

PROPOSED RESIDENTIAL DEVELOPMENT
9-11 BIRDWOOD AVENUE, COLLAROY NSW
CIVIL ENGINEERING WORKS



LOCALITY SKETCH

SCALE: N.T.S.

DRAWING SCHEDULE	
19685_DA_C000	COVER SHEET, DRAWING SCHEDULE, NOTES & LOCALITY SKETCH
19685_DA_C100	GENERAL ARRANGEMENT PLAN - BASEMENT
19685_DA_C101	GENERAL ARRANGEMENT PLAN - GROUND FLOOR
19685_DA_C200	STORMWATER MISCELLANEOUS DETAILS
19685_DA_SE01	SEDIMENT & EROSION CONTROL PLAN
19685_DA_SE02	SEDIMENT & EROSION CONTROL TYPICAL SECTIONS & DETAILS

SUBGRADE PREPARATION - SITEWORKS.

1. THE EXISTING SURFACE IS TO BE STRIPPED OF ANY PAVEMENTS, TOPSOIL OR OBVIOUS UNSUITABLE MATERIAL.
2. EXCAVATE TO ACHIEVE SUBGRADE LEVELS WHERE NECESSARY.
3. THE EXPOSED SUBGRADE AFTER STRIPPING AND/ OR EXCAVATION IS TO BE PROOF ROLLED USING NOT FEWER THAN 5 PASSES OF A MINIMUM 8 TONNE DEAD WEIGHT STEEL SMOOTH-DRUM ROLLER 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.
4. 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 BETWEEN 98% AND 102% OF STANDARD MAXIMUM DRY DENSITY (SMDD) WITHIN $\pm 2\%$ OF OPTIMUM MOISTURE CONTENT (OMC).
5. 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.
6. ALL FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE SUPERINTENDENT AND SHALL COMPLY WITH THE FOLLOWING:
 FREE FORM ORGANIC AND PERISHABLE MATTER
 MAXIMUM PARTICLE SIZE = 75mm
 MAXIMUM PLASTICITY INDEX = 15%

GENERAL NOTES:

1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH STRATHFIELD COUNCIL SPECIFICATION. CONTRACTOR TO OBTAIN AND RETAIN A COPY ON SITE DURING THE COURSE OF THE WORKS.
2. ALL NEW WORKS ARE TO MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS AND MARRY IN A 'WORKMANLIKE' MANNER.
3. 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.
4. SERVICES & ACCESSSES TO THE EXISTING PROPERTIES ARE TO BE MAINTAINED IN WORKING ORDER AT ALL TIMES DURING CONSTRUCTION.
5. ADJUST EXISTING SERVICE COVERS TO SUIT NEW FINISHED LEVELS TO RELEVANT AUTHORITY REQUIREMENTS WHERE NECESSARY.
6. REINSTATE AND STABILISE ALL DISTURBED LANDSCAPED AREAS.
7. MINIMUM GRADE OF SUBSOIL SHALL BE 0.5% (1:200) FALL TO OUTLETS.
8. 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 STRATHFIELD COUNCIL REQUIREMENTS WHERE APPLICABLE.
9. CONTRACTOR TO CHECK AND CONFIRM SITE DRAINAGE CONNECTIONS ACROSS THE VERGE PRIOR TO COMMENCEMENT OF SITE DRAINAGE WORKS.
10. PROPERTIES AFFECTED BY THE WORKS ARE TO BE NOTIFIED IN ADVANCE WHERE DISRUPTION TO EXISTING ACCESS IS LIKELY.

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 INTERRUPTED.
- 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.

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.

ORIGIN OF LEVELS	SSM 141306 RL 19.02
DATUM	A.H.D.
CONTOUR INTERVAL	0.25m

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 ABOUT 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.

SUBSOIL DRAINAGE NOTES

1. **GENERALLY PROVIDE SUBSOIL DRAINS TO INTERCEPT GROUNDWATER SEEPAGE AND PREVENT WATER BUILD-UP AGAINST WALLS AND UNDER FLOORS AND PAVEMENTS. CONNECT SUBSOIL TO SURFACE DRAINS OR TO THE STORMWATER DRAINAGE SYSTEM AS APPLICABLE.**
2. **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.
3. **JOINTING:**
AT JUNCTIONS OF SUBSOIL PIPES PROVIDE TEES, COUPLINGS OR ADAPTORS TO AS2439.1.
4. **TRENCH WIDTH MINIMUM 300mm.**
5. **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.

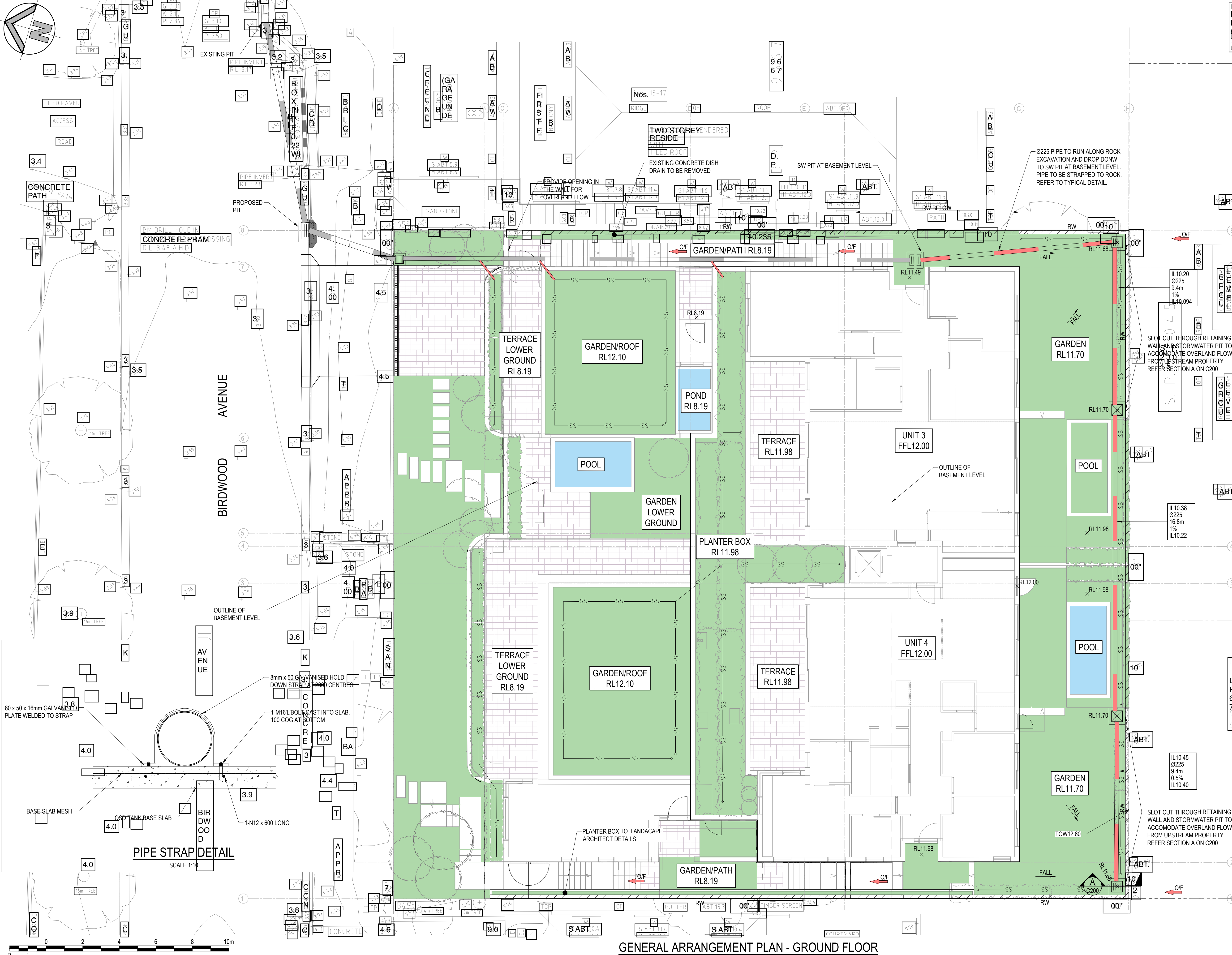
CHASES: IF NECESSARY TO PREVENT PROJECTIONS SUCH AS SOCKETS AND FLANGES FROM BEARING ON THE TRENCH BOTTOM OR UNDERLAY.
6. **PIPE SURROUNDS:**
GENERAL: PLACE THE MATERIAL IN THE PIPE SURROUND IN LAYERS SMALLER THAN OR EQUAL TO 200mm LOOSE THICKNESS, AND COMPACT WITHOUT DAMAGING OR DISPLACING PIPING.
DEPTH 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.
7. **FILTER SOCKS:**
PROVIDE POLYESTER PERMEABLE SOCKS CAPABLE OF RETAINING PARTICLES OF 0.25mm SIZES. SECURELY FIT OR JOIN THE SOCK AT EACH JOINT.

DRAINAGE NOTES:

3. ALL STORMWATER WORK TO COMPLY WITH AS 3500 PART 3.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE MINIMUM COVER OF 600mm ON ALL PIPES.
3. PROTECTION OF PIPES DUE TO LOADS EXCEEDING W7 WHEEL LOAD SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
4. 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.
5. MINIMUM COVER OVER EXISTING PIPES FOR PROTECTION DURING CONSTRUCTION SHALL BE 800mm.
6. NO CONSTRUCTION LOADS SHALL BE APPLIED TO PLASTIC PIPES.
7. FINISHED SURFACE LEVELS SHOWN ON LAYOUT PLAN DRGS TAKE PRECEDENCE OVER DESIGN DRAINAGE SURFACE LEVELS.
8. 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 RCP IF DESIRED IN GROUND. ALL AERIAL PIPES TO BE PVC CLASS SH.
9. 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 frc-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.
10. ALL PITS, GRATINGS AND FRAMES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION AND TO BE IN ACCORDANCE WITH AS3500.3 AND AS3996.
11. PIT CHAMBER DIMENSIONS ARE TO BE SELECTED TO SATISFY THE FOLLOWING:
 - PIPE SIZE
 - DEPTH TO INVERT
 - SKEW ANGLEREFER 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.
12. FOR PIPE SIZES GREATER THAN Ø300mm, PIT FLOOR IS TO BE BENTCHED TO FACILITATE FLOW.
13. 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).
14. ALL SUBSOIL PIPES SHALL BE 100mm SLOTTED PVC IN A FILTER SOCK, UNO, WITH 3m INSTALLED UPSTREAM OF ALL PITS.
15. ALL PIPEWORK SHALL HAVE MINIMUM DIAMETER 100.
16. MINIMUM GRADE FOR ROOFWATER DRAINAGE LINES SHALL BE 1%.
17. ALL PIPE JUNCTIONS AND TAPER UP TO AND INCLUDING 300 DIA. SHALL BE VIA PURPOSE MADE FITTINGS.
18. ALL ROOF DRAINAGE TO BE INSTALLED IN ACCORDANCE WITH AS3500, PART 3. TESTING TO BE UNDERTAKEN AND REPORTS PROVIDED TO THE SUPERINTENDENT.
19. 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.
20. PITS IN EXCESS OF 1.5m 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.
21. SUBSOIL DRAINAGE LINES FOR LANDSCAPE AREA NOT SHOWN ON THESE DRAWINGS. REFER TO LANDSCAPING PLANS FOR DETAILS.
22. 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.

FOR DA ONLY

<p>SURVEY INFORMATION</p> <p>SURVEYED BY TREHY INGOLD NEATE</p> <p>ORIGIN OF DATUM: SSM 141306 RL 19 02</p>										<p>Client</p> <p>BIRDWOOD PROJECTS PTY LTD</p> <p>Level 5, 79 Victoria Avenue Cherrybrook NSW 2067</p> <p>Telephone +61 2 9417 8400 +61 2 9417 8337 Email enquiries@bhconsult.com.au www.henryandhymas.com.au</p> <p>Architect</p> <p>EDAA INTERIORS EXTERIORS</p> <p>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.</p>										<p>Project</p> <p>PROPOSED RESIDENTIAL DEVELOPMENT BIRDWOOD AVENUE, COLLAROY, NSW</p> <p>Drawn K.Rom</p> <p>Designed L.Villa</p> <p>Date MAR 2020</p> <p>Checked B.Seizov</p> <p>Approved A.Francis</p> <p>Scale @A1 N.T.S.</p>									
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LEGEND

EXISTING BOUNDARY

PROPOSED LINTEL ON GRADE & SAG PITS

PROPOSED JUNCTION PITS

PROPOSED SURFACE INLET PITS

PROPOSED GRATED DRAIN

PROPOSED STORMWATER PIPE - BASEMENT

PROPOSED STORMWATER PIPE

EXISTING CONTOURS

PROPOSED CONTOURS

EXISTING SPOT LEVELS

PROPOSED SPOT LEVEL

STORMWATER UPSTREAM INVERT RL

STORMWATER PIPE DIAMETER & CLASS

STORMWATER PIPE LENGTH

STORMWATER PIPE GRADE

STORMWATER DOWNSTREAM INVERT RL

PROPOSED RETAINING WALL

PROPOSED SUBSOIL LINE

OVERLAND FLOW PATH

NOTE:
ALL STORMWATER PITS TO HAVE Ø100 UPVC SLOTTED SUBSOIL PIPES CONNECTED TO THEM. THESE SUBSOIL TO EXTEND 3m UPSTREAM OF THE PIT AT A MINIMUM GRADE.

NOTE:
SERVICES SHOWN ON THIS DRAWING ARE DEPICTED FROM SERVICES SEARCH PLANS AND CAN NOT BE GUARANTEED. THE EXACT DEPTH AND LOCATION OF ALL IN-GROUND UTILITIES TO BE DETERMINED BY POT HOLING OR CABLE SEARCH.

NOTE:
CONTRACTOR TO INVESTIGATE PRESENCE OF EXISTING UTILITIES, SIZE AND DEPTH OF ALL IN-GROUND UTILITIES, PRIOR TO CONSTRUCTION. SERVICES SHOWN ON THIS DRAWING DEPICTED FROM SERVICES SEARCH PLANS AND CANNOT BE GUARANTEED.

NOTE:
INVERT LEVEL TO EXISTING STORMWATER DRAINAGE LINES AT CONNECTION JUNCTION TO BE CHECKED AND CONFIRMED PRIOR TO COMMENCEMENT OF WORK

NOTE:
ALL ROOF DOWNPIPES TO BE DROPPED TO BASEMENT LEVEL AND DIRECTED TO PROPOSED RAINWATER TANKS.

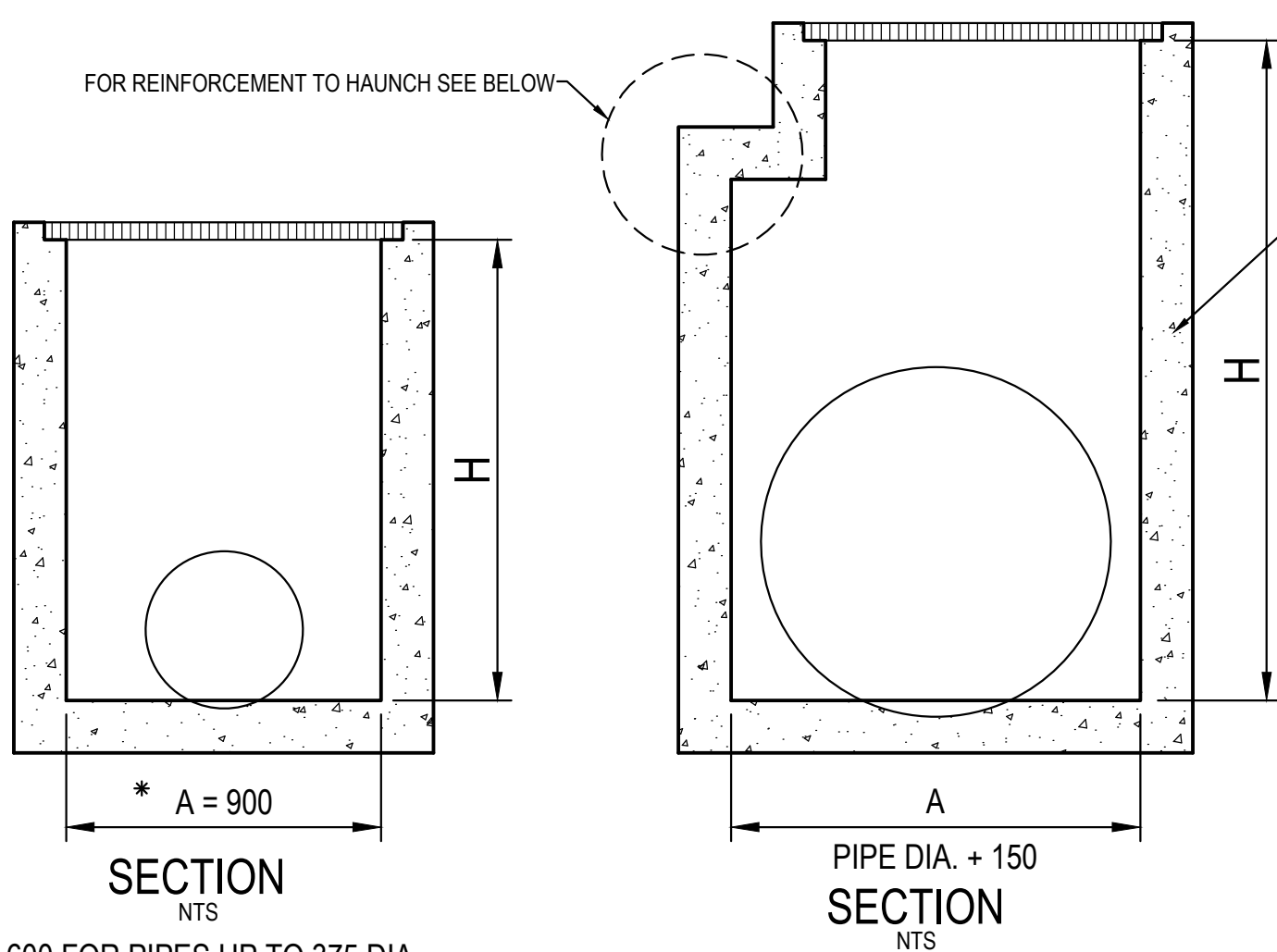
<div>SURVEY INFORMATION</div> <div>SURVEYED BY</div> <div>BYRNE & ASSOCIATES</div> <div>DATUM: AHD</div> <div>ORIGIN OF LEVELS: PM 3981 R.L. 11.53</div>										<div>Client</div> <div>BIRDWOOD PROJECTS PTY LTD</div> <div>Architect</div> <div>EDAA INTERIORS EXTERIORS</div> <div>This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.</div>										<div>Telephone +61 2 9417 8400 Facsimile +61 2 9417 8337</div> <div>Email hconsult.com.au email@hconsult.com.au</div> <div>hconsult.com.au</div> <div>henryhymas.com.au</div>										<div>Project</div> <div>PROPOSED RESIDENTIAL DEVELOPMENT</div> <div>9-11 BIRDWOOD AVENUE, COLLARROY, NSW</div> <div>Title</div> <div>GENERAL ARRANGEMENT PLAN</div> <div>GROUND FLOOR</div>										<div>Drawn</div> <div>K.Rom</div> <div>Checked</div> <div>B.Seizov</div> <div>Drawing number</div> <div>19685_DA_C101</div>		<div>Designed</div> <div>L.Villa</div> <div>Approved</div> <div>A.Francis</div>		<div>Date</div> <div>MAR 2020</div> <div>Scale @A1</div> <div>1:100</div> <div>Revision</div> <div>05</div>	
05	ISSUED FOR DA ONLY	KR	LV	30.03.2020																																									
04	ISSUED FOR DA ONLY	KR	LV	25.03.2020																																									
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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

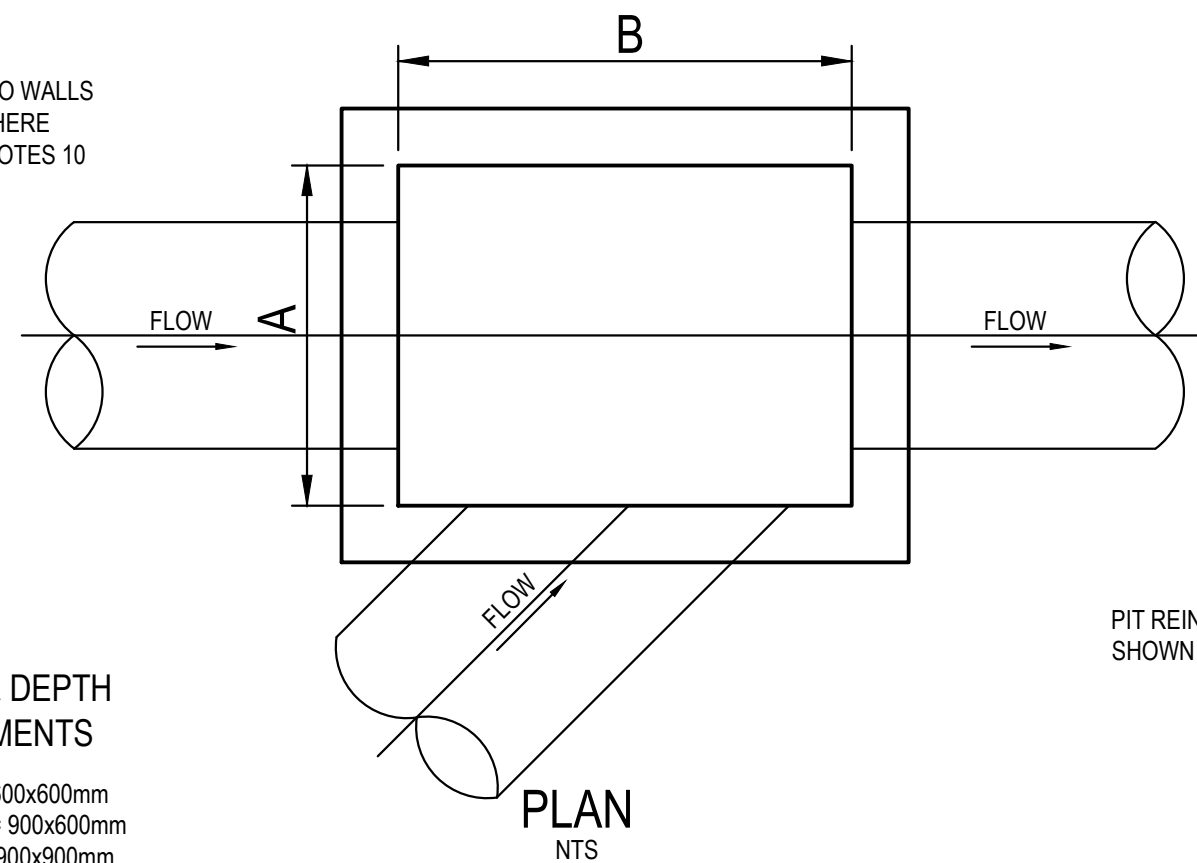


*A = 600 FOR PIPES UP TO 375 DIA.

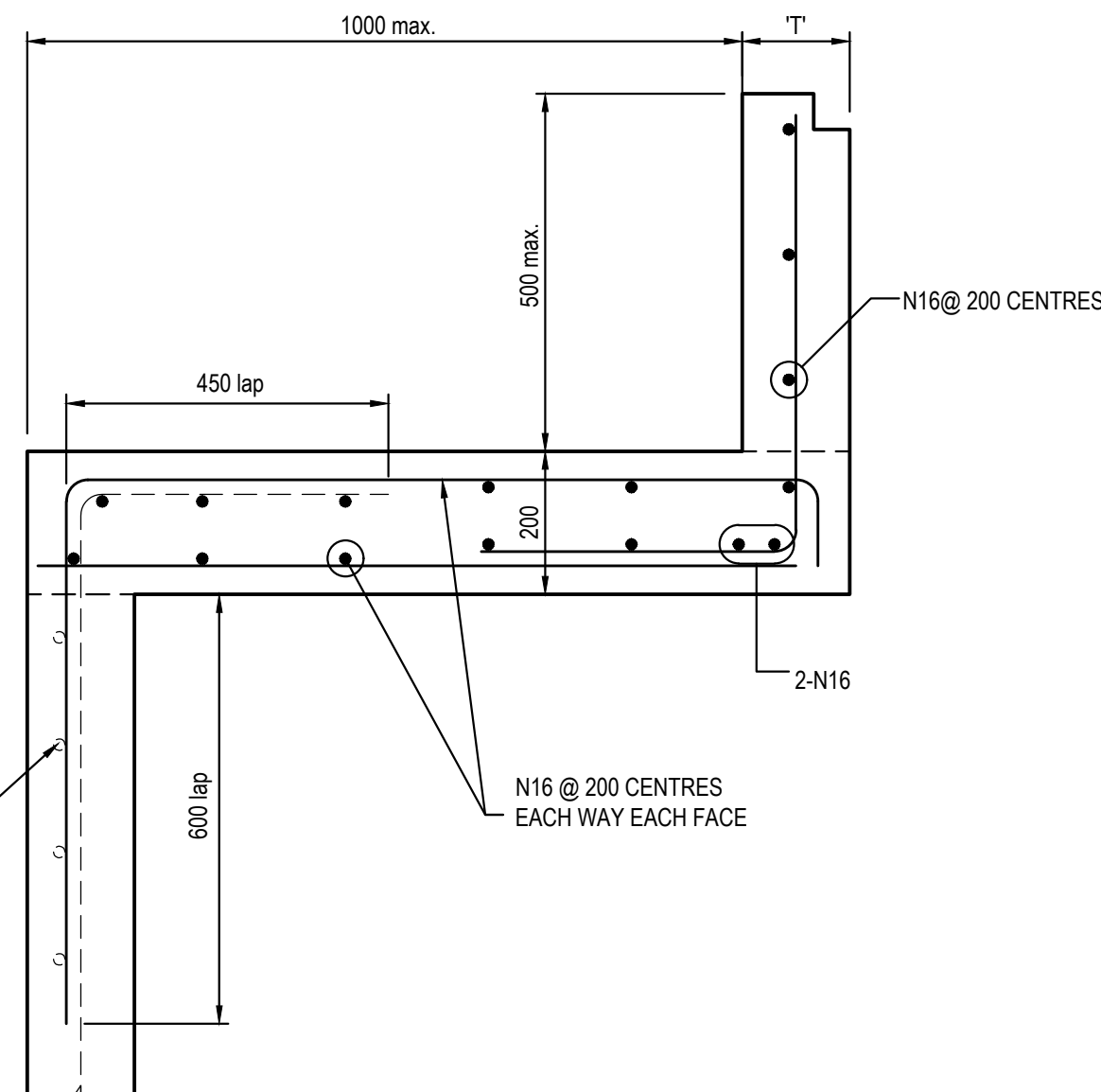
- PIT CHAMBER DIMENSIONS FOR PIPES UP TO 600 DIA.

- PIT SIZE & DEPTH REQUIREMENTS

H = 0-900mm - Ax B = 600x600mm
H = 900-1200mm - Ax B = 900x600mm
H = >1200mm - Ax B = 900x900mm

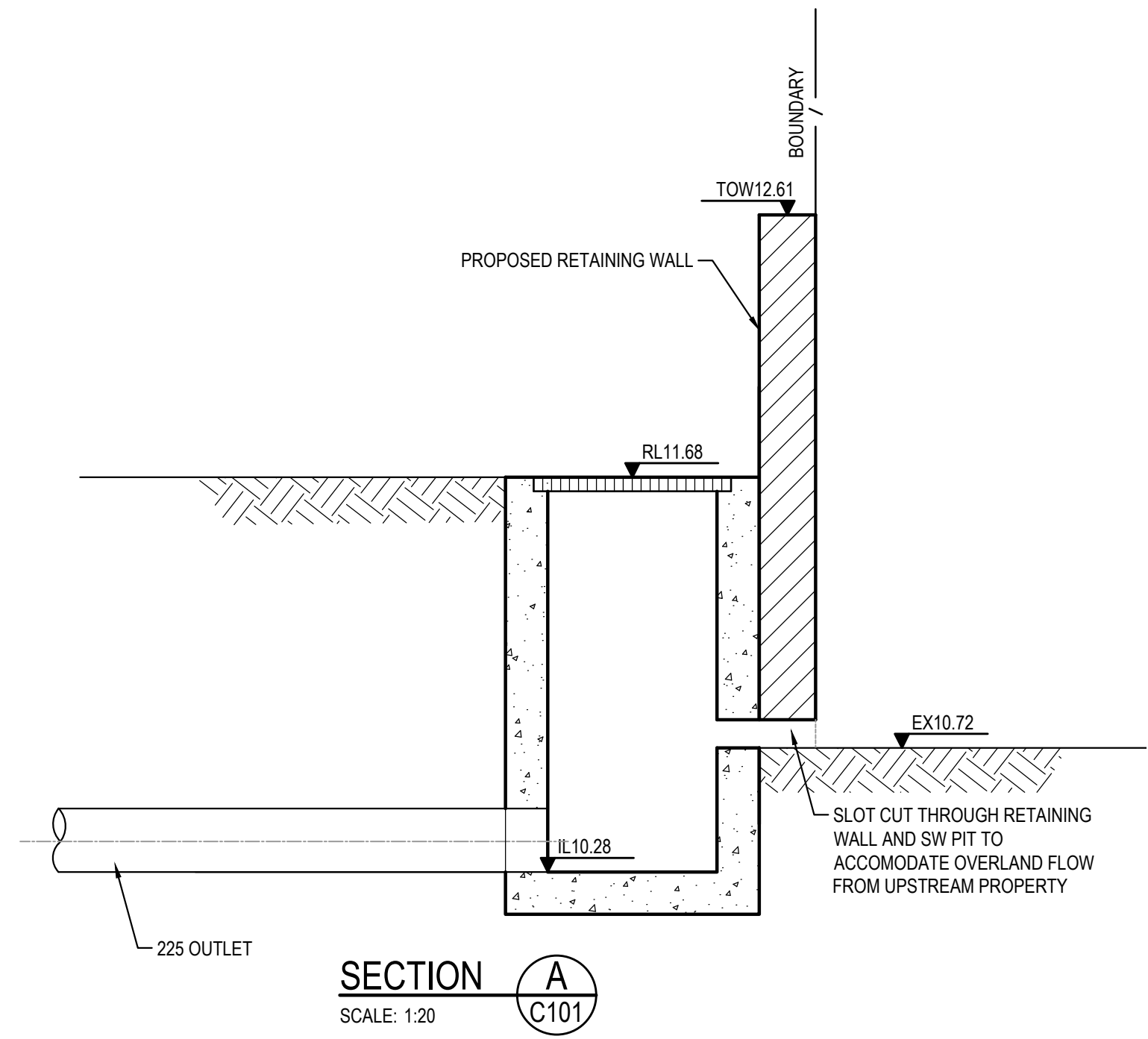


- PIT CHAMBER FOR SIDE ENTRY ON SKEW



HAUNCH DETAIL -TYPICAL

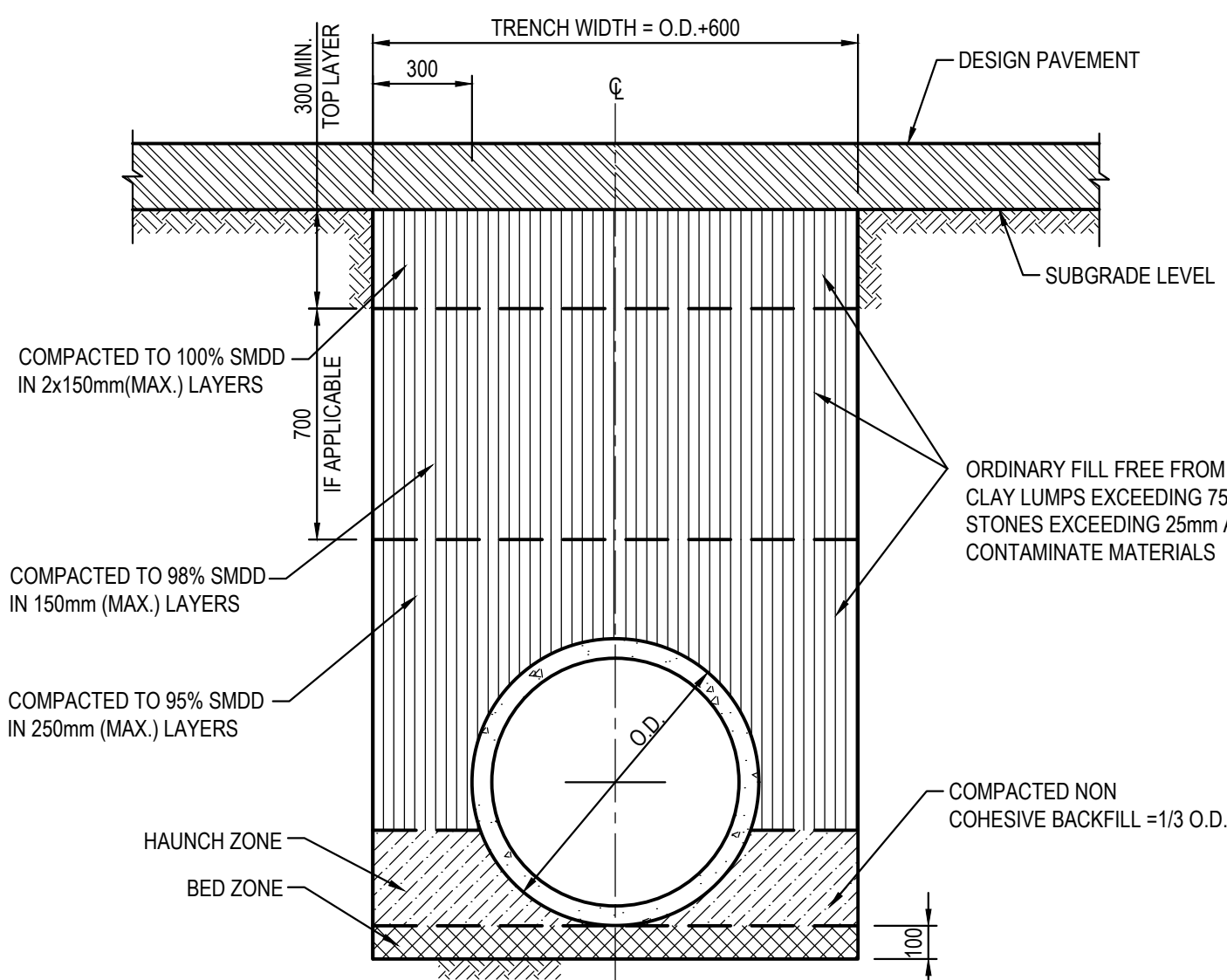
SCALE 1:10



SECTION A
SCALE: 1:20
C101

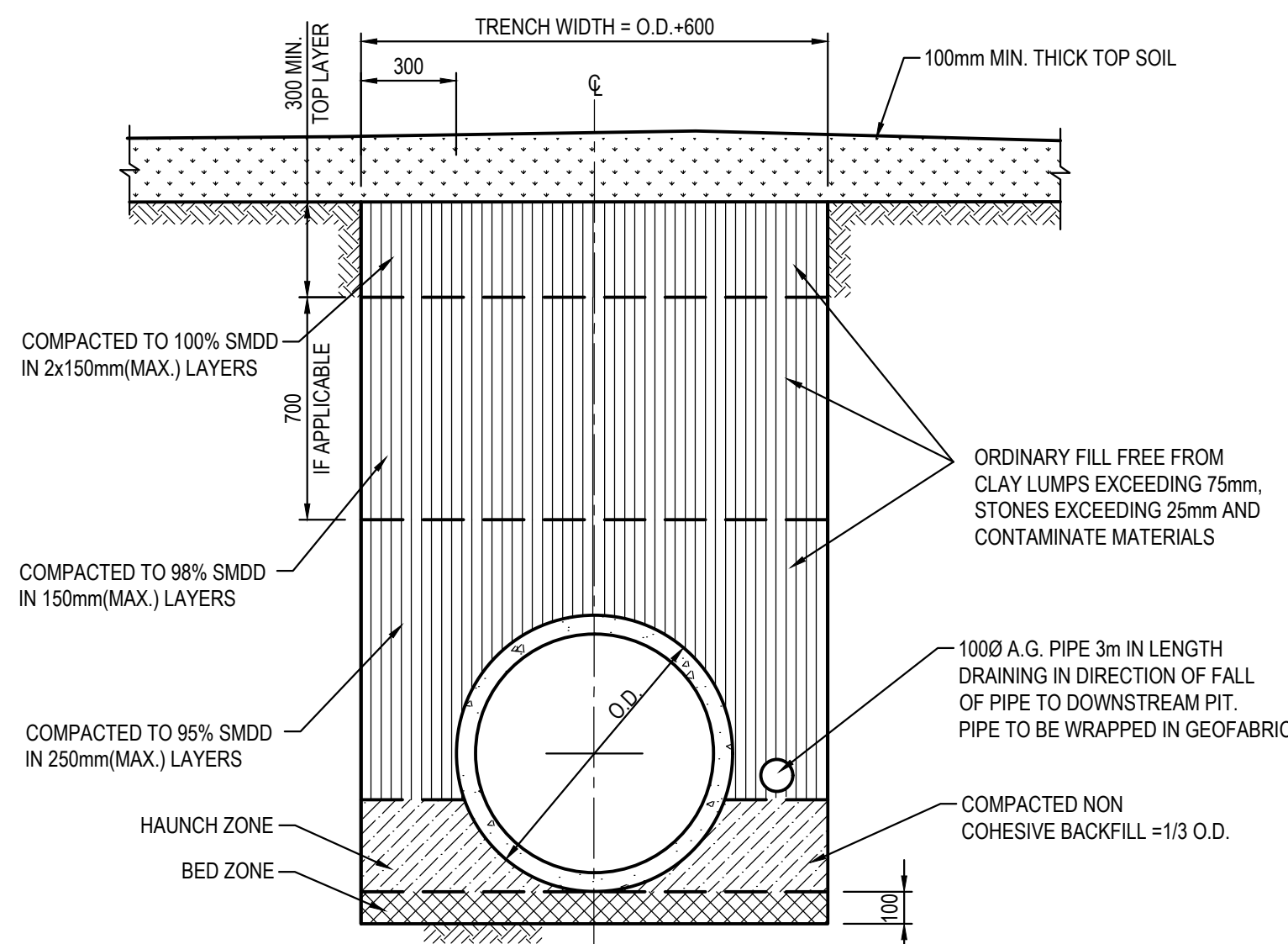
DRAINAGE NOTES:

- 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 $f_c=32$ 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.



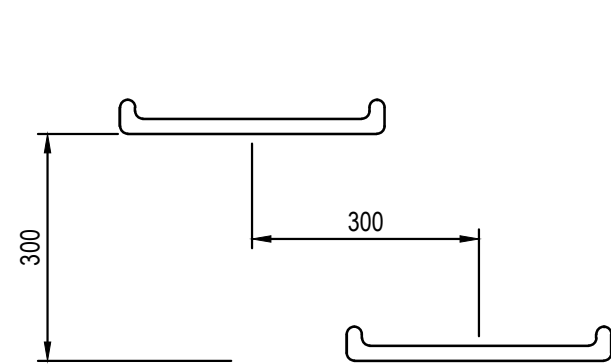
PIPE TRENCH INSTALLATION BENEATH PAVEMENT

(H1 & H2 SUPPORT)
SCALE 1:20

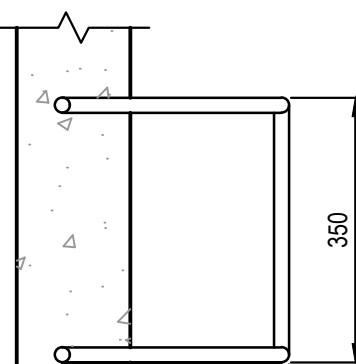


PIPE TRENCH INSTALLATION IN LANDSCAPE AREAS

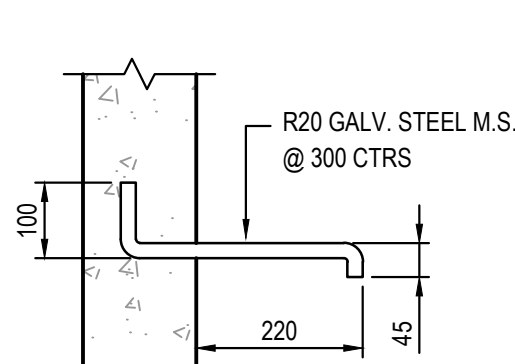
(H1 & H2 SUPPORT)
SCALE 1:20



ELEVATION



PLAN



SECTION

TYPICAL STEP IRON DETAIL

SCALE 1:10

0 200 400 600 800 1000mm
SCALE 1:10

0 400 800 1200 1600 2000mm
SCALE 1:20

SURVEY INFORMATION

SURVEYED BY TREHY
INGOLD NEATE

DATUM: A.H.D.
ORIGIN OF LEVELS: SSM 141306 RL 19.02

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	ISSUED FOR DA ONLY	KR	LV	24.03.2020					
02	ISSUED FOR CO-ORDINATION	KR	LV	20.03.2020					
01	ISSUED FOR CO-ORDINATION	KR	LV	13.03.2020					

Client
BIRDWOOD PROJECTS PTY LTD

Architect
EDAA INTERIORS EXTERIORS

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Project
**PROPOSED RESIDENTIAL DEVELOPMENT
BIRDWOOD AVENUE, COLLARROY, NSW**

Title
STORMWATER MISCELLANEOUS DETAILS

Drawn
K.Rom
Designed
L.Villa
Checked
B.Seizov
Approved
A.Francis
Date
MAR 2020
Scale
B/A1
AS NOTED

Drawing number
19682_DA_C200
Revision
03