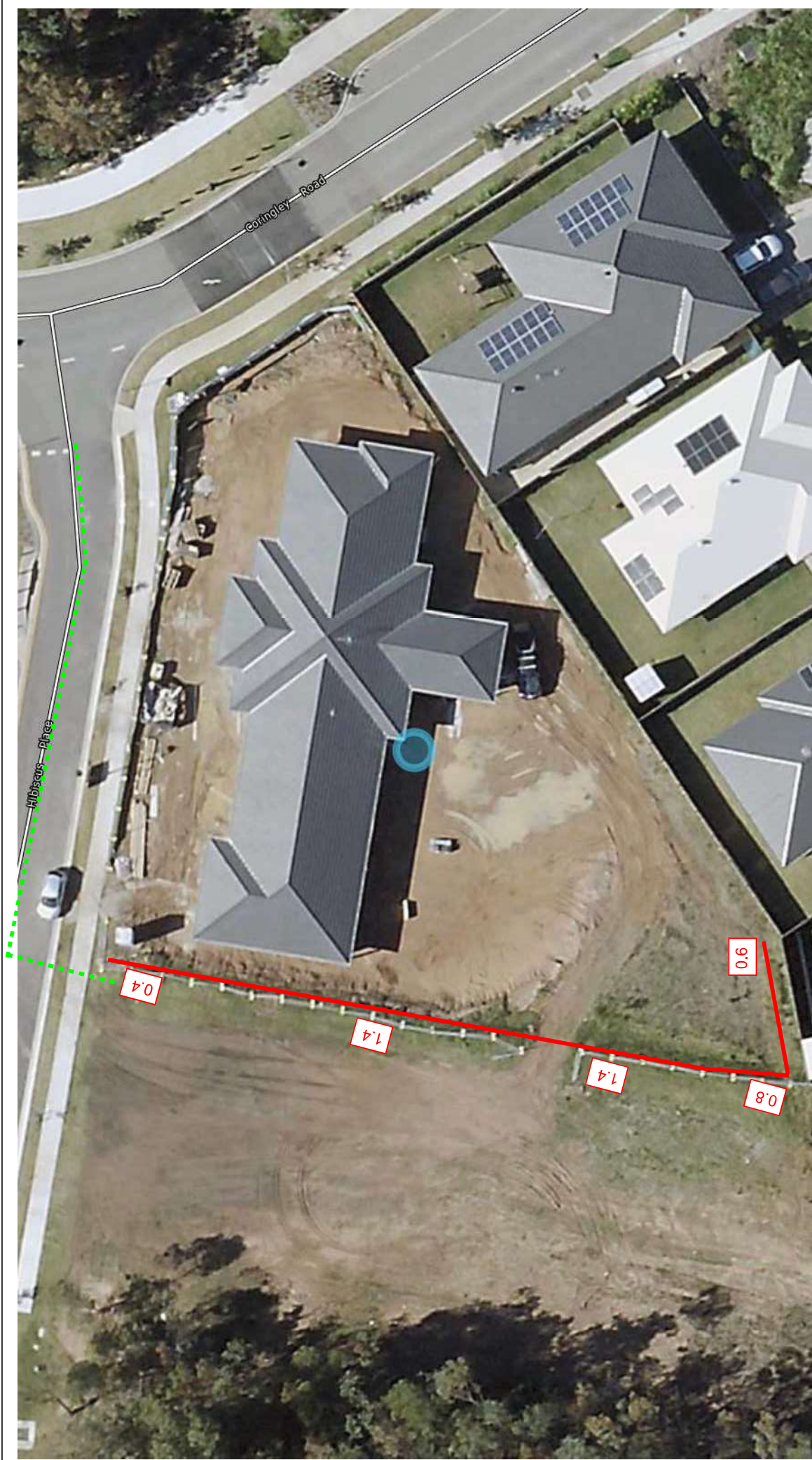
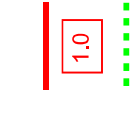




RETAINING WALL SET-OUT PLAN
1. ALL RETAINING WALL HEIGHTS & SET-OUT ARE TO BE CONFIRMED ON-SITE WITH CLIENT/ OWNER
2. ALL SERVICES ARE SHOWN INDICATIVELY ONLY AND SHALL BE LOCATED AND PEGGED ON-SITE BEFORE CONSTRUCTION BEGINS

WALL LEGEND
SINGLE TIER SLEEPER WALL
INDICATES WALL HEIGHT
EXISTING STORMWATER SERVICE



PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL
Approval no: DEV2022/1281
Date: 19 May 2022



Rev.	Description:	Date	Appd.	D.C.	14/02/22	PROJECT	CLIENT	DATE: FEB. 22 DRAWN: D.C. DESIGN: M.C. CERTIFYING: M.C.	CLIENT	JASON SMITH	PROJECT	PROPOSED NEW RETAINING WALL AT 2-6 HIBISCUS PLACE, GREENBANK QLD 4124	PROJECT NO. S4434	REV.	01
01	ISSUED FOR REVIEW	14/02/22													
THIS DRAWING & THE STRUCTURAL DESIGN CONTAINED WITHIN REMAINS THE PROPERTY OF DESIGN SIR & SHALL NOT BE COPIED, USED OR RETAINED IN PART OR IN WHOLE WITHOUT WRITTEN CONSENT															
RETAINING WALL GENERAL ARRANGEMENT PLAN															
DRAWING NO. S0															

DESIGN SIR S
ENGINEERS
Structural Consulting Engineers
Residential, Commercial & Industrial
Investigation & Reporting

ENGINEERS AUSTRALIA
MEMBER
Mobile: 0437 859 236
Email: info@designsirs.com.au
54 Patrea Street, Banyo QLD 4014

NER
REGISTERED
ENGINEER
Mark Chitt's
RPEQ 23483

GENERAL NOTES

- G1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS. ALL DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK
- G2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE. ONLY FIGURED DIMENSIONS ARE TO BE USED. DO NOT SCALE DRAWINGS
- G3. ALL DIMENSIONS AND LEVELS ARE TO BE VERIFIED BEFORE SETTING-OUT. CONSTRUCTION OR FABRICATION IS COMMENCED.
- G4. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STABILITY OF THE STRUCTURE AND OTHER ADJACENT STRUCTURES
- G5. WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE RELEVANT CURRENT AUSTRALIAN STANDARDS
- G6. CONFIRM WITH ALL OTHER RELEVANT STAKEHOLDERS THE LOCATION OF THE PROPOSED RETAINING WALLS, PARTICULARLY REGARDING PROPERTY BOUNDARIES
- G7. THE CONTRACTOR IS TO ENSURE ALL NECESSARY BOUNDARY ENCROACHMENT PERMISSIONS ARE IN PLACE PRIOR TO COMMENCEMENT OF WORKS
- G8. ALL FOOTINGS SHALL BE FOUNDED IN LEVEL 1 COMPACTED FILL OR NATURAL MATERIAL

CONCRETE

- C1. ALL WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS3600:2018 & AS1379:2007
- C2. UNLESS NOTED OTHERWISE ON THE PLANS, CONCRETE COMPONENTS AND QUALITY SHALL BE AS FOLLOWS:

ELEMENT	GRADE	SLUMP	MAX. NOMINAL AGGREGATE	MIN. CONCRETE COVER
PIERS	N25	80	20	50
SLEEPERS	N40	80	20	30

CONCRETE GRADE TYPES: N - NORMAL CLASS
S - SPECIAL CLASS

- C3. MAX. EXPOSURE CLASSIFICATION SHALL BE B1 UNLESS NOTED OTHERWISE. MINIMUM COVER SHALL BE AS NOTED ABOVE
- C4. NO CONCRETE ADDITIVES SHALL BE USED WITHOUT WRITTEN PERMISSION OF THE ENGINEER
- C5. FOOTING EXCAVATION SHALL BE FREE OF WATER AND LOOSE SOIL BEFORE PLACEMENT OF CONCRETE BEGINS.
- C6. CONCRETE SHALL CURE FOR A MINIMUM OF 3 DAYS PRIOR TO BACKFILLING
- C7. SHAPE TOP OF PIERS SUCH THAT ALL CONCRETE FALLS AWAY FROM POST WITH A MINIMUM FALL OF 1 IN 50. FILL ALL OVERBREAKS AROUND FOOTING WITH CONCRETE OF SAME GRADE

STRUCTURAL STEEL

- S1. ALL WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS4100:2020
- S2. ALL REINFORCEMENT IS TO BE N CLASS DEFORMED BAR TO AS/NZS 4671:2019, NORMAL CLASS GRADE 500
- S3. WELDING OF REINFORCEMENT TO POST SHALL BE IN ACCORDANCE WITH AS/NZS 1554.3:2014, EXAMINATION OF WELDS SHALL BE 100% VISUAL
- S4. HOT ROLLED POSTS SHALL BE GRADE 300 TO AS/NZS 3679.1:2010 & HOT DIP GALVANISED 500gsm MIN. TO AS/NZS 4680:2006
- S5. WELDING OF POST SHALL BE CATEGORY SP IN ACCORDANCE WITH AS/NZS 1554.1:2014 USING A-E35 0/ B-E43XX ELECTRODES COMPLYING WITH AS4855:2007
- S6. STEEL SHALL BE CLEAN AND FREE FROM RUST, DUST & OTHER DEBRIS AT INSTALLATION. ANY STEEL REINFORCEMENT WITH RUST OR STAINING TO BE WIRE BRUSHED CLEAN

SLEEPER RETAINING WALL

- R1. DESIGN IS IN ACCORDANCE WITH THE FOLLOWING STANDARDS:
AS1170.9-AS1170.4 - STRUCTURAL DESIGN ACTION SERIES
AS2159:2009 - PILING - DESIGN & INSTALLATION
AS3600:2018 - CONCRETE STRUCTURES
AS4100:1998 - STEEL STRUCTURES
AS4678:2002 - EARTH RETAINING STRUCTURES
- R2. DESIGN CRITERIA:
DESIGN LIFE - 60 YEARS
WALL CLASS - 2 (AS PER AS4678)
LIVE LOAD - AS NOTED ON DRAWINGS
WIND LOADS - AS NOTED ON DRAWINGS
SOIL TYPE - AS NOTED ON DRAWINGS
- R3. WALL SHALL BE INSTALLED WITH A MINIMUM BACKLEAN OF APPROXIMATELY 1:20
- R4. MAXIMUM SLOPES NEXT TO WALLS, UNLESS NOTED OTHERWISE: BEHIND/ABOVE WALL - 1V:10H
IN-FRONT/ BELOW WALL - 1V:50H
- R5. ALL SLEEPERS SHALL BE PROPRIETARY CONCRETE SLEEPERS SUPPLIED BY Q-PRO OR REAL-CRETE AS PER SLEEPER DETAIL PROVIDED
- R6. MINIMUM SLEEPER END BEARING ON POST:
WALL HEIGHT 0.2 - 2.0m = 30mm
WALL HEIGHT 2.0 - 4.0m = 40mm
WALL HEIGHT >4.0m = 50mm
- R7. GEOTECHNICAL CONDITIONS MUST BE CONFIRMED UPON SITE INSPECTION BY A COMPETENT ENGINEER
- R8. GLOBAL STABILITY - HAS NOT BEEN CONSIDERED IN THIS DESIGN. THE DESIGN IS BASED UPON THE ASSUMPTION THAT THE WALL IS FOUNDED ON GROUND NOT SUBJECT TO SLIP.

THE DETERMINATION OF THE SITE SUSCEPTIBILITY TO SLIP IS THE RESPONSIBILITY OF THE PROJECT ENGINEER AND THE GEOTECHNICAL CONSULTANT

R9. ADJACENT STRUCTURES - HAVE NOT BEEN CONSIDERED IN THIS DESIGN. ADDITIONAL IMPOSED LOADS FROM ADJACENT STRUCTURES SHALL BE DESIGNED & CONSTRUCTED SUCH THAT NO LOADS ARE TRANSFERRED TO THE RETAINING WALL

i.e. - HOUSES, SHEDS, TANKS, RETAINING WALLS, POOLS, ETC.

- R10. WATER PRESSURE - LOADS ARE BASED ON THE ACCEPTANCE THAT WATER PRESSURE WOULD NOT BE ALLOWED TO BUILD-UP BEHIND THE WALL

LARGE VOLUMES OF WATER MUST NOT BE CONCENTRATED TO FLOW TO ANY AREA BEHIND THE WALL. OVERLAND FLOW SHALL NOT BE DISCHARGED OVER THE RETAINING WALL, UNLESS IT IS CONTAINED IN A DROP STRUCTURE

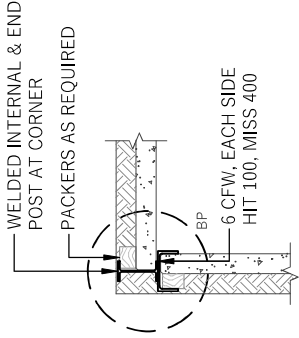
WALL IS NOT SUITABLE FOR AREAS SUBJECT TO FLOODING UNLESS SPECIFICALLY NOTED ON THE DRAWINGS

- R11. CONSTRUCTION TRAFFIC - SHALL BE KEPT A DISTANCE EQUIVALENT TO THE WALL HEIGHT AWAY FROM THE BACK OF THE WALL

R12. HEAVY COMPACTION EQUIPMENT - TO BE WITHIN A DISTANCE EQUIVALENT TO WALL HEIGHT AWAY FROM THE WALL. LIGHT COMPACTION WITH MANUAL (HANDHELD) EQUIPMENT SHALL BE DONE DIRECTLY BEHIND THE WALL. i.e WACKER PACKER OR VIBRATION PLATE COMPACTION DEVICES

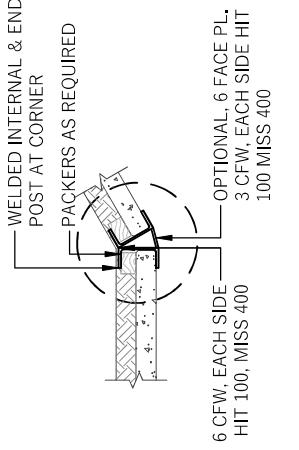
R13. LARGE TREES & SHRUBS - ARE NOT TO BE KEPT A DISTANCE EQUIVALENT TO THE WALL HEIGHT AWAY FROM THE BACK OF THE WALL. WATERING OF GARDEN BEDS ABOVE WALL TO BE KEPT TO A MINIMUM

- R14. SEEK ENGINEERING ADVICE IF EXCAVATION NEEDED IN FRONT OF THE WALL



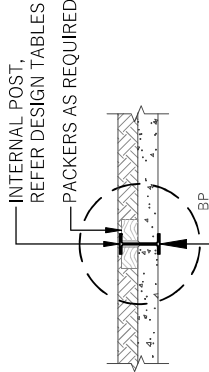
90° CORNER POST TYP.

SCALE 1:20



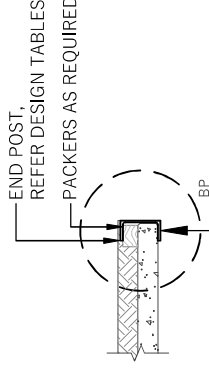
30-60° CORNER POST TYP.

SCALE 1:20



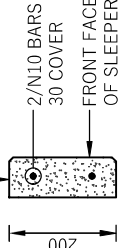
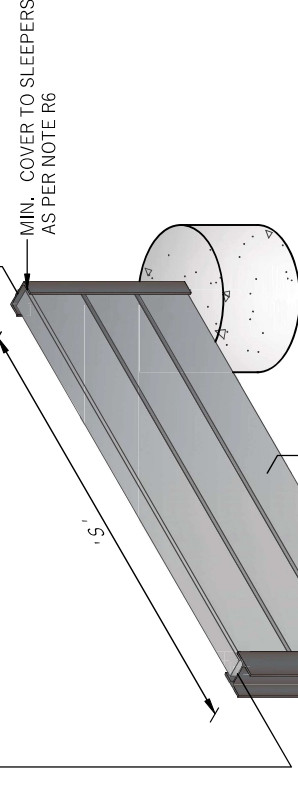
INTERNAL POST

SCALE 1:20



END POST

SCALE 1:20



PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL
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NOTE: ALL CUT SLEEPERS TO HAVE EXPOSED REINFORCEMENT TREATED WITH 3mm LAYER OF MEGAPOXY P1 OR APPROVED EQUIVALENT

DESIGNSIRS ENGINEERS		ENGINEERS AUSTRALIA MEMBER	DATE: FEB. 22	CLIENT	PROJECT	PROJECT NO.
Structural Consulting Engineers Residential, Commercial & Industrial Investigation & Reporting		Mobile: 0437 859 236 Email: info@designsirs.com.au 54 Patrea Street, Banyo QLD 4014	Drawn: D.C	JASON SMITH	PROPOSED NEW RETAINING WALL AT 2-6 HIBISCUS PLACE, GREENBANK QLD 4124	S4434
14/02/22		D.C.	Design: M.C	TITLE	STRUCTURAL NOTES & POST DETAILS	REV. 01
01		ISSUED FOR REVIEW	Date	Rev.	DESCRIPTION	Rev.
Description:						

NO ADDITIONAL STRUCTURAL LOADS WITHIN
2 x "H" TO BE TRANSFERRED TO THE WALL

NOTES

PLANS AND DOCUMENTS
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Approval no: DEV2022/1281

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 Queensland Government

DESIGN PARAMETERS - CONTROLLED FILL (SOIL TYPE 1)

SURCHARGE LOAD	5kPa
WIND LOAD	1800 HIGH SOLID FENCE REGION B, TERRAIN CATEGORY 3
GEOTECHNICAL	SOIL UNIT WEIGHT = 18kN/m ³
	INTERNAL ANGLE OF FRICTION = 26° DRAINED COHESION, C' 2kPa



SECTION A1
SCALE 1:20

DETAIL
SCALE 1:10

Rev.	01	ISSUED FOR REVIEW	14/02/22	D.C.	Structural Consulting Engineers Residential, Commercial & Industrial Investigation & Reporting	 Mobile: 0437 859 236 Email: info@designsirs.com.au 54 Patrea Street, Banyo QLD 4014 MARSHALLS RPEQ 21443	<table><tr><td>Drawn:</td><td>D.C</td></tr><tr><td>Design:</td><td>M.C</td></tr></table>	Drawn:	D.C	Design:	M.C	<table><tr><td>Client:</td><td>JASON SMITH</td></tr></table>	Client:	JASON SMITH	<table><tr><td>Project:</td><td>PROPOSED NEW RETAINING WALL AT 2-6 HIBISCUS PLACE, GREENBANK QLD 4124</td></tr></table>	Project:	PROPOSED NEW RETAINING WALL AT 2-6 HIBISCUS PLACE, GREENBANK QLD 4124	<table><tr><td>Project No.</td><td>S4434</td></tr></table>	Project No.	S4434	<table><tr><td>Rev.</td><td>01</td></tr></table>	Rev.	01
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DETAILS OF HAZARD	RISK LEVEL	DETAILS OF REQUIRED CONTROL MEASURES/ ACTIONS
Excavation & Bulk Earth works heavy plant moving equipment Potential for traffic to strike site worker/ staff	HIGH	Site traffic management & safety plans, SWMS for traffic management & radio communication between plant & vehicles
High cut sections for tall retaining walls Potential for soil to fall in onto work persons	HIGH	All walls over 1.0m shall be cut and battered back as per geotechnical engineers advice, Where battering is not possible temporary shoring methods are to be used. At no point should a person work between concrete sleepers and retained soil
High cut sections for tall retaining walls Potential for persons to fall from height	HIGH	Management procedures are to be in place to mitigate working within 2.0m of any height, Where working in close proximity to heights fall protection Systems are to be used
Deep pier foundations for large retaining walls Potential for persons to fall into pier holes	HIGH	Piers should only be excavated once section of wall is ready to be constructed, Piers should be temporarily filled or barriers used when left over night
Heavy steel post & concrete sleepers Potential for persons to injure themselves by lifting/ dropping Fence brackets exposed during construction	MED	Heavy materials shall be lifted by 2 persons minimum or by using equipment to assist with lift, Risk assessment & SWMS are to be in place before works commence
Potential for persons to trip and impale on fence bracket Building near new or existing services	MED	Management procedures to be in place to mitigate working within 2.0m of exposed fence brackets, Where working in close proximity all fence brackets should be capped with PVC pipe
Potential to damage services & require repairs	LOW	All services are to be clearly shown on plans, pegged & located on site, Where foundation works are in close proximity to services walls shall be constructed in accordance with appropriate build over asset details
Sleeper Installation & backfilling Potential for Sleeper to slip from post during back filling	MED	Ensure all site set out is carried out by an experienced personnel, Ensure sleepers are installed with minimum requirements as per STD-01
Excess flow to walls through fall of lots/ earth works Potential to create excess water flow over walls	LOW	Review of civil works at the design stage to ensure flow of water on-site is not directed over wall without adequate drainage accommodation, A drainage & sediment plan is required on-site during construction period
Finished pad levels for houses Potential for over-filling of walls to occur where F.G.L does not allow for building pad depth	HIGH	Ensure civil designed allows for depth of building pads in finished lot levels, Where lot earthworks have been finished to top of wall, ensure building understands requirement to cut F.G.L down to accommodate building pad
Installation of Agg Pipe and drainage aggregate Potential for Agg. pipe end to be buried	MED	All Agg. pipe ends are to be clearly identified and marked, Where it is expected buried works will occur around pipe, end should be propped with star picket, Any buried pipes identified are to be excavated and propped with star picket, Builders responsibility to connect Agg. pipes to inter-lot storm water drainage system must be communicated

1. Risk level indicate specified control measures/ actions must be fulfilled. If any of the specified hazards & their actions are not clear, please contact WFRB or the design engineer for clarification
2. Safety in Design assessment does not mitigate the Principle Contractors responsibility to have all risk assessments & SWMS in place prior to work beginning
- 3.

Rev.	01	ISSUED FOR REVIEW	14/02/22	D.C.	Structural Consulting Engineers Residential, Commercial & Industrial Investigation & Reporting	 Mobile: 0437 859 236 Email: info@designsirs.com.au 54 Patrea Street, Banyo QLD 4014	Date: FEB. 22 Drawn: D.C. Design: M.C.	CLIENT	JASON SMITH	PROJECT	PROPOSED NEW RETAINING WALL AT 2-6 HIBISCUS PLACE, GREENBANK QLD 4124	PROJECT NO.	S4434
Rev.	S3	DESCRIPTION:	Date	Appd.		 Mark Cullis MRQC 22483	TITLE	SAFETY IN DESIGN SHEET	DRAWING NO.	S3	REV.	01	



19 May 2022

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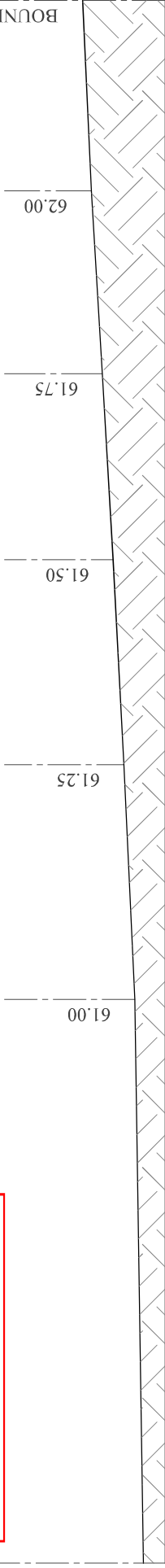


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Date: 19 May 2022

BOUNDARY - 60.80



SECTION A
SCALE 1:100
OP1

BOUNDARY - 62.20

BOUNDARY - 60.80

61.00
61.10

EXISTING FINISHED
GROUND LEVEL

SECTION B
SCALE 1:100
OP2



Mobile: 0437 855 236
Email: info@designsirs.com.au
54 Patrea Street, Banyo QLD 4014

JASON SMITH
CLIENT
DATE: FEB. 22
DRAWN: D.C.
DESIGNED: M.C.
CERTIFIED: M.C.
MARK CHILTS
RPEQ 23483

PROPOSED NEW RETAINING WALL AT 2-6
HIBISCUS PLACE, GREENBANK QLD 4124

EARTHWORKS CUT SECTIONS

PROJECT NO.
S4434

DRAWING NO.
OP3

REV.
02

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Rev.	Description:	Date	Appd.
02	ISSUED FOR CONSTRUCTION	29/03/22	D.C.
01	ISSUED FOR REVIEW	14/02/22	D.C.