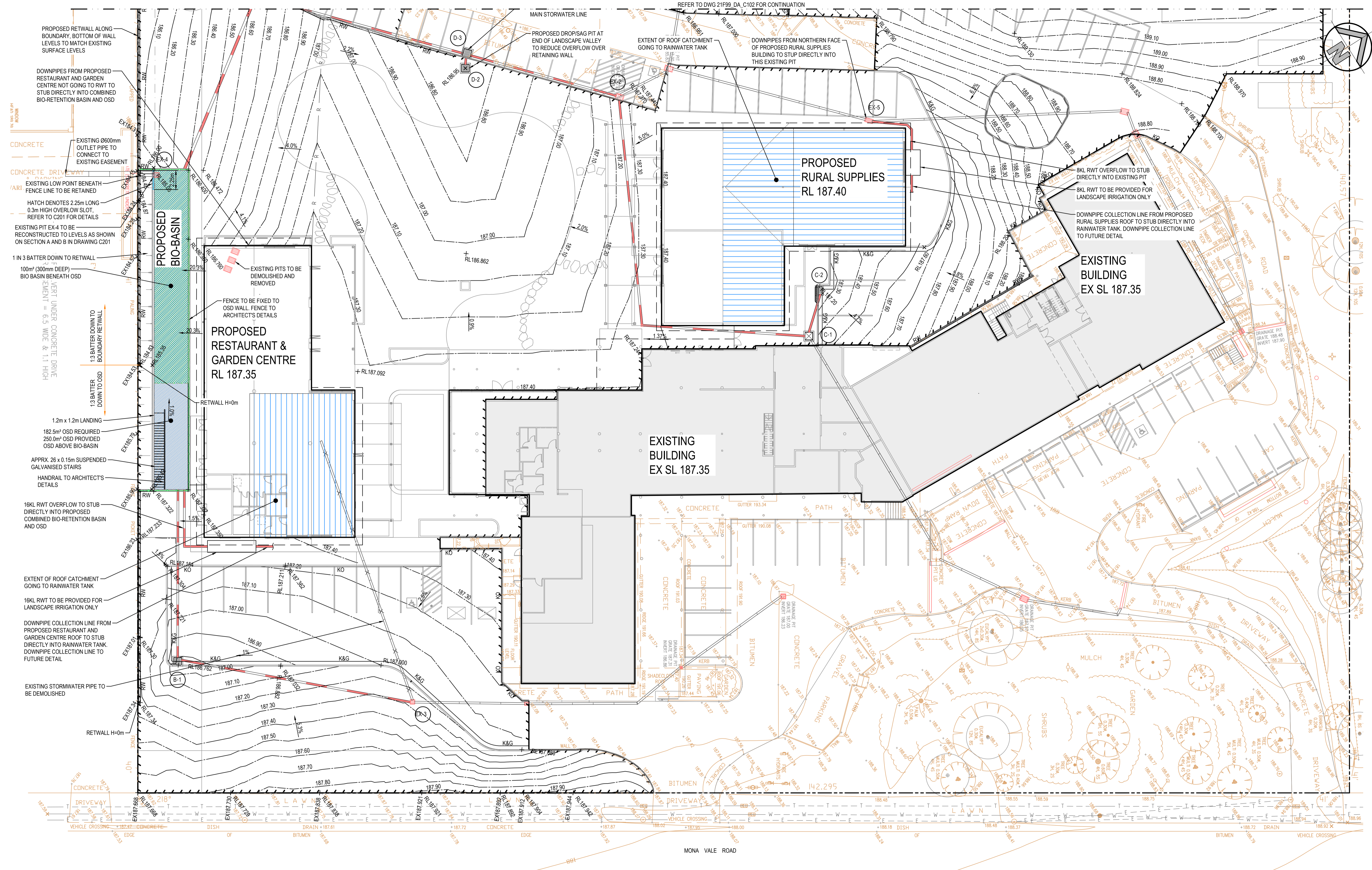
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<p><b>SURVEY INFORMATION</b> SURVEYED BY BEE&amp;LETHBRIDGE DATUM: A.H.D. ORIGIN OF LEVELS: PM 50080 RL 199.895</p>	07	ISSUED FOR DA ONLY	MP	MM	11.04.2023						<p>Client <b>HILLS MARKETPLACE PTY LTD.</b></p> <p>Architect <b>BN</b></p>	<p>Suite 2.01 828 Pacific Highway Gordon NSW 2072</p> <p>Telephone +61 2 9417 8400 Facsimile +61 2 9417 8337 Email email@hhconsult.com.au Web www.henryandhymas.com.au</p>		<p>Project <b>THE HILLS MARKETPLACE</b> 287 MONA VALE ROAD, TERREY HILLS, NSW 2084</p> <p>Title <b>GENERAL ARRANGEMENT PLAN</b></p>	Drawn S.Chen	Designed M.Mishevski	Date OCT 2022	
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	03	ISSUED FOR PRELIMINARY	MP	MM	21.11.2022													
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	08	ISSUED FOR DA ONLY	MB	MM	21.11.2023													
		AMENDMENT	DRAWN	DESIGNED	DATE	REVISION												

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21F99\_DA\_C100 08



**DETAIL PLAN**  
SCALE: 1:200

**FOR DA ONLY**

**SURVEY INFORMATION**  
SURVEYED BY BEE&LETHBRIDGE  
DATUM A.H.D.  
ORIGIN OF LEVELS: PM 50080 RL 199.855

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05	ISSUED FOR DA ONLY	MB	MM	19.12.2022					
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**Client**  
HILLS MARKETPLACE PTY LTD.

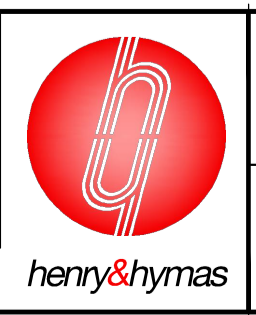
**Architect**  
BN

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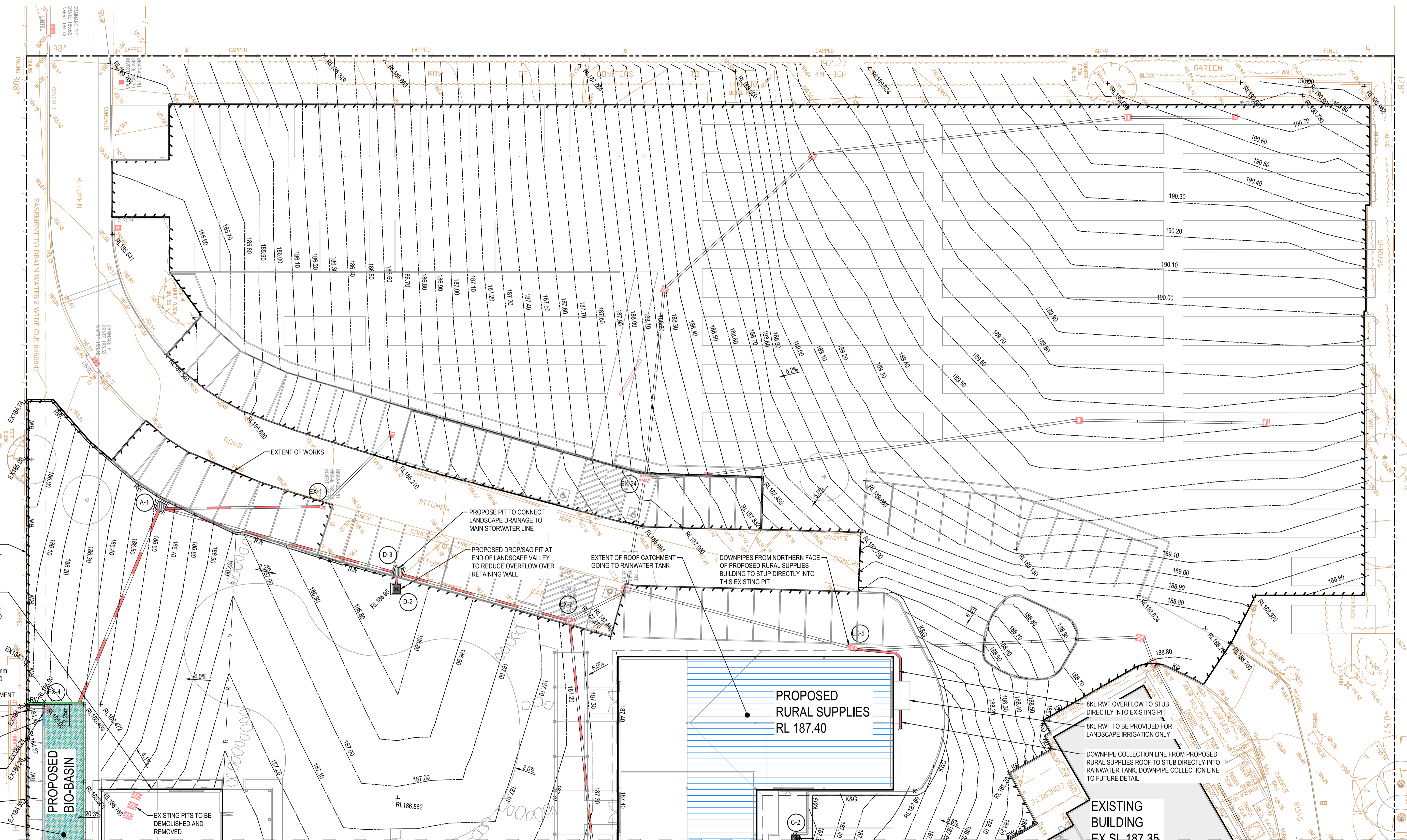
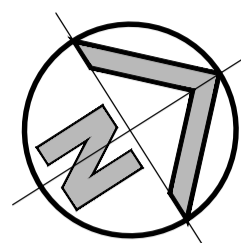
**Project**  
THE HILLS MARKETPLACE  
287 MONA VALE ROAD, TERREY HILLS, NSW 2084

**Task**  
DETAIL PLAN  
SHEET 1 OF 2

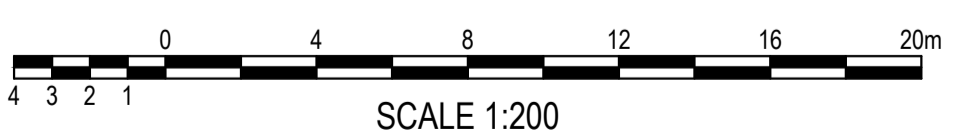
Drawn	Designed	Date
S.Chen	M.Mishevski	OCT 2022
C.Checked	A.Francis	Scale @A1
A.Francis	A.Francis	1:200

Drawing number	Revision
21F99_DA_C101	11



**DETAIL PLAN**  
SCALE: 1:200



**FOR DA ONLY**

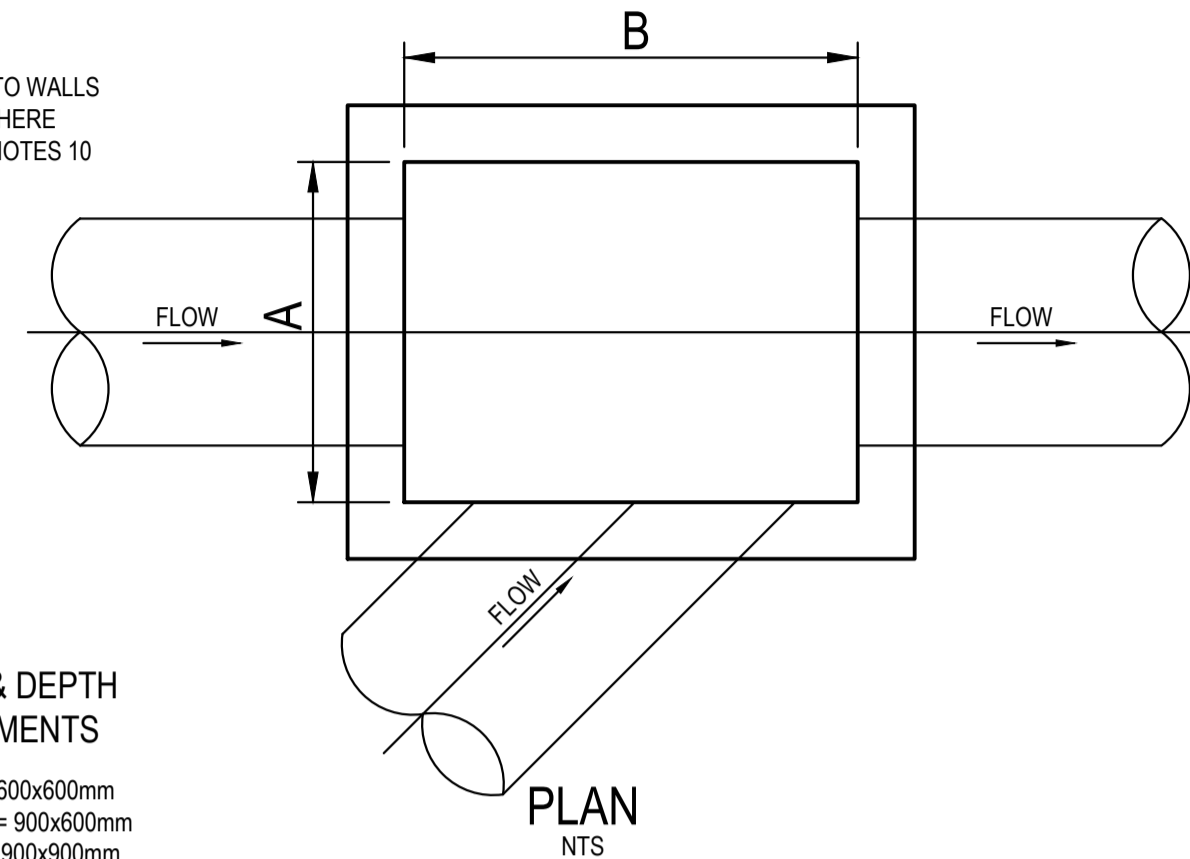
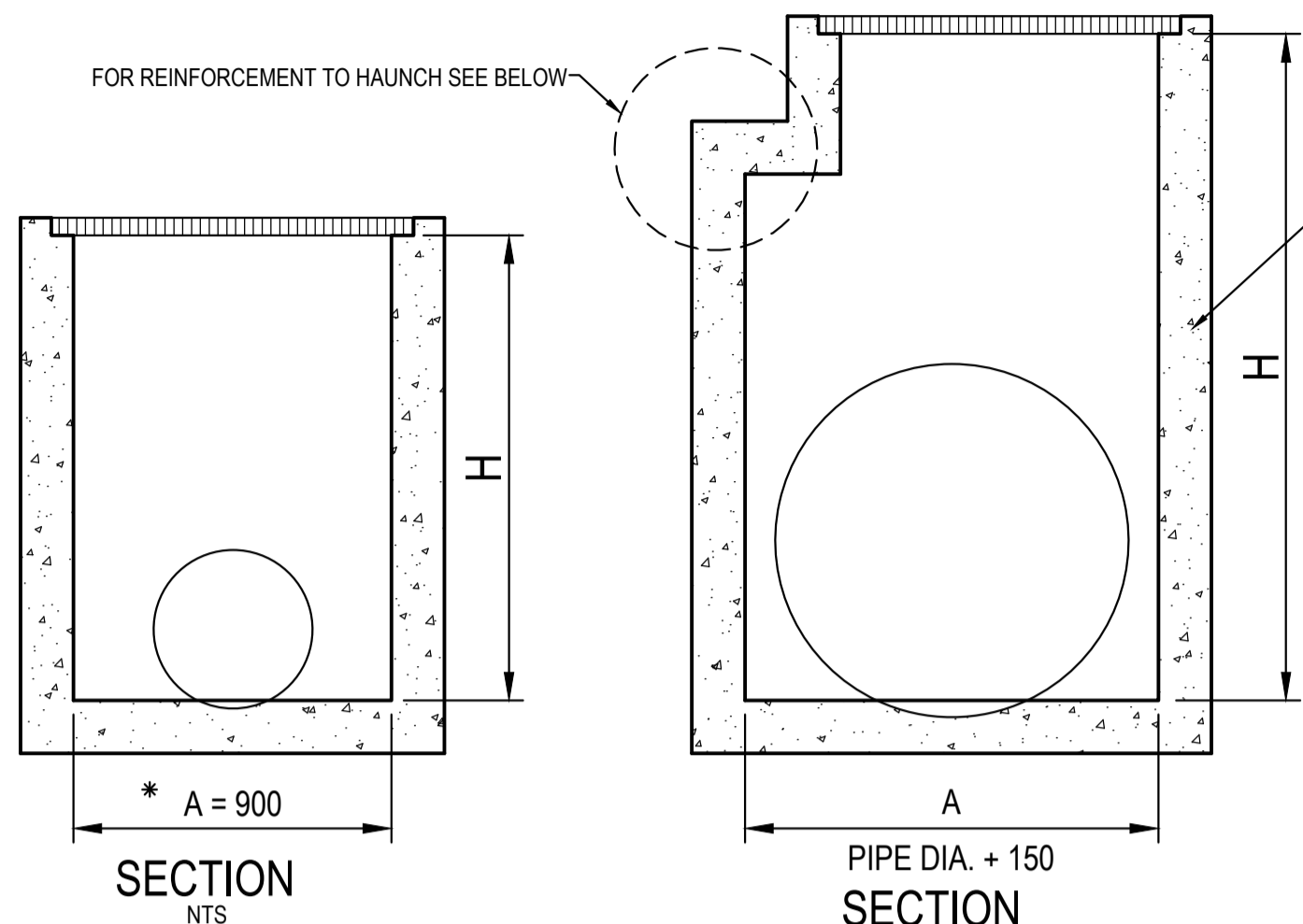
<p><b>SURVEY INFORMATION</b> SURVEYED BY BEE&amp;LETHBRIDGE DATUM: A.H.D. ORIGIN OF LEVELS: PM 50080 RL 199.895</p>	07	ISSUED FOR DA ONLY	MB	MM	28.04.2023					<p>Client <b>HILLS MARKETPLACE PTY LTD.</b></p> <p>Architect <b>BN</b></p> <p>Telephone +61 2 9417 8400 Facsimile +61 2 9417 8337 Email email@hhconsult.com.au Web www.henryandhymas.com.au</p>		<p>Project <b>THE HILLS MARKETPLACE</b> 287 MONA VALE ROAD, TERREY HILLS, NSW 2084</p> <p>Title <b>DETAIL PLAN</b> SHEET 2 OF 2</p>	Drawn S.Chen	Designed M.Mishevski	Date OCT 2022
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		AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	<p>This drawing and design remains the property of Henry &amp; Hymas and may not be copied in whole or in part without the prior written approval of Henry &amp; Hymas.</p>				

TYPICAL PIT CHAMBER SIZES

IT IS THE CONTRACTORS RESPONSIBILITY TO SELECT PIT CHAMBER SIZE WITH REGARDS TO PIPE SIZE, DEPTH TO INVERT AND SKEW ANGLE. REFER SKETCHES BELOW.

- SELECT PIT CHAMBER USING THE STEPS BELOW.
- SELECT PIT CHAMBER SIZE DEPENDING ON THE PIPE DIAMETERS.
- CHECK PIT CHAMBER SIZE TO SATISFY DEPTH TO INVERT REQUIREMENTS.
- CHECK PIT CHAMBER DIMENSIONS TO SATISFY THE SKEW ANGLE IN THE TABLE.

FOR B = 600mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 225mm  
 FOR B = 900mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 375mm  
 FOR B = 1200mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 600mm  
 FOR B = 1500mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 825mm  
 FOR B = 1900mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 1050mm



2 PIT SIZE & DEPTH REQUIREMENTS

H = 0-900mm - AxB = 600x600mm  
 H = 900-1200mm - AxB = 900x600mm  
 H = >1200mm - AxB = 900x900mm

3 PIT CHAMBER FOR SIDE ENTRY ON SKEW

\*A = 600 FOR PIPES UP TO 375 DIA.

1 PIT CHAMBER DIMENSIONS FOR PIPES UP TO 600 DIA.

1 PIT CHAMBER FOR PIPES GREATER THAN 600 DIA.

TABLE 1

SIEVE SIZE (MM)	WEIGHT PASING (%)
75.0	100
9.5	100 TO 50
2.36	100 TO 30
0.60	50 TO 15
0.075	25 TO 0

TABLE 2

SIEVE SIZE (MM)	WEIGHT PASING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

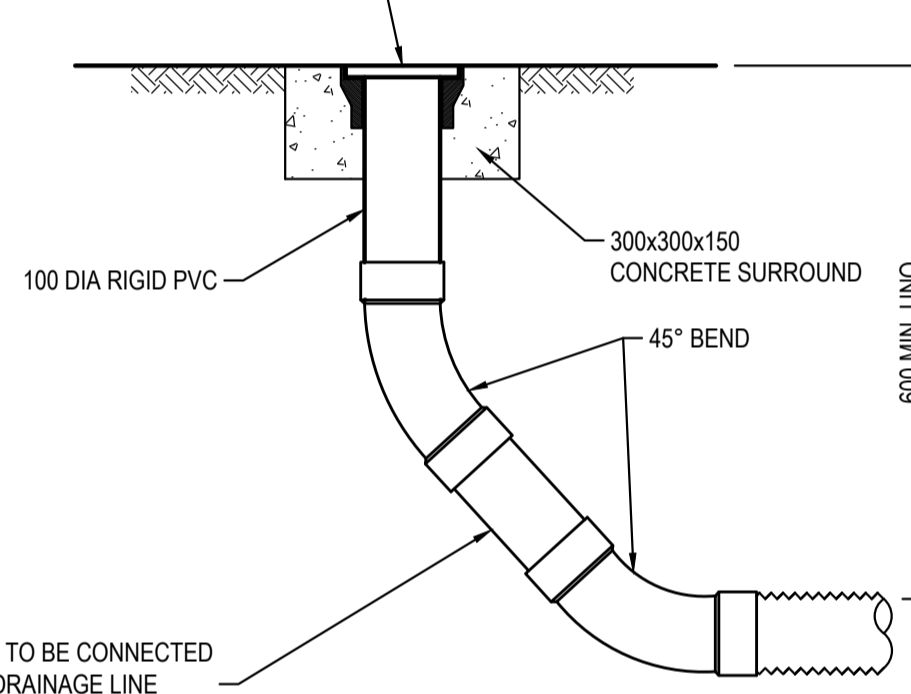
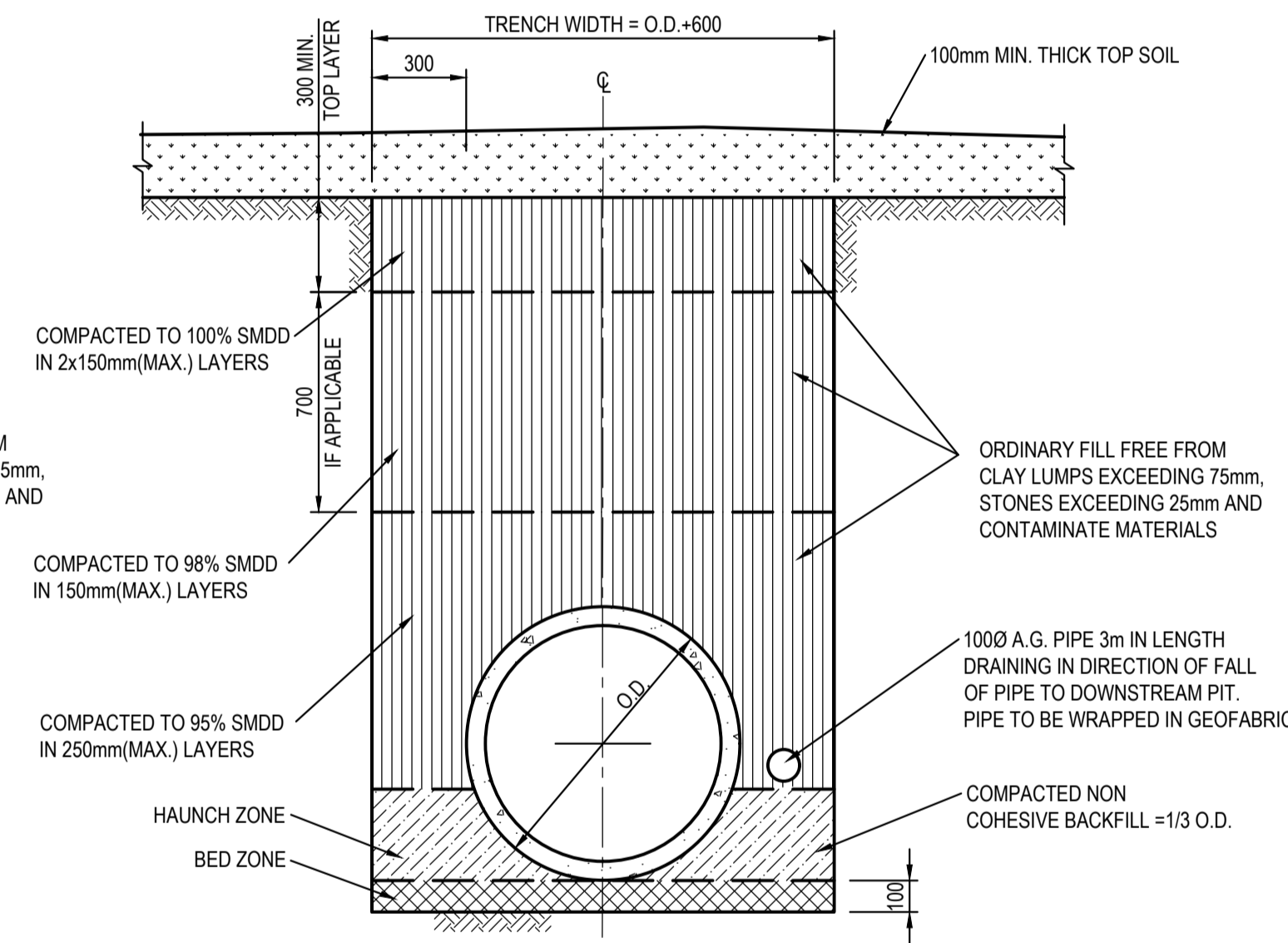
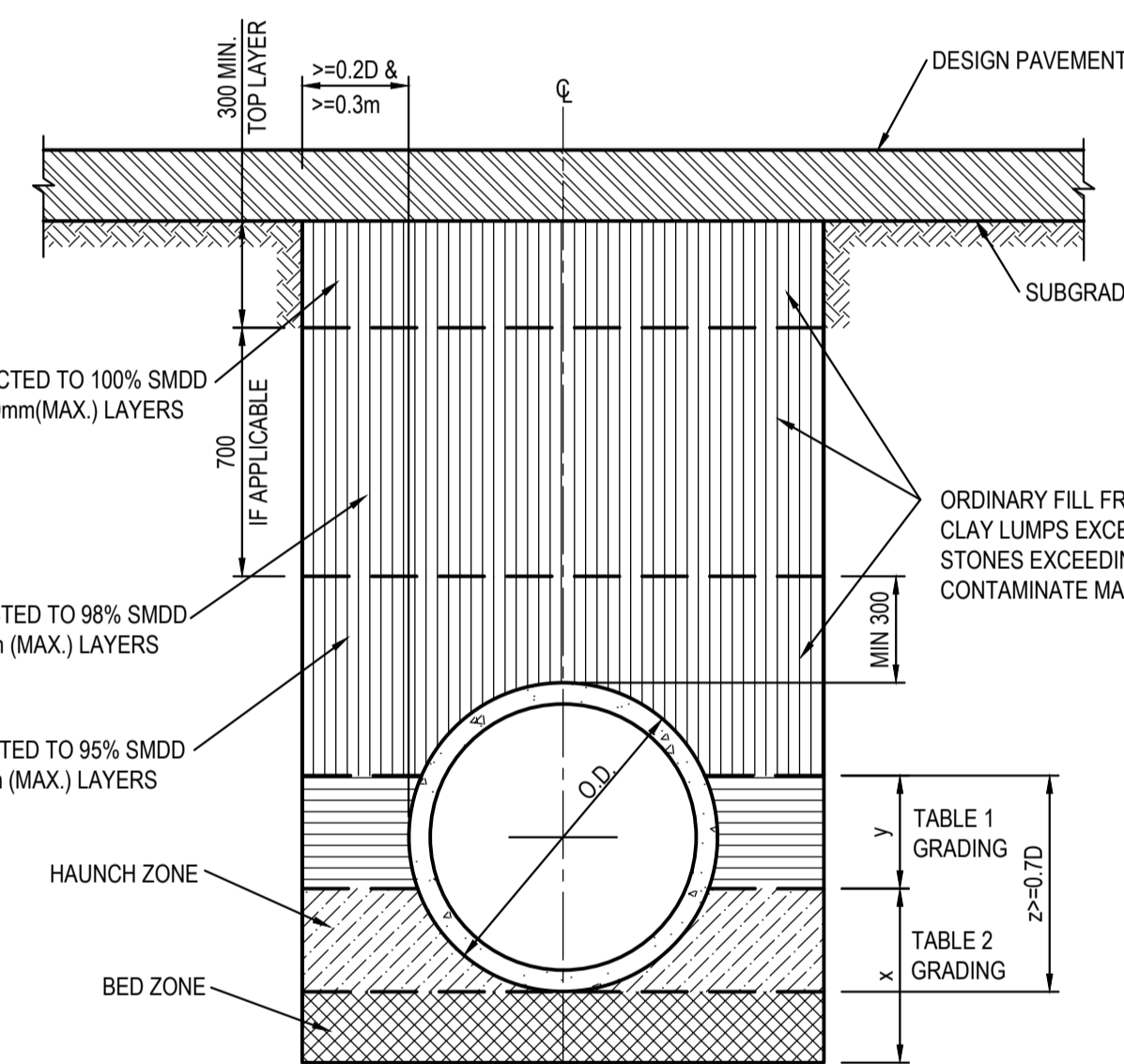
TABLE 3

SUPPORT TYPE	BED ZONE X	HAUNCH ZONE Y	BED AND HAUNCH ZONES COMPACTION	MAX BEDDING FACTOR
HS1		0.1D	50	2.0
HS2	100 IF D<=1500, OR 150 IF D>=1500	0.3D	60	2.5
HS3		0.3D	70	4.0

LIGHT DUTY IN LANDSCAPED AND PEDESTRIAN AREAS HEAVY DUTY IN VEHICULAR PAVEMENTS. AIR TIGHT CAST IRON OR BRASS SCREW OR BOLT DOWN CAP.

PIT LID SCHEDULE

PIT/STRUCTURE NUMBER	DESCRIPTION
A-1 B-1 D-1 D-2 D-3	PROPOSED INLET PIT WITH 900x900 HINGED LIGHT DUTY GRATED CLASS "B" IN ACCORDANCE WITH WOLLONGONG CITY COUNCIL REQUIREMENTS.
C-2	PROPOSED 1.2m KERB INLET PIT WITH 900x450 INLET GRATE HEAVY DUTY CLASS "D" IN ACCORDANCE WITH WOLLONGONG CITY COUNCIL REQUIREMENTS.
C-1	PROPOSED JUNCTION PIT WITH 1200x1200 HEAVY DUTY SEALED LID CLASS "D" IN ACCORDANCE WITH WOLLONGONG CITY COUNCIL REQUIREMENTS.
EX-1 EX-2 EX-3 EX-4 EX-5	EXISTING PIT TO BE RETAINED.

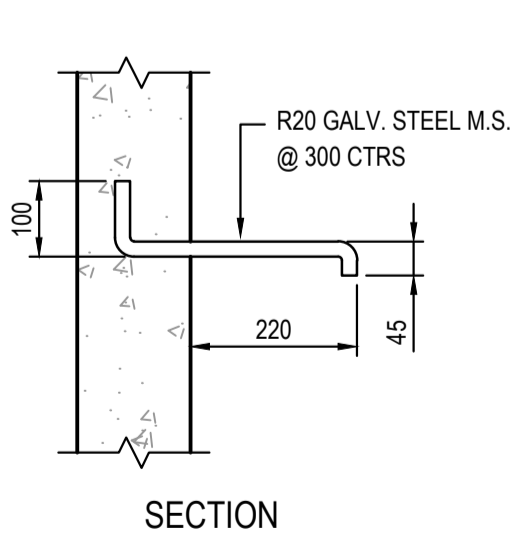
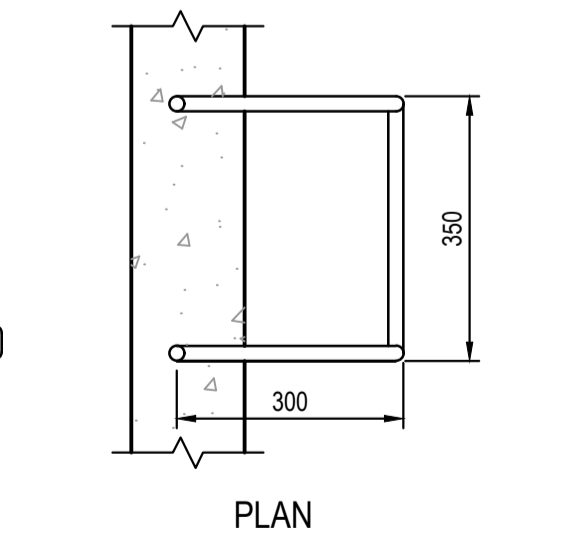
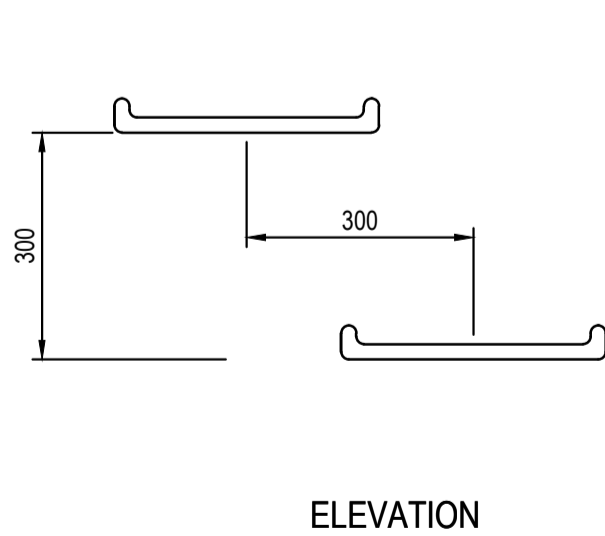
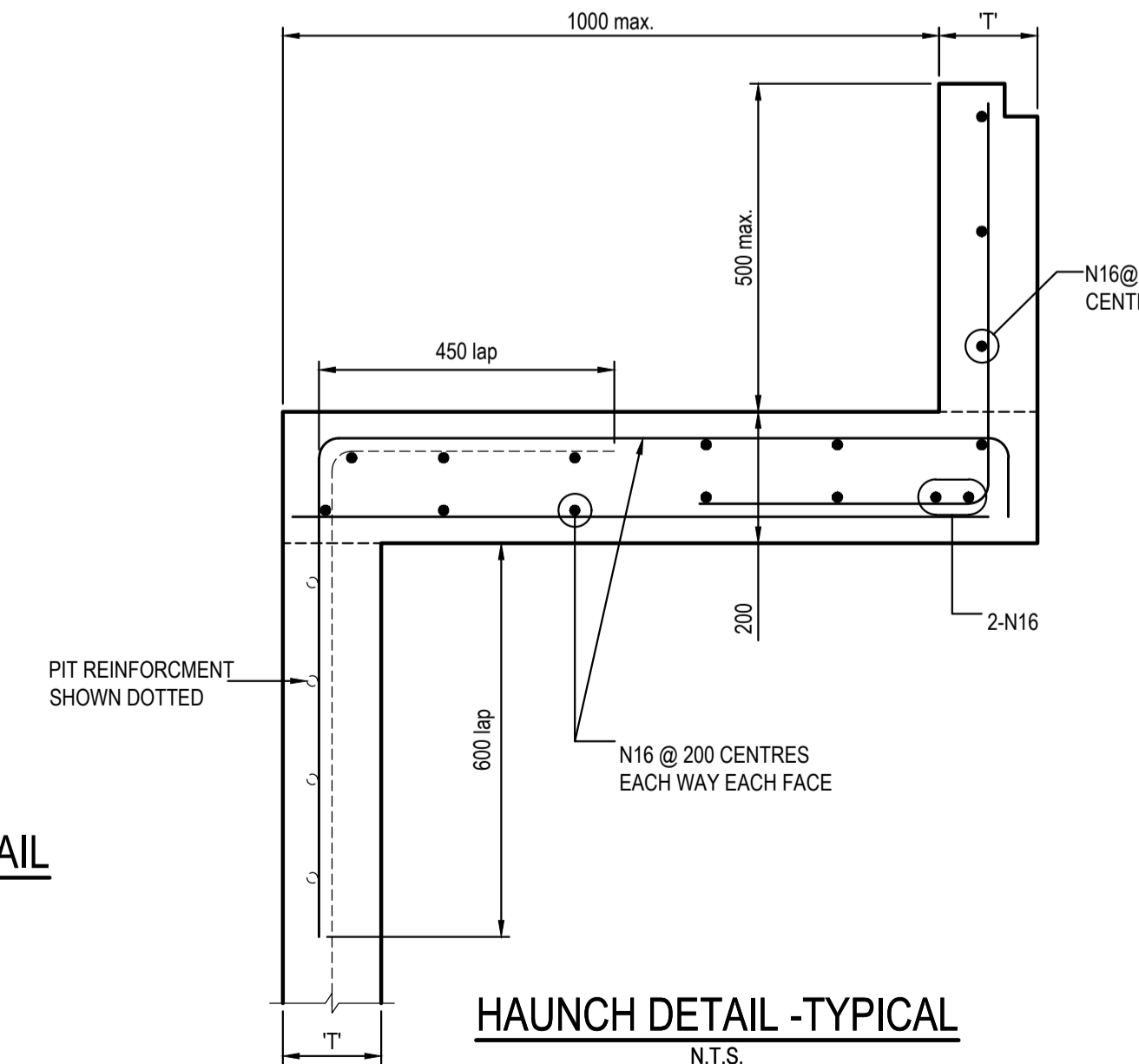


FLUSHING POINT (FP)

SCALE 1:10  
NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS MAY BE USED

DRAINAGE NOTES:

- ALL STORMWATER WORK TO COMPLY WITH AS 3500 PART 3.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE MINIMUM COVER OF 600mm ON ALL PIPES.
- PROTECTION OF PIPES DUE TO LOADS EXCEEDING W7 WHEEL LOAD SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- BEDDING TYPE SHALL BE TYPE H2 FOR RCP. WHERE NECESSARY THE OVERLAY ZONE SHALL BE REDUCED TO ACCOMMODATE PAVEMENT REQUIREMENTS. REFER TO THIS DRAWING FOR DETAILS.
- MINIMUM COVER OVER EXISTING PIPES FOR PROTECTION DURING CONSTRUCTION SHALL BE 800mm.
- NO CONSTRUCTION LOADS SHALL BE APPLIED TO PLASTIC PIPES.
- FINISHED SURFACE LEVELS SHOWN ON LAYOUT PLAN DRGS TAKE PRECEDENCE OVER DESIGN DRAINAGE SURFACE LEVELS.
- ALL PIPES UP TO AND INCLUDING 300 DIA. SHALL BE SOLVENT OR RUBBER RING JOINTED PVC CLASS SH PIPE TO AS1260. ALL OTHER PIPES TO BE RCP USING CLASS 2 RUBBER RING JOINTED PIPE. HARDIES FRC PIPE MAY BE USED IN LIEU OF RCP IF DESIRED IN GROUND. ALL AERIAL PIPES TO BE PVC CLASS SH.
- ALL PITS IN NON TRAFFICABLE AREAS TO BE PREFABRICATED POLYESTER CONCRETE "POLYCRETE" WITH "LIGHT DUTY" CLASS B GALV. MILD STEEL GRATING AND FRAME. ALL PITS IN TRAFFICABLE AREAS (CLASS "D" LOADING MAX) TO HAVE 150mm THICK CONCRETE WALLS AND BASE CAST IN-SITU Fc=32 MPa, REINFORCED WITH N12-200 BOTH LOADING WAYS CENTRALLY PLACE. U.N.O. ON SEPARATE DESIGN DRAWINGS IN THIS SET. GALV. MILD STEEL GRATING AND FRAME TO SUIT DESIGN LOADING. PRECAST PITS, RECTANGULAR OR CIRCULAR IN SHAPE, MAY BE USED IN LIEU AND SHALL COMPLY WITH RELEVANT AUSTRALIAN STANDARDS.
- ALL PITS, GRATINGS AND FRAMES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION AND TO BE IN ACCORDANCE WITH AS3500.3 AND AS3996.
- PIT CHAMBER DIMENSIONS ARE TO BE SELECTED TO SATISFY THE FOLLOWING:  
- PIPE SIZE  
- DEPTH TO INVERT  
- SKEW ANGLE  
REFER TYPICAL PIT CHAMBER DETAILS BELOW  
IF PIT LID SIZE IS SMALLER THAN THE PIT CHAMBER SIZE THEN THE PIT LID IS TO BE CONSTRUCTED ON THE CORNER OF THE PIT CHAMBER WITH THE STEP IRONS DIRECTLY BELOW. ALTERNATIVELY THE PIT LID TO BE USED, IS TO BE THE SAME SIZE AS THE PIT CHAMBER.
- FOR PIPE SIZES GREATER THAN Ø300mm, PIT FLOOR IS TO BE BENCHED TO FACILITATE FLOW.
- GALVANISED STEP IRONS SHALL BE PROVIDED AT 300 CTS FOR PITS HAVING A DEPTH EXCEEDING 1200mm. SUBSOIL DRAINAGE PIPE SHALL BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES. (MINIMUM LENGTH 3m).
- ALL SUBSOIL PIPES SHALL BE 100mm SLOTTED PVC IN A FILTER SOCK, UNO, WITH 3m INSTALLED UPSTREAM OF ALL PITS.
- ALL PIPEWORK SHALL HAVE MINIMUM DIAMETER 100.
- MINIMUM GRADE FOR ROOFWATER DRAINAGE LINES SHALL BE 1%.
- ALL PIPE JUNCTIONS AND TAPER UP TO AND INCLUDING 300 DIA. SHALL BE VIA PURPOSE MADE FITTINGS.
- ALL ROOF DRAINAGE TO BE INSTALLED IN ACCORDANCE WITH AS3500, PART 3. TESTING TO BE UNDERTAKEN AND REPORTS PROVIDED TO THE SUPERINTENDENT.
- LOCATION OF THE DIRECT DOWN PIPE CONNECTIONS MAY VARY ON SITE TO SUIT SITE CONDITIONS, WHERE CONNECTION SHOWN ON LONG SECTIONS CHAINAGES ARE INDICATIVE ONLY.
- PITS IN EXCESS OF 1.5 m DEEP TO HAVE WALL AND FLOOR THICKNESS INCREASED TO 200mm. REINFORCED WITH N12@200 CTS CENTRALLY PLACED BOTH WAYS THROUGHOUT U.N.O. ON SEPARATE DESIGN DRAWINGS IN THIS SET. IF DEPTH EXCEEDS 5m CONTACT ENGINEER.
- SUBSOIL DRAINAGE LINES FOR LANDSCAPE AREA NOT SHOWN ON THESE DRAWINGS. REFER TO LANDSCAPING PLANS FOR DETAILS.
- ALL STORMWATER PITS TO HAVE Ø100 uPVC SLOTTED SUBSOIL PIPES CONNECTED TO THEM. THESE SUBSOILS TO EXTEND 3m UPSTREAM OF THE PIT AT A MINIMUM GRADE.



150 WALL - CORNER DETAIL

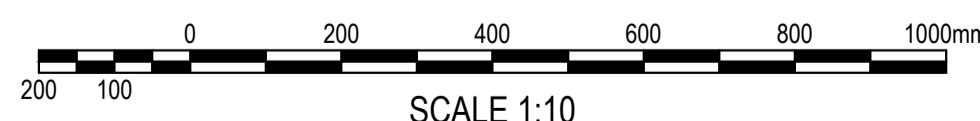
SCALE 1:20

200 WALL - CORNER DETAIL

SCALE 1:20

TYPICAL STEP IRON DETAIL

SCALE 1:10



FOR DA ONLY

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	ISSUED FOR DA ONLY	MP	MM	04.04.2023					
02	ISSUED FOR DA ONLY	MB	MM	19.12.2022					
01	ISSUED FOR PRELIMINARY	SC	MM	20.10.2022					

Client  
**HILLS MARKETPLACE PTY LTD.**

Surveyor  
**BN**

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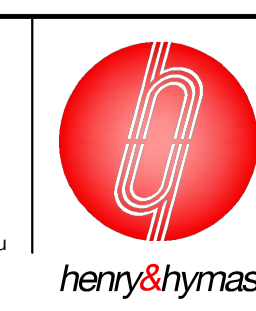
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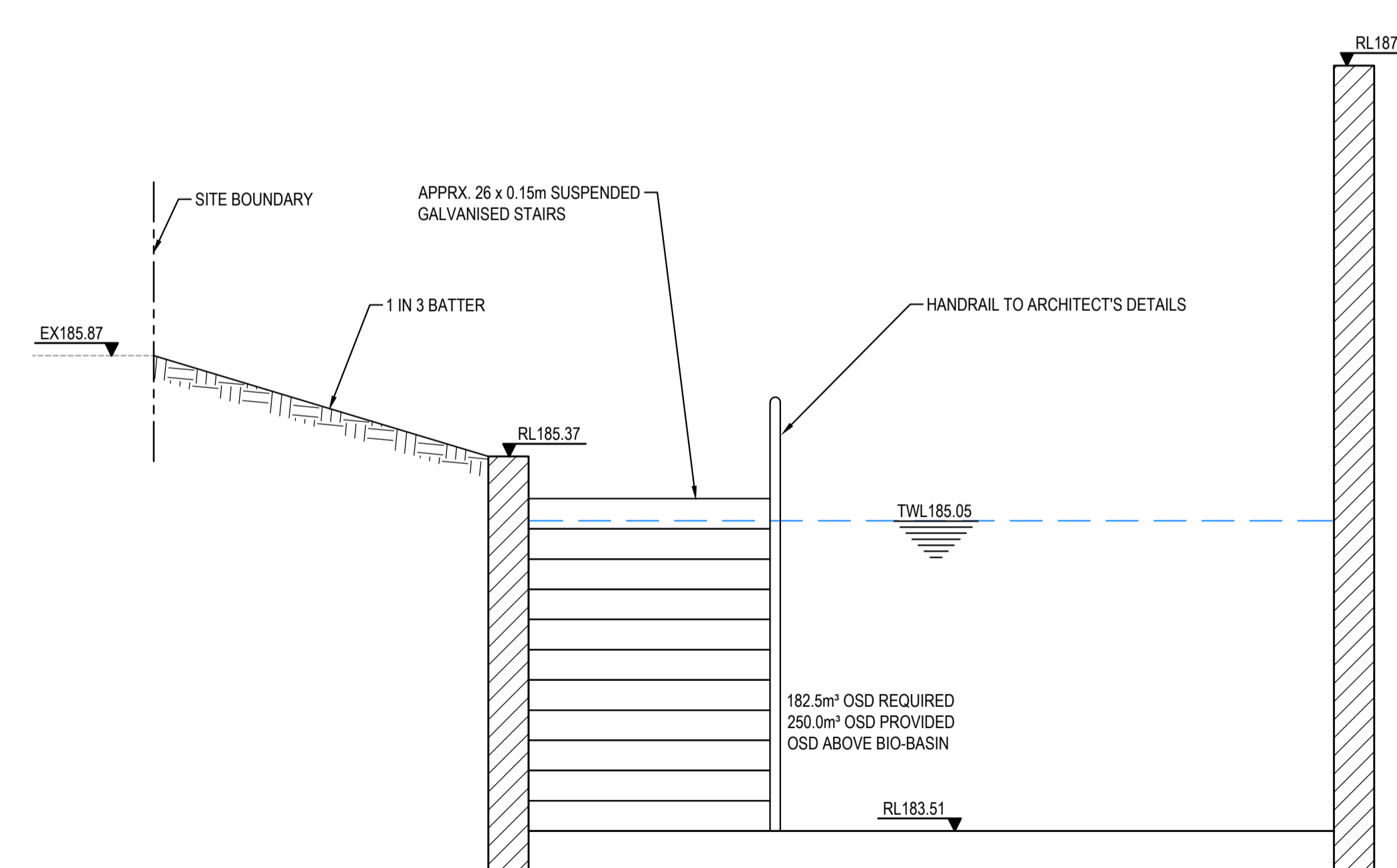
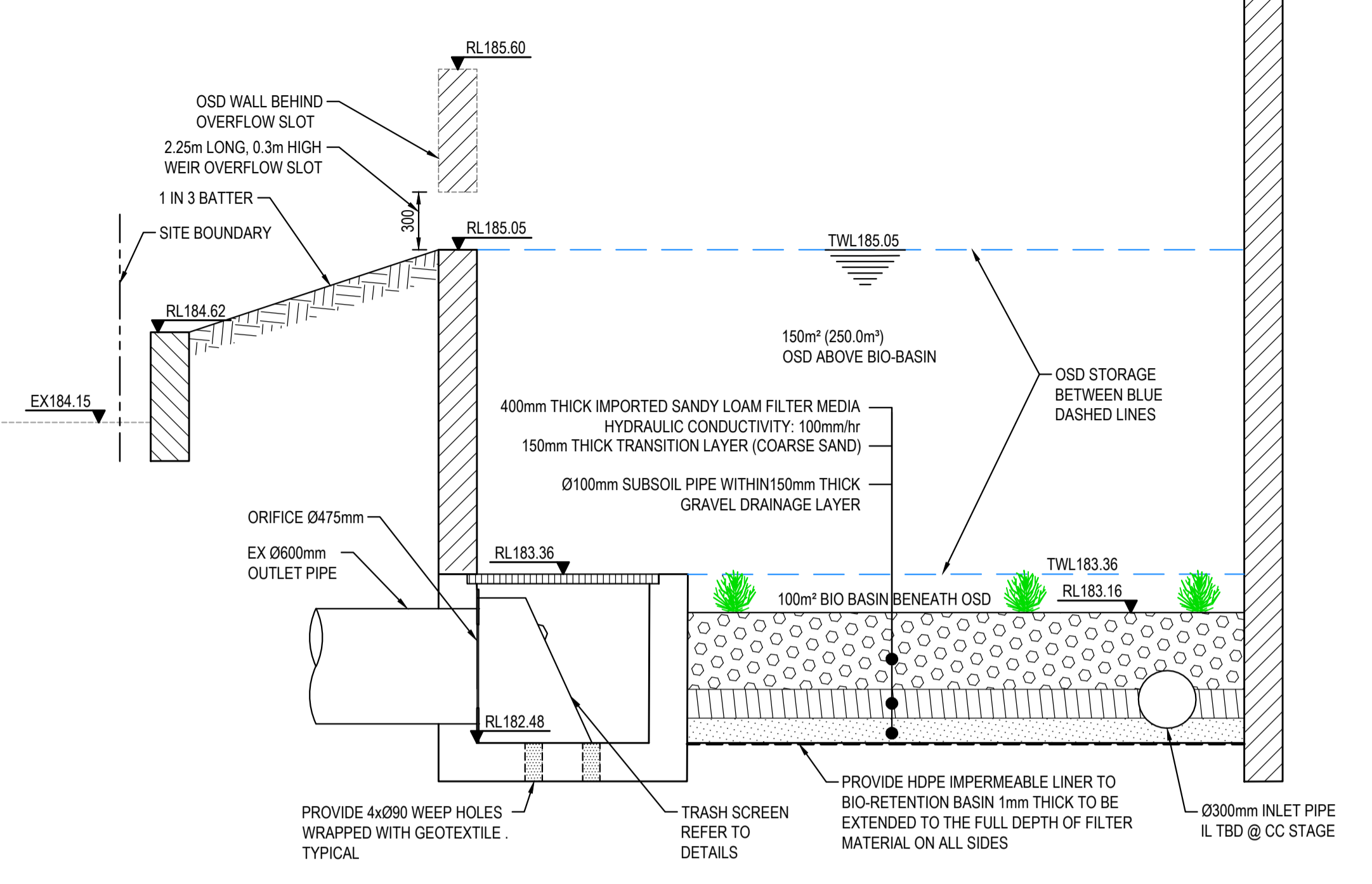
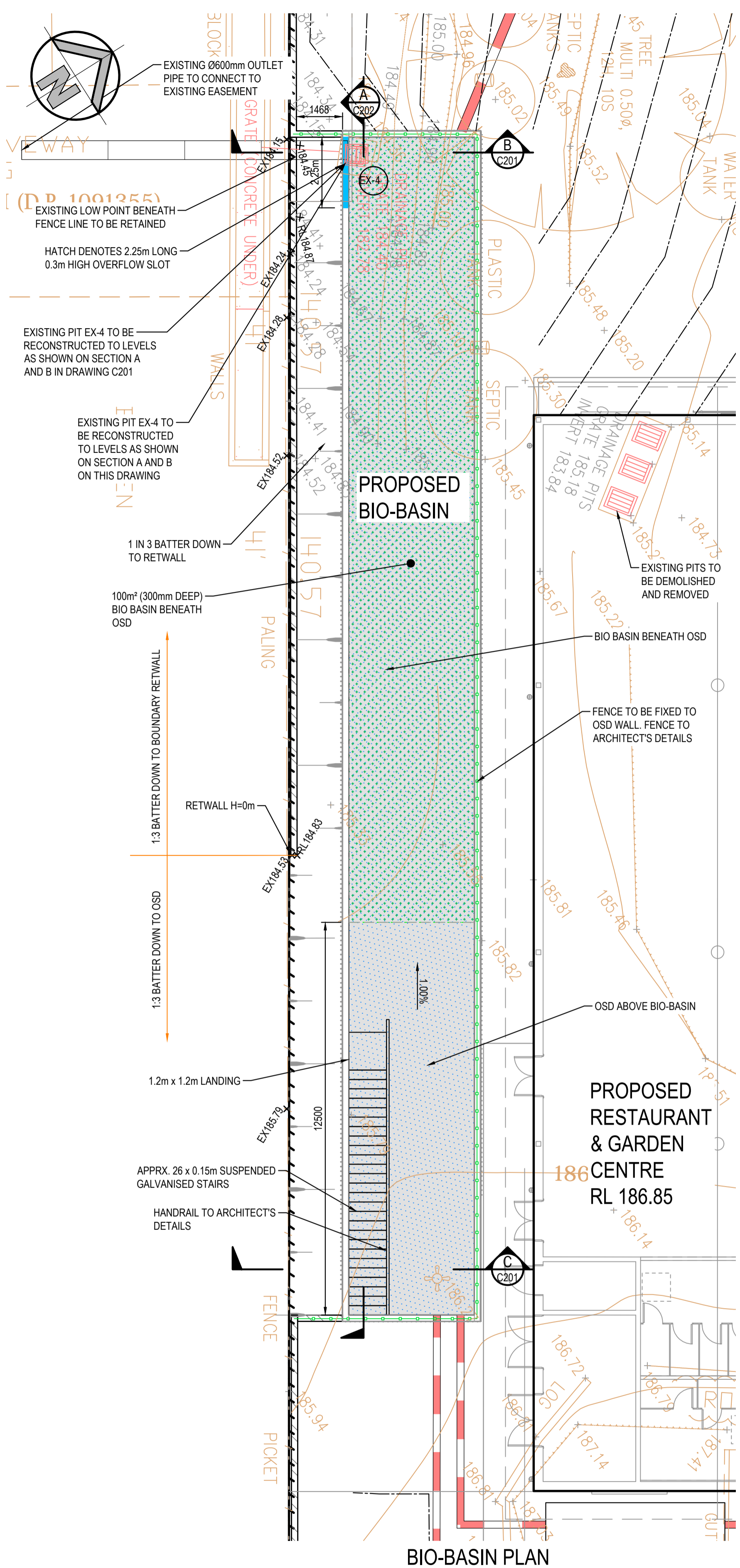
Web  
www.henryandhymas.com.au



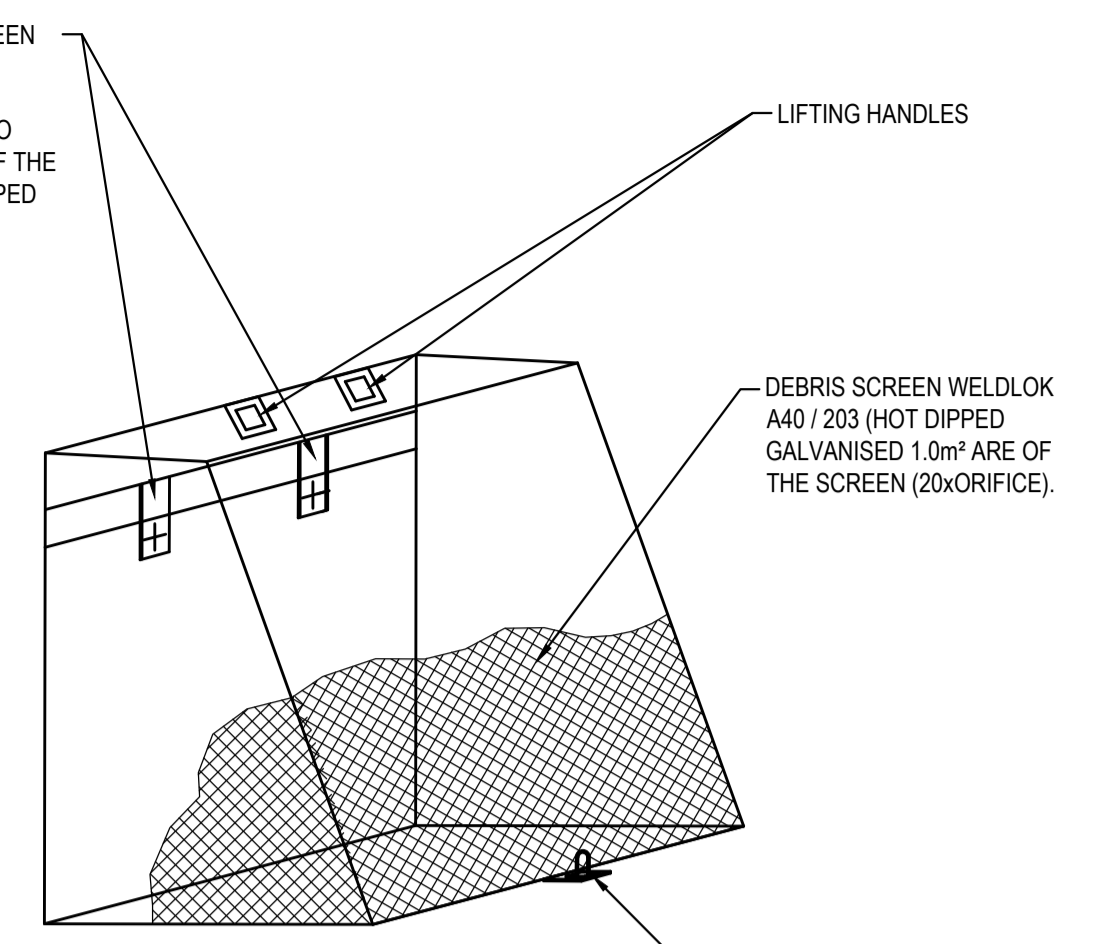
Project  
**THE HILLS MARKETPLACE**  
287 MONA VALE ROAD, TERREY HILLS, NSW 2084

Title  
**STORMWATER MISCELLANEOUS DETAILS AND PIT LID SCHEDULE**

Drawn	Designed	Date
S.Chen	M.Mishevski	OCT 2022
Checked	Approved	Scale
A.Francis	A.Francis	Scale @A1
Drawing number	Revision	
<b>21F99_DA_C200</b>	<b>03</b>	

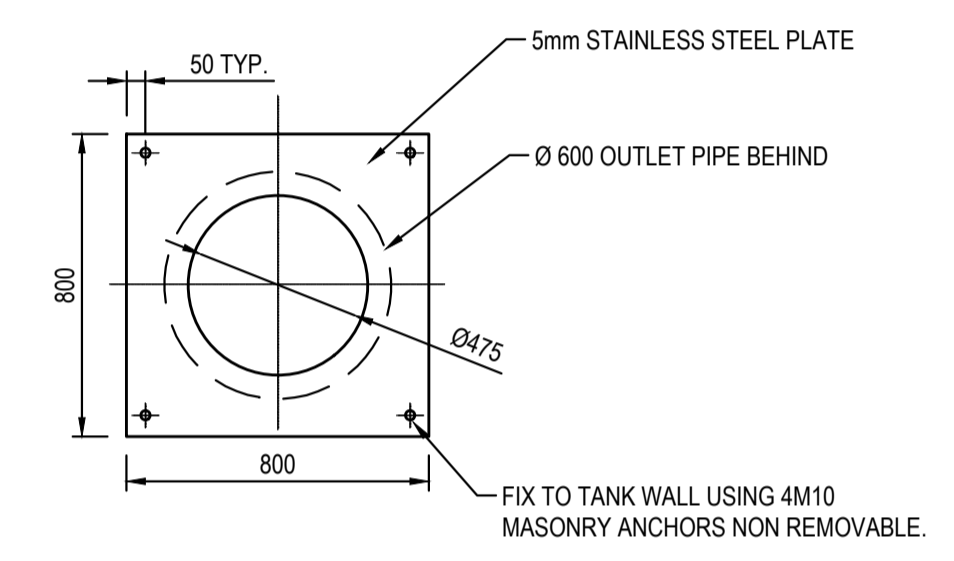


100x16 MOUNTING BAR WITH BRACKETS. SCREEN TO BE ATTACHED (GENERALLY ON A SLIDING MECHANISM) TO THE WALL, BUT SHOULD BE REMOVABLE (WITHOUT THE USE OF TOOLS) TO PERMIT CLEANSING AND EASY INSPECTION OF THE OUTLET CONTROL. ALL STEEL TO BE HOT DIPPED GALVANISED.



**DANGER**  
CONFINED SPACE  
NO ENTRY WITHOUT  
CONFINED SPACE  
TRAINING

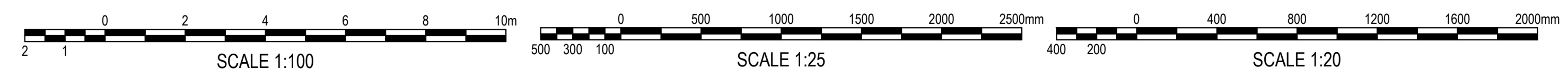
- A) A CONFINED SPACE DANGER SIGN SHALL BE POSITIONED IN A LOCATION SUCH THAT IT IS CLEARLY VISIBLE TO PERSONS PROPOSING TO ENTER THE BELOW GROUND TANKS/ CONFINED SPACE AT ALL ACCESS POINTS OF THE TANK/ CONFINED SPACE.
- B) SIGN TO BE MINIMUM DIMENSIONS: 250mm x 180mm ENTRIES I.E. GRATES, MANHOLES
- C) SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED METAL OR POLYPROPYLENE
- D) SIGN SHALL BE AFFIXED TO A SURFACE WITH SCREWS AT EACH CORNER.



**ON-SITE DETENTION DESIGN SUMMARY**

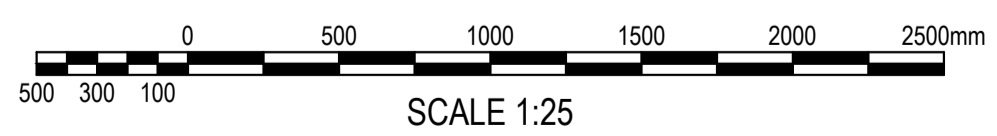
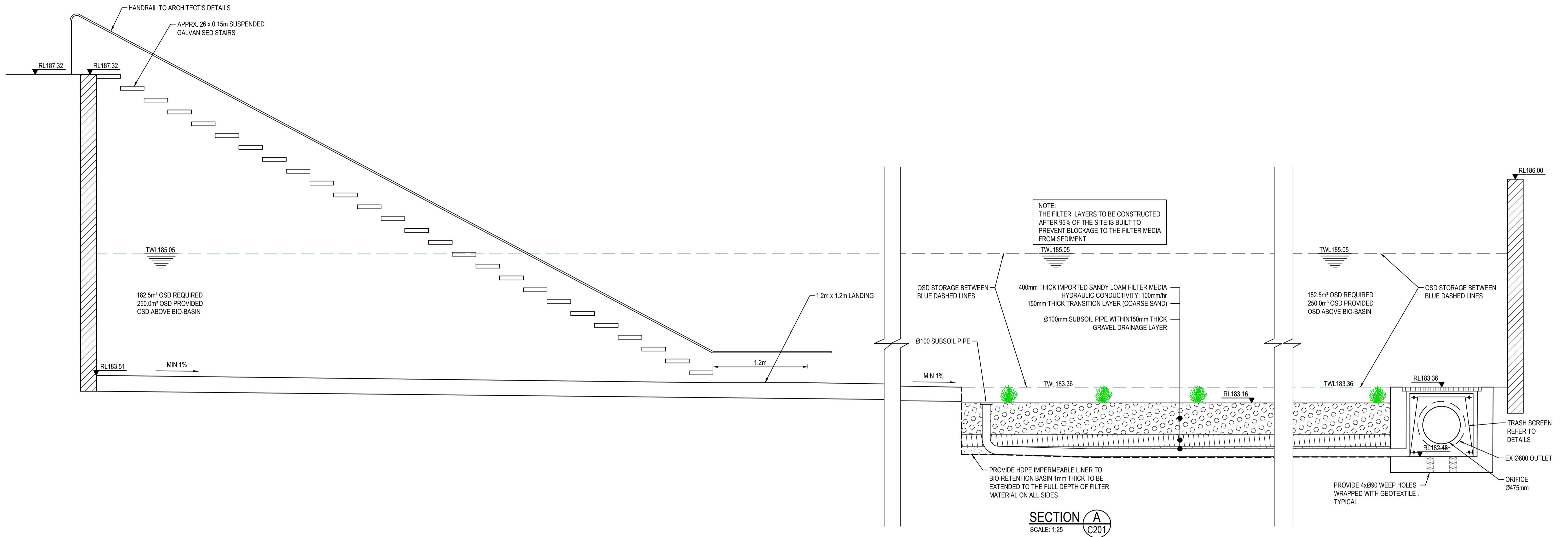
A DRAINS MODEL HAS BEEN PREPARED TO DETERMINE THE PRE-DEVELOPMENT AND POST-DEVELOPMENT STORMWATER RUNOFF. REFER TO SUMMARY TABLE.

YR	PRE-DEVELOPMENT (L/s)	POST-DEVELOPMENT (L/s)
5	404	402
10	532	472
20	659	532
50	825	613
100	971	680



**FOR DA ONLY**

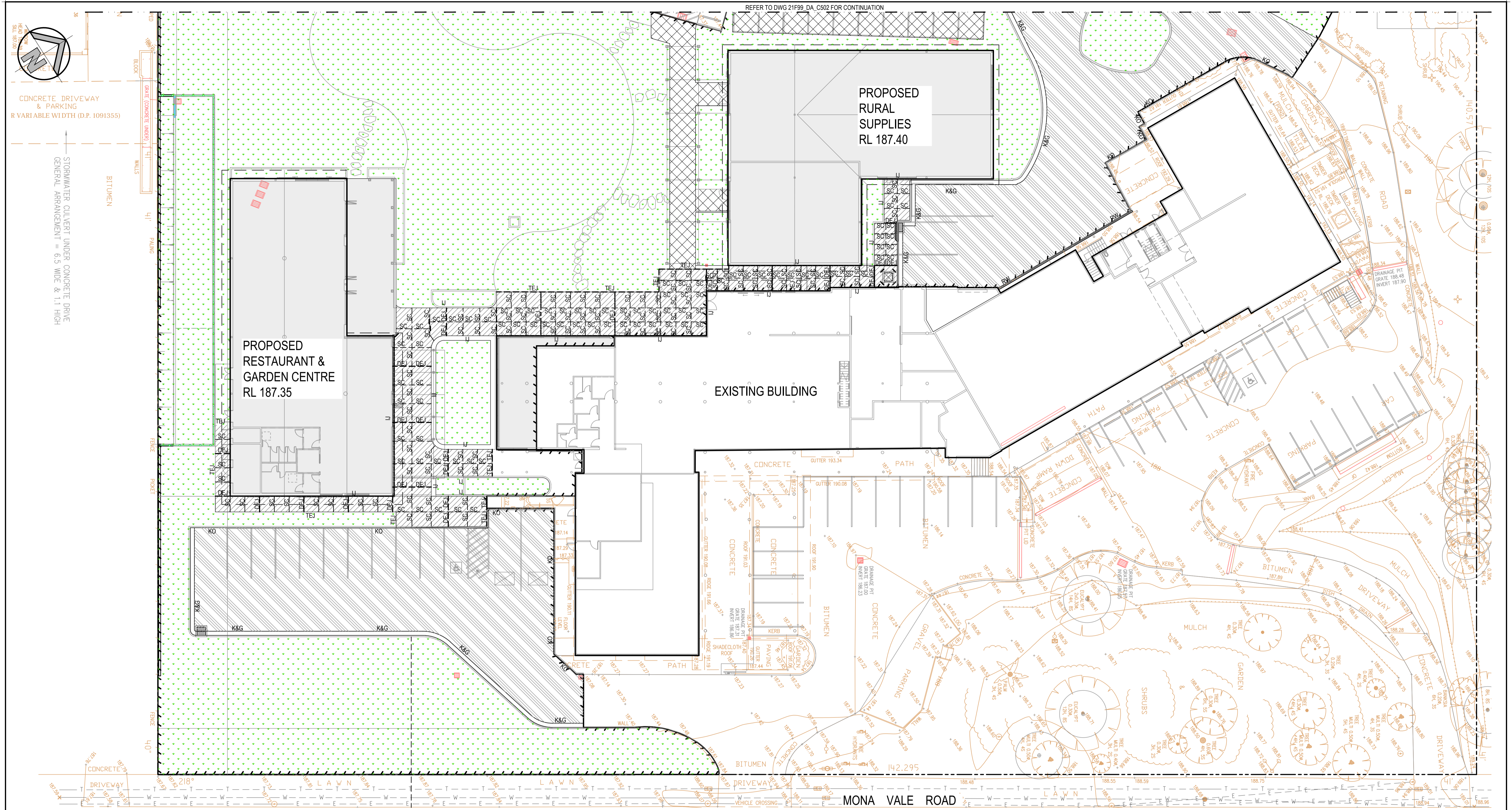
<b>SURVEY INFORMATION</b> SURVEYED BY <b>BEE&amp;LETHBRIDGE</b> DATUM: A.H.D. ORIGIN OF LEVELS: PM 50080 RL 199.895	07 ISSUED FOR DA ONLY 06 ISSUED FOR DA ONLY 05 ISSUED FOR DA ONLY 04 ISSUED FOR PRELIMINARY 03 ISSUED FOR PRELIMINARY 02 ISSUED FOR PRELIMINARY 01 ISSUED FOR PRELIMINARY	AFe MM 04.12.2023 SC MM 17.11.2023 MB MM 19.12.2022 MP MM 25.11.2022 MP MM 21.11.2022 MB MM 09.11.2022 SC MM 20.10.2022	REVISION AMENDMENT DRAWN DESIGNED DATE	Client <b>HILLS MARKETPLACE PTY LTD.</b> Architect <b>BN</b>	Suite 2.01 828 Pacific Highway Gordon NSW 2072 Telephone +61 2 9417 8400 Facsimile +61 2 9417 8337 Email email@hiconsult.com.au Web www.henryandhymas.com.au		Project <b>THE HILLS MARKETPLACE</b> <b>287 MONA VALE ROAD, TERREY HILLS, NSW 2084</b> Title <b>BIO-BASIN PLAN, SECTIONS AND DETAILS</b>	Drawn S.Chen Checked A.Francis	Designed M.Mishevski Approved A.Francis	Date OCT 2022 Scale @A1 AS NOTED	Drawing number <b>21F99_DA_C201</b> Revision <b>07</b>
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<b>SURVEY INFORMATION</b> SURVEYED BY <b>BEE&amp;LETHBRIDGE</b> DATUM: A.H.D. <small>ORIGIN OF LEVELS: PM 50080 RL 199.895</small>											Client <b>HILLS MARKETPLACE PTY LTD.</b>	Suite 2.01 828 Pacific Highway Gordon NSW 2072	Telephone +61 2 9417 8400 Facsimile +61 2 9417 8337 Email email@hincconsult.com.au Web www.henryandhymas.com.au		Project <b>THE HILLS MARKETPLACE</b> <b>287 MONA VALE ROAD, TERREY HILLS, NSW 2084</b>	Drawn S.Chen	Designed M.Mishevski	Date OCT 2022
	02 ISSUED FOR DA ONLY 01 ISSUED FOR DA ONLY	AFe MM SC MM	04.12.2023 17.11.2023	Architect <b>BN</b>	This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.	Title <b>BIO-BASIN PLAN, SECTIONS AND DETAILS</b>	Checked A.Francis	Approved A.Francis	Scale @A1 1:25	Drawing number <b>21F99_DA_C201</b>	Revision <b>02</b>							

REFER TO DWG 21F99\_DA\_C502 FOR CONTINUATION



**PAVEMENT & JOINTING PLAN**

SCALE: 1:200

**LEGEND**

- |     |                                     |         |                                    |            |                                  |
|-----|-------------------------------------|---------|------------------------------------|------------|----------------------------------|
| --- | EXISTING BOUNDARY                   | — RW —  | PROPOSED RETAINING WALL            | --- SC --- | PROPOSED SAW CUT JOINT           |
| --- | LIMIT OF WORKS                      | — K&G — | PROPOSED KERB & GUTTER             | --- UJ --- | PROPOSED ISOLATION JOINT         |
| □   | PROPOSED JUNCTION PITS              | — KO —  | PROPOSED KERB ONLY                 | ---        | PROPOSED THICKENED EDGE JOINT    |
| □   | PROPOSED SURFACE INLET PITS         | —       | PROPOSED TRIMMER BARS              | ---        | PROPOSED DOWELED EXPANSION JOINT |
| □   | PROPOSED LINTEL ON GRADE & SAG PITS | —       | PROPOSED CORNER REINFORCEMENT BARS | ---        |                                  |
|     |                                     | —       | EXISTING STORMWATER PITS           | ---        |                                  |

**PAVEMENT TYPE 1**  
FLEXIBLE PAVEMENT

- 40mm THICK AC10
- 150m DGB20
- 100m DGS40
- COMPACTED SUBGRADE MIN. CBR 8%

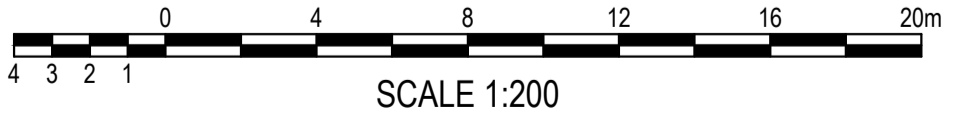
**PAVEMENT TYPE 2**  
FOOTPATH PAVEMENT

- 100mm 20MPa CONCRETE
- 100mm DGB20 COMPACTED TO 98% SMDD
- COMPACTED SUBGRADE TO 100% SDD ASSUMED CBR OF 3%

**PAVEMENT TYPE 3**  
PROPOSED PERMEABLE PAVEMENT (TO MANUFACTURER DETAIL)

**LANDSCAPE AREA**  
PROPOSED LANDSCAPE

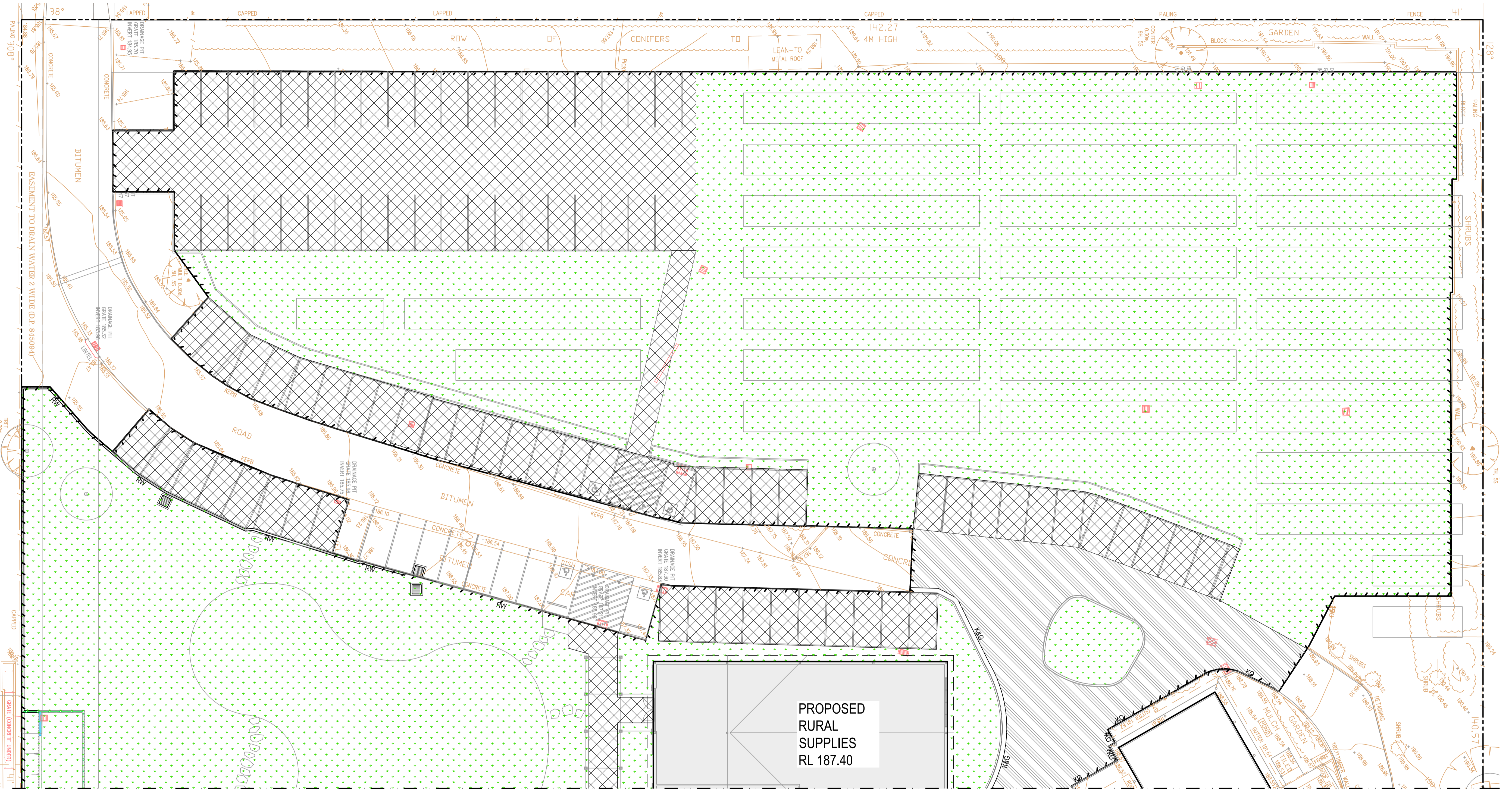
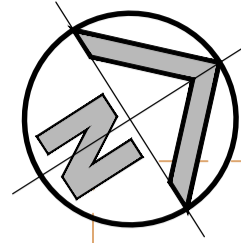
**PROPOSED BUILDING**  
PROPOSED BUILDING (TO STRUCTURAL ENGINEER'S DETAIL)



**FOR DA ONLY**

<p><b>SURVEY INFORMATION</b> SURVEYED BY BEE&amp;LETHBRIDGE DATUM A.H.D. ORIGIN OF LEVELS: PM 50080 RL 199.855</p>	06	ISSUED FOR DA ONLY	MP	MM	21.11.2023				<p>Client <b>HILLS MARKETPLACE PTY LTD.</b></p> <p>Architect <b>BN</b></p> <p>This drawing and design remains the property of Henry &amp; Hymas and may not be copied in whole or in part without the prior written approval of Henry &amp; Hymas.</p>	<p>Suite 2.01 828 Pacific Highway Gordon NSW 2072</p> <p>Telephone +61 2 9417 8400 Facsimile +61 2 9417 8337 Email email@hhconsult.com.au Web www.henryandhymas.com.au</p>		<p>Project <b>THE HILLS MARKETPLACE</b> 287 MONA VALE ROAD, TERREY HILLS, NSW 2084</p> <p>Title <b>PAVEMENT &amp; JOINTING PLAN</b> SHEET 1 OF 2</p>	Drawn S.Chen	Designed M.Mishevski	Date OCT 2022
	05	ISSUED FOR DA ONLY	MP	MM	11.04.2023			Checked A.Francis					Approved A.Francis	Scale @A1 1:200	
	04	ISSUED FOR DA ONLY	MP	MM	04.04.2023			Drawing number <b>21F99_DA_C501</b>					Revision <b>06</b>		





REFER TO DWG 21F99\_DA\_C501 FOR CONTINUATION

### PAVEMENT & JOINTING PLAN

SCALE: 1:200

#### LEGEND

- EXISTING BOUNDARY
- LIMIT OF WORKS
- PROPOSED JUNCTION PITS
- PROPOSED SURFACE INLET PITS
- PROPOSED LINTEL ONGRADE & SAG PITS
- PROPOSED RETAINING WALL
- PROPOSED KERB & GUTTER
- PROPOSED KERB ONLY
- PROPOSED TRIMMER BARS
- PROPOSED CORNER REINFORCEMENT BARS
- EXISTING STORMWATER PITS
- PROPOSED SAW CUT JOINT
- PROPOSED ISOLATION JOINT
- PROPOSED THICKENED EDGE JOINT
- PROPOSED DOWELED EXPANSION JOINT



SCALE 1:200

**PAVEMENT TYPE 1**  
FLEXIBLE PAVEMENT

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- 150m DGB20
- 100m DGS40
- COMPACTED SUBGRADE MIN. CBR 8%

**PAVEMENT TYPE 2**  
FOOTPATH PAVEMENT

- 100mm 20MPa CONCRETE
- 100mm DGB20 COMPACTED TO 98% SMDD
- COMPACTED SUBGRADE TO 100% SDD ASSUMED CBR OF 3%

**PAVEMENT TYPE 3**  
PROPOSED PERMEABLE PAVEMENT (TO MANUFACTURER DETAIL)

**LANDSCAPE AREA**  
PROPOSED LANDSCAPE

**PROPOSED BUILDING**  
PROPOSED BUILDING (TO STRUCTURAL ENGINEER'S DETAIL)

## FOR DA ONLY

#### SURVEY INFORMATION

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
06	ISSUED FOR DA ONLY	MP	MM	21.11.2023					
05	ISSUED FOR DA ONLY	MP	MM	11.04.2023					
04	ISSUED FOR DA ONLY	MP	MM	04.04.2023					
03	ISSUED FOR DA ONLY	MB	MM	19.12.2022					
02	ISSUED FOR PRELIMINARY	MP	MM	25.11.2022					
01	ISSUED FOR PRELIMINARY	MP	MM	21.11.2022					

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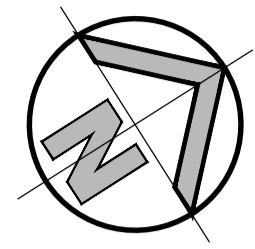


Project  
**THE HILLS MARKETPLACE**  
287 MONA VALE ROAD, TERREY HILLS, NSW 2084

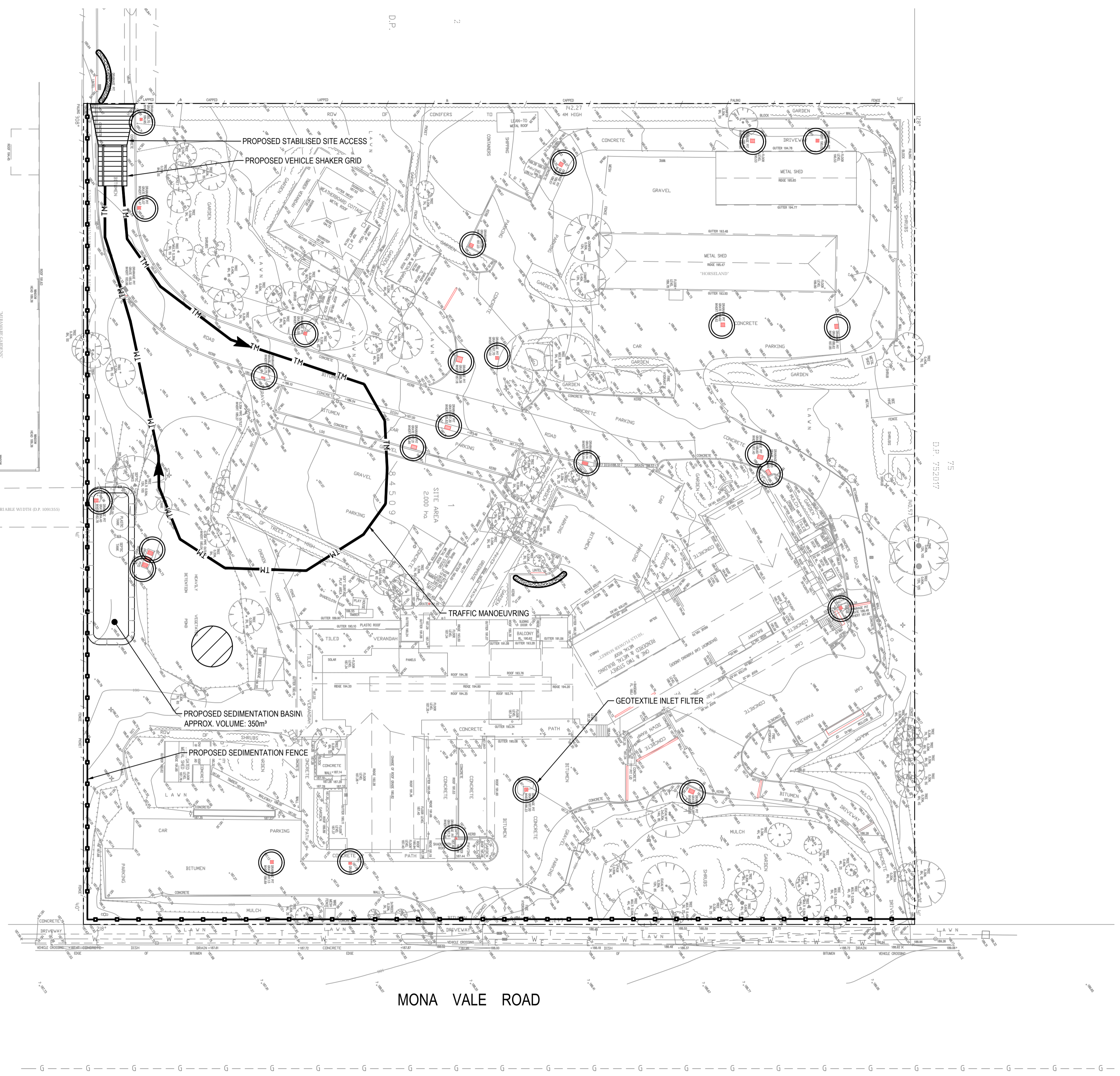
Title  
**PAVEMENT PLAN & JOINTING PLAN**  
SHEET 2 OF 2

Drawn	Designed	Date
S.Chen	M.Mishevski	OCT 2022
Checked	Approved	Scale
A.Francis	A.Francis	1:200
Drawing number	Revision	
<b>21F99_DA_C502</b>	<b>06</b>	

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D.P. 752217  
13B



**LEGEND**

- EXISTING BOUNDARY
- TRAFFIC MANOEUVRING
- PROPOSED SEDIMENTATION FENCE
- PROPOSED VEHICLE SHAKER GRID
- PROPOSED STABILISED SITE ACCESS
- PROPOSED STOCKPILE LOCATION
- GEOTEXTILE INLET FILTER
- PROPOSED MESH & GRAVEL INLET FILTER
- PROPOSED SEDIMENT BASIN

**SEDIMENT & EROSION CONTROL NOTES**

- ALL SEDIMENT CONTROL DEVICES ARE TO BE CONSTRUCTED, PLACED AND MAINTAINED IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL SPECIFICATIONS AND LANDCOM'S "SOIL AND CONSTRUCTION" MANUAL.
- ALL PERIMETER & SILTATION CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP IN EARTH WORKS AND/OR CLEARING.
- THE SEDIMENT & EROSION CONTROL PLAN MAY REQUIRE FUTURE ADJUSTMENT TO REFLECT CONSTRUCTION STAGING. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO PREPARE THEIR OWN SEDIMENT AND EROSION CONTROL PLAN WHICH SUITS THE DESIGNED CONSTRUCTION STAGING.
- FILTRATION BUFFER ZONES ARE TO BE FENCED OFF AND ACCESS PROHIBITED TO ALL PLANT AND MACHINERY.
- ALL TEMPORARY EARTH BERMS, DIVERSIONS & SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED & MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
- ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING. TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE LOCATION.
- ALL TOPSOIL IS TO BE STOCKPILED ON SITE FOR REUSE (AWAY FROM TREES AND DRAINAGE LINES). MEASURES SHALL BE APPLIED TO PREVENT EROSION OF THE STOCKPILES.
- ALL EARTHWORK AREAS SHALL BE ROLLED EACH EVENING TO SEAL THE EARTHWORKS.
- ALL FILLS ARE TO BE LEFT WITH A LIP AT THE TOP OF THE SLOPE AT THE END. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND STRAW MULCHED WITHIN 14 DAYS OF COMPLETION OF FORMATION U.N.O. BY LANDSCAPE ARCHITECTS.
- UPON COMPLETION OF ALL EARTHWORKS OR AS DIRECTED BY COUNCIL SOIL CONSERVATION TREATMENTS SHALL BE APPLIED SO AS TO RENDER AREAS THAT HAVE BEEN DISTURBED, EROSION PROOF WITHIN 14 DAYS.
- EROSION AND SILT PROTECTION MEASURES ARE TO BE MAINTAINED AT ALL TIMES.

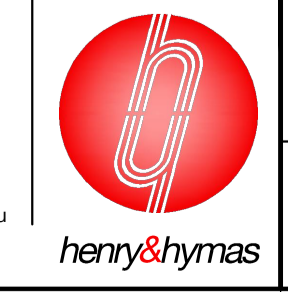
**SEDIMENT & EROSION CONTROL PLAN**  
SCALE: 1:400



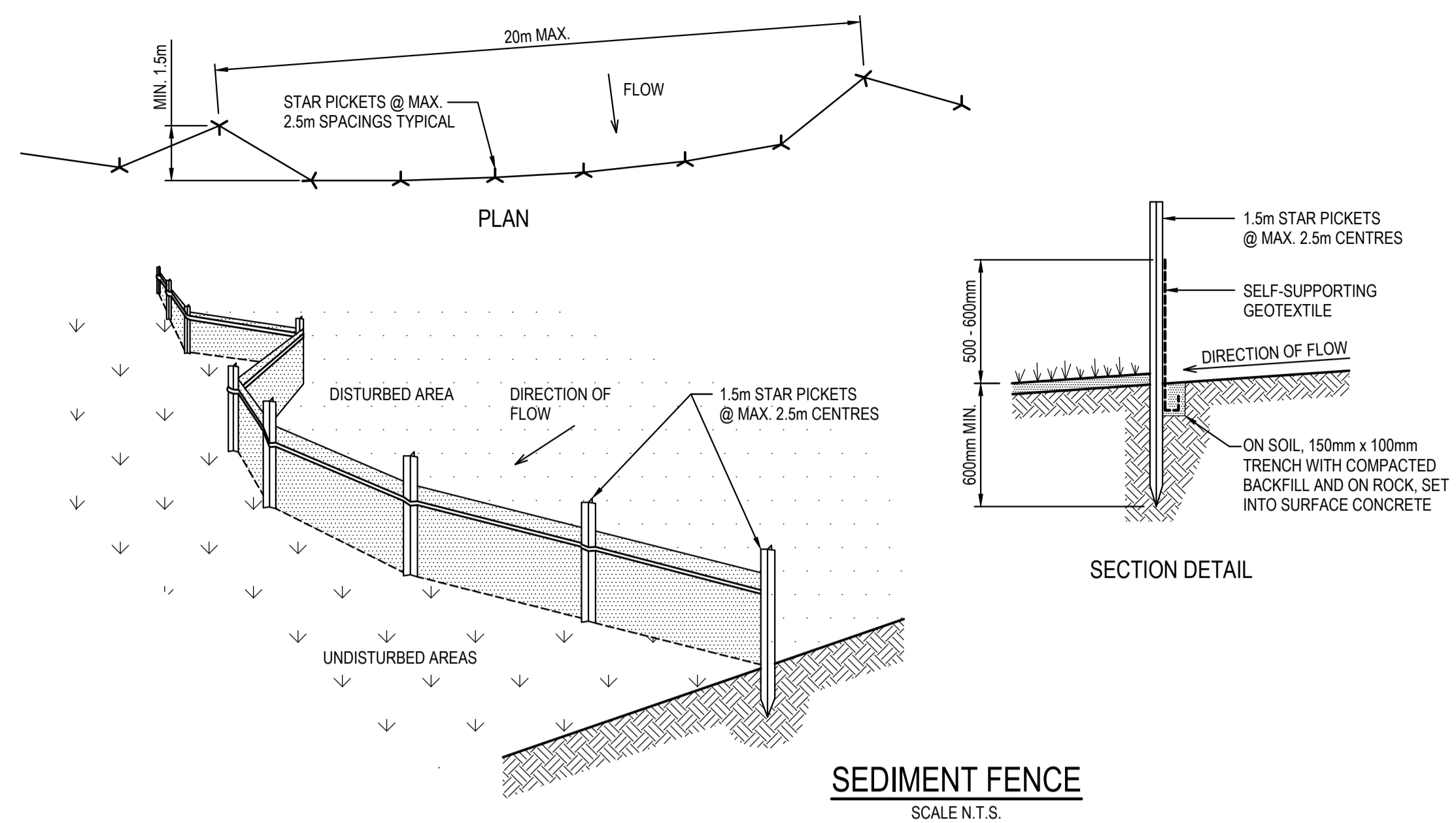
**FOR DA ONLY**

<p><b>SURVEY INFORMATION</b> SURVEYED BY BEE&amp;LETHBRIDGE DATUM: A.H.D. ORIGIN OF LEVELS: PM 50080 RL 199.895</p>		<p>Client: <b>HILLS MARKETPLACE PTY LTD.</b> Address: <b>BN</b></p>		<p>Suite 2.01 826 Pacific Highway Gordon NSW 2072</p>		<p>Telephone: +61 2 9417 8400 Facsimile: +61 2 9417 8337 Email: email@hhconsult.com.au Web: www.henryandhymas.com.au</p>		<p>Project: <b>THE HILLS MARKETPLACE</b> <b>287 MONA VALE ROAD, TERREY HILLS, NSW 2084</b></p>		<p>Drawn: S.Chen Checked: A.Francis</p>		<p>Design: M.Mishevski Approved: A.Francis</p>		<p>Date: OCT 2022 Scale: @A1 1:400</p>	
<p>02 ISSUED FOR DA ONLY MB MM 19.12.2022</p>		<p>01 ISSUED FOR PRELIMINARY SC MM 19.10.2022</p>		<p>AMENDMENT</p>		<p>AMENDMENT</p>		<p>AMENDMENT</p>		<p>AMENDMENT</p>		<p>AMENDMENT</p>			
<p>REVISION</p>		<p>AMENDMENT</p>		<p>AMENDMENT</p>		<p>AMENDMENT</p>		<p>AMENDMENT</p>		<p>AMENDMENT</p>		<p>AMENDMENT</p>			

**21F99\_DA\_SE01 02**

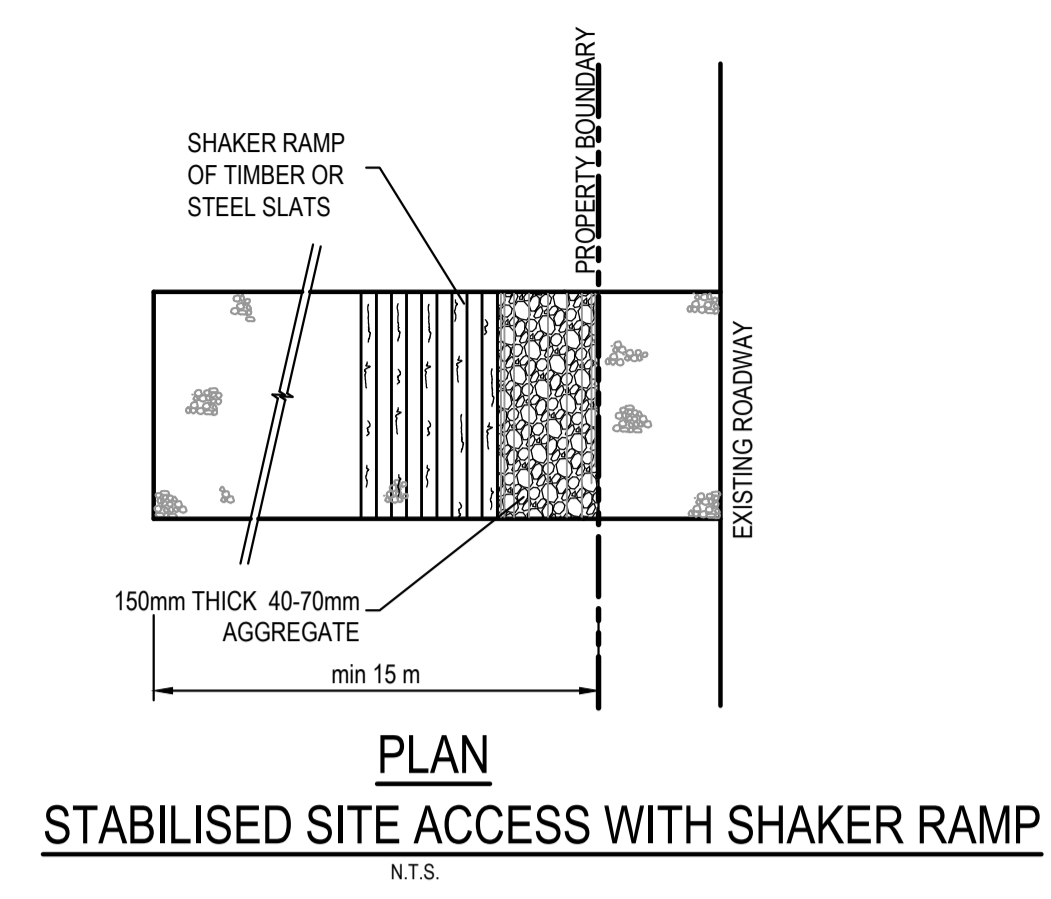


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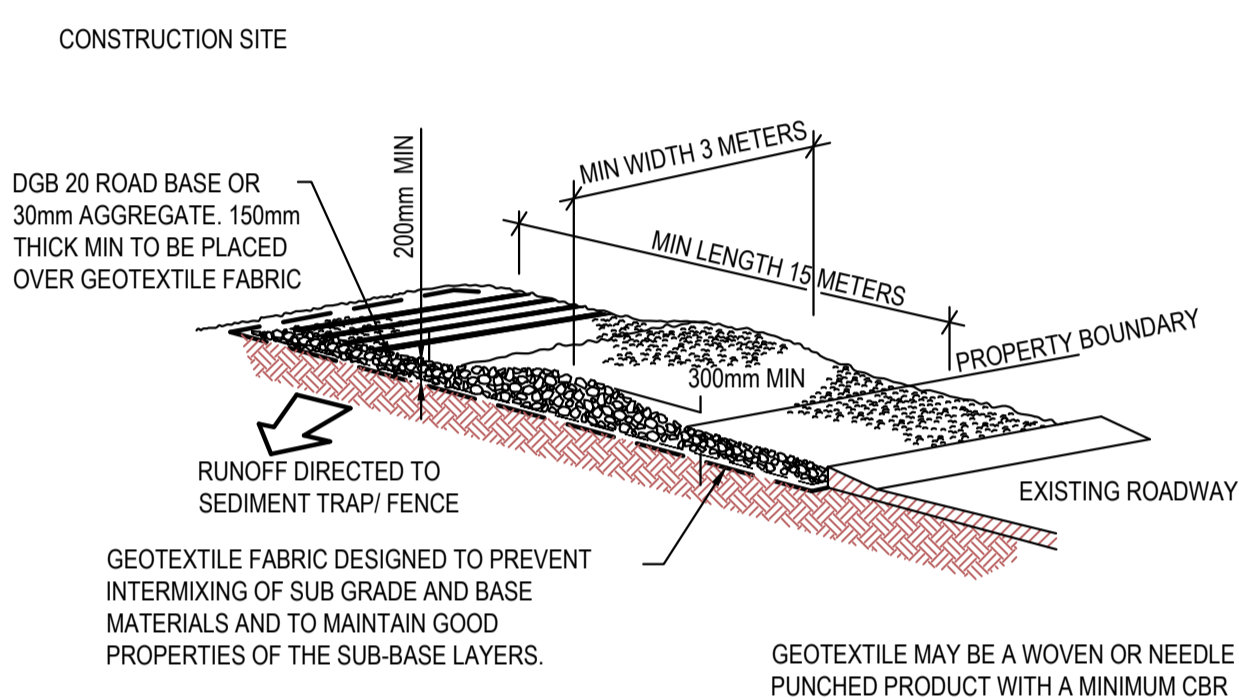


**SEDIMENT FENCE**  
SCALE N.T.S.

- SEDIMENT FENCE CONSTRUCTION NOTES:**
- CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
  - CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
  - DRIVE 1.5m LONG STAR PICKETS INTO GROUND @ 2.5m INTERVALS (MAX.) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
  - FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
  - JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.



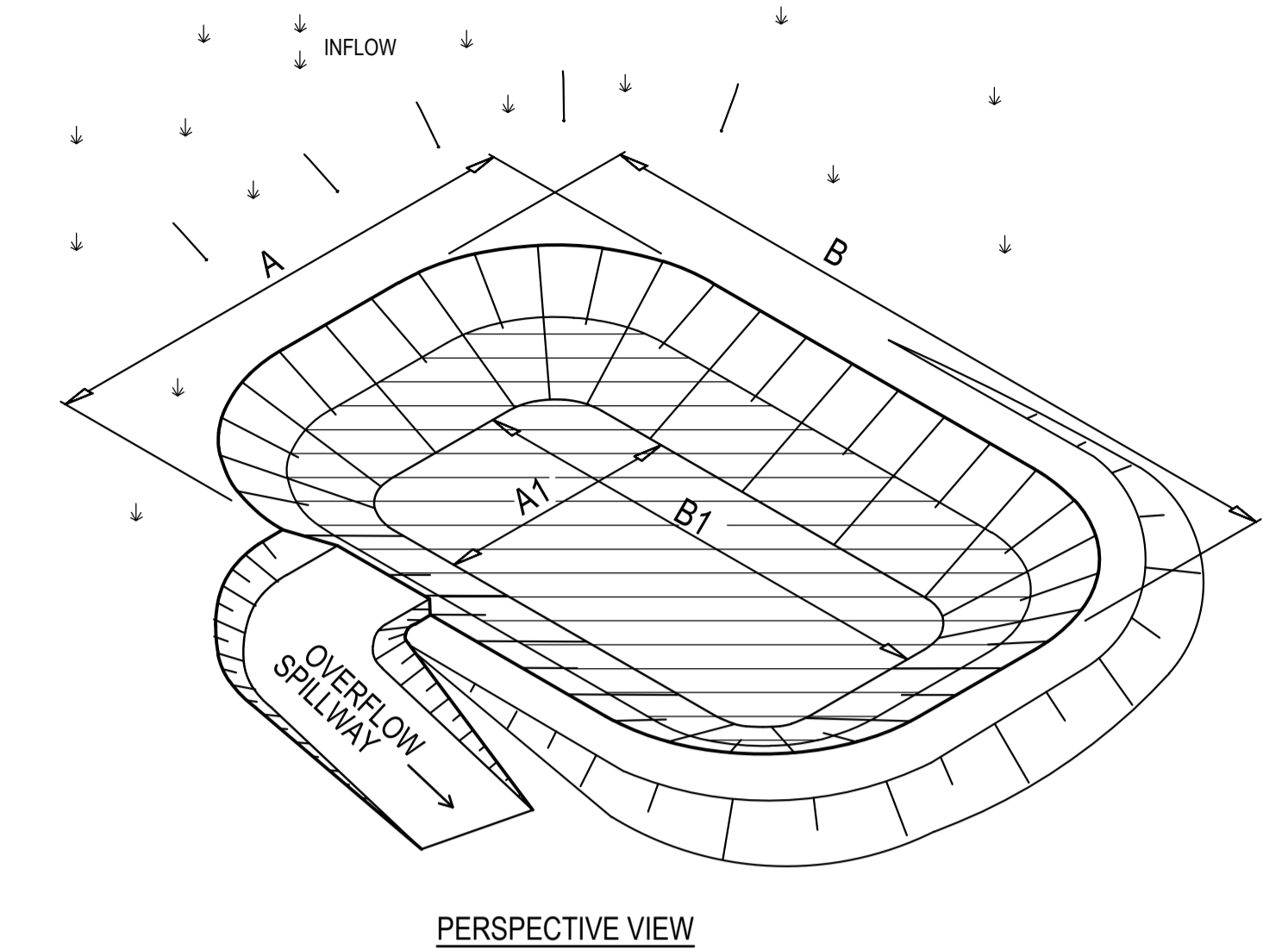
**STABILISED SITE ACCESS WITH SHAKER RAMP**  
N.T.S.



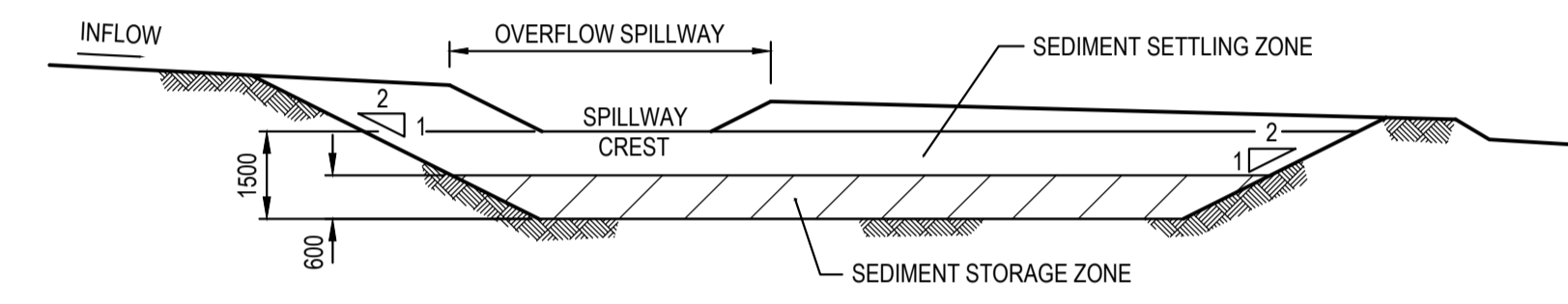
**STABILISED SITE ACCESS WITH SHAKER RAMP**  
N.T.S.

**NOTES:**

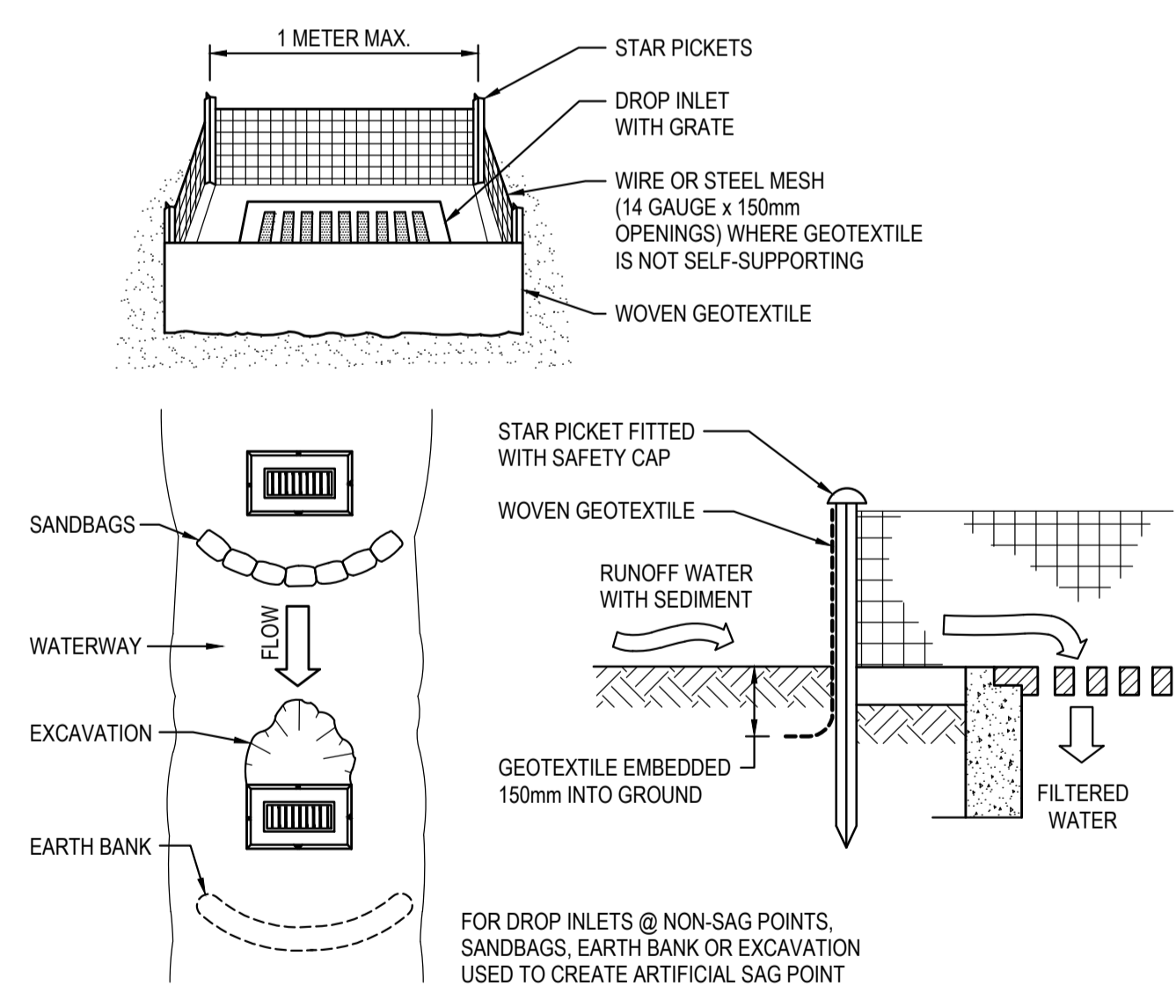
- THIS DEVICE IS TO BE LOCATED AT ALL EXITS FROM CONSTRUCTION SITE.
- THIS DEVICE IS TO BE REGULARLY CLEANED OF DEPOSITED MATERIAL SO AS TO MAINTAIN A 50mm DEEP SPACE BETWEEN PLANKS.
- ANY UNSEALED ROAD BETWEEN THIS DEVICE AND NEAREST ROADWAY IS TO BE TOPPED WITH 100mm THICK 40-70mm SIZE AGGREGATE.
- ALTERNATIVELY, THREE(3) PRECAST CONCRETE CATTLE GRIDS (AS MANUFACTURED BY 'HUMES CONCRETE' MAY BE USED. 1, 2 & 3 ABOVE ALSO APPLY.



**PERSPECTIVE VIEW**

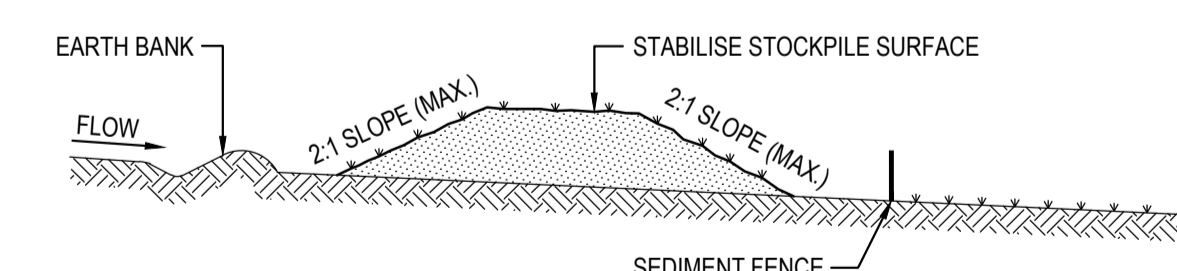


**TYPICAL SECTION**  
**TYPE 'D' & 'F' SEDIMENTATION BASIN**  
N.T.S.



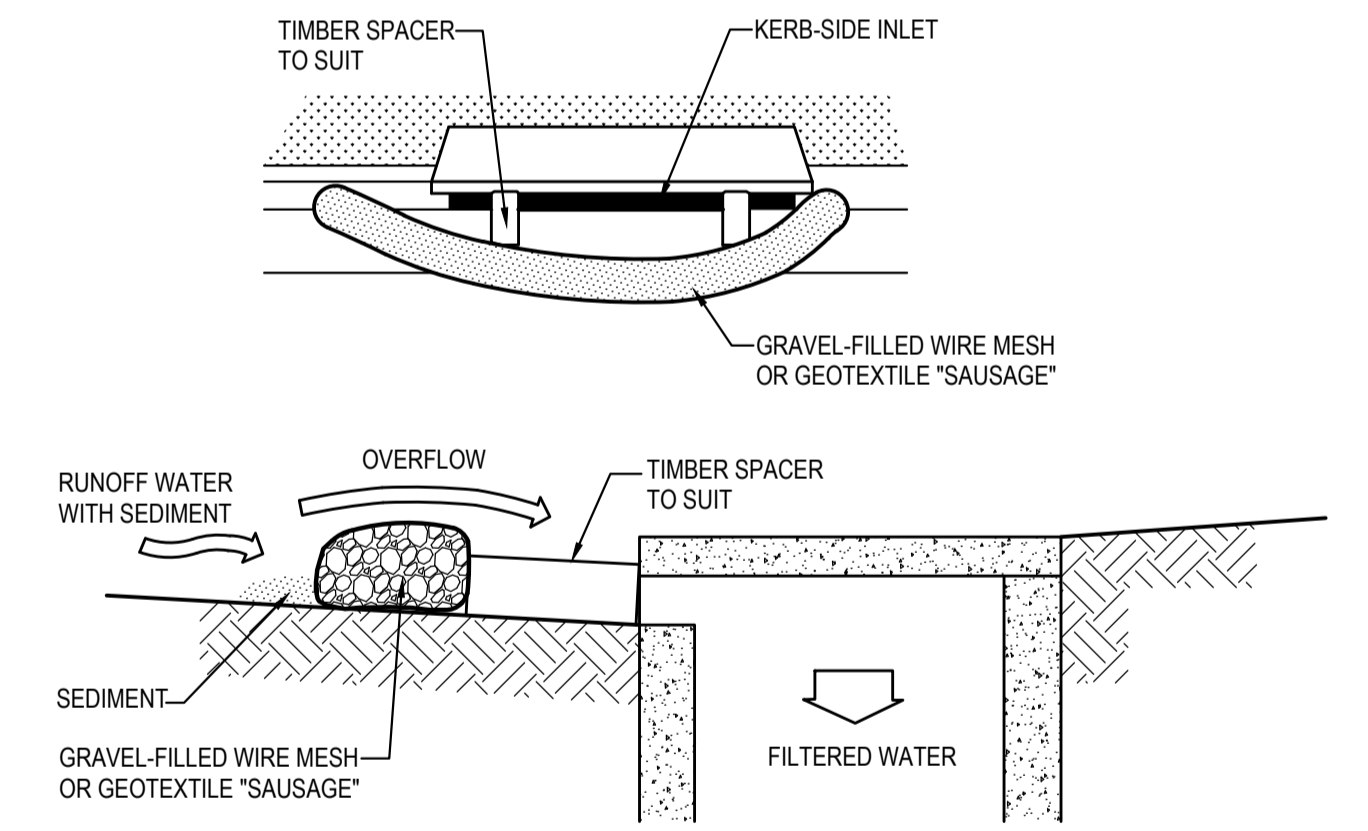
- GEOTEXTILE INLET FILTER CONSTRUCTION NOTES:**
- FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE.
  - PICKET SPACING TO BE MAXIMUM 1.0m.
  - IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
  - DO NOT COVER THE INLET WITH GEOTEXTILES UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

**GEOTEXTILE INLET FILTER**  
SCALE N.T.S.



- STOCKPILE CONSTRUCTION NOTES:**
- PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
  - CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
  - WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
  - WHERE THEY ARE TO BE PLACED FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED E.S.C.P. OR S.W.M.P. TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
  - CONSTRUCT EARTH BANKS ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES 1 TO 2 METRES DOWNSLOPE.

**STOCKPILES**  
SCALE N.T.S.

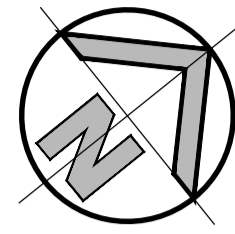


- MESH & GRAVEL INLET FILTER CONSTRUCTION NOTES:**
- FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
  - FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
  - PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
  - FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
  - SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY CAN FIRMLY ABUT EACH OTHER AND SEDIMENT / LADEN WATERS CANNOT PASS BETWEEN.

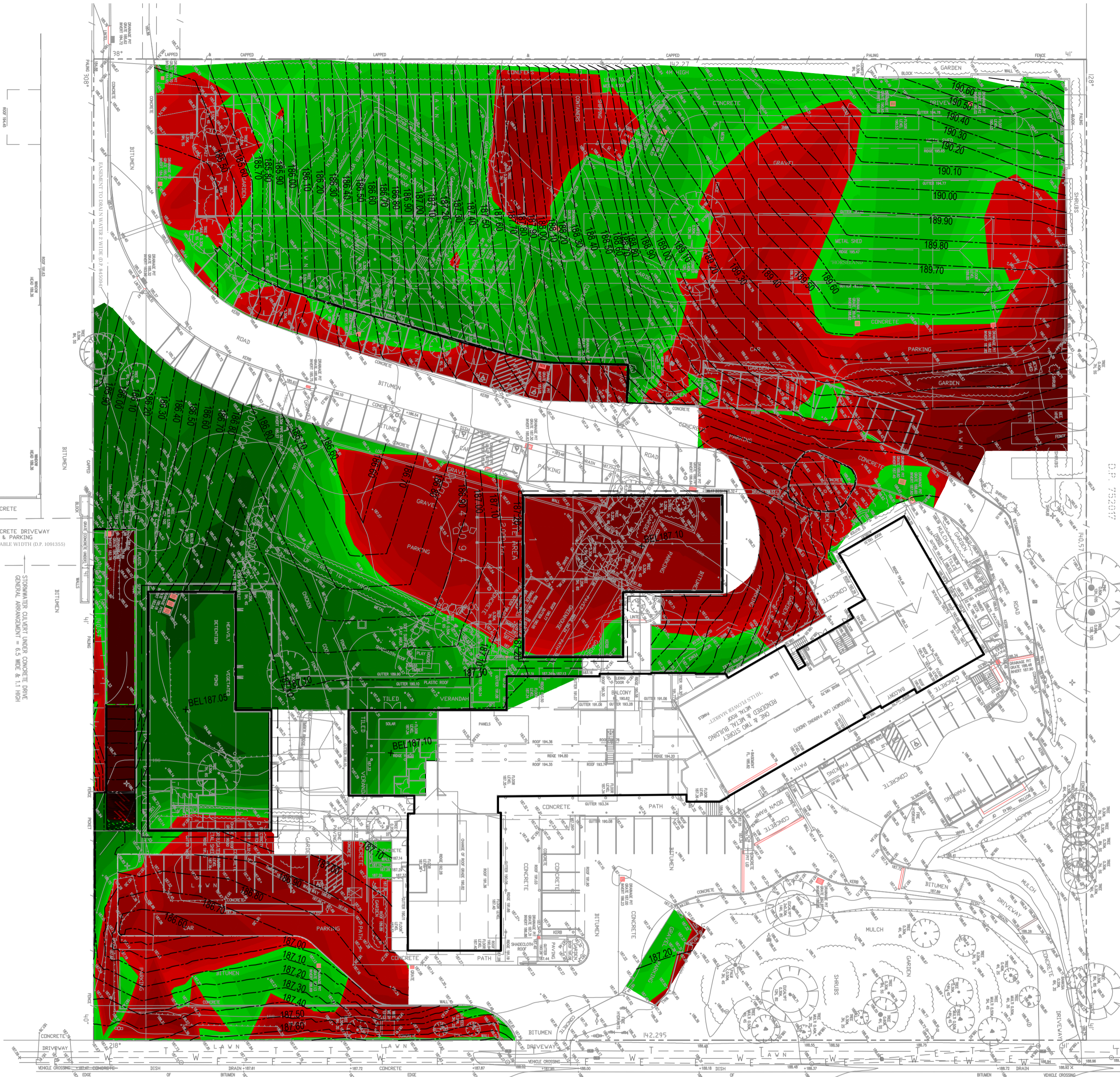
**MESH & GRAVEL INLET FILTER**  
SCALE N.T.S.

**FOR DA ONLY**

<b>SURVEY INFORMATION</b> SURVEYED BY <b>BEE&amp;LETHBRIDGE</b> DATUM: A.H.D. ORIGIN OF LEVELS: PM 50080 RL 199.855											Client <b>HILLS MARKETPLACE PTY LTD.</b>	Suite 2.01 826 Pacific Highway Gordon NSW 2072 Telephone +61 2 9417 8400 Facsimile +61 2 9417 8337 Email email@hhconsult.com.au Web www.henryandhymas.com.au		Project <b>THE HILLS MARKETPLACE</b> <b>287 MONA VALE ROAD, TERREY HILLS, NSW 2084</b> Title <b>SEDIMENT &amp; EROSION CONTROL TYPICAL DETAILS</b>	Drawn S.Chen	Design M.Mishevski	Date OCT 2022
	02 ISSUED FOR DA ONLY MB MM 19.12.2022 01 ISSUED FOR PRELIMINARY SC MM 19.10.2022					Architect <b>BN</b>	Checked A.Francis	Approved A.Francis	Scale @A1 N.T.S.								
REVISION AMENDMENT DRAWN DESIGNED DATE REVISION AMENDMENT DRAWN DESIGNED DATE	This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.										Drawing number <b>21F99_DA_SE02</b>	Revision <b>02</b>					



C.P. 7/23/2017  
1:25



**BULK EARTHWORKS CUT AND FILL PLAN**

SCALE: 1:400

**LEGEND**

DEPTH OF CUT & FILL RANGE	LOWER VALUE	UPPER VALUE	COLOUR
-6.00 to -4.00 m	-6.00	-4.00	Dark Red
-4.00 to -2.00 m	-4.00	-2.00	Red
-2.00 to -1.00 m	-2.00	-1.00	Dark Red
-1.00 to -0.80 m	-1.00	-0.80	Red
-0.80 to -0.60 m	-0.80	-0.60	Dark Red
-0.60 to -0.40 m	-0.60	-0.40	Red
-0.40 to -0.20 m	-0.40	-0.20	Dark Red
-0.20 to -0.10 m	-0.20	-0.10	Red
-0.10 to -0.05 m	-0.10	-0.05	Dark Red
-0.05 to 0.00 m	-0.05	0.00	Red
0.00 to 0.05 m	0.00	0.05	Light Green
0.05 to 0.10 m	0.05	0.10	Light Green
0.10 to 0.20 m	0.10	0.20	Light Green
0.20 to 0.40 m	0.20	0.40	Light Green
0.40 to 0.60 m	0.40	0.60	Light Green
0.60 to 0.80 m	0.60	0.80	Light Green
0.80 to 1.00 m	0.80	1.00	Light Green
1.00 to 2.00 m	1.00	2.00	Light Green
2.00 to 4.00 m	2.00	4.00	Light Green

**LEGEND**

186.50 CONTOURS BE

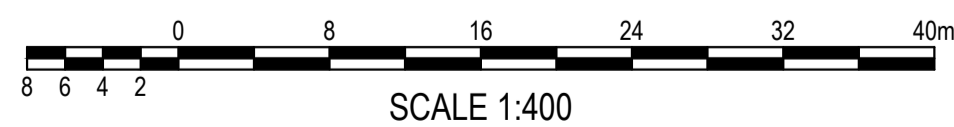
**BULK EARTHWORKS/ SUBGRADE PREPARATION - SITWORKS.**

- REFER TO GEOTECHNICAL INVESTIGATION REPORT OR INFORMATION RELATING TO EXISTING GROUND CONDITIONS, SITE TREATMENT AND SUPERVISION. REPORT BY JEFFERY AND KATAUSKAS DATED 30 MAY 2006 REFERENCE NUMBER 20313Z.
- THE LOCATIONS OF UNDERGROUND SERVICES SHOWN ON THESE DRAWINGS HAVE BEEN PLOTTED FROM SURVEY AND AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.
- HENRY AND HYMAS PTY LTD CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS, ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN ARISING FROM ANY CAUSE WHATSOEVER. CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION. FOR COMMENCEMENT OF WORKS ON SITE, SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.
- ALL SERVICES ARE TO BE LOCATED AND CUT OFF PRIOR TO THE COMMENCEMENT OF EXCAVATION AND FILLING OPERATIONS.
- ALL TOP SOIL, ORGANIC MATTER AND FILL MATERIAL SHALL BE REMOVED FROM ALL AREAS UNDER BUILDING AND CARPARK LOCATIONS TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER. AREAS TO BE FULLY STRIPPED OF EXISTING FILL AND DARK BROWN BLACK UPPER ORGANIC ALLUVIUM, OR OBVIOUS UNSUITABLE MATERIAL.
- EXCAVATE TO ACHIEVE SUBGRADE LEVELS WHERE NECESSARY.
- THE EXPOSED SUBGRADE AFTER STRIPPING AND/OR EXCAVATION IS TO BE PROOF ROLLED USING NOT FEWER THAN 6 PASSES OF A MINIMUM OF 6 PASSES OF A VIBRATOR PADFOOT ROLLER OF NOT LESS THAN 9 TONNE MINIMUM DEADWEIGHT OR AS SPECIFIED IN THE GEOTECHNICAL REPORT. UNDER THE SUPERVISION OF AN EXPERIENCED GEOTECHNICAL ENGINEER OR AN EXPERIENCED CIVIL ENGINEER. ANY AREAS ON THE SUBGRADE EXHIBITING EXCESSIVE DEFLECTION / MOVEMENT UNDER ROLLER TO BE EXCAVATED TO A MIN. DEPTH OF 0.5m AND REPLACED WITH APPROVED GRANULAR MATERIAL COMPACTED IN 250mm LOOSE LAYERS OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- ENGINEERED FILL FOR REPLACEMENT OF SOFT OR HEAVING AREAS OR FOR BULK FILLING TO COMPRISE ESSENTIALLY OF GRANULAR MATERIALS (EG. EXCAVATED SHALE), WITH A PARTICLE SIZE NOT GREATER THAN 75mm DIAMETER. ENGINEERED FILL TO BE PLACED IN LAYERS NOT EXCEEDING 250mm LOOSE THICKNESS AND COMPACTED TO 100% OF STANDARD MAXIMUM DRY DENSITY (SMDD) WITHIN ± 2% OF OPTIMUM MOISTURE CONTENT (OMC).
- IMPORTED FILLING (IF REQUIRED) IS TO BE TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER. THE CONTRACTOR IS TO NOMINATE THE SOURCE AND PROVIDE A SAMPLE FOR APPROVAL PRIOR TO IMPORTATION AND PLACEMENT ON SITE.
- ALL IMPORTED FILL MATERIAL SHALL BE IN ACCORDANCE WITH SPECIFICATIONS FROM GEOTECH REPORT BY JEFFERY AND KATAUSKAS DATED 30 MAY 2006 REFERENCE NUMBER 20313Z.
- ALL EARTHWORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH GEOTECH REPORT BY JEFFERY AND KATAUSKAS DATED 30 MAY 2006 REFERENCE NUMBER 20313Z.
- IN-SITU DENSITY TESTING AND SUPERVISION MUST BE CARRIED OUT IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED WITHIN GEOTECH REPORT BY JEFFERY AND KATAUSKAS DATED 30 MAY 2006 REFERENCE NUMBER 20313Z.

**BULK EARTHWORKS QUANTITIES**

TOTAL AREA (11641.8m <sup>2</sup> )	
CUT	1870.37 m <sup>2</sup>
FILL	3585.37 m <sup>2</sup>
EXCESS OF FILL OVER CUT	1715.00 m <sup>2</sup>
EXCAVATION FOR RETAINING WALLS NOT INCLUDED IN CALCULATION	
EXCAVATION FOR SERVICE TRENCHES NOT INCLUDED IN CALCULATION	
VOLUME HAS BEEN CALCULATED AFTER STRIPPING THE SITE OF TOPSOIL - ASSUMED TOPSOIL DEPTH 250mm. STRIPPED MATERIAL NOT INCLUDED IN ABOVE QUANTITIES	

**FOR DA ONLY**



SCALE 1:400

<p><b>SURVEY INFORMATION</b> SURVEYED BY BEE&amp;LETHBRIDGE DATUM: A.H.D. ORIGIN OF LEVELS: PM 50080 RL 199.895</p>	<p>07 ISSUED FOR DA ONLY MJ MM 28.04.2023</p> <p>06 ISSUED FOR DA ONLY MP MM 11.04.2023</p> <p>05 ISSUED FOR DA ONLY MP MM 04.04.2023</p> <p>04 ISSUED FOR DA ONLY MB MM 19.12.2022</p> <p>03 ISSUED FOR PRELIMINARY MJ MM 24.11.2022</p> <p>02 ISSUED FOR PRELIMINARY MJ MM 09.11.2022</p> <p>01 ISSUED FOR PRELIMINARY SC MM 20.10.2022</p>	<p>Client <b>HILLS MARKETPLACE PTY LTD.</b></p> <p>Surveyor <b>BN</b></p>	<p>Suite 2.01 826 Pacific Highway Gordon NSW 2072</p> <p>Telephone +61 2 9417 8400 Facsimile +61 2 9417 8337 Email email@hhconsult.com.au Web www.henryandhymas.com.au</p>	<p>Project <b>THE HILLS MARKETPLACE</b> 287 MONA VALE ROAD, TERREY HILLS, NSW 2084</p> <p>Title <b>BULK EARTHWORKS CUT AND FILL PLAN</b></p>	<p>Drawn S.Chen</p> <p>Checked A.Francis</p> <p>Design M.Mishevski</p> <p>Approved A.Francis</p> <p>Date OCT 2022</p> <p>Scale @A1 1:400</p>	<p>Drawing number <b>21F99_DA_BE01</b></p> <p>Revision <b>09</b></p>
	<p>REVISION AMENDMENT DRAWN DESIGNED DATE REVISION AMENDMENT DRAWN DESIGNED DATE</p>	<p>Client This drawing and design remains the property of Henry &amp; Hymas and may not be copied in whole or in part without the prior written approval of Henry &amp; Hymas.</p>	<p>Henry &amp; Hymas logo</p>	<p>Project <b>THE HILLS MARKETPLACE</b> 287 MONA VALE ROAD, TERREY HILLS, NSW 2084</p>	<p>Drawn S.Chen</p> <p>Checked A.Francis</p> <p>Design M.Mishevski</p> <p>Approved A.Francis</p> <p>Date OCT 2022</p> <p>Scale @A1 1:400</p>	<p>Drawing number <b>21F99_DA_BE01</b></p> <p>Revision <b>09</b></p>