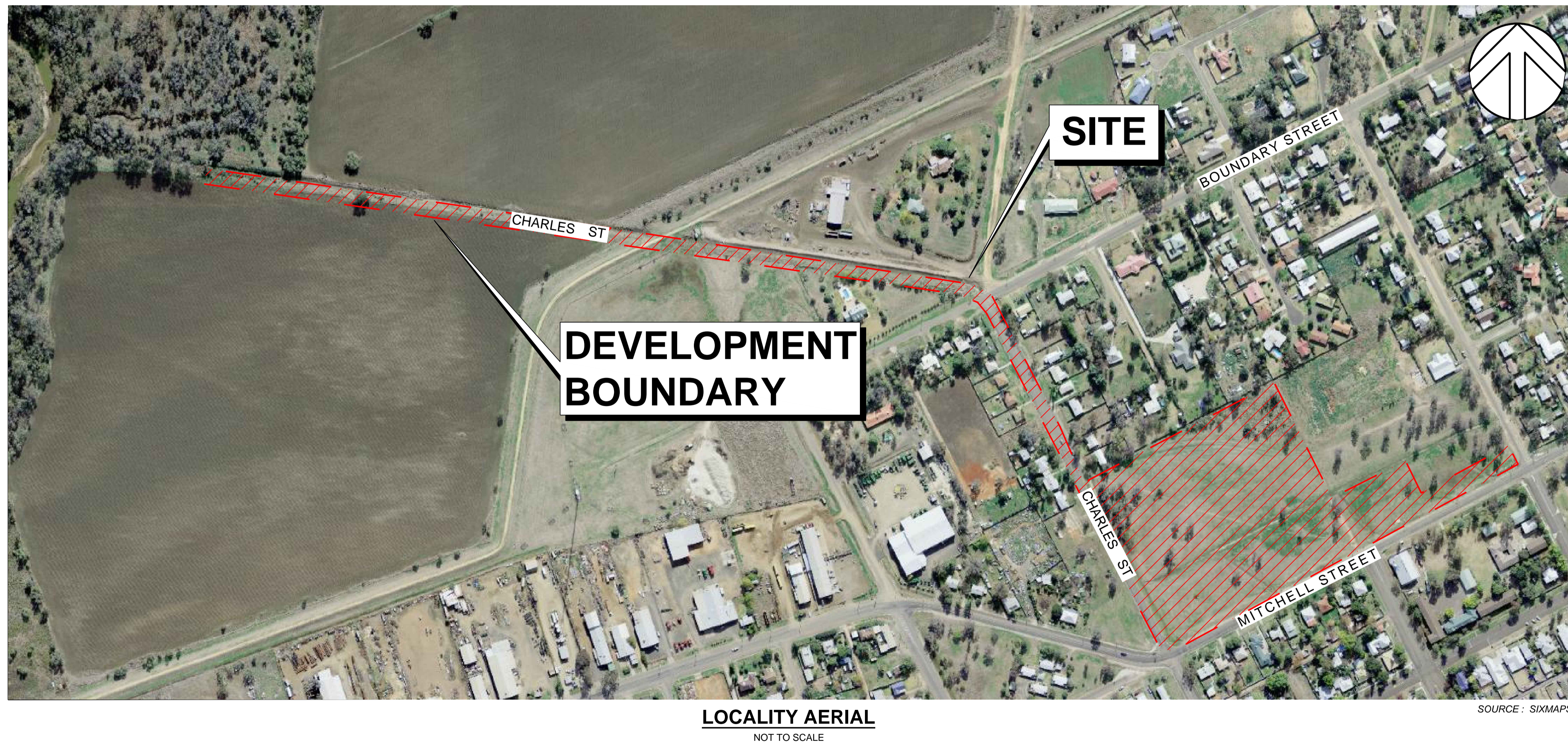


WEE WAA FLOOD MITIGATION WORKS CIVIL & STORMWATER

ISSUED FOR APPROVAL



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Built

ARCHITECT
SHAC

Warren Smith
Consulting Engineers

WARREN SMITH CONSULTING ENGINEERS PTY LTD

ACN 002 197 088 | ABN 36 300 430 126

Hydraulic Fire Civil Utilities Infrastructure

SINCE 1981.

wsp@warrensmith.com.au

www.warrensmith.com.au

NSW
Level 9, 233 Castlereagh St
Sydney 2000 NSW Australia

VIC
Level 20/485 La Trobe St
Melbourne 3000 Vic Australia

PH +61 (2) 9299 1312 | PH +61 (3) 8648 9942

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COVER SHEET

SCALE AS SHOWN	DRAWN M.T.	DESIGNED R.X.	CHECKED J.G.	APPROVED M.C.
JOB No. 7490000		DRAWING No. C1.01		ISSUE 4
DATE APRIL 2022	STATUS ISSUED FOR APPROVAL			

GENERAL

- G1. DESIGN HEREIN HAS BEEN PREPARED BY WARREN SMITH CONSULTING CIVIL ENGINEERS PTY LTD...
G2. THE DRAWINGS HEREIN SHALL BE READ AS REQUIRED IN CONJUNCTION WITH ARCHITECT DRAWINGS BY: SHAC...
G3. ALL DIMENSIONS IN MILLIMETRES UNO. REDUCED LEVELS AND CHAINAGES ARE IN METRES. DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS.

STORMWATER & SUB-SOIL DRAINAGE MATERIALS:

- STW1. PIPES AND FITTINGS FOR STORMWATER DRAINAGE SHALL BE AS FOLLOWS UNO ON THE DRAWINGS:
A. SEWER GRADE uPVC (SN8) WITH SOLVENT WELDED JOINTS FOR BELOW GROUND DRAINAGE. UP TO 225mm.
B. REINFORCED CONCRETE WITH RUBBER RINGS, CLASS 3, FOR PIPE DIA'S GREATER THAN 225mm OR WHERE REQUIRED BY AS3500 FOR EXCESSIVE DEPTH.
C. INSTALL IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

INSTALLATION REQUIREMENTS:

- STW9. PIPES SHALL BE TRUE TO GRADES SHOWN AND ALIGNED SO THAT THE CENTRES OF THE INLET PIPES INTERSECT WITH THE CENTRE OF THE OUTLET PIPE AT THE DOWNSTREAM FACE OF THE PIT.
STW10. MINIMUM GRADES FOR GRAVITY STORMWATER DRAINAGE SHALL CONFORM TO AS3500 PART3 AS FOLLOWS, UNO:
1% FOR 100 AND 150 mm DIA.
0.5% FOR 225 mm DIA
0.5% FOR 300 mm DIA
0.4% FOR 375 mm DIA

- STW12. BED ALL PIPES FIRMLY AND EVENLY ONTO IMPORTED BEDDING FILL MATERIAL.
STW13. LAY AND JOINT ALL PIPES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AS 3175-1989 BURIED FLEXIBLE PIPELINES AS 2566-1998 LOADS ON BURIED FLEXIBLE PIPELINES AS 1597.2-1996 PRECAST REINFORCED CONCRETE BOX CULVERTS.
STW14. ALLOW TO TEST ALL PIPES AND PITS TO MANUFACTURERS REQUIREMENTS.

CONCRETE WORKS

- C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600, THE STANDARDS ASSOCIATION AUSTRALIA, STANDARDS CITED IN AS3600, THE DRAWINGS AND THE SPECIFICATION.
C2. ALL CONCRETE SHALL BE 80mm NOMINAL SLUMP, 20mm MAXIMUM AGGREGATE WITH NO ADMIXTURES OR FLY ASH, UNLESS OTHERWISE APPROVED. ALL CONCRETE WORK IN CONTACT WITH SEWER TO HAVE TYPE SL PORTLAND CEMENT, OTHERWISE TYPE A CEMENT FOR BRIDGE WORKS, A MAXIMUM 56 DAYS SHRINKAGE OF 600 MICROSTRAIN, A MINIMUM CEMENT CONTENT 350kg/m3 AND MAXIMUM WATER:CEMENT RATIO OF 0.40.
C3. STRENGTH GRADE OF CONCRETE SHALL BE : 25 MPa (KERBS, EDGE STRIPS & CONCRETE ENCASEMENT) AND 32 MPa ELSEWHERE.
C4. CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USED ONLY WHERE SHOWN OR APPROVED. GENERALLY FOR HAND PLACED KERB & GUTTER 6mm THICK APPROVED BITUMINOUS MASTIC JOINTING MATERIAL SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 6m. FOR MACHINE PLACED KERB & GUTTER 6mm THICK APPROVED BITUMINOUS MASTIC JOINTING MATERIAL SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 12m & GUILLOTINED DUMMY GROOVED JOINTS, 25mm IN DEPTH, SHALL BE FORMED EVERY 3m OF GUTTER. JOINTS ARE ALSO REQUIRED AT EACH END OF GUTTER CROSSING AND GULLY PITS. JOINTS SHALL BE SET VERTICAL AND SQUARE TO THE KERB.
C5. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
C6. ELDTING OR SPLICES IN REINFORCEMENT SHALL BE USED ONLY IN POSITIONS APPROVED BY THE ENGINEER.
C7. CONCRETE CURING SHALL BE IN ACCORDANCE WITH AS3600. CURING SHALL BE COMMENCED WITHIN TWO HOURS OF FINISHING OPERATIONS AND SHALL BE CONTINUED FOR A MINIMUM OF SEVEN DAYS BY AN APPROVED PROPRIETARY COMPOUND OR BY KEEPING CONTINUOUSLY WET.
C8. FORMWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH AS3610. FORMWORK SHALL NOT BE STRIPPED NOR PROPS REMOVED WITHOUT APPROVAL.
C9. FABRIC LAP DETAILS SHALL BE IN ACCORDANCE WITH FIG.13.2.4 OF AS3600.
C10. HOOKS, LAPS AND BENDS SHALL BE IN ACCORDANCE WITH AS3600 UNO.
C11. ALL CHEMICAL ANCHORS SHALL BE EITHER 'CHEMSET' BY 'RAMSET' WITH THE GLASS CAPSULE SYSTEM INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS OR HILTI HVJ ADHESIVE ANCHOR WITH FOIL CAPSULE SYSTEM INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTION.
C12. ALL CHEMICAL ANCHORS SHALL BE HOT DIPPED GALVANIZED AND BE MIN M16 DIA. U.N.O.

GENERAL EARTHWORKS, SITEWORKS & FILLING: FILLING:

- SGE1. THESE CLAUSES SHALL BE READ IN CONJUNCTION WITH DOUGLAS PARTNERS PROJECT 210883.00 REV 0 GEOTECHNICAL INVESTIGATION REPORT, DATED MARCH 2022.
SGE2. THE RECOMMENDATIONS CONTAINED IN THE GEOTECH REPORT SHALL OVERRIDE THE CLAUSES PRESENTED HEREIN.
SGE3. STRIP ALL TOPSOIL AND UNDERLYING FILL AND STOCKPILE TOPSOIL FOR LATER REUSE FOR LANDSCAPING PURPOSES.
SGE4. NEW FILL REQUIRED TO REINSTATE CUT LEVELS TO PROPOSED BENCHING LEVELS SHALL BE SOURCED FROM OTHER PARTS OF THE EXCAVATION AS SELECT FILL OR IMPORTED FILL AS SPECIFIED BELOW IN SGE 5 AND SGE 6.

- SGE5. SELECT FILL SHALL CONSIST OF LOCALLY DERIVED OR CUT NATURAL CLAYS.
SGE6. IMPORTED FILL SHALL CONSIST OF RIPPED SANDSTONE OR SHALE OR SIMILAR MATERIAL WITH MAXIMUM PARTICLE SIZE NOT GREATER THAN 120mm AND A MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.
SGE7. ALL FILL (COHESIVE SOIL) SHALL BE PLACED IN LAYERS OF 200mm MAXIMUM THICKNESS, COMPACTED BY MACHINE ROLLING TO ACHIEVE A DRY DENSITY RATIO OF NOT LESS THAN 98% STANDARD MAXIMUM AT A CORRESPONDING MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.
SGE8. IN AREAS WHERE HIGH IMPACT ROLLING IS USED TEST EACH FINAL LAYER OF NOT GREATER THAN 300mm TO 400mm TO ACHIEVE A DRY DENSITY SGE8. RATIO OF NOT LESS THAN 98% STANDARD MAXIMUM AT A CORRESPONDING MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.
EXCAVATION BATTERS:
SGE9. ALL TEMPORARY BATTERS CUT IN CLAY SUBSTRATE SHALL BE 1 HORIZ : 1 VERT. ALL LONG TERM EXPOSED BATTERS CUT IN CLAY SUBSTRATE SHALL BE 2 HORIZ : 1 VERT. ALL DETENTION BASIN BATTERS IN CLAY SUBSTRATE SHALL BE 3 HORIZ : 1 VERT. ALL DETENTION BASIN BATTERS IN ROCK SUBSTRATE SHALL BE NEAR VERTICAL.
SGE10. GEOTECHNICAL TESTING IS TO BE UNDERTAKEN TO AT LEAST LEVEL 1 CONTROL OF FILL COMPACTION STANDARD, AS DEFINED IN AS. 3738 AS FOLLOWS
FOR GENERAL FILL OR CUT AREAS OVER THE AREA PROVIDED ONE (1) TEST PER 200mm LAYER, OVER AN AREA NOT GREATER THAN 500 m²
FOR GENERAL FILL AREAS IN CONCENTRATED AREAS ADJACENT TO AND BEHIND THE STRUCTURE AND ADJACENT TO AND BEHIND RETAINING WALLS PROVIDED ONE (1) TEST PER 200mm LAYER, OVER AN AREA NOT GREATER THAN 50m²
SGE11. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN SMITH CONSULTING ENGINEERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

EARTH WORKS FOR SERVICES

- E1. EXCAVATE TRENCHES AND STOCKPILE ALL MATERIAL FOR INSPECTION WITH REGARD TO RE-USE FOR TRENCH BACKFILL. REMAINING MATERIAL TO BE REMOVED FROM SITE.
E2. BEDDING MATERIAL SHALL CONSIST OF IMPORTED FILL ONLY. THICKNESS OF BEDDING LAYER SHALL BE 75mm IN O.T.R. AND 200mm IN ROCK.
E3. EMBED ALL PIPES WITH IMPORTED FILL. PROVIDE 200mm SIDE SUPPORT AND 150mm OVERLAY ABOVE PIPE CROWN.
E4. TRENCH FILL ABOVE THE EMBEDMENT ZONE TO THE UNDERSIDE OF THE ROAD PAVEMENT OR FOOTWAY FILL MATERIAL SHALL BE AS FOLLOWS :
UNDER ROADWAY
TRENCH FILL MATERIAL SHALL CONSIST OF IMPORTED FILL AS SPECIFIED HEREIN OR EITHER HIGH GRADE COMPACTION SAND OR IMPROVED CRUSHED ROAD GRAVEL CONFORMING TO RTA FORM 3051 OR SIMILAR.
OTHER THAN ROADWAY
TRENCH FILL MATERIAL EXCAVATED SHALL CONSIST OF SELECT FILL AS SPECIFIED HEREIN AND SHALL NOT CONTAIN MORE THAN 20% OF STONES OF SIZE BETWEEN 75mm & 150mm AND NONE LARGER THAN 150mm. PRIOR TO THE USE OF THE EXCAVATED MATERIAL IT SHALL BE INSPECTED AND APPROVED BY THE CONSULTANT.
E5. COMPACT BEDDING, EMBEDMENT AND TRENCH FILL MATERIALS AS FOLLOWS:
EMBEDMENT:- FOR GRANULAR FILL MATERIAL (NON-COHESIVE SOILS) EG. COARSE AGGREGATE FILL, HIGH GRADE COMPACTION SAND, THE DENSITY INDEX (DI) SHALL BE NOT LESS THAN 70%.
TRENCH FILL:- FOR GRANULAR MATERIAL (NON-COHESIVE SOILS), THE DENSITY INDEX (DI) SHALL BE NOT LESS THAN 70%.
FOR NON-GRANULAR FILL MATERIAL (COHESIVE SOILS), THE DRY DENSITY RATIO (RD) SHALL BE NOT LESS THAN 95%.

- E6. MEASURE OF COMPACTION:- THE DEGREE OF COMPACTION SHALL BE MEASURED BY ONE OF THE FOLLOWING PARAMETERS :-
GRANULAR FILL (NON-COHESIVE SOILS). THE DENSITY INDEX (DI) DETERMINED IN ACCORDANCE WITH AS 1289.E6.1 BASED ON THE MAXIMUM AND MINIMUM DRY DENSITIES IN ACCORDANCE WITH AS 1289.E5.1 AND THE FIELD DRY DENSITY IN ACCORDANCE WITH AS 1289.5.3.2, AS 1289.E3.5 OR AS 1289.E8.1.
NON-GRANULAR FILL (COHESIVE SOILS). THE DRY DENSITY RATION (RD) DETERMINED IN ACCORDANCE WITH AS 1289.5.4.1 BASED ON THE FIELD DRY DENSITY IN ACCORDANCE WITH AS 1289.5.3.2 AND THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289.5.1.1.
E7. GEOTECHNICAL TESTING IS TO BE UNDERTAKEN TO AT LEAST LEVEL 1 CONTROL OF FILL COMPACTION STANDARD, AS DEFINED IN AS. 3738 AS FOLLOWS:
TEST EACH 300mm LAYER ABOVE PIPE CROWN.
TEST BASE & SUB-BASE LAYERS WHERE APPLICABLE.
TESTS SHALL BE REQUIRED AT EACH 50m CENTRES WHERE THE LENGTH OF TRENCH IS WITHIN THE 50m REQUIREMENT.
E8. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN CONSULTING ENGINEERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

RESTORATION:

- RES1. RESTORE ALL TRAFFIC AREAS TO PRE EXISTING CONDITION.
RES2. FOR ALL SURFACES OTHER THAN IN TRAFFIC AREAS RESTORE DISTURBED SURFACES TO PRE-EXISTING CONDITIONS AND COMPACT AS SPECIFIED.
RES3. RESTORE ALL AUTHORITY OWNED AREAS TO COUNCIL STANDARDS

ROAD WORKS, DRIVEWAYS & CARPARKS

- R1. ALLOW FOR LEVEL 2 TESTING AND SUB-GRADE CONDITIONS & PAVEMENT THICKNESS TO BE VERIFIED BY GEOTECHNICAL CONSULTANT AFTER INSPECTION OF PRELIMINARY BOXING.
R2. ALLOW FOR ANY SUB-GRADE REPLACEMENT WORK TO BE DETERMINED AS REQUIRED BY GEOTECHNICAL CONSULTANT AT THE TIME OF PAVEMENT CONSTRUCTION.
R3. MINIMUM DRY DENSITY RATIOS (AS 1289.3.4.1-1993) TO BE:
BASE COURSE: 98% MODIFIED
SUB-BASE: 95% MODIFIED
SUB-GRADE: 100% STANDARD
SUB-GRADE REPLACEMENT: 100% STANDARD
R4. PAVEMENT MATERIALS TO COMPLY WITH RMS SPECIFICATION No. 3051 OR SIMILAR AS APPROVED BY GEOTECHNICAL CONSULTANT.
R5. PROVIDE (1) TEST FOR EACH LAYER NOT EXCEEDING 250mm THICK BEING BASECOURSE, SUB-BASE & SUB-GRADE OVER AN AREA NOT GREATER THAN 500m²
R6. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN CONSULTING ENGINEERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

APPROVALS

- A1. THE AS CONSTRUCTED WORKS SHALL BE INSPECTED BY DESIGN CONSULTANT. MINIMUM 48 HOURS NOTICE SHALL APPLY TO ALL INSPECTIONS.
A2. THE DESIGN PLANS HEREIN ARE SUBJECT TO LOCAL COUNCIL APPROVAL PRIOR TO CONSTRUCTION. OBTAIN EXPRESS (WRITTEN) ADVICE TO PROCEED FROM PROJECT MANAGER PRIOR TO COMMENCEMENT.
A3. SUBMIT WORK-AS-EXECUTED DRAWINGS IN CIVILCAD OR DXF DIGITAL FORMAT AND HARD COPY FORMAT. VERIFY ALL CONSTRUCTION WORKS SHOWN HEREON.
A4. CERTIFY THAT THE AS CONSTRUCTED SYSTEM HAS BEEN BUILT IN ACCORDANCE WITH THE APPROVED PLANS ISSUED FOR CONSTRUCTION.

SERVICES UNDER ROAD SURFACES

- S1. ALL OTHER SERVICES INCLUDING BUT NOT LIMITED TO WATER, HYDRANT, GAS, SEWER, ELECTRICAL AND COMMUNICATIONS CONDUITS OR CABLES SHALL BE LAID WITH MINIMUM 600mm U.N.O. COVER BELOW PROPOSED ROAD SURFACE OR APPROVED OTHER MEANS TO PROTECT DURING CONSTRUCTION.

ROAD SIGNS & LINE MARKING

- RS1. ALL SIGNS AND LINEMARKING SHALL BE TO ROADS & TRAFFIC AUTHORITY STANDARDS AND SPECIFICATIONS AND AS 1742, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
RS2. ALL LINEMARKING SHALL BE AUGMENTED BY RETROREFLECTIVE RAISED PAVEMENT MARKERS (RRPMs) AND ALL SHALL BE TO AS 1742.2 - 1994 AND AS 1742.2 /AMDT 1/1997-10-05
RS3. ALL ROAD SIGNS AND POSTS SHALL BE TO AS 1742.2 - 1994 AND AS 1742.2 /AMDT 1/1997-10-05

PROTECTION OF FLORA - REFER SPECIFICATION

- 1. ANY TRENCHES WITHIN 3m OF TREES SHALL BE HAND DUG TO AVOID DAMAGE TO TREE ROOTS.
2. IF IT IS CONSIDERED NECESSARY TO PERFORM ANY WORK ON TREES, INCLUDING TRIMMING, LOPPING, ROOT CUTTING, REPAIR AND REMOVAL, APPLICATION IN WRITING SHALL BE MADE BY THE CONTRACTOR TO THE SUPERINTENDENT. ANY WORK PERMITTED TO BE DONE ON TREES TO BE RETAINED SHALL BE PERFORMED IN ACCORDANCE WITH THE ARBORISTS REPORT.
3. MATURE TREES AND SHRUBS ARE TO BE REMOVED IN ACCORDANCE WITH THE ARBORISTS REPORT.

AUTHORITY STANDARDS

- LGA 1. THE DRAWINGS HEREIN SHALL BE READ IN CONJUNCTION WITH NARRABRI SHIRE COUNCIL STANDARDS & SPECIFICATIONS WHICH SHALL OVERRIDE SPECIAL DETAILS SHOWN ON THE DRAWINGS.

TRAFFIC NOTE:

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

PRIOR TO COMMENCEMENT OF WORK

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

CLOSED CIRCUIT COLOUR TV (CCTV)

- CCTV 1. UNDERTAKE A CCTV INSPECTION OF ALL THE COMPLETED DRAINAGE IN ACCORDANCE WITH THE GUIDELINES OF THE AUSTRALIAN CONDUIT CONDITION EVALUATION MANUAL (ACCEM)
CCTV 2. APPLY THE FOLLOWING REQUIREMENTS TO THE CCTV INSPECTION:-
A. USE DATA CAPTURE SOFTWARE APPROVED BY SYDNEY WATER
B. USE CERTIFIED CCTV OPERATORS C. THE CCTV FOOTAGE SHALL BE OF QUALITY TO ALLOW ACCURATE ASSESSMENT OF THE INTERNAL CONDITION OF THE PIPE. FURNISH TO THE DESIGN CONSULTANT:-
CCTV 3. A. VIDEOS IN MPG FORMAT
B. CCTV REPORT AND SURVEY DATA IN PDF FORMAT

PROTECTION OF TREES

- T1. WHERE STORMWATER DRAINAGE IS LAID WITHIN THE VICINITY OF TREES / CANOPIES OF TREES, WORK IS TO BE COMPLETED TO THE PROJECT ARBORIST'S REQUIREMENTS AND SPECIFICATIONS.

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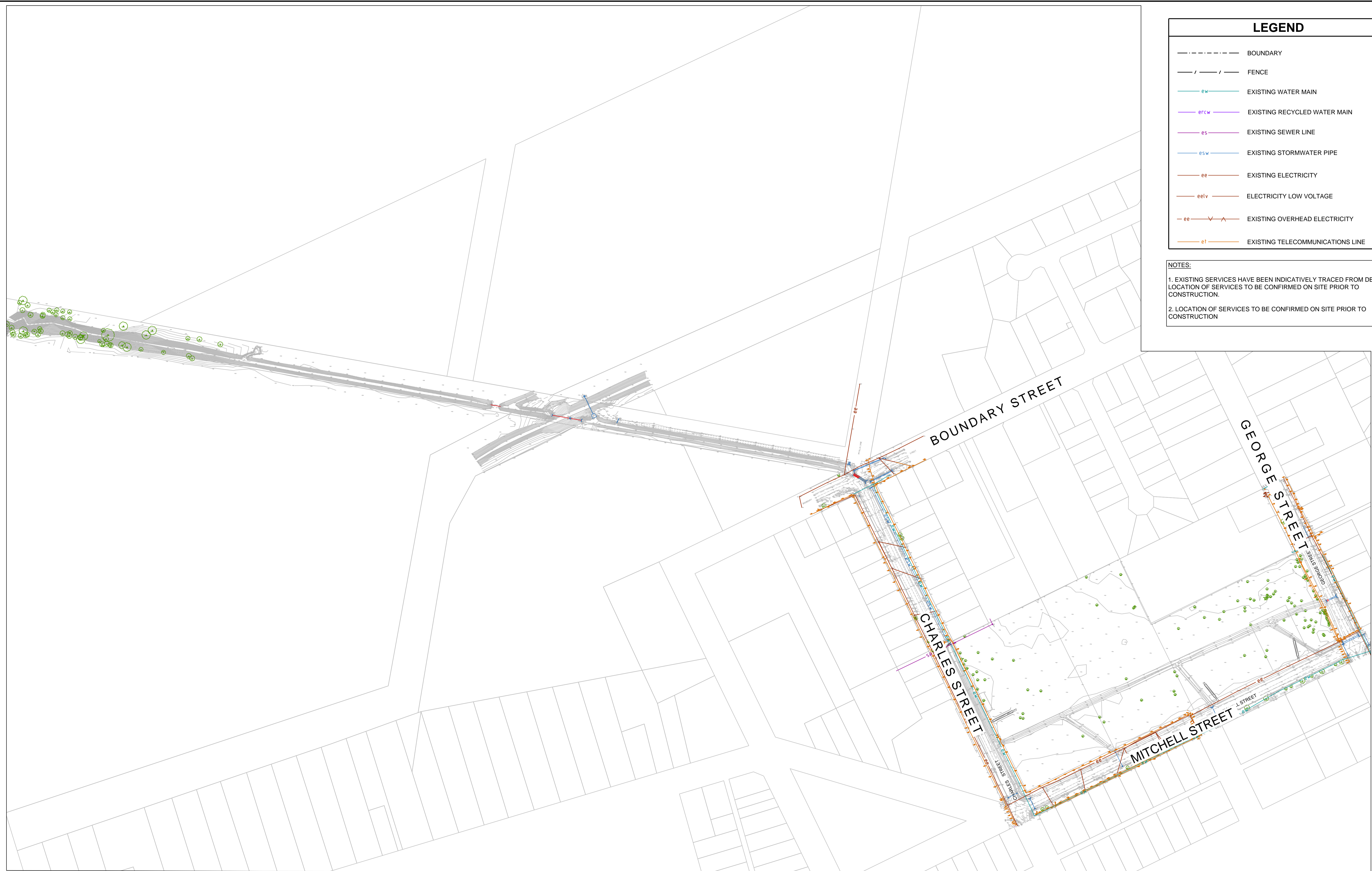
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Table with 4 columns: REVISION, AMENDMENT, DATE, and empty cells for tracking changes.

Client information for NSW Government, PROJECT: WEE WAA FLOOD MITIGATION WORKS

Warren Smith Consulting Engineers contact information and accreditation details.

Specification notes table including SCALE, DRAWN, DESIGNED, CHECKED, APPROVED, JOB No., DRAWING No., DATE, STATUS, and ISSUE.



LEGEND	
	BOUNDARY
	FENCE
	EXISTING WATER MAIN
	EXISTING RECYCLED WATER MAIN
	EXISTING SEWER LINE
	EXISTING STORMWATER PIPE
	EXISTING ELECTRICITY
	ELECTRICITY LOW VOLTAGE
	EXISTING OVERHEAD ELECTRICITY
	EXISTING TELECOMMUNICATIONS LINE

NOTES:

- EXISTING SERVICES HAVE BEEN INDICATIVELY TRACED FROM DBYD. LOCATION OF SERVICES TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.
- LOCATION OF SERVICES TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION

PRELIMINARY - NOT FOR CONSTRUCTION

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PLAN SCALE 1:2000 A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	25/03/22			
2	RE-ISSUED FOR APPROVAL	06/04/22			
3	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT

PROJECT

WEE WAA FLOOD MITIGATION WORKS

PREPARED BY

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
VIC: Suite 7.03, 365 Little Collins St Melbourne 3000 VIC Australia

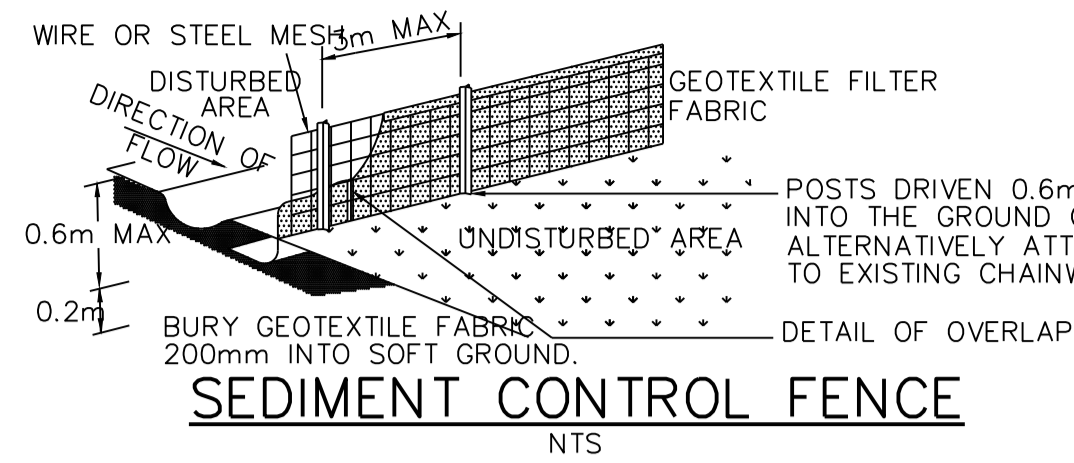
PH +61 (2) 9299 1312 PH +61 (3) 8648 9942

www.warrensmith.com.au
wsp@warrensmith.com.au

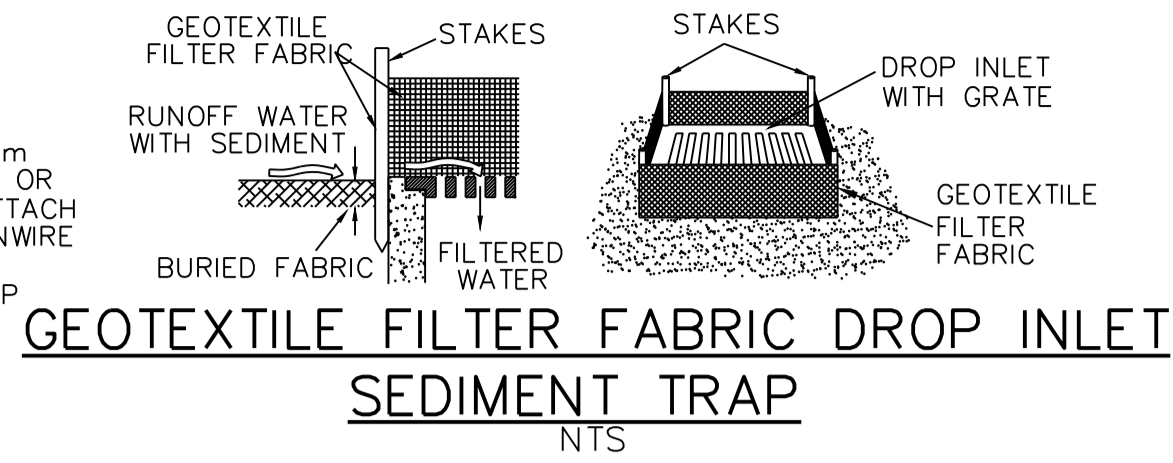
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Hydraulic Fire Civil Utilities Infrastructure

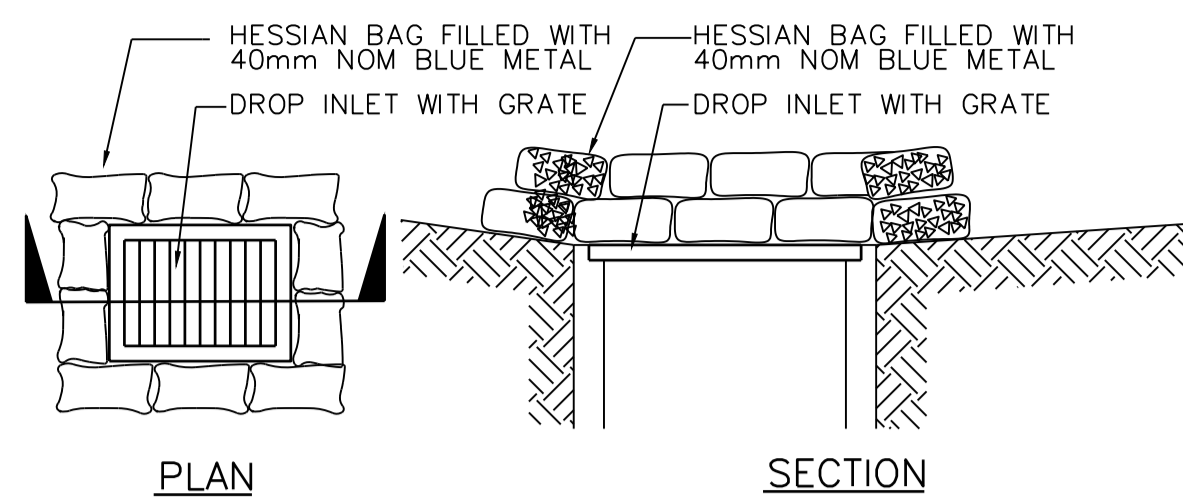
EXISTING SURVEY				
SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	M.T.	R.X.	J.G.	M.C.
JOB No.	DRAWING No.		ISSUE	
7490000	C1.03		3	
DATE	STATUS			
APRIL 2022	ISSUED FOR APPROVAL			



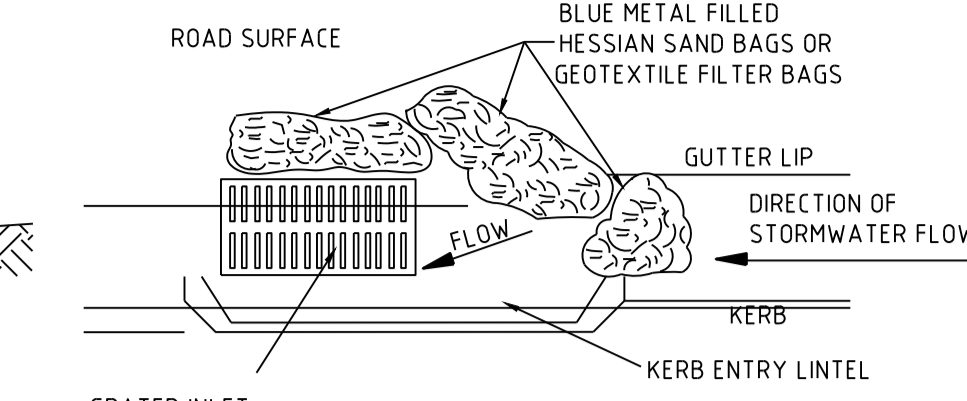
SEDIMENT CONTROL FENCE
NTS



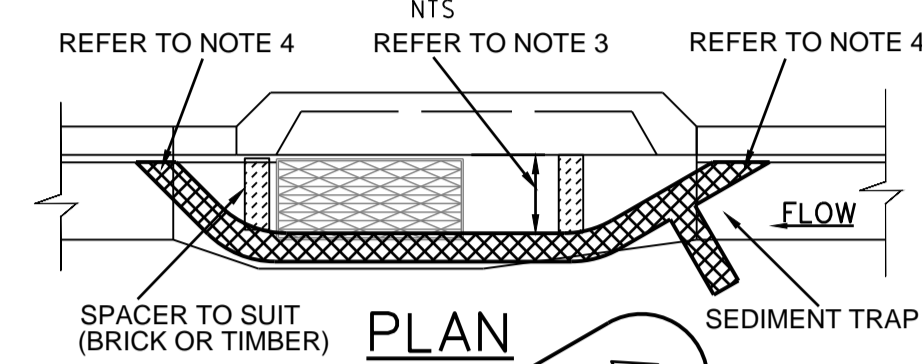
GEOTEXTILE FILTER FABRIC DROP INLET
NTS



HESSIAN BAG DROP INLET SEDIMENT TRAP
NTS



NEW/EXISTING GRATED KERB ENTRY PIT SEDIMENT CONTROL BARRIER
NTS

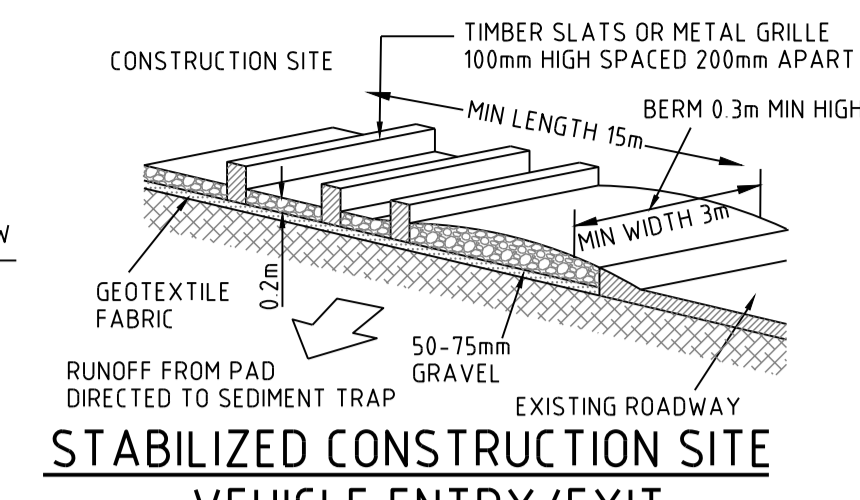


GEOTEXTILE FILTER BAGS
NTS

SEDIMENT BARRIER FOR PITS & PIPES, NOTES:--

- SLEEVES ARE TO BE MADE FROM GEOTEXTILE FABRIC LONGER THEN THE LENGTH OF THE INLET PIT.
- FILL SLEEVE WITH 5 OR 10mm CLEAN GRAVEL.
- PLACE THE SLEEVE AT THE OPENING OF THE KERB INLET LEAVING A 100mm GAP TO ACT AS AN EMERGENCY OVERFLOW.
- SLEEVE MUST BE PLACED AGAINST THE KERB TO PREVENT BYPASS.
- FIT SLEEVE TO ALL INLETS DOWNSTREAM OF THE WORKS.
- FOR DRAINAGE WORKS FIT GEOTEXTILE FABRIC OR GEO BAGS TO UPSTREAM FACE OF ALL OPEN PIPES.
- MAINTAIN AN OPENING AT THE TOP OF THE PIPE OF 1/3 OF THE PIPE DIAMETER.
- THE FILTERS ARE TO BE CLEANED AND MAINTAINED DAILY.

ALL CARE SHOULD BE TAKEN TO MINIMIZE SEDIMENT REACHING THE STORMWATER SYSTEM BY MINIMIZING EXCAVATION WORKS AND PREVENTING EXCESS WATER FLOW THROUGH WORKS.

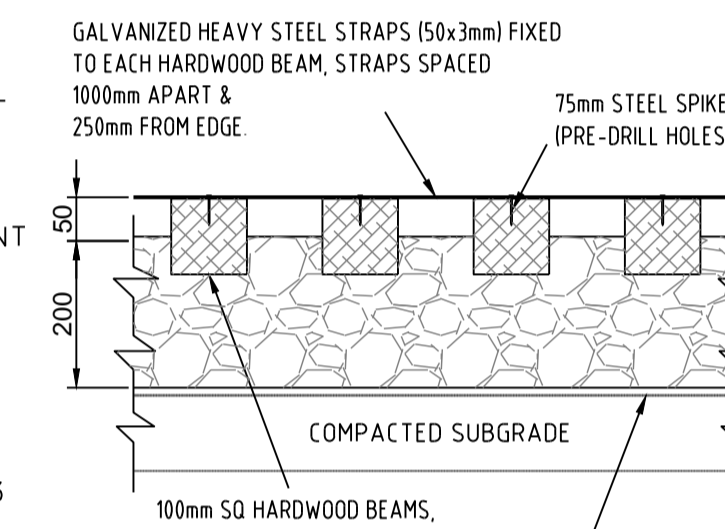


STABILIZED CONSTRUCTION SITE VEHICLE ENTRY/EXIT
NTS

SITE ENTRY/EXIT NOTES:--

- ALL VEHICLE ENTRANCES & EXITS TO THE CONSTRUCTION SITE MUST BE STABILIZED TO PREVENT THEM BECOMING A SOURCE OF SEDIMENT, BY PROVIDING A VEHICLE SHAKE AREA. THIS MAY CONSIST OF A TIMBER, CONCRETE OR STEEL SHAKER GRID OR RUBBLE AREA.
- THE VEHICLE EXIT AREA IS TO BE MAINTAINED IN A CLEAN & SERVICEABLE CONDITION DURING THE TOTAL TIME OF USAGE.
- ANY UNSEALED ROAD BETWEEN THE DEVICE AND COUNCIL'S ROADWAY IS TO BE TOPPED WITH 100mm THICK, 40mm NOMINAL SIZE AGGREGATE.
- PUBLIC ROADS MUST BE KEPT FREE OF DIRT AND MUD. SEDIMENT TRACKED ONTO THE PUBLIC ROADWAY BY VEHICLES LEAVING THE CONSTRUCTION SITE IS TO BE SWEEPED UP IMMEDIATELY.

FENCES SHOULD BE ERECTED TO ENSURE VEHICLES CAN NOT BYPASS THE STABILIZED ACCESS POINTS, UNLESS COMING FROM A STABILIZED AREA.



VEHICLE SHAKER GRID
NTS

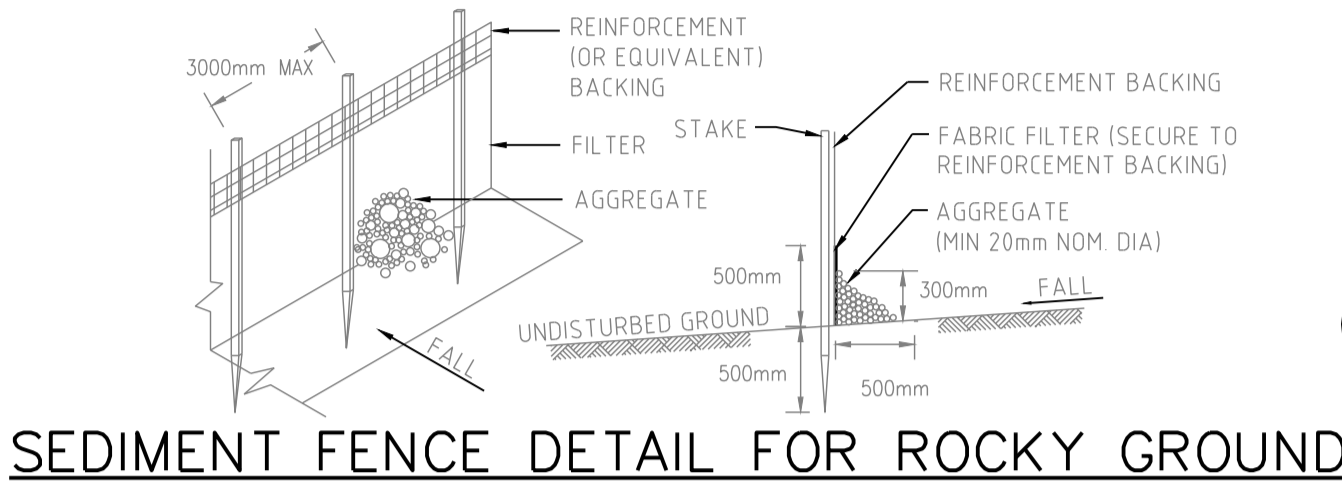
SITE ENTRY/EXIT CONSTRUCTION NOTES:--

- STRIP TOP SOIL & LEVEL SITE. PROVIDE CATCH DRAIN AT SIDES TO DIRECT RUNOFF WATER TO SEDIMENT TRAPS.
- COMPACT SUBGRADE AND REMOVE ANY HIGH POINTS.
- COVER AREA WITH GEOTEXTILE FABRIC. THIS MAY BE WOVEN OR NEEDLE PUNCHED PRODUCT WITH A MINIMUM CBR BURST STRENGTH (AS3706.4-90) OF 2500 N.
- CONSTRUCT 200mm THICK RUBBLE PAD OVER GEOTEXTILE USING ROAD BASE OR 30-40mm AGGREGATE. MINIMUM LENGTH 15 METRES OR TO BUILDING ALIGNMENT. MINIMUM WIDTH 3 METRES. CONSTRUCT 300mm HIGH HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT TRAP.
- WHERE GRIDS ARE USED FIRST CONSTRUCT A 150 THICK PAD OVER GEOTEXTILE FABRIC. LEVEL THIS IN BOTH DIRECTIONS. LOWER GRID ON TO THE PREPARED BASE AND ENSURE THAT NO PART IS SITTING ON ANY HIGH POINTS. BACKFILL THE SPACES BETWEEN THE GRIDS TO WITHIN 50mm OF THE TOP.

PROVIDE RAMPS AT ENDS AND SIDE OF GRIDS. IF DEPRESSIONS OCCUR IN THE RAMPS DURING USE. ADD ADDITIONAL MATERIAL.

MAINTENANCE REQUIREMENTS:--

- ACCUMULATED SILT & SEDIMENT MUST BE REMOVED AT REGULAR INTERVALS AND AFTER EACH MAJOR STORM.
 - SILT & SEDIMENT MUST BE REMOVED FROM OFF THE SITE OR TO A COUNCIL APPROVED LOCATION WITHIN THE SITE, WHERE IT WILL NOT ERODE.
 - THE SEDIMENT FENCES, BALES & TRAPS SHALL BE REGULARLY INSPECTED, ESPECIALLY AFTER RAIN AND KEPT IN GOOD REPAIR AND FUNCTIONING CONDITION AT ALL TIMES.
 - CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT SEDIMENT, EROSION & WATER POLLUTION SHALL BE MINIMIZED.
- THE SEDIMENT TRAPS SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONSTRUCTION AREA HAS BEEN PROPERLY STABILIZED.

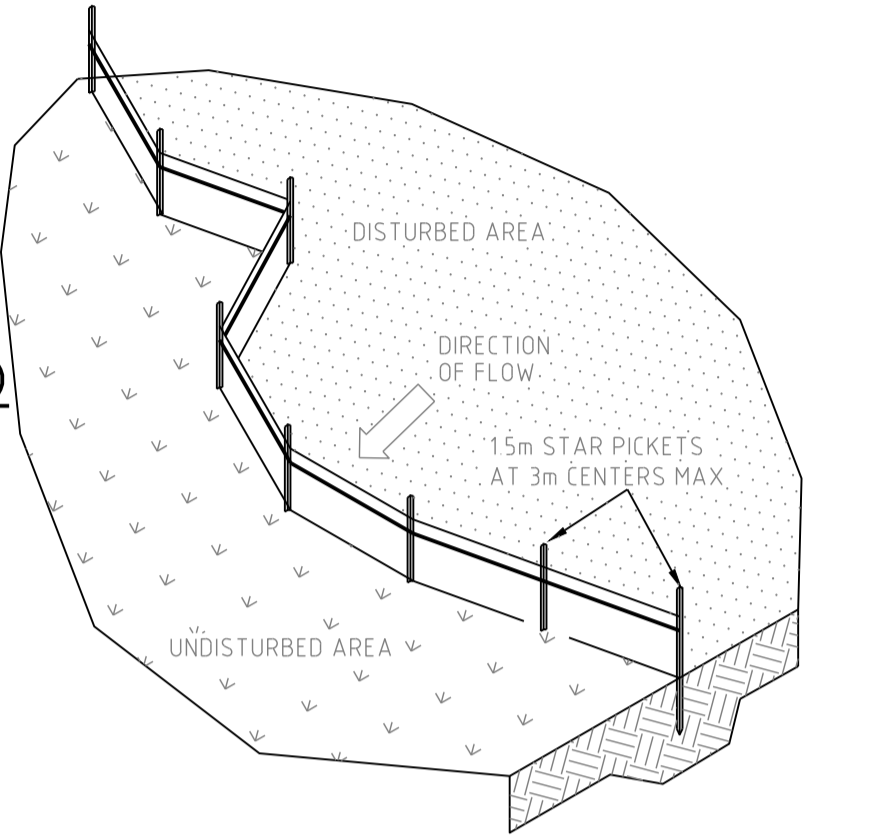


SEDIMENT FENCE DETAIL FOR ROCKY GROUND
NTS

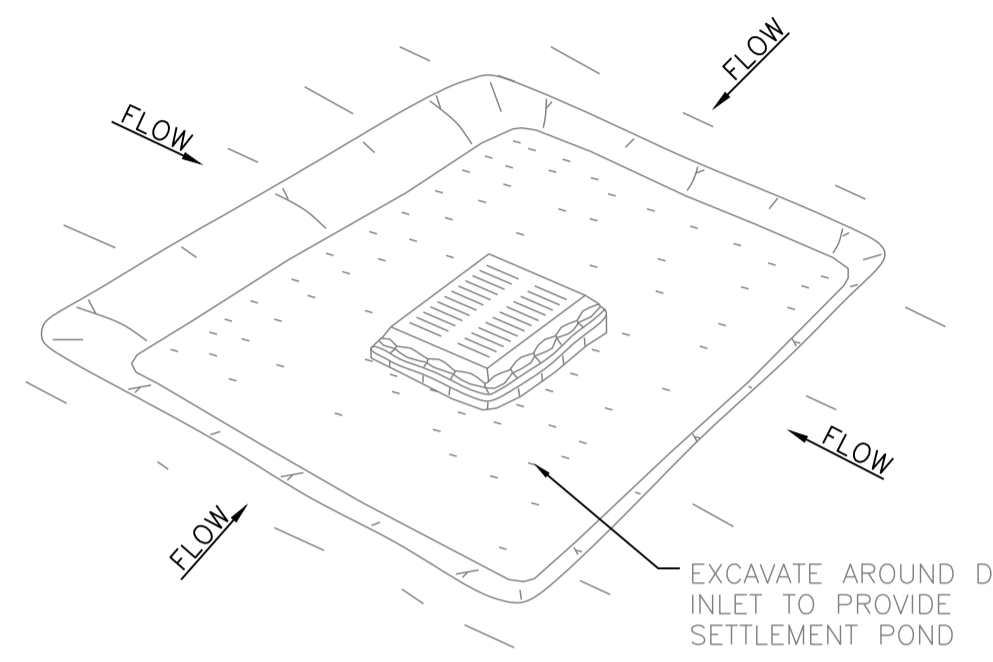
SEDIMENT FENCE NOTES:--

- CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE OR AT THE TOE OF A SLOPE.
- DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND SUFFICIENT TO PROVIDE RIGID SUPPORT, 3 METERS APART. WHERE THERE IS INSUFFICIENT SOIL DEPTH OVER ROCK, HOLES ARE TO BE DRILLED INTO ROCK TO ACCEPT THE STAR PICKETS.
- ON SOFT GROUND MATERIALS, DIG A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
- BACKFILL TRENCH OVER BASE OF FABRIC & COMPACT.
- FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY THE GEOTEXTILE MANUFACTURER. USE A REINFORCEMENT BACKING WITH NON SELF-SUPPORTING GEOTEXTILE FABRIC.
- MANUFACTURER. USE A REINFORCEMENT BACKING WITH NON SELF-SUPPORTING GEOTEXTILE FABRIC.
- JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
- ON HARD OR ROCKY GROUND, SMOOTH A 500mm WIDE STRIP UPSLOPE OF THE FENCE LINE. TURN THE BOTTOM 500mm OF THE FABRIC UPSLOPE AND ANCHOR IN PLACE WITH SUITABLE AGGREGATE.

WHERE A SEDIMENT FENCE IS CONSTRUCTED DOWN SLOPE FROM A DISTURBED BATTER THE FENCE SHOULD BE LOCATED 1.5 TO 2.0 METERS DOWN SLOPE FROM THE TOE OF THE BATTER.



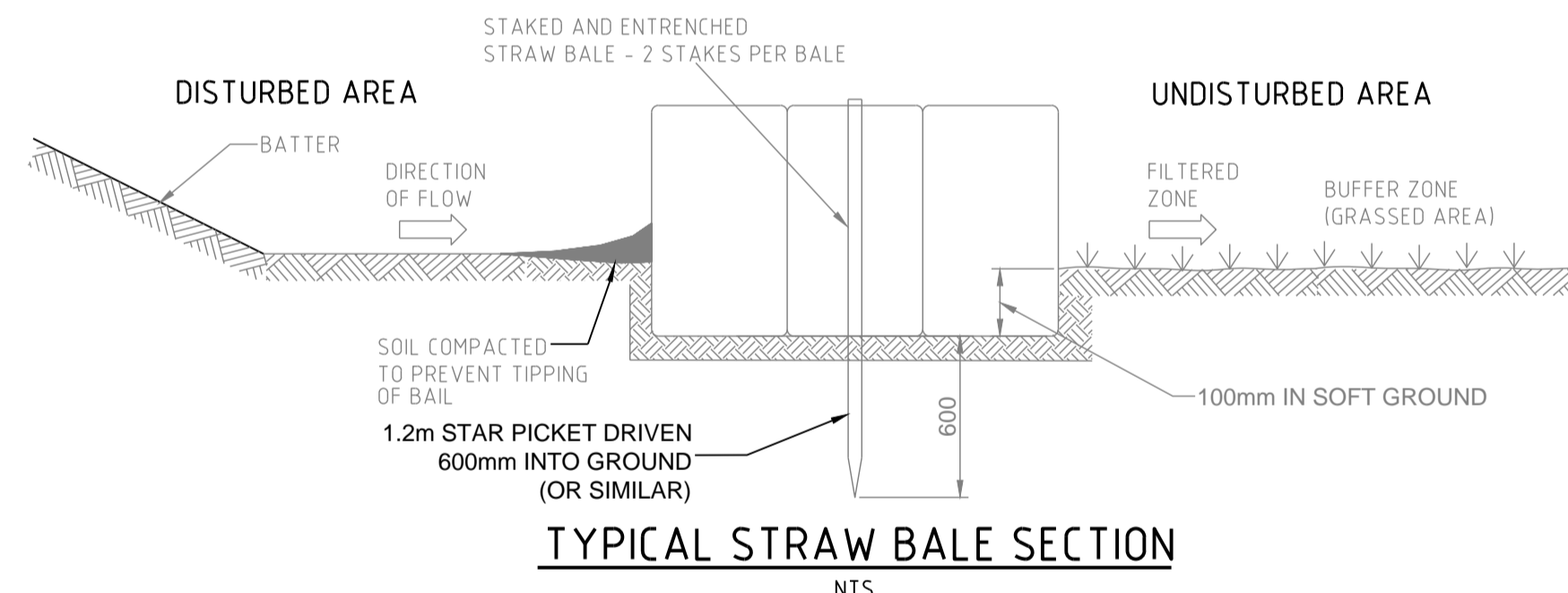
SEDIMENT FENCE LAYOUT PLAN
NTS



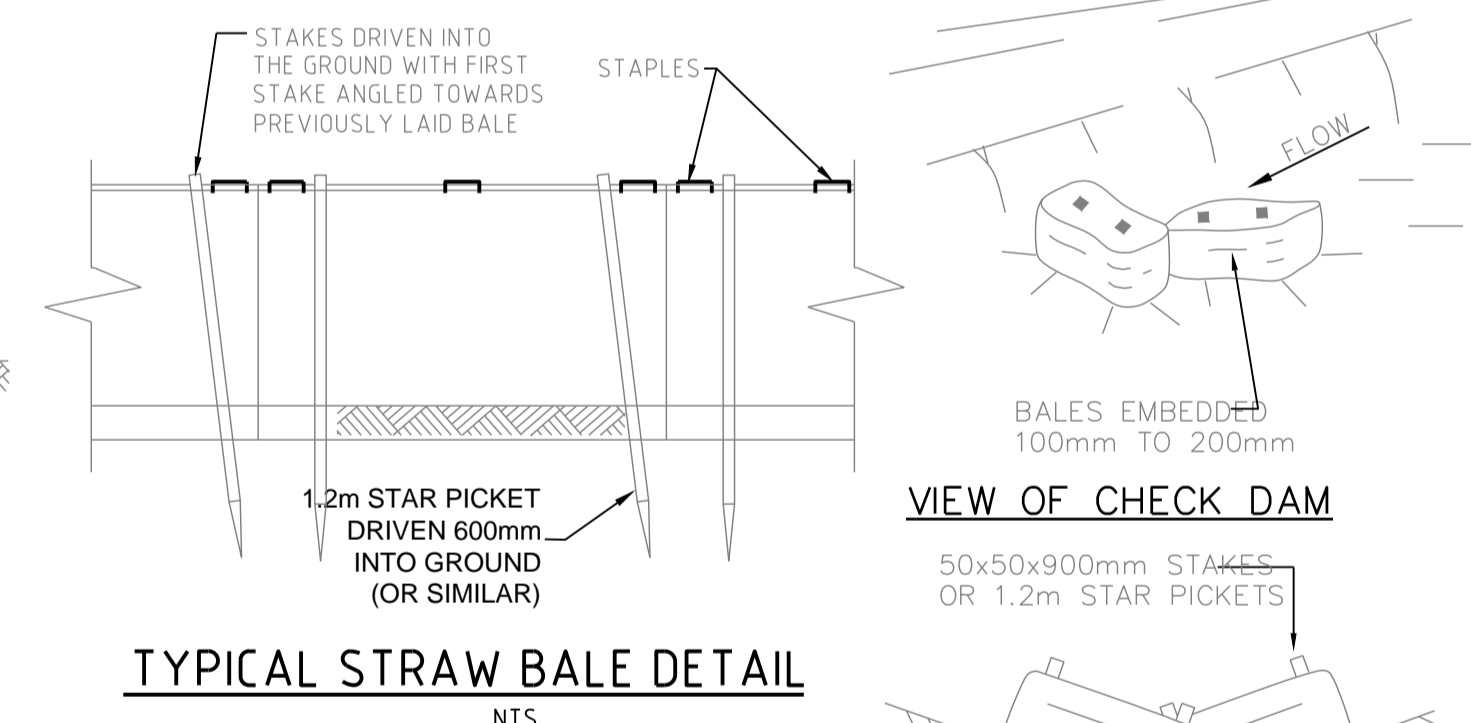
EXCAVATED SEDIMENT TRAP
NTS

EXCAVATED SEDIMENT TRAP NOTES:--

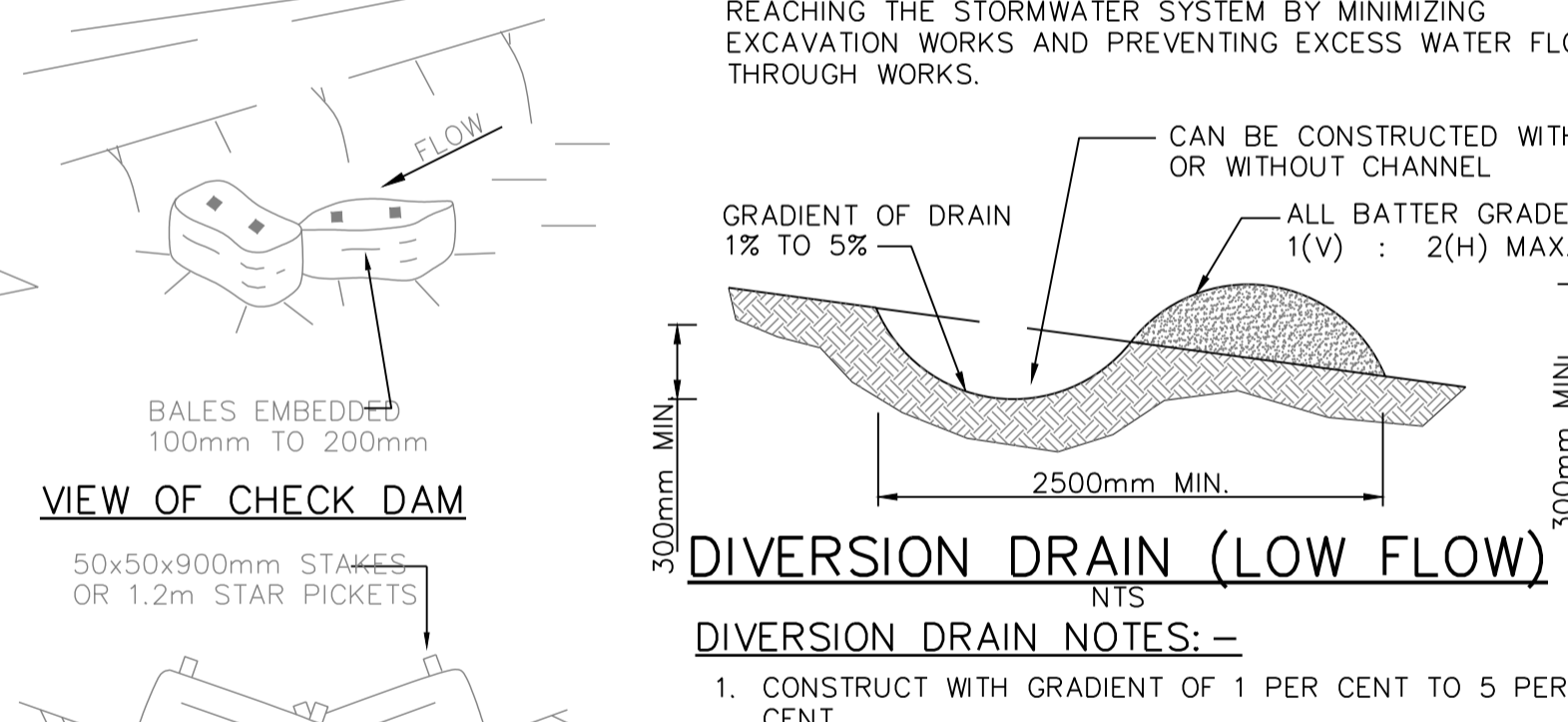
- REMOVE THE SEDIMENT WHEN IT HAS ACCUMULATED TO HALF THE DESIGN DEPTH OF THE TRAP AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS.
- PROVIDE 50 cu.m/ha OF SEDIMENT STORAGE VOLUME.
- REFER TO THE MAINTENANCE REQUIREMENTS.



TYPICAL STRAW BALE SECTION
NTS



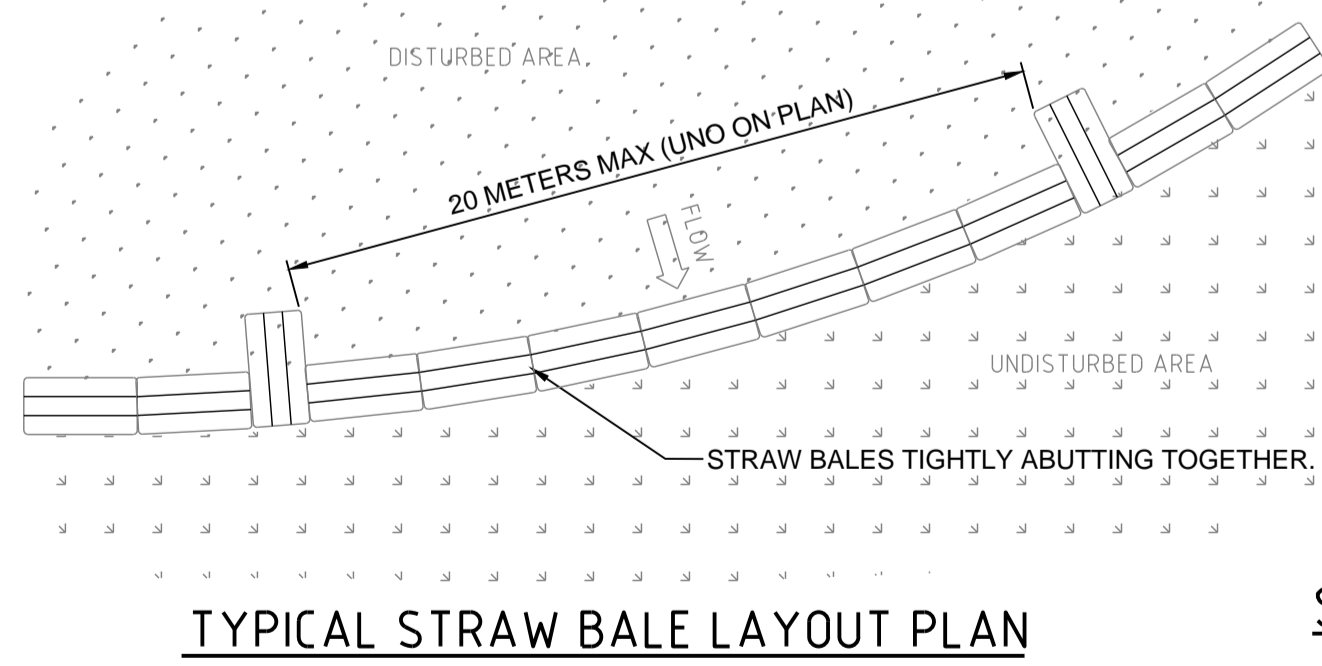
TYPICAL STRAW BALE DETAIL
NTS



DIVERSION DRAIN (LOW FLOW)
NTS

DIVERSION DRAIN NOTES:--

- CONSTRUCT WITH GRADIENT OF 1 PER CENT TO 5 PER CENT.
 - AVOID REMOVING TREES AND SHRUBS IF POSSIBLE.
 - DRAINS TO BE OF CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTION NOT V-SHAPED.
 - EARTH BANKS TO BE ADEQUATELY COMPACTED IN ORDER TO PREVENT FAILURE.
 - PERMANENT OR TEMPORARY STABILIZATION OF THE EARTH BANK TO BE COMPLETED WITHIN 10 DAYS OF CONSTRUCTION.
 - ALL OUTLETS FROM DISTURBED LANDS ARE TO FEED INTO A SEDIMENT BASIN OR SIMILAR.
 - DISCHARGE RUN OFF COLLECTED FROM UNDISTURBED LANDS ONTO EITHER A STABILIZED OR AN UNDISTURBED DISPOSAL SITE WITHIN THE SAME SUBCATCHMENT AREA FROM WHICH THE WATER ORIGINATED.
 - COMPACT BANK WITH A SUITABLE IMPLEMENT IN SITUATIONS WHERE THEY ARE REQUIRED TO FUNCTION FOR MORE THAN FIVE DAYS.
- EARTH BANKS TO BE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT WILL IMPEDE NORMAL FLOW.



TYPICAL STRAW BALE LAYOUT PLAN
NTS

CHECK DAM SPACING TABLE

LONGITUDINAL GRADE (%)	SPACING (METERS)
0 - 5	40
5 - 10	30
10 - 15	20
GREATER THAN 15	10

STRAW BALE CHECK DAM DETAILS
NTS

STRAW BALE NOTES:--

- CONSTRUCT STRAW BALE FILTER AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE OR AT THE TOE OF A SLOPE.
 - PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAWS TO BE PLACED PARALLEL TO GROUND.
 - MAXIMUM HEIGHT OF FILTER IS ONE BALE.
 - ON SOFT MATERIALS, EMBED EACH BALE IN THE GROUND 75mm TO 100mm AND ANCHOR WITH TWO 1.2 METRE STAR PICKETS. ANGLE THE FIRST STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE. DRIVE STAKES 600mm INTO THE GROUND AND FLUSH WITH THE TOP OF THE BALES.
- WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWN SLOPE FROM A DISTURBED BATTER THE BALES SHOULD BE LOCATED 1.5 TO 2.0 METERS DOWN SLOPE FROM THE TOE OF THE BATTER.
- WHERE REQUIRED WRAP GEOTEXTILE FILTER FABRIC AROUND BALES AND STAPLE IN POSITION.

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REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	25/03/22			
2	REVISED PROJECT DESCRIPTION	12/05/22			

Built

WEE WAA FLOOD MITIGATION WORKS

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
VIC: Suite 703, 365 Little Collins St Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942
www.warrensmith.com.au
wsp@warrensmith.com.au

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Hydraulic Fire Civil Utilities Infrastructure

SEDIMENT & EROSION CONTROL DETAILS

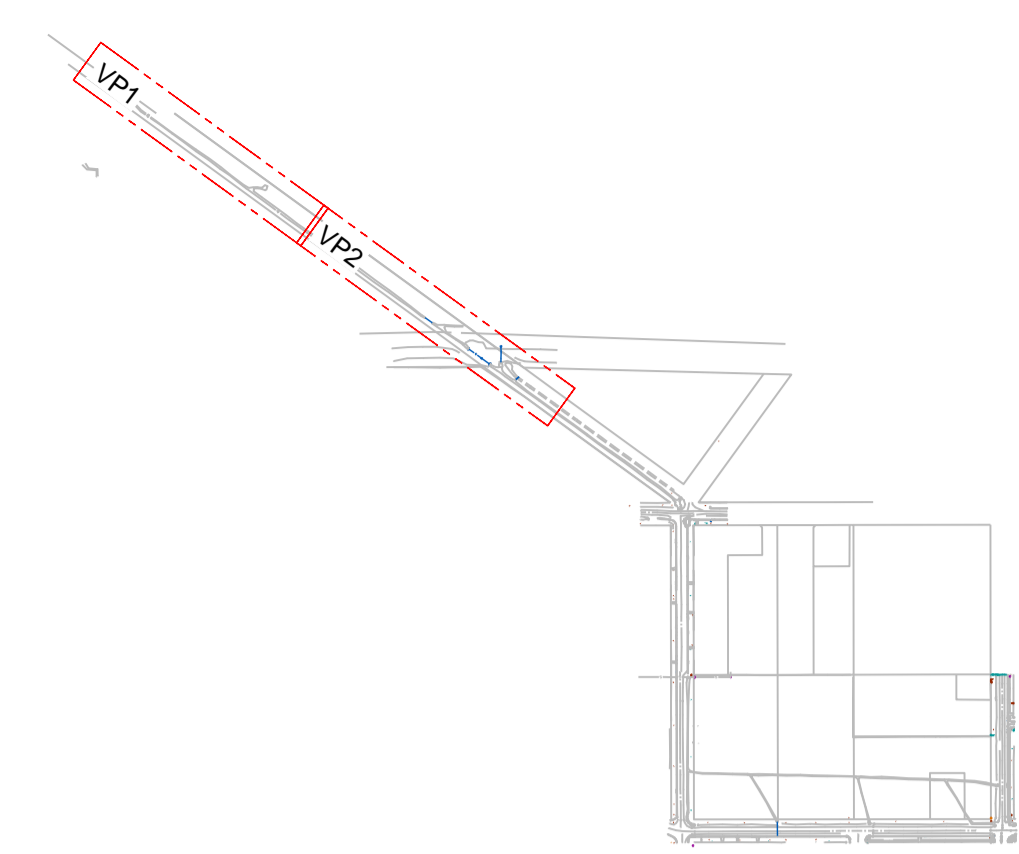
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AS SHOWN	M.T.	R.X.	J.G.	M.C.
JOB No.	DRAWING No.		ISSUE	
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DATE	STATUS		ISSUED FOR APPROVAL	
APRIL 2022				

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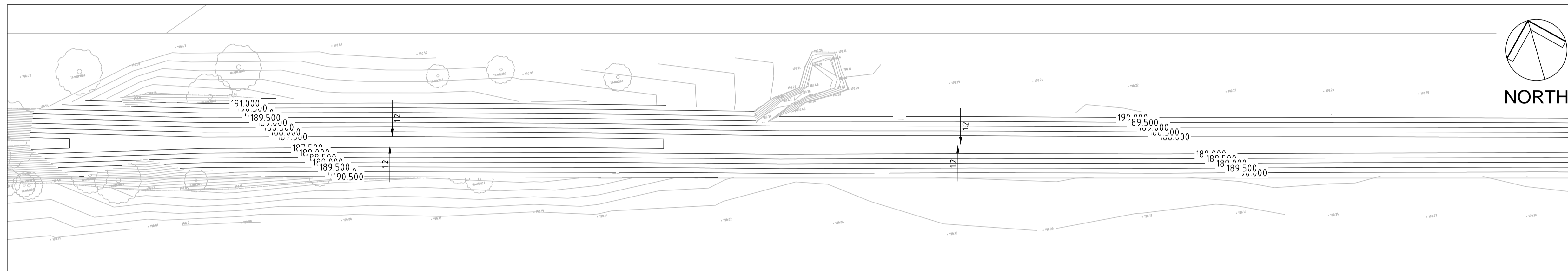
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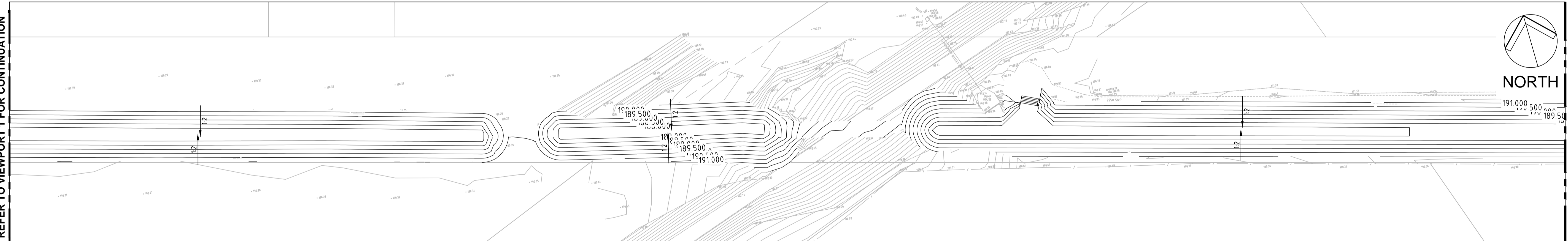


KEY PLAN
SCALE NTS



VIEWPORT 1

REFER TO VIEWPORT 2 FOR CONTINUATION



VIEWPORT 2

REFER TO VIEWPORT 1 FOR CONTINUATION

REFER TO C3.02 FOR CONTINUATION

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1	ISSUED FOR APPROVAL	25/03/22			
2	RE-ISSUED FOR APPROVAL	06/04/22			
3	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT

PROJECT

WEE WAA FLOOD MITIGATION WORKS

PREPARED BY

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
VIC: Suite 7.03, 365 Little Collins St, Melbourne 3000 VIC Australia

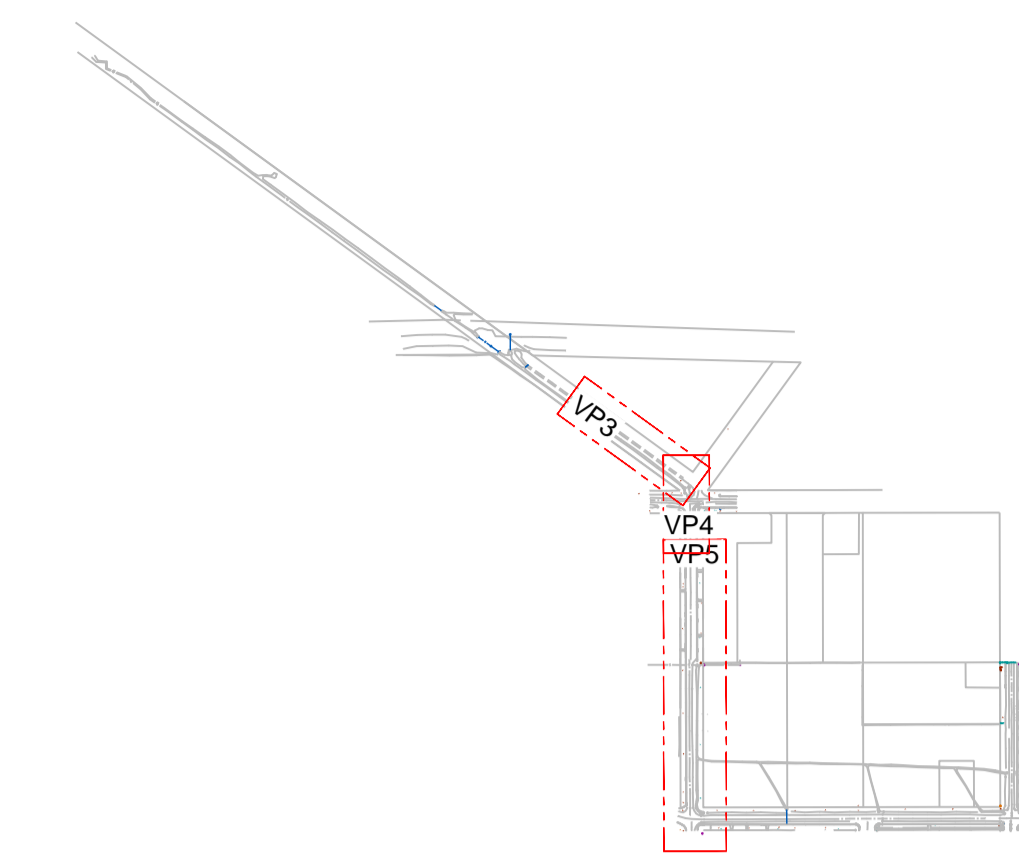
PH +61 (2) 9299 1312 PH +61 (3) 8648 9942

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wsp@warrensmith.com.au

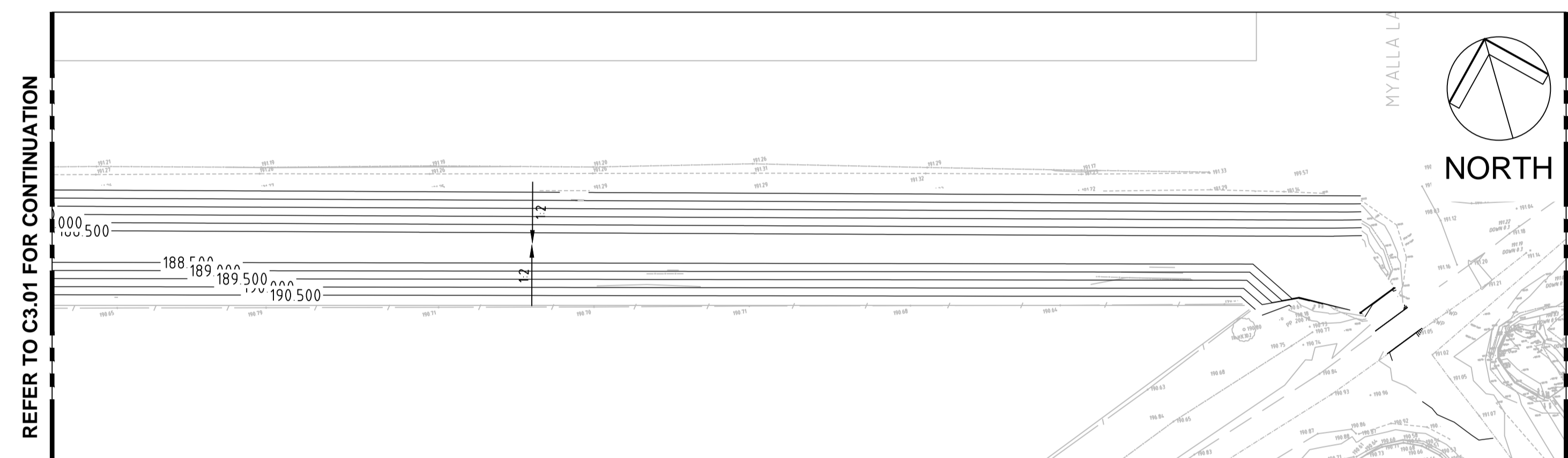
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Hydraulic Fire Civil Utilities Infrastructure

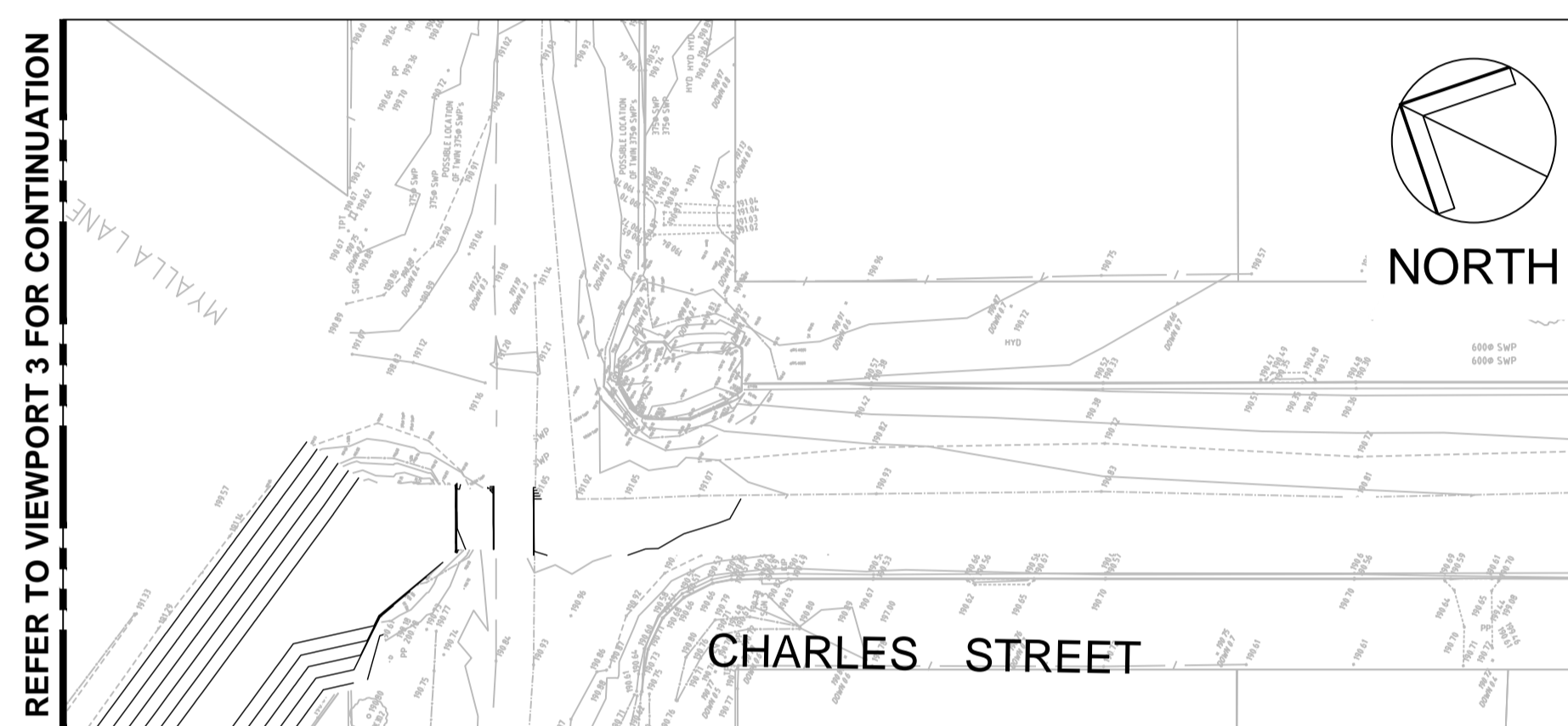
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BULK EARTHWORKS PLAN - SHEET 1				
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AS SHOWN	R.X.	R.X.	J.G.	M.C.
JOB No.	DRAWING No.		ISSUE	
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APRIL 2022	ISSUED FOR APPROVAL			



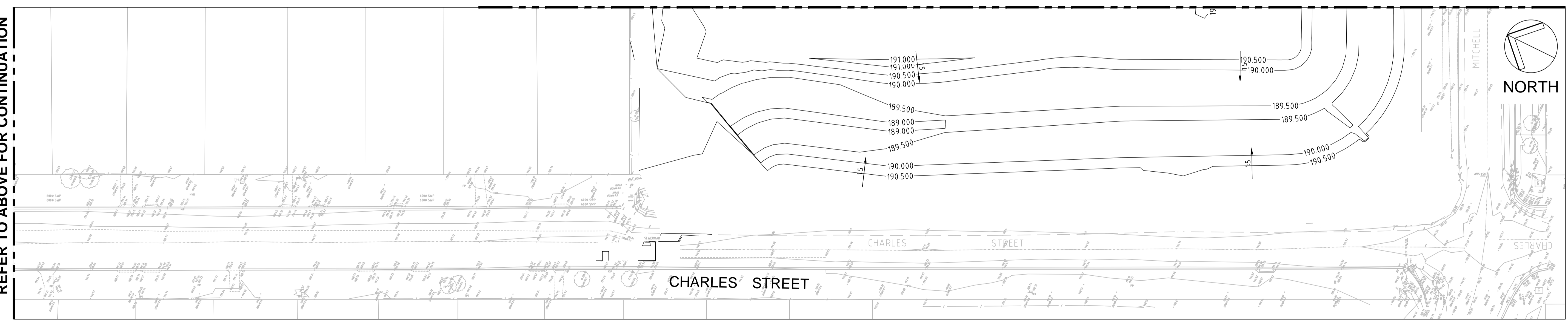
KEY PLAN
SCALE NTS



VIEWPORT 3



VIEWPORT 4



VIEWPORT 5

REFER TO C3.01 FOR CONTINUATION

REFER TO VIEWPORT 4 FOR CONTINUATION

REFER TO VIEWPORT 3 FOR CONTINUATION

REFER TO BELOW FOR CONTINUATION

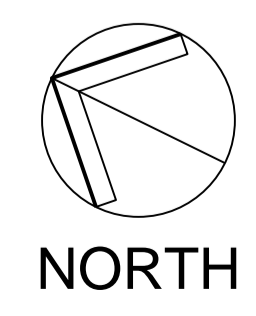
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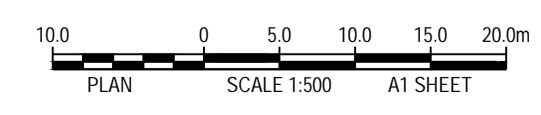
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3	REVISED PROJECT DESCRIPTION	12/05/22			

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NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
VIC: Suite 7.03, 365 Little Collins St Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942
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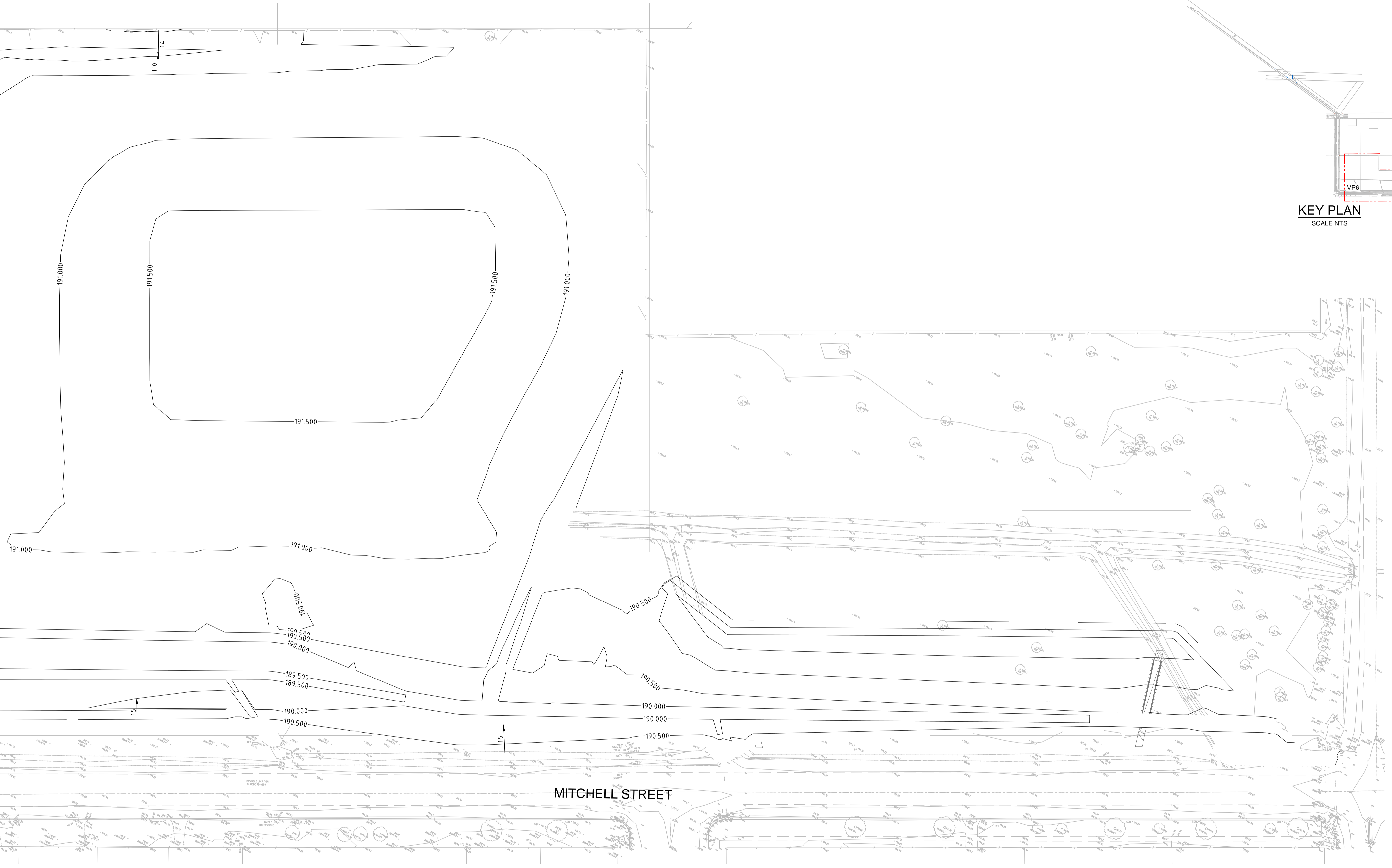
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BULK EARTHWORKS PLAN - SHEET 2

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AS SHOWN	M.T.	R.X.	J.G.	M.C.
JOB No.	DRAWING No.		ISSUE	
7490000	C3.02		3	
DATE	STATUS			
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REFER TO C3.02 FOR CONTINUATION

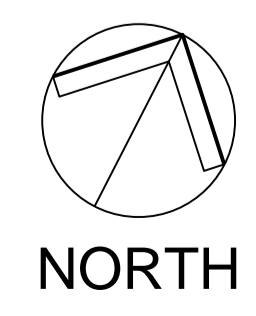
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SCALE NTS



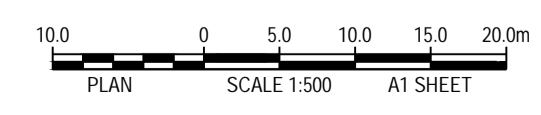
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3	REVISED PROJECT DESCRIPTION	12/05/22			

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TITLE

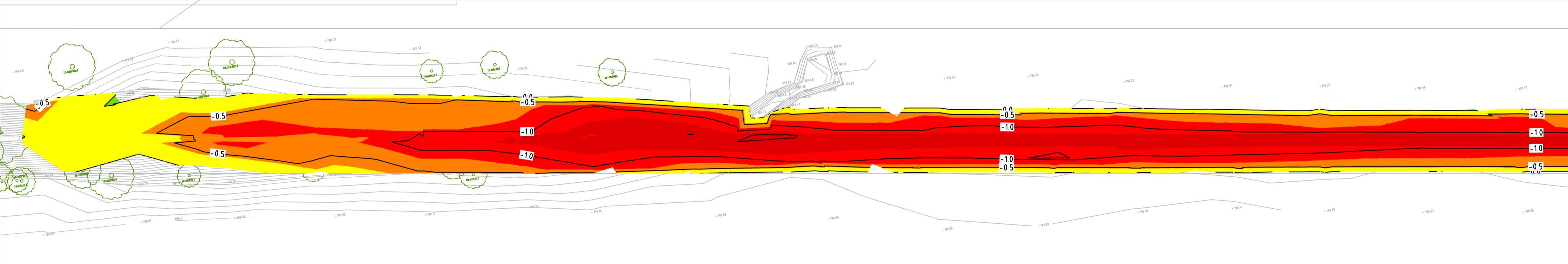
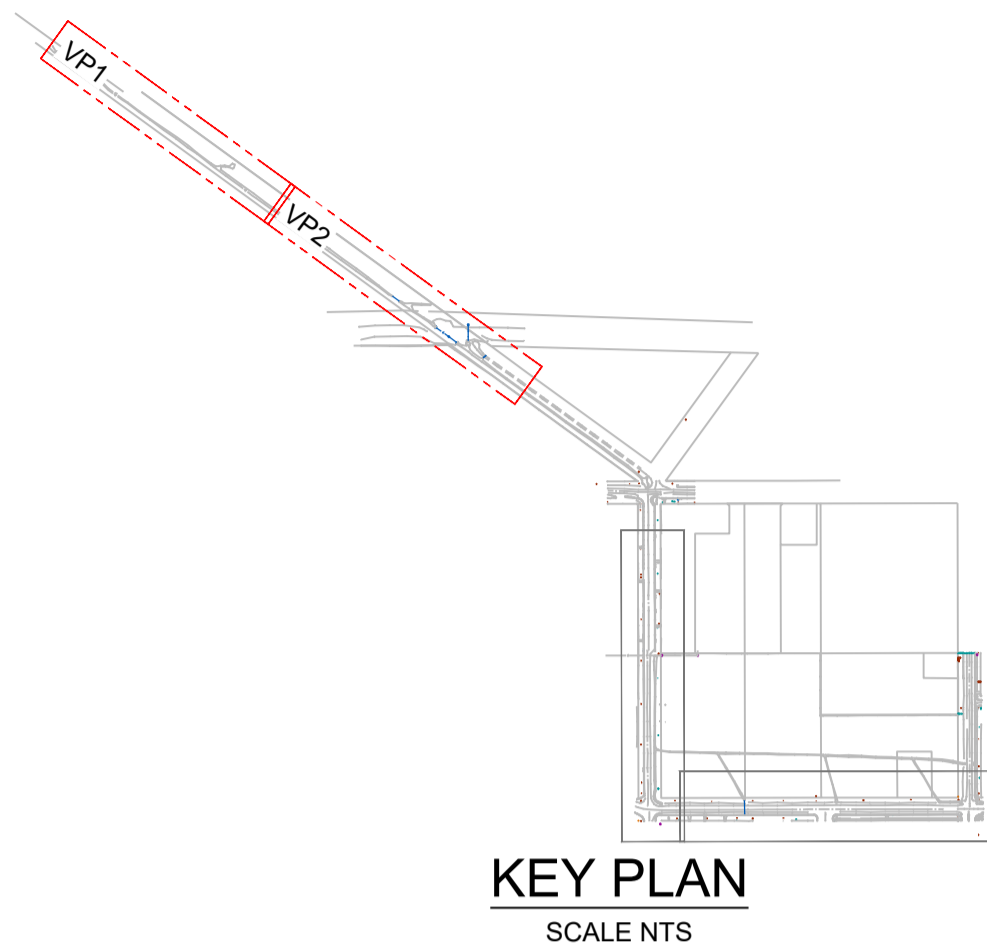
BULK EARTHWORKS PLAN - SHEET 3

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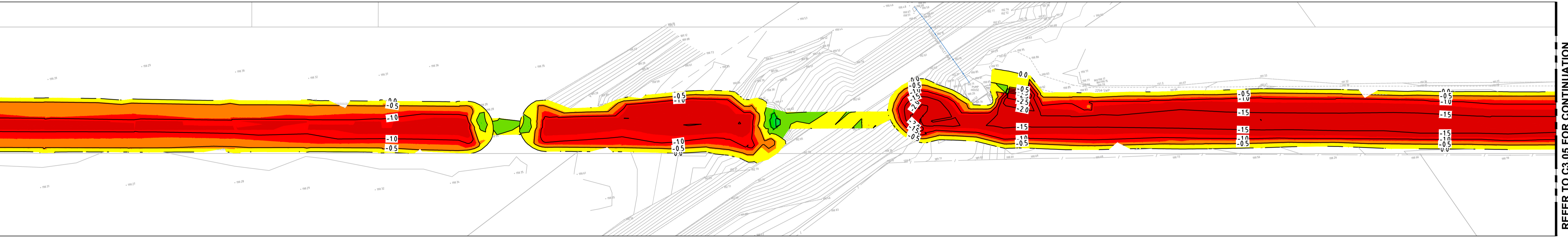
NOTE:

- VOLUMES ARE PRELIMINARY ONLY AND IS SUBJECT TO CHANGE. CONTRACTOR TO CONFIRM BULK EARTHWORKS VOLUMES AND LEVELS BASED ON THEIR OWN ASSUMPTIONS AND CALCULATIONS. THE FOLLOWING DEPTH PROFILES WERE ADOPTED FOR THE BULK EARTHWORKS.
 - FLEXIBLE PAVEMENT THICKNESS - 540 mm
 - TOP SOIL ALLOWANCE (MASS PLANTING) - 300mm
 - (NOTE: RE-USE OF EXCAVATED SITE SOIL TO BE TREATED TO THE LANDSCAPE ARCHITECT SPECIFICATIONS. BULK EARTHWORKS LEVELS MODELLED TO THE TOP OF AMELIORATED SITE SOIL LAYER. REFER TO LANDSCAPE ARCHITECTS DETAILS)
 - VOLUMES FROM PIPE TRENCH HAVE NOT BEEN INCLUDED IN THESE CALCULATIONS.
 - TOP SOIL STRIPPING & REMOVAL - 300 mm, TOP SOIL STRIPPING EXTENDED TO NATURAL CLAY OR CLAYEY SAND SOIL IN ACCORDANCE WITH BARNSON PTY. LTD. REPORT 35754-GR01_A, DATED 14/04/2021
 - TEMPORARY BATTERS ASSUMED TO BE 1 in 2.
 - BULKING FACTORS HAVE NOT BEEN INCLUDED.
 - ALLOW A +/-15% TOLERANCE FOR THESE VOLUMES.
 - EXTENT OF CUTTING/FILLING IN THE VICINITY OF EXISTING TREES SHALL BE CONFIRMED BY THE PROJECT ARBORIST.
 - TREE PROTECTION ZONES TO BE CONFIRMED BY THE PROJECT ARBORIST.
 - NO ALLOWANCE HAS BEEN MADE IN THE BULK EARTHWORKS CALCULATION FOR THE PURPOSE OF REMEDIATION WORKS. IF REQUIRED, CONTRACTOR TO ENSURE ALL ALLOWANCES HAS BEEN MADE TO UNDERTAKE ANY REMEDIATION WORKS.
 - PROPOSED ACCESS ROAD ADJACENT TO PUMP STATION AND ASSOCIATED EARTHWORKS HAS NOT BEEN INCLUDED IN THIS REVISION.
- BULK EARTHWORKS SUMMARY REF WORKS**
 (REFER TO REF CIVIL PACKAGE FOR EXTENT OF REF EARTHWORKS)
 CUT 18,500 m³
 FILL 18,200 m³
 NET 300 m³ (REMOVAL)

Levels Table				
	Depth	To Depth	Colour	Depth Range Volume
1	-3.000	-1.200	Red	1177.86m ³
2	-1.200	-0.800	Red	2885.13m ³
3	-0.800	-0.400	Orange	5731.68m ³
4	-0.400	0.000	Yellow	8698.85m ³
5	0.000	0.400	Light Green	9991.95m ³
6	0.400	0.800	Green	5997.10m ³
7	0.800	1.200	Green	2200.61m ³
8	1.200	1.600	Green	9.78m ³
9	1.600	2.000	Green	0.00m ³
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11	2.200	2.400	Blue	0.00m ³



VIEWPORT 1



VIEWPORT 2

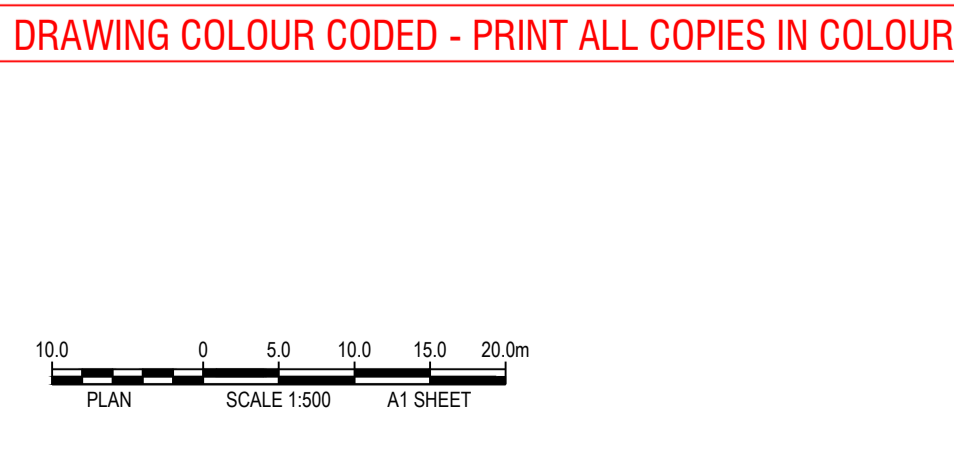
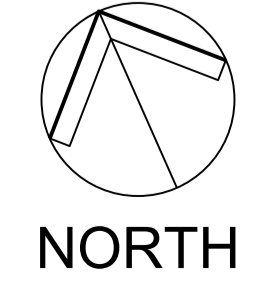
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REFER TO VIEWPORT 1 FOR CONTINUATION

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2	RE-ISSUED FOR APPROVAL	06/04/22			
3	REVISED AS CLOUDED	13/04/22			
4	REVISED PROJECT DESCRIPTION	12/05/22			

Built NSW GOVERNMENT

PROJECT: **WEE WAA FLOOD MITIGATION WORKS**

WARREN SMITH CONSULTING ENGINEERS SINCE 1981.

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
 VIC: Suite 7.03, 365 Little Collins St, Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942

www.warrensmith.com.au
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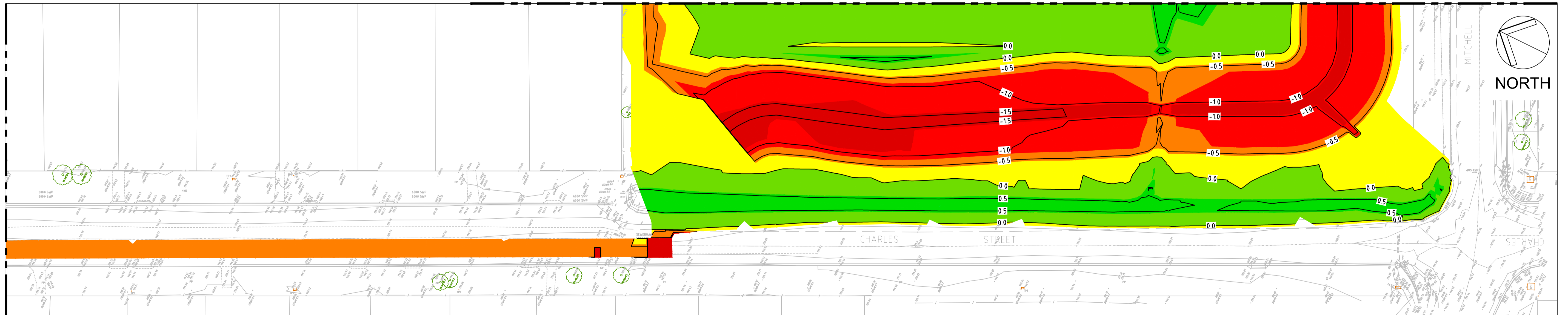
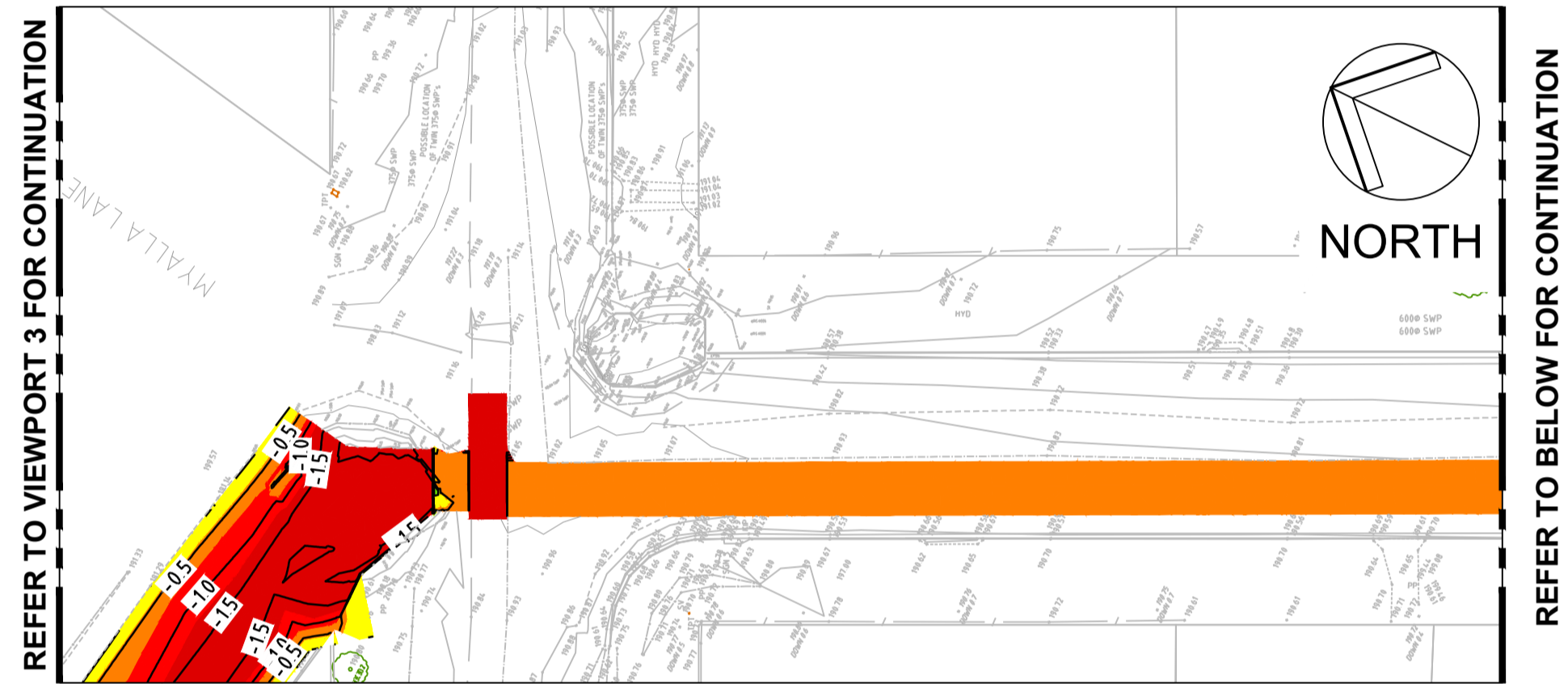
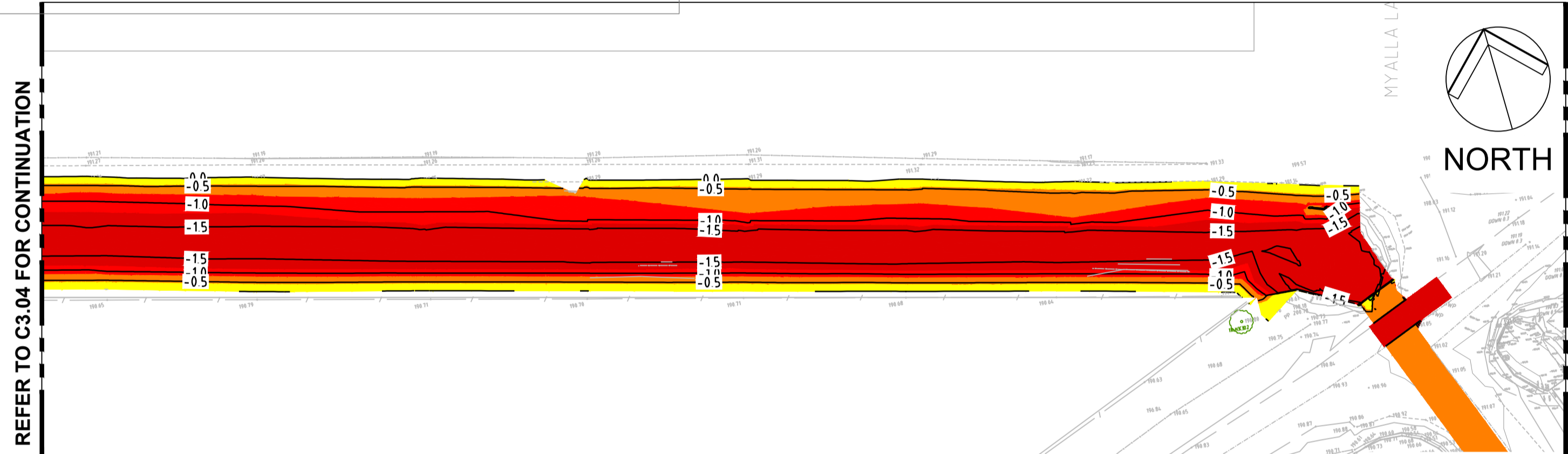
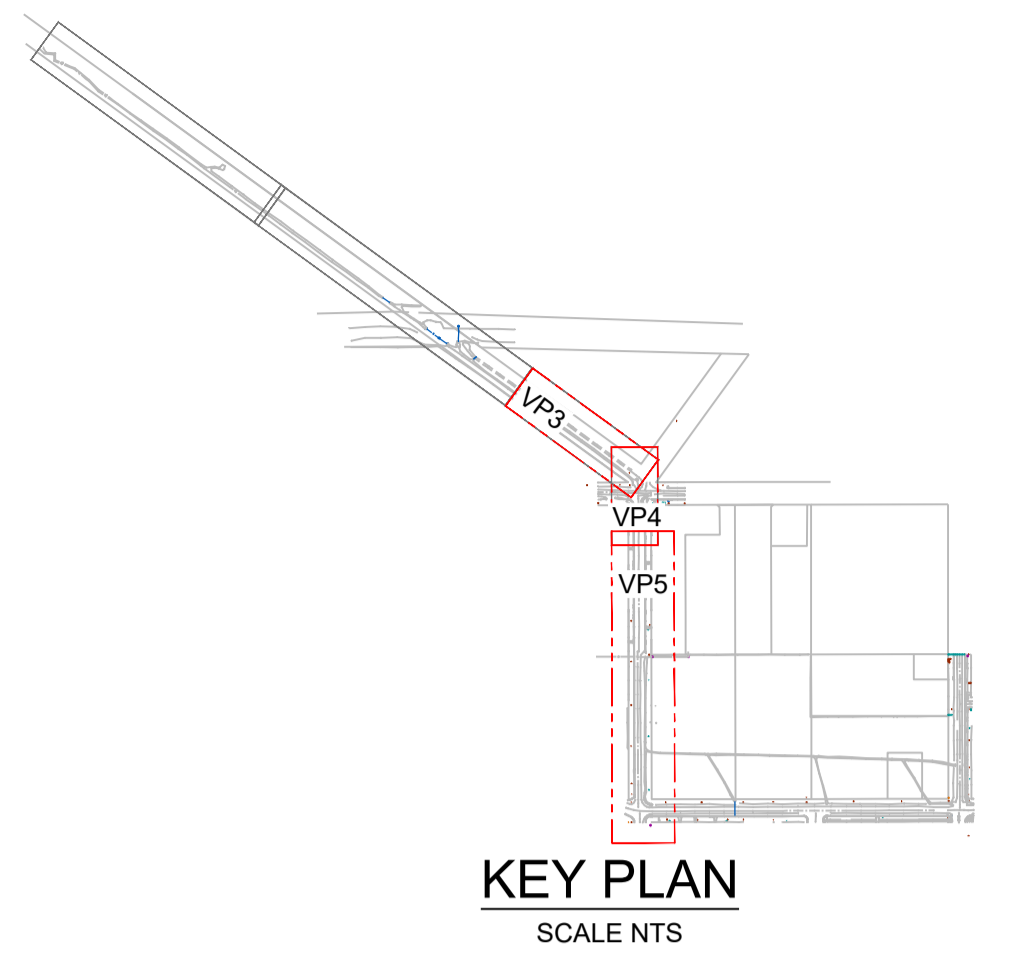
Hydraulic Fire Civil Utilities Infrastructure

BULK EARTHWORKS CUT & FILL PLAN - SHEET 1				
SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	R.X.	R.X.	J.G.	M.C.
JOB No.	DRAWING No.	ISSUE		
7490000	C3.04	4		
DATE	STATUS			
APRIL 2022	ISSUED FOR APPROVAL			

NOTE:

- VOLUMES ARE PRELIMINARY ONLY AND IS SUBJECT TO CHANGE. CONTRACTOR TO CONFIRM BULK EARTHWORKS VOLUMES AND LEVELS BASED ON THEIR OWN ASSUMPTIONS AND CALCULATIONS. THE FOLLOWING DEPTH PROFILES WERE ADOPTED FOR THE BULK EARTHWORKS.
 - FLEXIBLE PAVEMENT THICKNESS - 540 mm
 - TOP SOIL ALLOWANCE (MASS PLANTING) - 300mm
 - (NOTE: RE-USE OF EXCAVATED SITE SOIL TO BE TREATED TO THE LANDSCAPE ARCHITECT SPECIFICATIONS. BULK EARTHWORKS LEVELS MODELLED TO THE TOP OF AMELIORATED SITE SOIL LAYER. REFER TO LANDSCAPE ARCHITECTS DETAILS)
 - VOLUMES FROM PIPE TRENCH HAVE NOT BEEN INCLUDED IN THESE CALCULATIONS.
 - TOP SOIL STRIPPING & REMOVAL - 300 mm, TOP SOIL STRIPPING EXTENDED TO NATURAL CLAY OR CLAYEY SAND SOIL IN ACCORDANCE WITH BARNSON PTY. LTD. REPORT 35754-GR01_A, DATED 14/04/2021
 - TEMPORARY BATTERS ASSUMED TO BE 1 in 2.
 - BULKING FACTORS HAVE NOT BEEN INCLUDED.
 - ALLOW A +/-15% TOLERANCE FOR THESE VOLUMES.
 - EXTENT OF CUTTING/FILLING IN THE VICINITY OF EXISTING TREES SHALL BE CONFIRMED BY THE PROJECT ARBORIST.
 - TREE PROTECTION ZONES TO BE CONFIRMED BY THE PROJECT ARBORIST.
 - NO ALLOWANCE HAS BEEN MADE IN THE BULK EARTHWORKS CALCULATION FOR THE PURPOSE OF REMEDIATION WORKS. IF REQUIRED, CONTRACTOR TO ENSURE ALL ALLOWANCES HAS BEEN MADE TO UNDERTAKE ANY REMEDIATION WORKS.
 - PROPOSED ACCESS ROAD ADJACENT TO PUMP STATION AND ASSOCIATED EARTHWORKS HAS NOT BEEN INCLUDED IN THIS REVISION.
- BULK EARTHWORKS SUMMARY REF WORKS**
 (REFER TO REF CIVIL PACKAGE FOR EXTENT OF REF EARTHWORKS)
 CUT 18,500 m³
 FILL 18,200 m³
 NET 300 m³ (REMOVAL)

Levels Table				
No.	From Depth	To Depth	Colour	Depth Range Volume
1	-3.000	-1.200	Red	1177.86m ³
2	-1.200	-0.800	Red	2885.13m ³
3	-0.800	-0.400	Orange	5731.68m ³
4	-0.400	0.000	Yellow	8698.85m ³
5	0.000	0.400	Light Green	9991.95m ³
6	0.400	0.800	Green	5997.10m ³
7	0.800	1.200	Green	2200.61m ³
8	1.200	1.600	Green	9.78m ³
9	1.600	2.000	Green	0.00m ³
10	2.000	2.200	Blue	0.00m ³
11	2.200	2.400	Blue	0.00m ³



PRELIMINARY - NOT FOR CONSTRUCTION

Path: X:\24000000_01_A14_V2400000_S1_General_1000000000_C3_14000000_Bulk_Earthworks_REF_Temporary_Civil_Package_Package\C3.03_Bulk_Earthworks_Cut_Fill_Plan.dwg
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REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	25/03/22			
2	RE-ISSUED FOR APPROVAL	06/04/22			
3	REVISED AS CLOUDED	13/04/22			
4	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT: **Built** NSW GOVERNMENT

PROJECT: **WEE WAA FLOOD MITIGATION WORKS**

PREPARED BY: **Warren Smith Consulting Engineers**

WARREN SMITH CONSULTING ENGINEERS SINCE 1981.

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
 VIC: Suite 7.03, 365 Little Collins St Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942

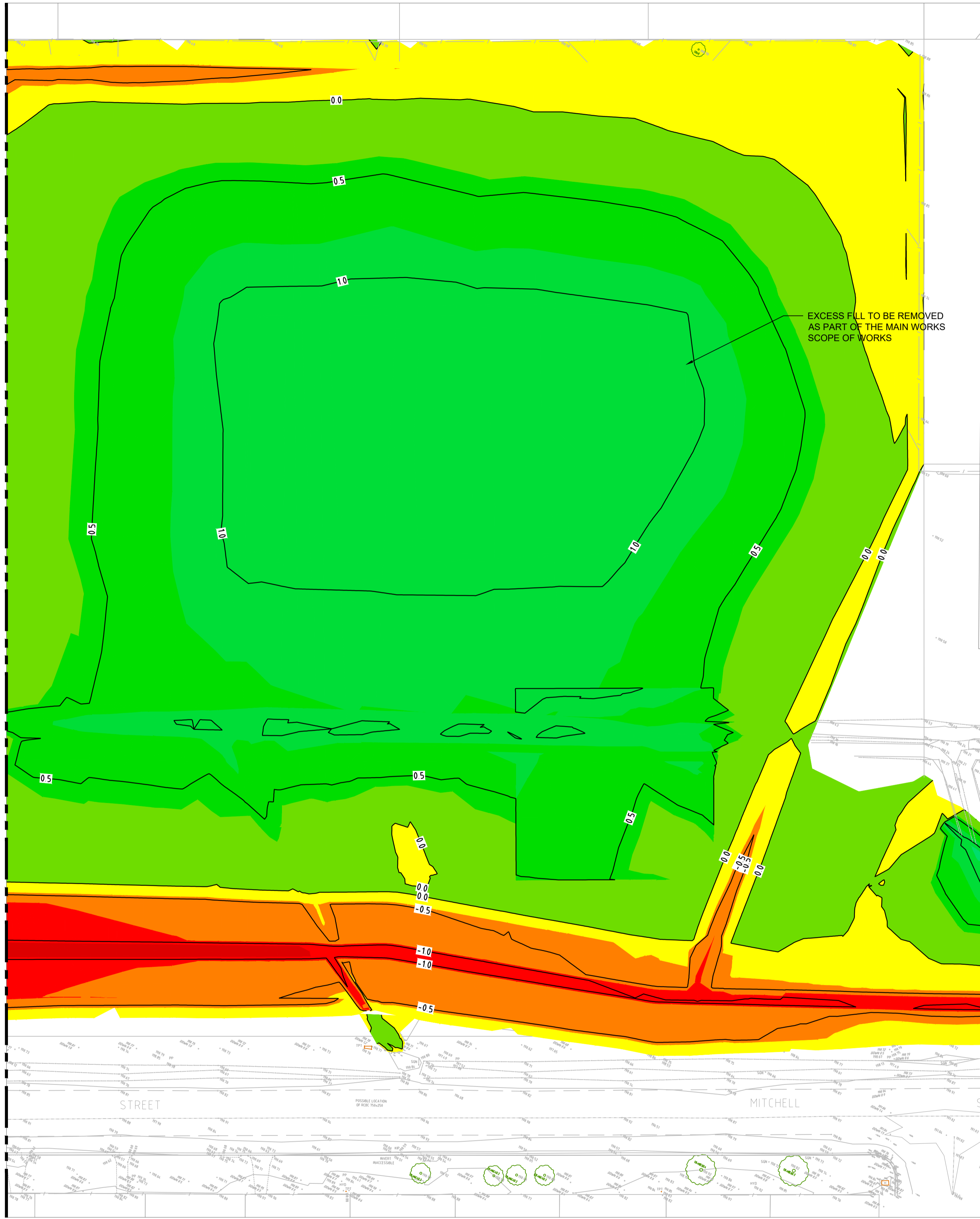
www.warrensmith.com.au
 wsp@warrensmith.com.au

ACN 002 197 088 ABN 36 300 430 126

Hydraulic Fire Civil Utilities Infrastructure

TITLE: **BULK EARTHWORKS CUT & FILL PLAN - SHEET 2**

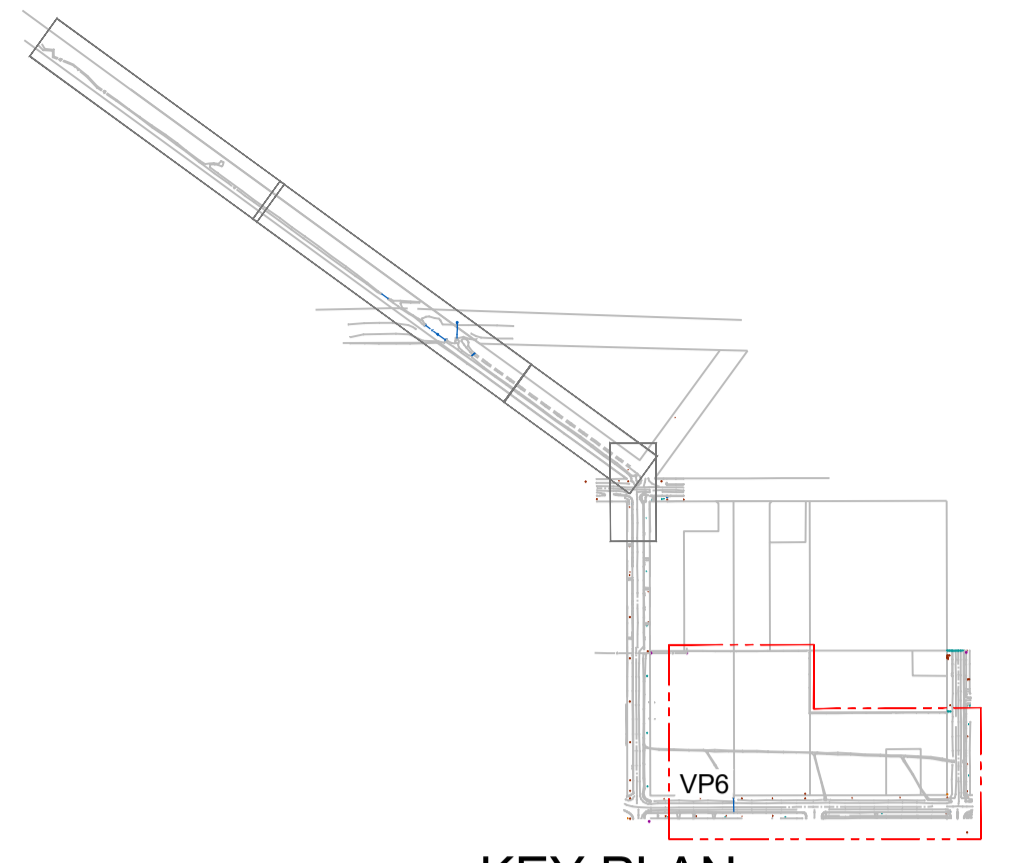
SCALE: AS SHOWN	DRAWN: M.T.	DESIGNED: R.X	CHECKED: J.G.	APPROVED: M.C.
JOB No. 7490000	DRAWING No. C3.05	ISSUE 4		
DATE: APRIL 2022	STATUS: ISSUED FOR APPROVAL			



NOTE:

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 - FLEXIBLE PAVEMENT THICKNESS - 540 mm
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- PROPOSED ACCESS ROAD ADJACENT TO PUMP STATION AND ASSOCIATED EARTHWORKS HAS NOT BEEN INCLUDED IN THIS REVISION.

BULK EARTHWORKS SUMMARY REF WORKS
 (REFER TO REF CIVIL PACKAGE FOR EXTENT OF REF EARTHWORKS)
CUT 18,500 m³
FILL 18,200 m³
NET 300 m³ (REMOVAL)



KEY PLAN
SCALE NTS

Levels Table

No.	From Depth	To Depth	Colour	Depth Range Volume
1	-3.000	-1.200	Red	1177.86m ³
2	-1.200	-0.800	Red	2885.13m ³
3	-0.800	-0.400	Orange	5731.68m ³
4	-0.400	0.000	Yellow	8698.85m ³
5	0.000	0.400	Light Green	9991.95m ³
6	0.400	0.800	Green	5997.10m ³
7	0.800	1.200	Green	2200.61m ³
8	1.200	1.600	Green	9.78m ³
9	1.600	2.000	Green	0.00m ³
10	2.000	2.200	Blue	0.00m ³
11	2.200	2.400	Blue	0.00m ³

REFER TO C3.05 FOR CONTINUATION

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VIEWPORT 6

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SCALE 1:500 AT SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	25/03/22			
2	RE-ISSUED FOR APPROVAL	06/04/22			
3	REVISED AS CLOUDED	13/04/22			
4	REVISED PROJECT DESCRIPTION	12/05/22			

Built

PROJECT: **WEE WAA FLOOD MITIGATION WORKS**

PREPARED BY: **Warren Smith Consulting Engineers**

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
VIC: Suite 7.03, 365 Little Collins St, Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942

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ACN 002 197 088 ABN 36 300 430 126

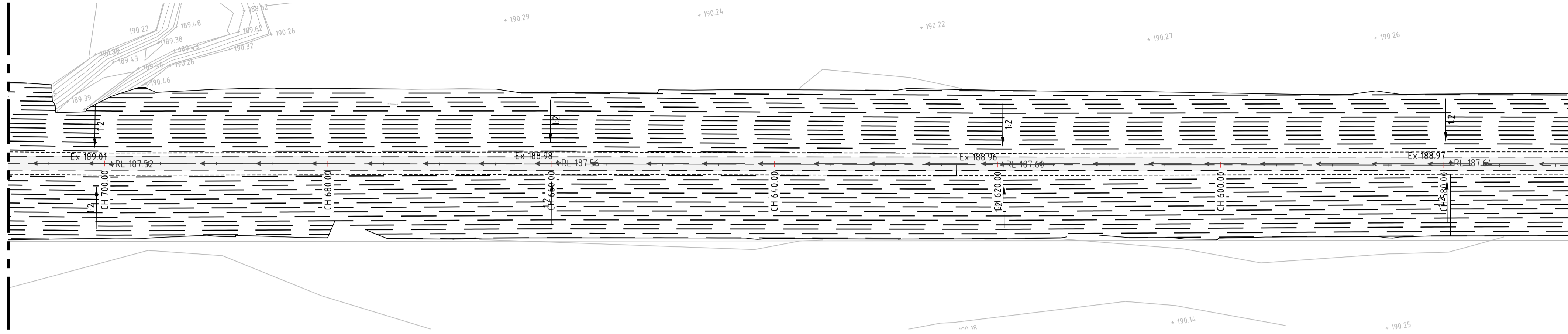
Hydraulic Fire Civil Utilities Infrastructure

BULK EARTHWORKS CUT & FILL PLAN - SHEET 3

SCALE AS SHOWN	DRAWN M.T.	DESIGNED R.X.	CHECKED J.G.	APPROVED M.C.
JOB No. 7490000	DRAWING No. C3.06	ISSUE 4		
DATE APRIL 2022	STATUS ISSUED FOR APPROVAL			

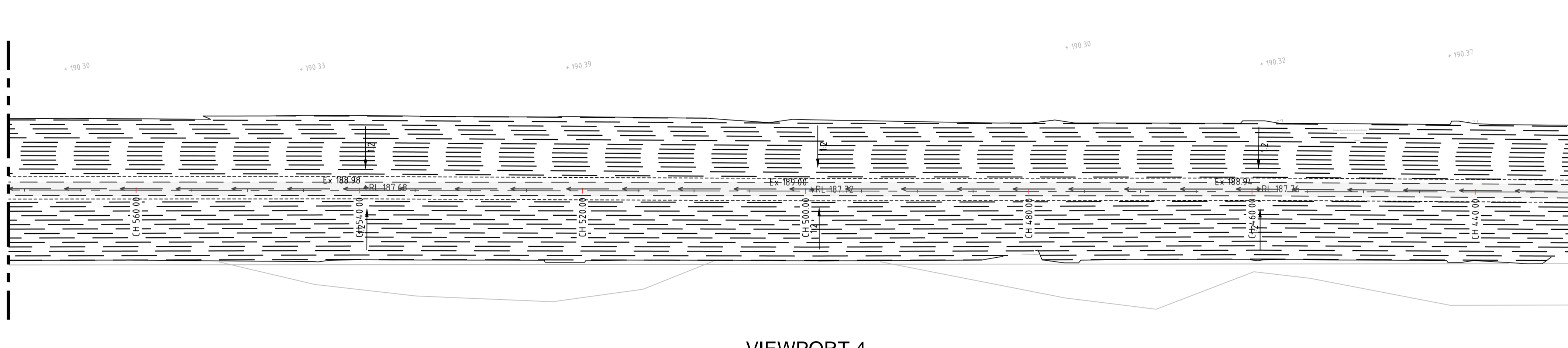
REFER C4.01 FOR CONTINUATION

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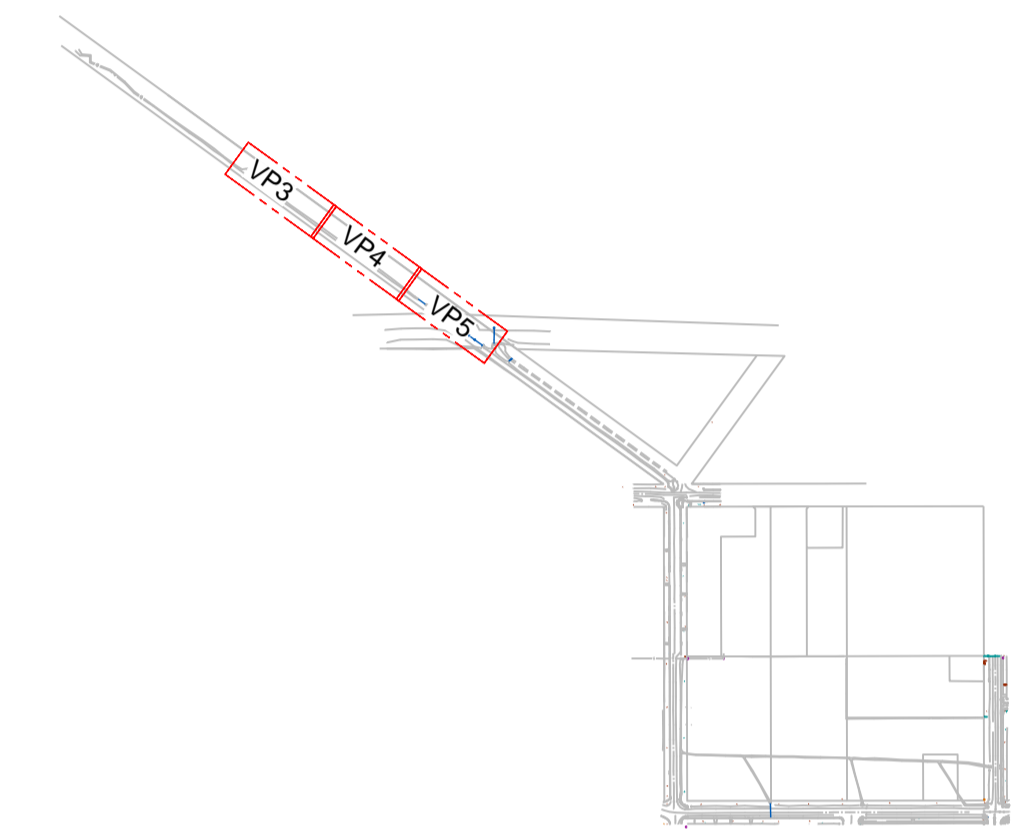


REFER ABOVE FOR CONTINUATION

REFER BELOW FOR CONTINUATION



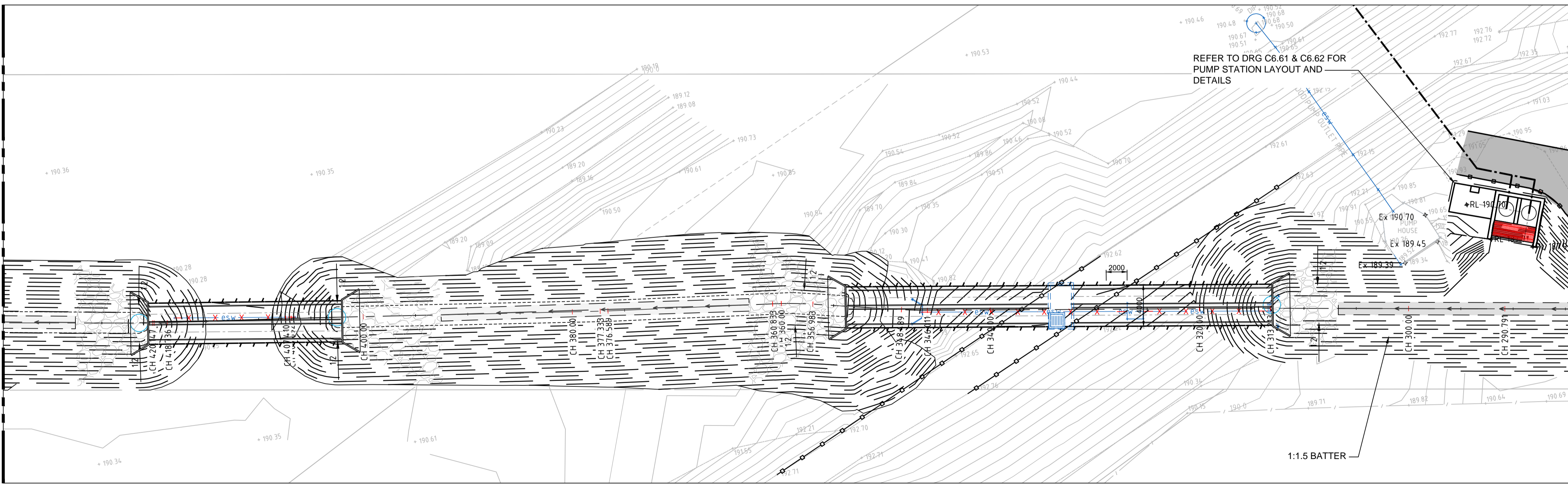
LEGEND	
	BOUNDARY
	KERB & GUTTER (K&G)
	KERB ONLY (K.O.)
	FLUSH KERB (F.K.)
	RETAINING WALL
	PROPOSED LEVEL
	FINISHED STORMWATER PIT LID/GRATE LEVEL
	EXISTING SURFACE LEVEL
	GRADE ARROW
	CREST
	CRASH BARRIER
	RIP RAP SCOUR PROTECTION
	1.2m WIDE CONC V-DRAIN



NOTE:
REFER TO ARBORIST REPORT FOR
TREE RETENTION PLAN AND
PROTECTION PLAN.

REFER ABOVE FOR CONTINUATION

REFER C4.03 FOR CONTINUATION



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No. X: 7490000_00_A11_X: 7490000_S11_BV1_X: 7490000_A0_Cover_X: 7490000_DE_Design (REF) 7490000_WSC_CS_300_004_WHS Flood Mitigation Works REF - Temporary Storage - 7490000_S11_Units
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SCALE 1:250 A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	DRAFT PROGRESS ISSUE	08/03/22			
2	ISSUED FOR APPROVAL	25/03/22			
3	RE-ISSUED FOR APPROVAL	06/04/22			
4	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT

PROJECT

WEE WAA FLOOD MITIGATION WORKS

PREPARED BY

WARREN SMITH CONSULTING ENGINEERS SINCE 1981.

NSW 9/233 Castlereagh St Sydney 2000 NSW Australia
VIC Suite 7.03, 365 Little Collins St Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942

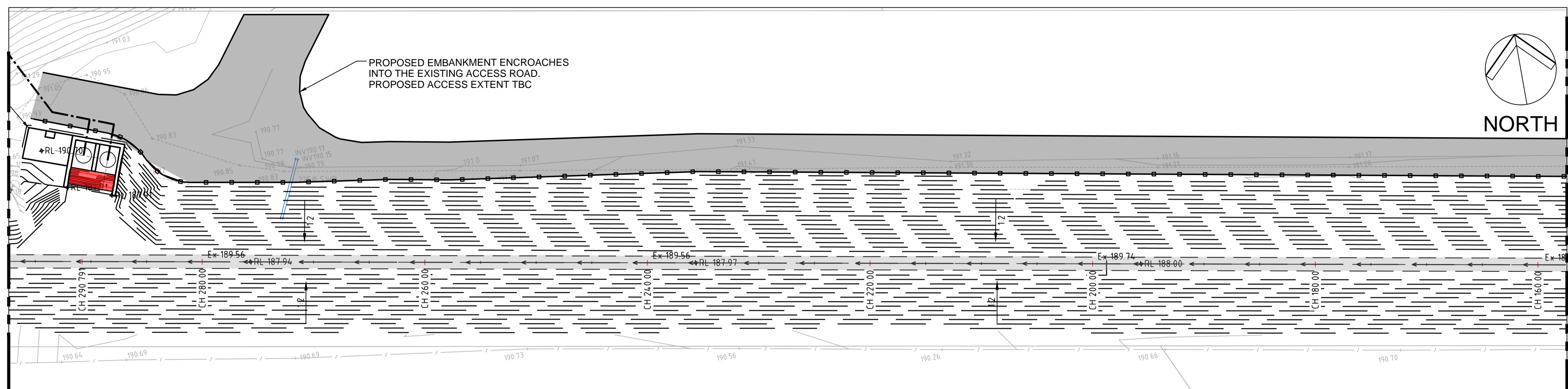
www.warrensmith.com.au
wsp@warrensmith.com.au

ACN 002 197 088 ABN 36 300 430 126

Hydraulic Fire Civil Utilities Infrastructure

TITLE				
SITeworks PLAN - SHEET 2				
SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	R.X	R.X	J.G.	M.C.
JOB No.	DRAWING No.		ISSUE	
7490000	C4.02		4	
DATE	STATUS			
APRIL 2022	ISSUED FOR APPROVAL			

REFER C4.02 FOR CONTINUATION

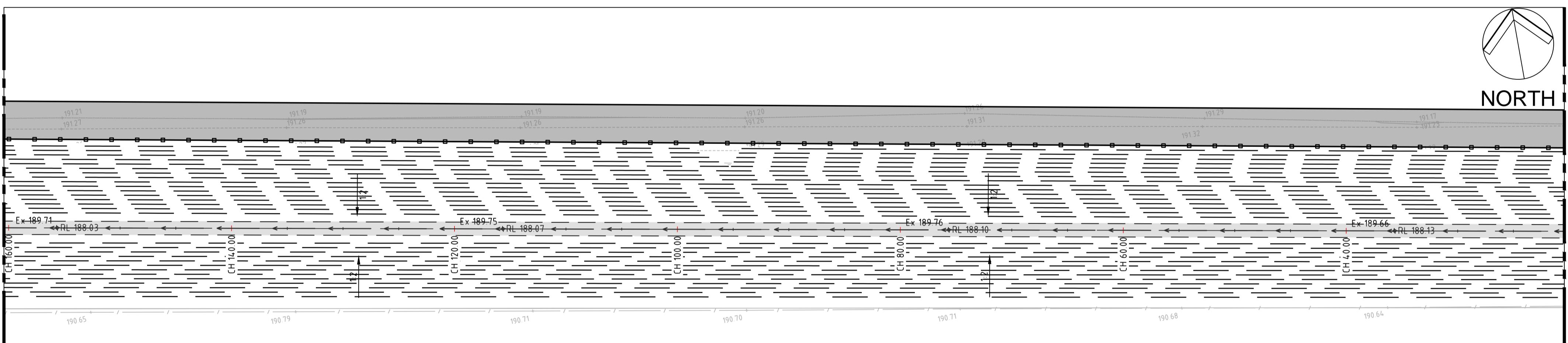


VIEWPORT 6

REFER BELOW FOR CONTINUATION

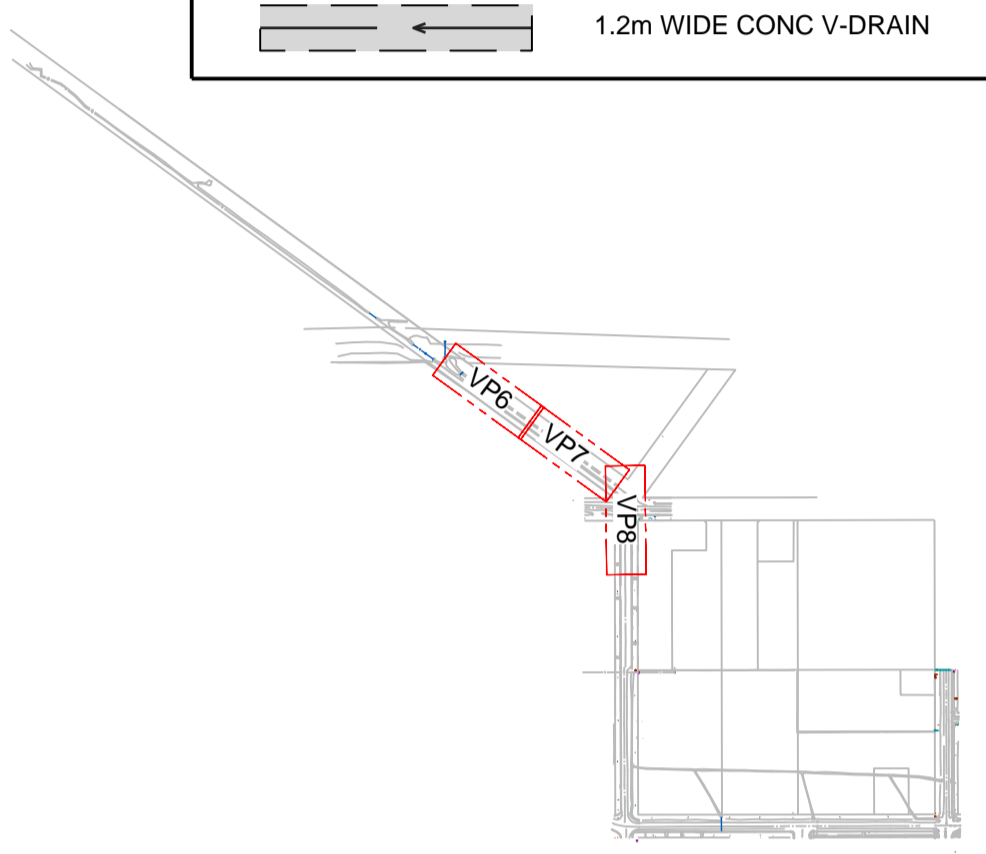
	BOUNDARY
	KERB & GUTTER (K&G)
	KERB ONLY (K.O.)
	FLUSH KERB (F.K.)
	RETAINING WALL
	PROPOSED LEVEL
	FINISHED STORMWATER PIT LID/GRATE LEVEL
	EXISTING SURFACE LEVEL
	GRADE ARROW
	CREST
	CRASH BARRIER
	RIP RAP SCOUR PROTECTION
	1.2m WIDE CONC V-DRAIN

REFER ABOVE FOR CONTINUATION



VIEWPORT 7

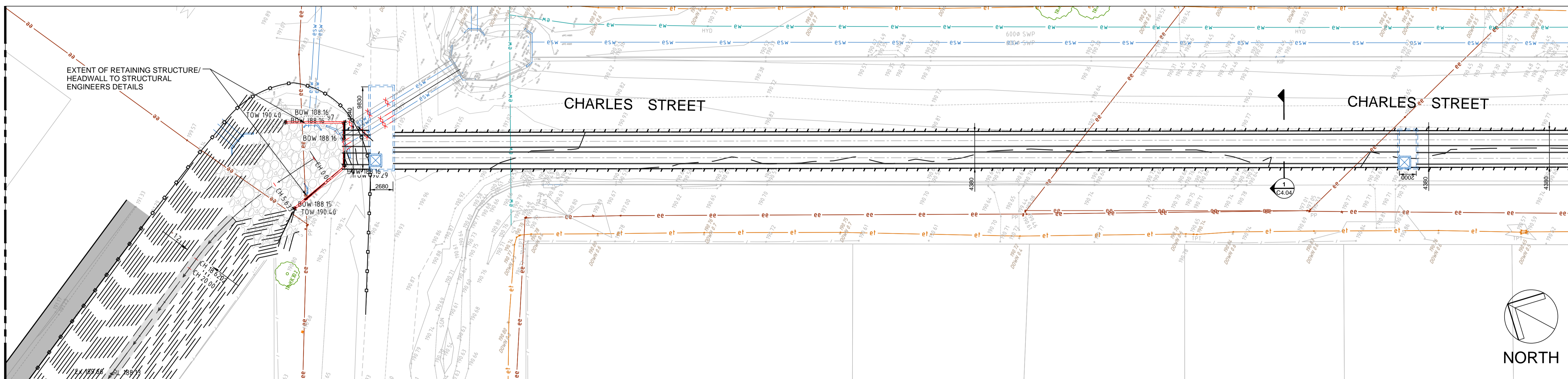
REFER BELOW FOR CONTINUATION



KEY PLAN
SCALE NTS

NOTE:
REFER TO ARBORIST REPORT FOR
TREE RETENTION PLAN AND
PROTECTION PLAN.

REFER ABOVE FOR CONTINUATION



VIEWPORT 8

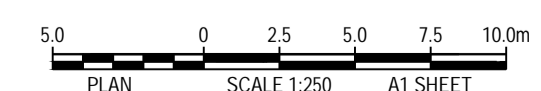
REFER C4.04 FOR CONTINUATION

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1	DRAFT ISSUE FOR DETAILED DESIGN	08/03/22			
2	ISSUED FOR APPROVAL	25/03/22			
3	RE-ISSUED FOR APPROVAL	06/04/22			
4	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT: **Built NSW GOVERNMENT**

PROJECT: **WEE WAA FLOOD MITIGATION WORKS**

PREPARED BY: **Warren Smith Consulting Engineers**

WARREN SMITH CONSULTING ENGINEERS SINCE 1981.

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
VIC: Suite 7.03, 365 Little Collins St Melbourne 3000 VIC Australia

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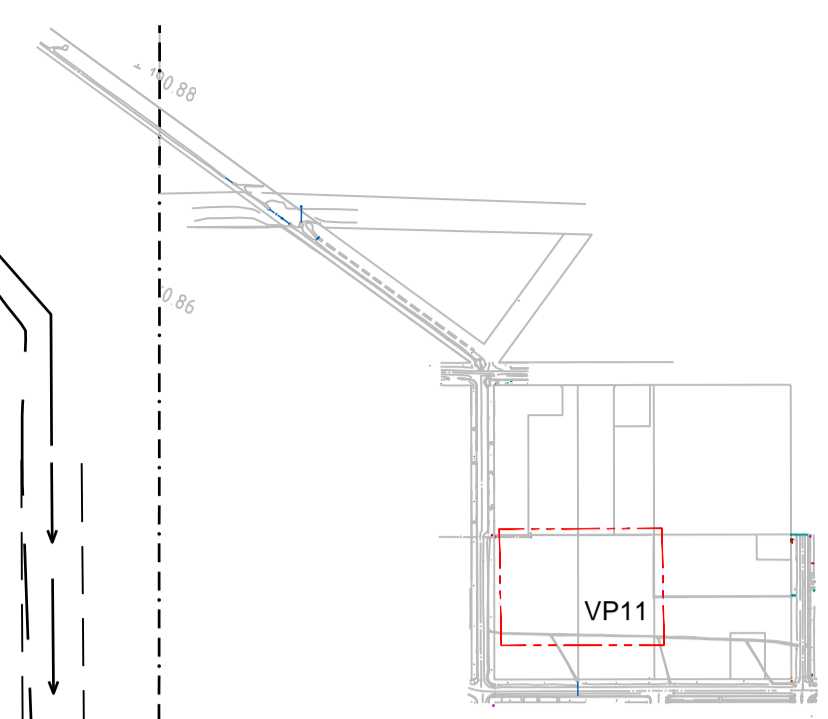
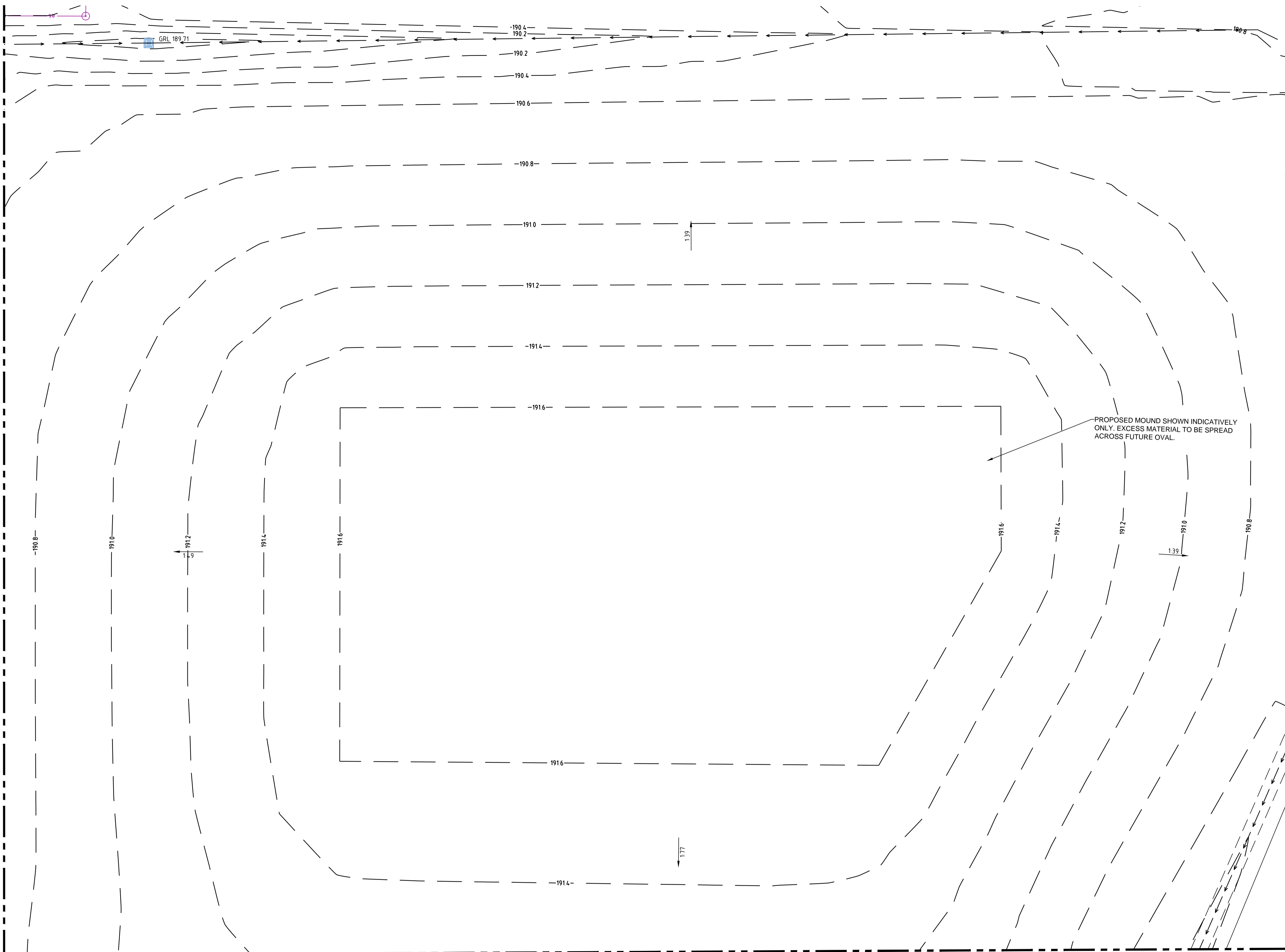
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SITWORKS PLAN - SHEET 3				
SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	R.X	R.X	J.G.	M.C.
JOB No.	7490000	DRAWING No.	C4.03	ISSUE
				4
DATE	STATUS			
APRIL 2022	ISSUED FOR APPROVAL			

REFER C4.04 FOR CONTINUATION



KEY PLAN
SCALE NTS

REFER C4.06 FOR CONTINUATION

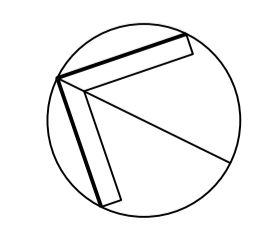
VIEWPORT 11

LEGEND	
	BOUNDARY
	KERB & GUTTER (K&G)
	KERB ONLY (K.O.)
	FLUSH KERB (F.K.)
	RETAINING WALL
	PROPOSED LEVEL
	FINISHED STORMWATER PIT LID/GRATE LEVEL
	EXISTING SURFACE LEVEL
	GRADE ARROW
	CREST
	CRASH BARRIER
	RIP RAP SCOUR PROTECTION
	1.2m WIDE CONC V-DRAIN

PRELIMINARY - NOT FOR CONSTRUCTION

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1	DRAFT ISSUE FOR DETAILED DESIGN	08/03/22			
2	ISSUED FOR APPROVAL	25/03/22			
3	RE-ISSUED FOR APPROVAL	06/04/22			
4	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT

PROJECT

WEE WAA FLOOD MITIGATION WORKS

PREPARED BY

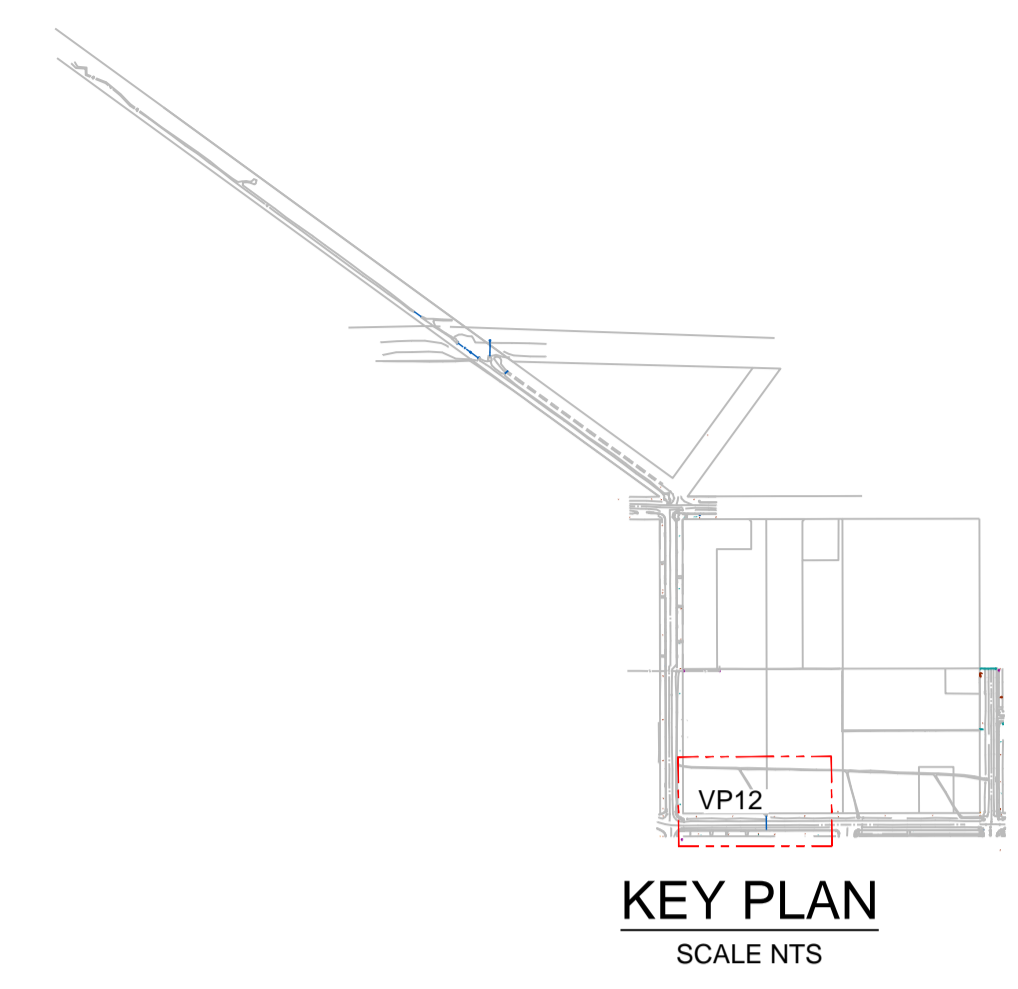
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SINCE 1981.

NSW 9/223 Castlereagh St
Sydney 2000 NSW Australia
PH +61 (2) 9299 1312
www.warrensmith.com.au
ACN 002 197 088

VIC Suite 7.03, 365 Little Collins St
Melbourne 3000 VIC Australia
PH +61 (3) 8648 9942
wsp@warrensmith.com.au
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Hydraulic Fire Civil Utilities Infrastructure

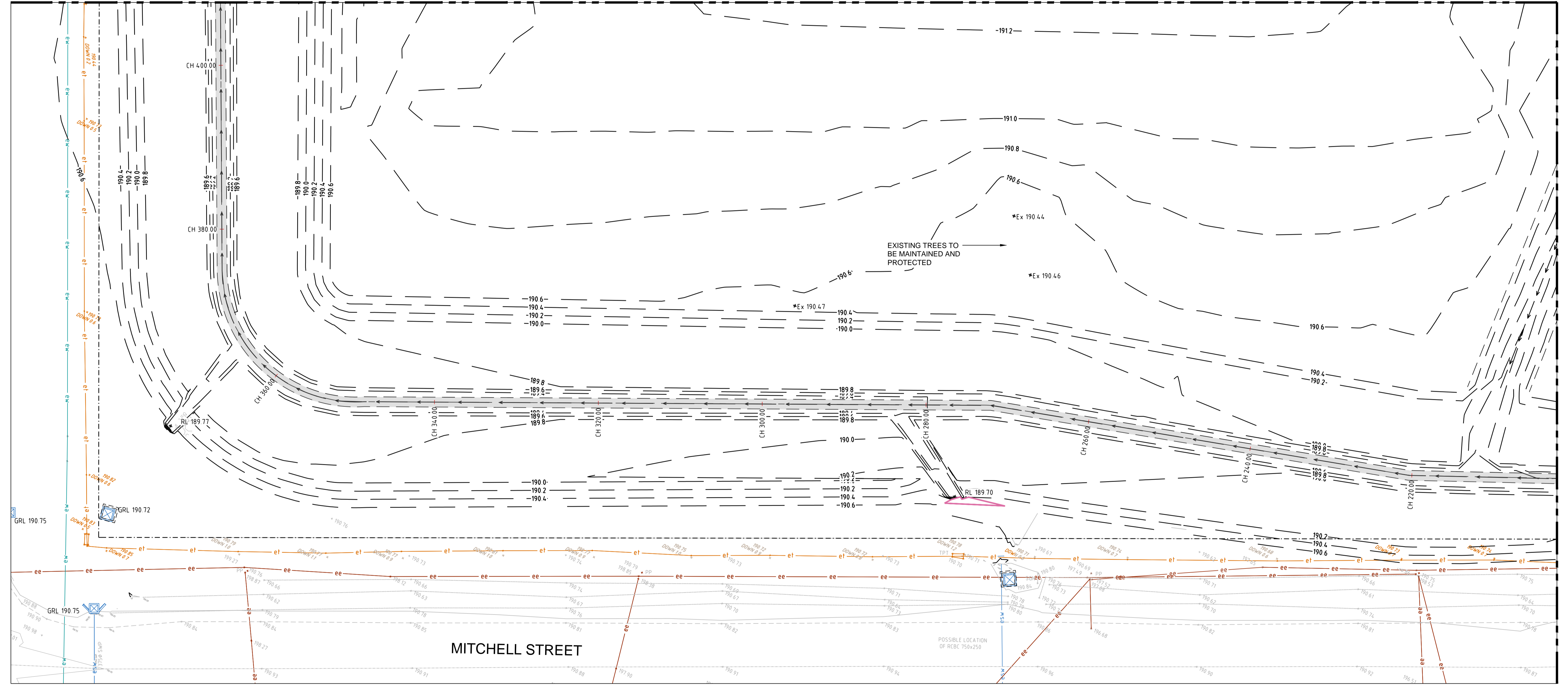
TITLE				
SITeworks PLAN - SHEET 5				
SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	R.X	R.X	J.G.	M.C.
JOB No.	DRAWING No.		ISSUE	
7490000	C4.05		4	
DATE	STATUS			
APRIL 2022	ISSUED FOR APPROVAL			

LEGEND	
(Dashed line)	BOUNDARY
(Thick solid line)	KERB & GUTTER (K&G)
(Thin solid line)	KERB ONLY (K.O.)
(Thick solid line)	FLUSH KERB (F.K.)
(Red outline)	RETAINING WALL
(Symbol with RL 91.86)	PROPOSED LEVEL
(Symbol with GRL 91.86)	FINISHED STORMWATER PIT LID/GRATE LEVEL
(Symbol with EX 91.86)	EXISTING SURFACE LEVEL
(Symbol with 2.5%)	GRADE ARROW
(Dashed purple line)	CREST
(Symbol with circles)	CRASH BARRIER
(Symbol with circles and lines)	RIP RAP SCOUR PROTECTION
(Symbol with arrow and lines)	1.2m WIDE CONC V-DRAIN



REFER C4.04 FOR CONTINUATION

REFER C4.05 FOR CONTINUATION



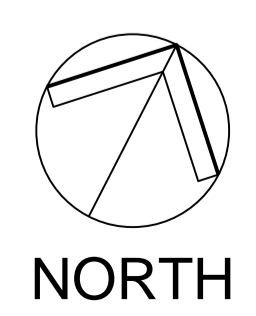
REFER C4.07 FOR CONTINUATION

PRELIMINARY - NOT FOR CONSTRUCTION

War: X: 1490000.00, Y: 7100000.00, Project: X: 1490000.00, Y: 7100000.00, Drawn: X: 1490000.00, Y: 7100000.00, Scale: 1:250, Date: 13/05/2022, User: j.s. 2022/05/25/09:52:40, Job No: 7490000, Sheet: 4 of 4, Project Name: Wee Waa Flood Mitigation Works - Temporary Staging - 7490000 - 04/2022

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Scale: 0 2.5 5.0 7.5 10.0m
PLAN SCALE 1:250 A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	DRAFT ISSUE FOR DETAILED DESIGN	08/03/22			
2	ISSUED FOR APPROVAL	25/03/22			
3	RE-ISSUED FOR APPROVAL	06/04/22			
4	REVISED PROJECT DESCRIPTION	12/05/22			

Built NSW GOVERNMENT

PROJECT
WEE WAA FLOOD MITIGATION WORKS

Warren Smith
Consulting Engineers

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
VIC: Suite 7.03, 365 Little Collins St, Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942
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ACN 002 197 088 ABN 36 300 430 126

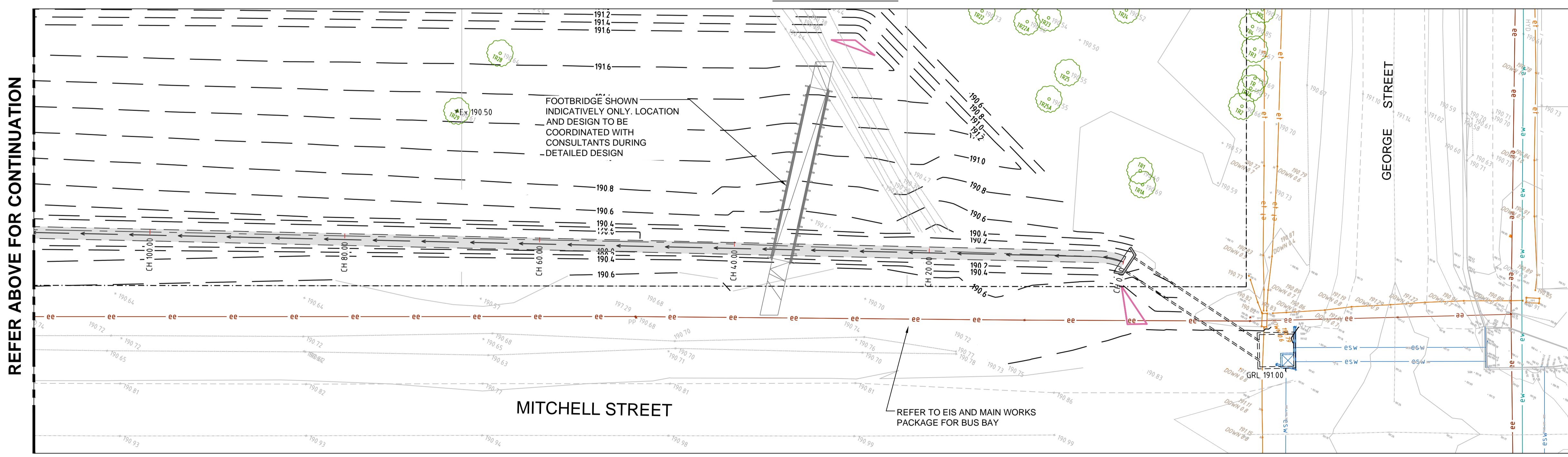
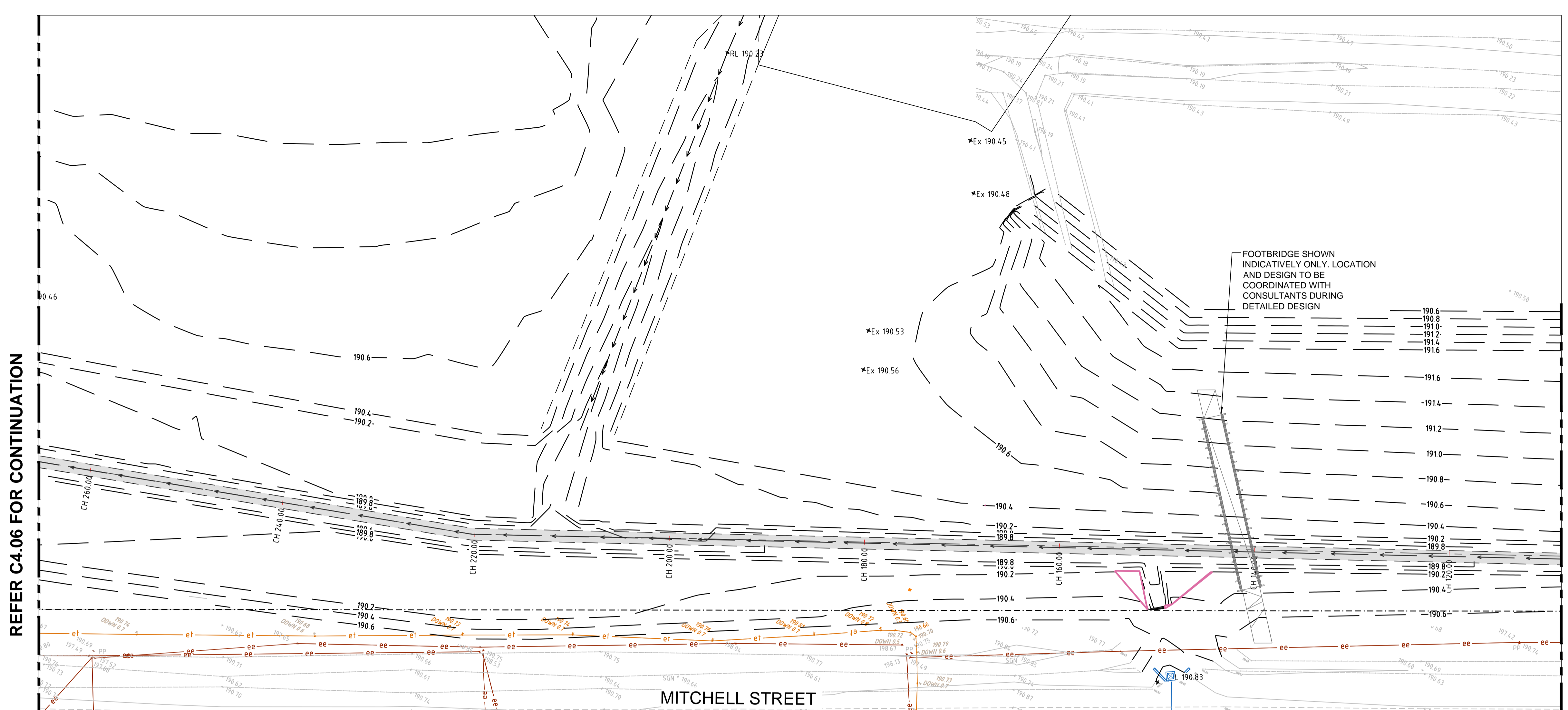
Hydraulic Fire Civil Utilities Infrastructure

SITWORKS PLAN - SHEET 6

SCALE: AS SHOWN	DRAWN: R.X	DESIGNED: R.X	CHECKED: J.G.	APPROVED: M.C.
JOB No: 7490000	DRAWING No: C4.06		ISSUE: 4	
DATE: APRIL 2022	STATUS: ISSUED FOR APPROVAL			

LEGEND

- BOUNDARY
- ===== KERB & GUTTER (K&G)
- ===== KERB ONLY (K.O.)
- ===== FLUSH KERB (F.K.)
- ==== F.K.
- █ RETAINING WALL
- PROPOSED LEVEL
- GRL 91.86 FINISHED STORMWATER PIT LID/GRATE LEVEL
- EX 91.86 EXISTING SURFACE LEVEL
- ▾ 2.5% GRADE ARROW
- CREST
- CRASH BARRIER
- ▭ RIP RAP SCOUR PROTECTION
- ▭ 1.2m WIDE CONC V-DRAIN



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SCALE 1:250 A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	DRAFT PROGRESS ISSUE	08/03/22			
2	ISSUED FOR APPROVAL	25/03/22			
3	RE-ISSUED FOR APPROVAL	06/04/22			
4	REVISED AS CLOUDED- FOOTBRIDGES ADDED	08/04/22			
5	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT: **Built** **NSW** GOVERNMENT

PROJECT: **WEE WAA FLOOD MITIGATION WORKS**

PREPARED BY: **Warren Smith Consulting Engineers**

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

NSW: 9/233 Castlereagh St. Sydney 2000 NSW Australia
VIC: Suite 7.03, 365 Little Collins St Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942
www.warrensmith.com.au

ACN 002 197 088 ABN 36 300 430 126

Hydraulic Fire Civil Utilities Infrastructure

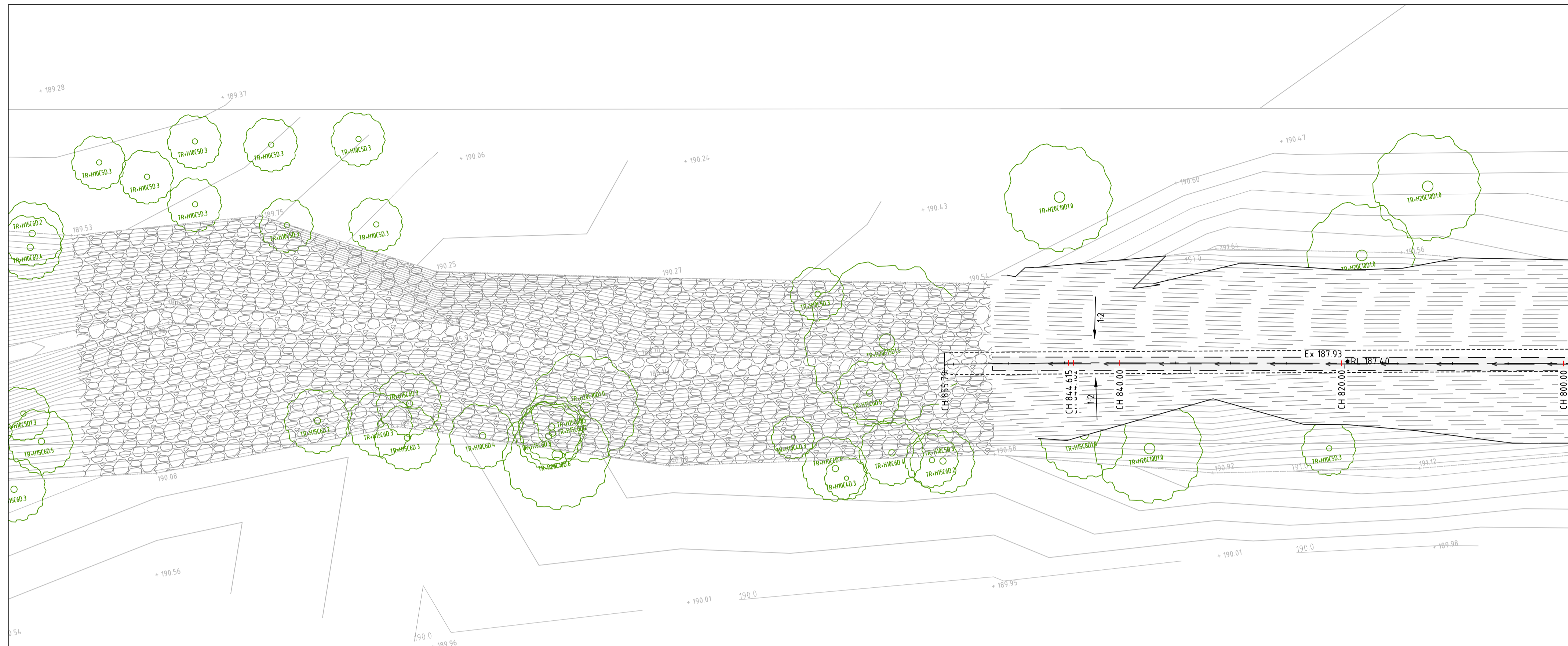
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SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	R.X	R.X	J.G.	M.C.

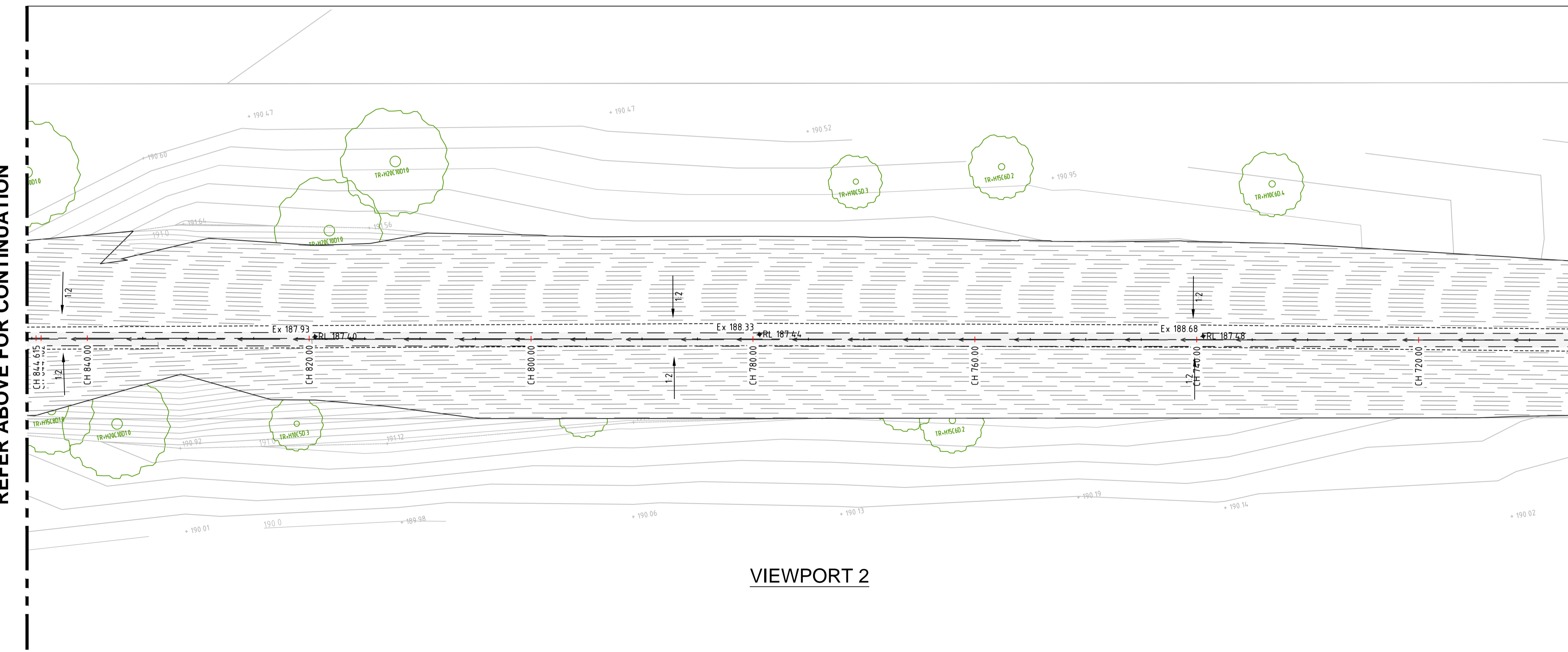
JOB No.	DRAWING No.	ISSUE
7490000	C4.07	5

DATE	STATUS
APRIL 2022	ISSUED FOR APPROVAL

PRELIMINARY - NOT FOR CONSTRUCTION



VIEWPORT 1



VIEWPORT 2

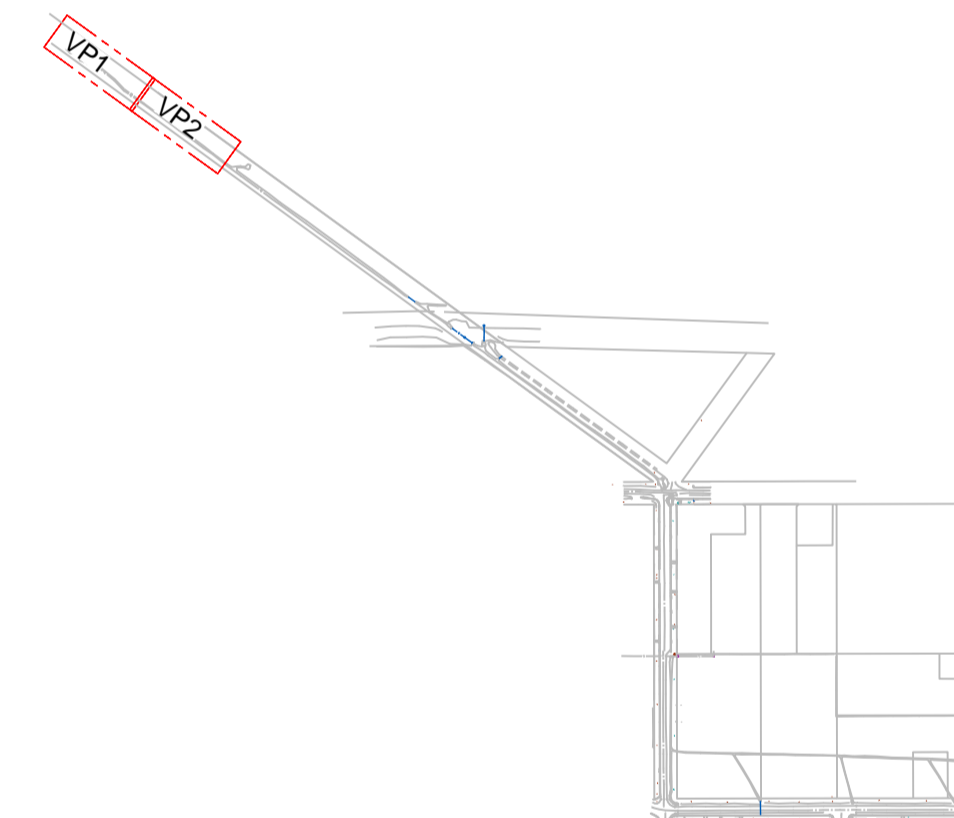
LEGEND

	BOUNDARY
	INDICATIVE OVERLAND FLOW ROUTE
	EXISTING STORMWATER PIPE
	EXISTING STORMWATER PIPE TO BE REMOVED
	PIPE DIAMETER AND DIRECTION OF FLOW
	STORMWATER PIPE (SI E 10 0)
	STORMWATER ROOF PIPE (SI E 10 0)
	GRATED INLET PIT
	KERB INLET PIT (AT SAG)
	KERB INLET PIT (ON GRADE)
	JUNCTION PIT
	PIT STRUCTURE NUMBER
	STORMWATER LINE NUMBER
	FINISHED SURFACE LEVEL
	FINISHED STORMWATER PIT LID/GRATE LEVEL
	GRADE ARROW
	CONCRETE HEADWALL
	RIP RAP SCOUR PROTECTION
	1.20 m WIDE CONC. V-DRAIN
	PROPOSED SAFETY BARRIER

REFER BELOW FOR CONTINUATION

REFER ABOVE FOR CONTINUATION

REFER C6.02 FOR CONTINUATION



KEY PLAN
SCALE NTS

PRELIMINARY - NOT FOR CONSTRUCTION

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REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	25/03/22			
2	RE-ISSUED FOR APPROVAL	06/04/22			
3	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT: **Built NSW** GOVERNMENT

PROJECT: **WEE WAA FLOOD MITIGATION WORKS**

PREPARED BY: **Warren Smith** Consulting Engineers

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
VIC: Suite 7-03, 365 Little Collins St Melbourne 3000 VIC Australia

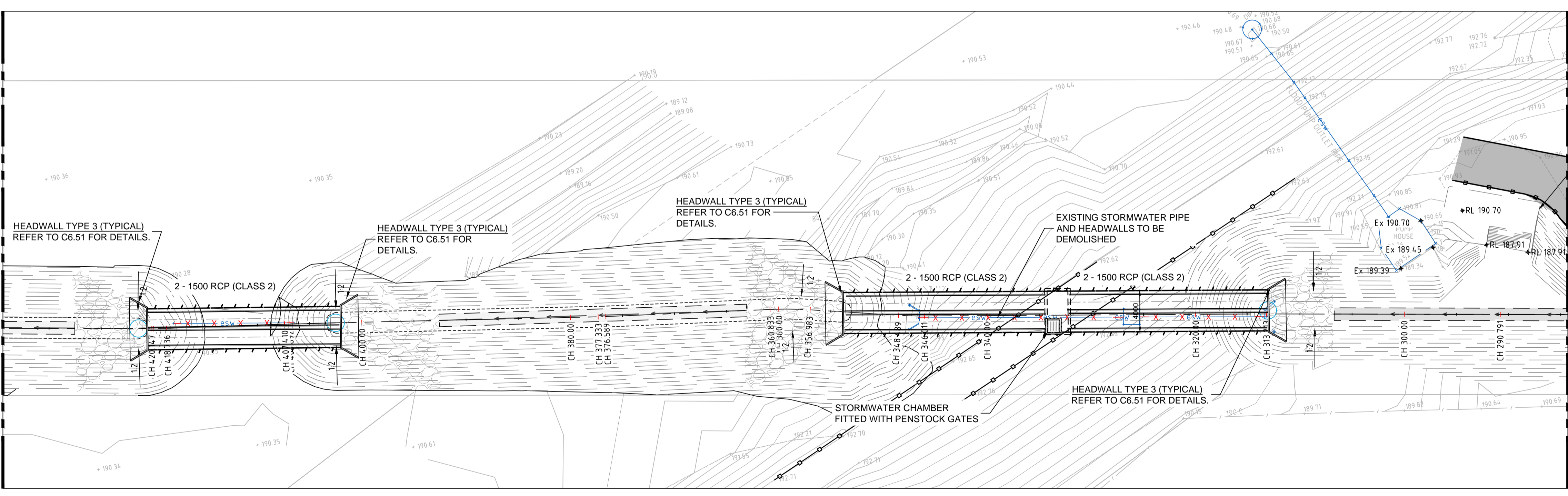
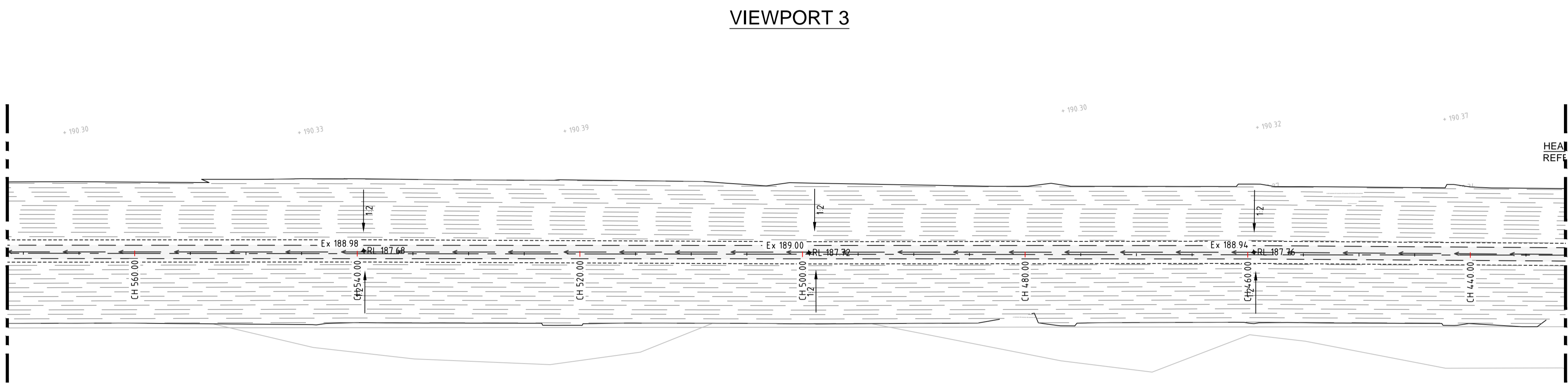
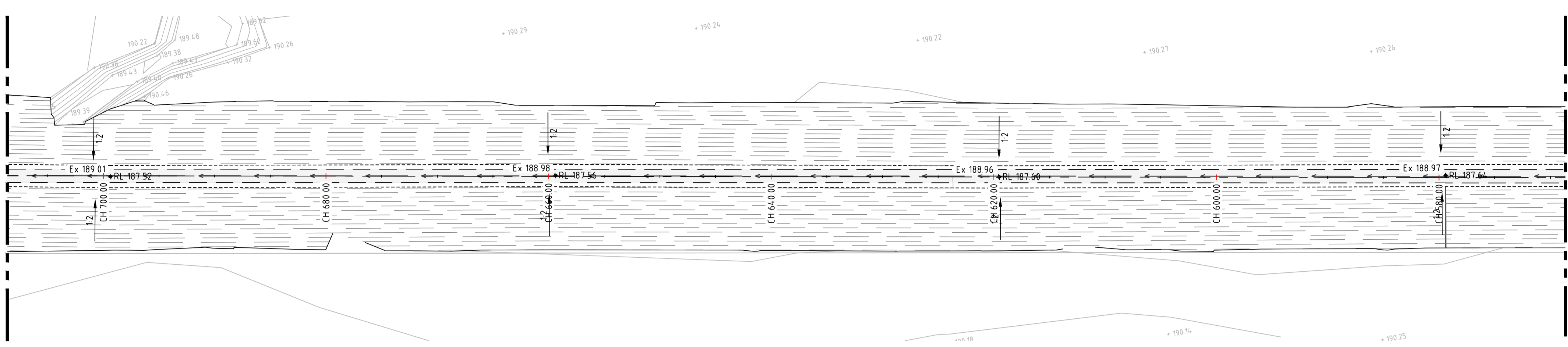
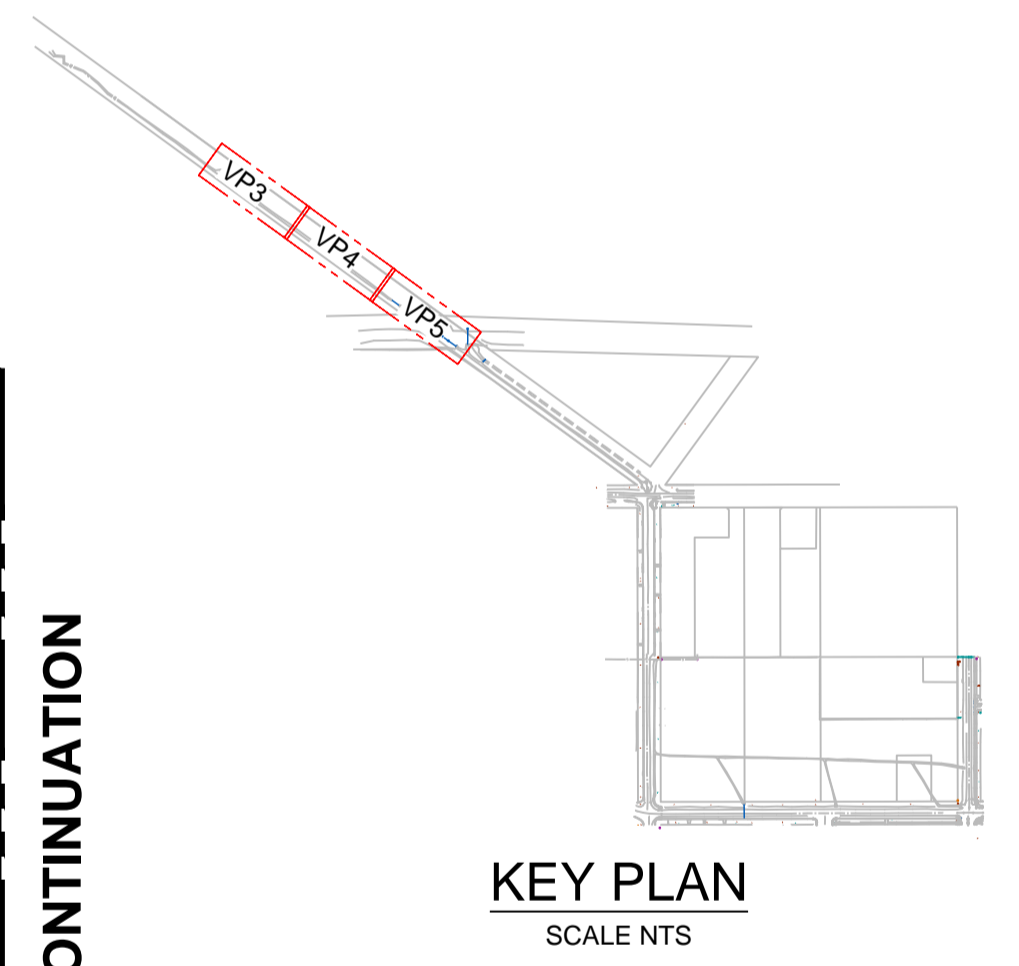
PH +61 (2) 9299 1312 PH +61 (3) 8648 9942
www.warrensmith.com.au
wsp@warrensmith.com.au

ACN 002 197 088 ABN 36 300 430 126
Hydraulic Fire Civil Utilities Infrastructure

TITLE: **STORMWATER LAYOUT PLAN - SHEET 1**

SCALE: AS SHOWN	DRAWN: R.X	DESIGNED: R.X	CHECKED: J.G.	APPROVED: M.C.
JOB No: 7490000	DRAWING No: C6.01	ISSUE: 3		
DATE: APRIL 2022	STATUS: ISSUED FOR APPROVAL			

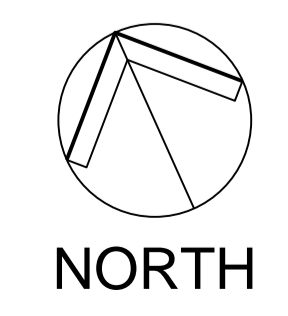
LEGEND	
	BOUNDARY
	INDICATIVE OVERLAND FLOW ROUTE
	EXISTING STORMWATER PIPE
	EXISTING STORMWATER PIPE TO BE REMOVED
	PIPE DIAMETER AND DIRECTION OF FLOW
	STORMWATER PIPE (SI E 10 0)
	STORMWATER ROOF PIPE (SI E 10 0)
	GRATED INLET PIT
	KERB INLET PIT (AT SAG)
	KERB INLET PIT (ON GRADE)
	JUNCTION PIT
	PIT STRUCTURE NUMBER
	STORMWATER LINE NUMBER
	FINISHED SURFACE LEVEL
	FINISHED STORMWATER PIT LID/GRATE LEVEL
	GRADE ARROW
	CONCRETE HEADWALL
	RIP RAP SCOUR PROTECTION
	1.20 m WIDE CONC. V-DRAIN
	PROPOSED SAFETY BARRIER



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SCALE 1:250 AT SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	25/03/22			
2	RE-ISSUED FOR APPROVAL	06/04/22			
3	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT

PROJECT

WEE WAA FLOOD MITIGATION WORKS

PREPARED BY

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

NSW 9/223 Castlereagh St. VIC Suite 7.03, 365 Little Collins St
Sydney 2000 NSW Australia Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942

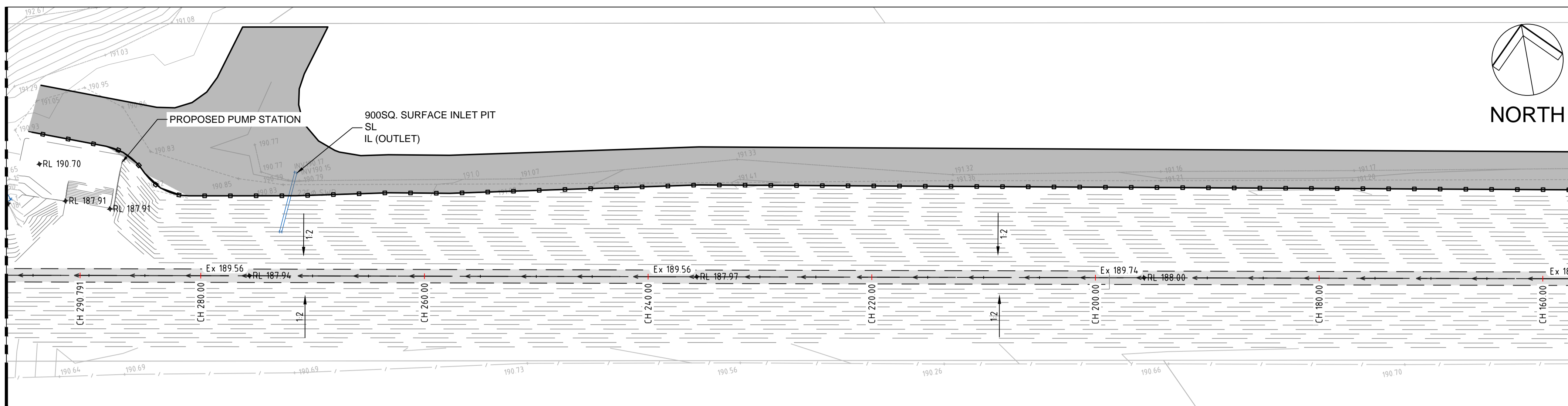
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Hydraulic Fire Civil Utilities Infrastructure

TITLE				
STORMWATER LAYOUT PLAN - SHEET 2				
SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	R.X	R.X	J.G.	M.C.
JOB No.	DRAWING No.		ISSUE	
7490000	C6.02		3	
DATE	STATUS			
APRIL 2022	ISSUED FOR APPROVAL			

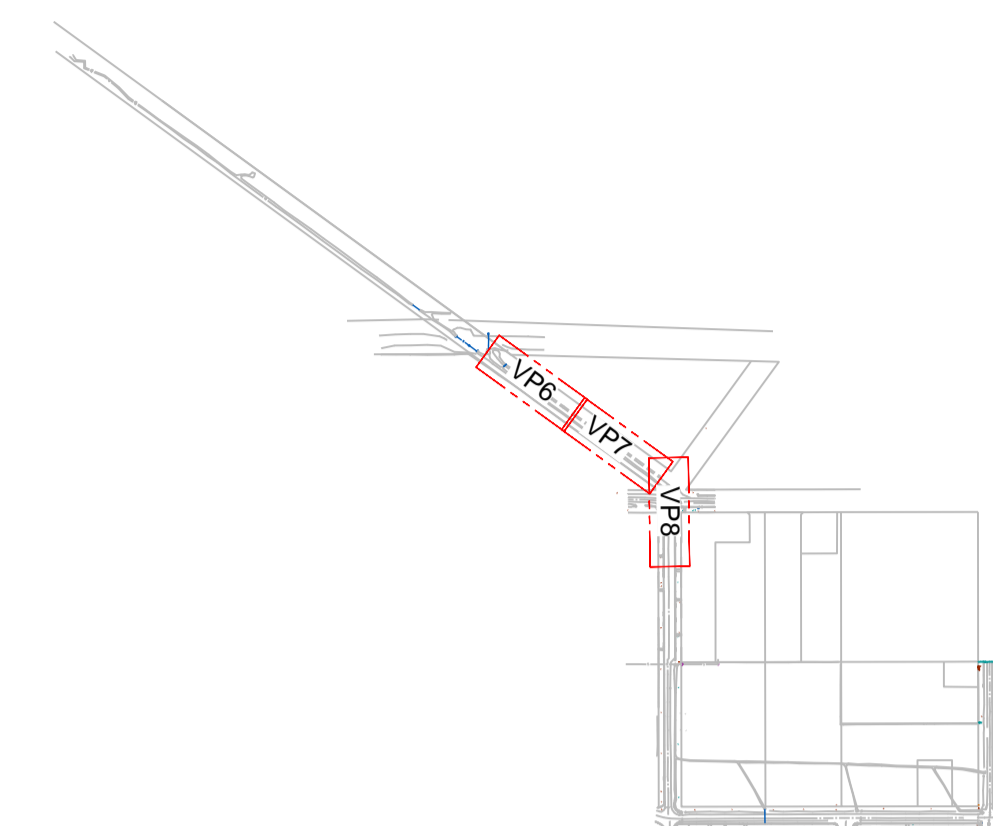
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VIEWPORT 6

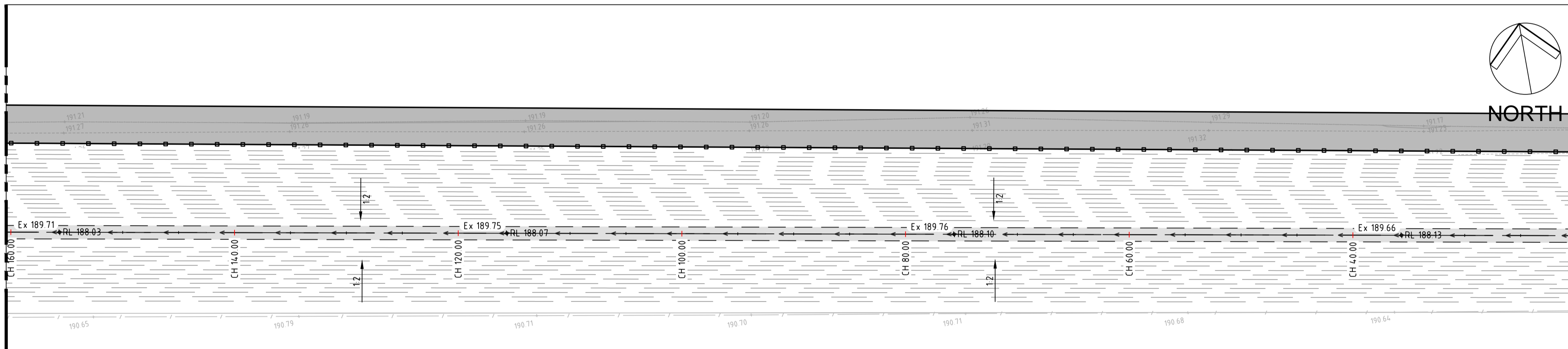


REFER BELOW FOR CONTINUATION



KEY PLAN
SCALE NTS

REFER ABOVE FOR CONTINUATION

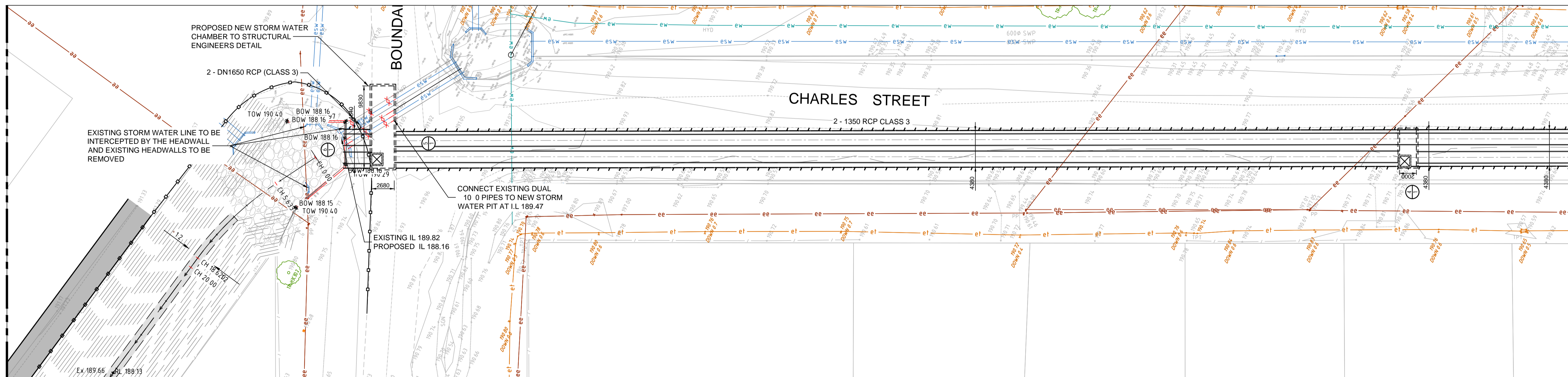


VIEWPORT 7



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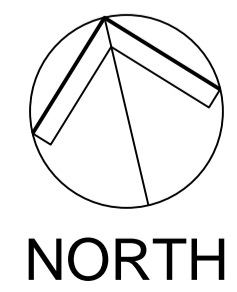
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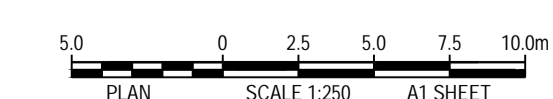
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1	DRAFT ISSUE FOR DETAILED DESIGN	08/03/22			
2	ISSUED FOR APPROVAL	25/03/22			
3	RE-ISSUED FOR APPROVAL	06/04/22			
4	REVISED PROJECT DESCRIPTION	12/05/22			

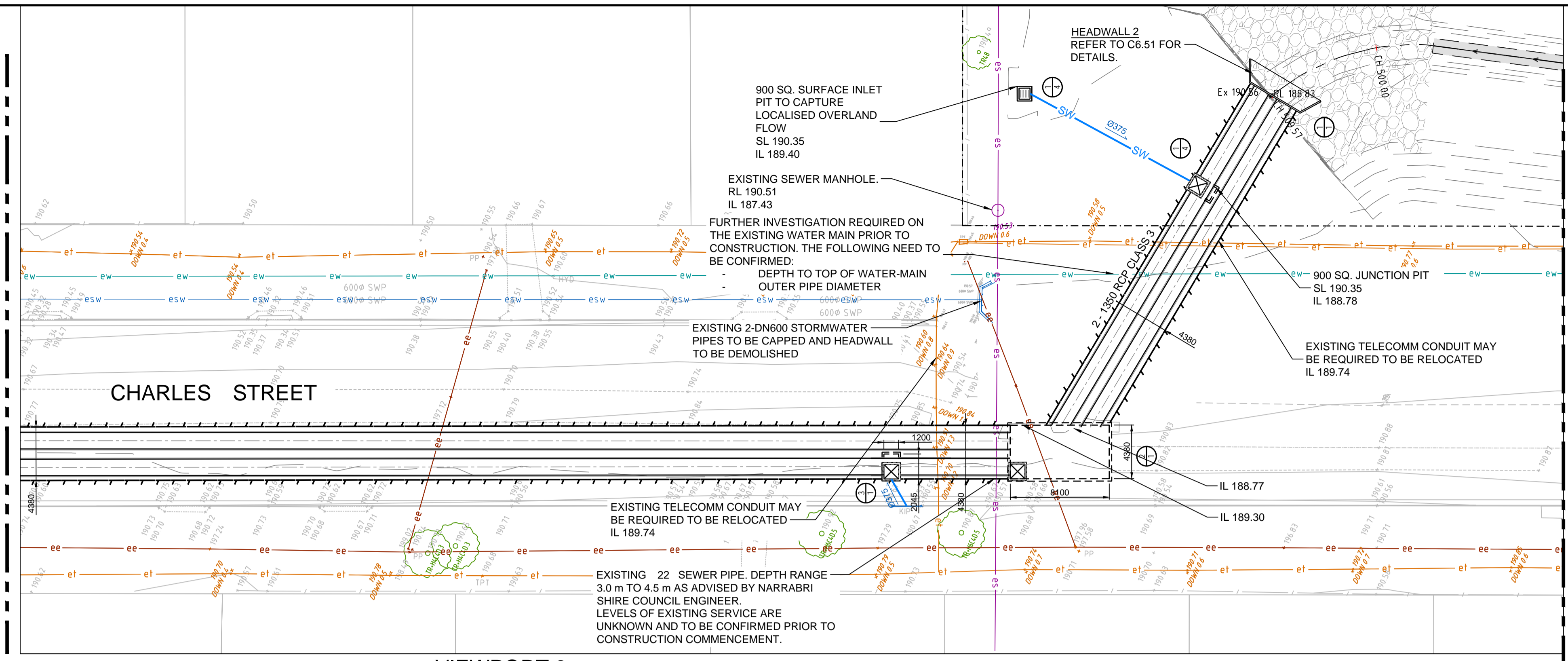
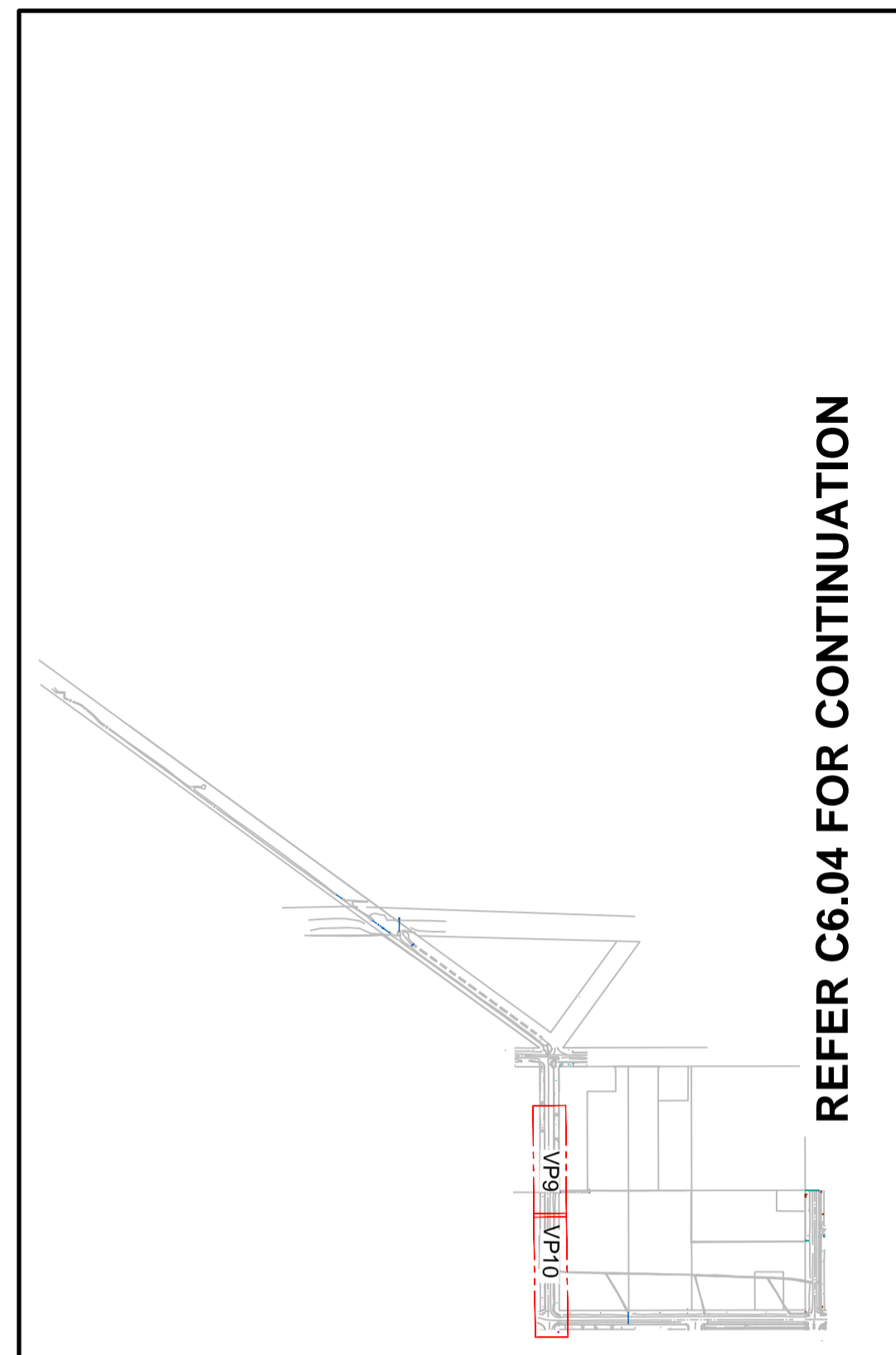
CLIENT

 PROJECT
WEE WAA FLOOD MITIGATION WORKS

PREPARED BY
WARREN SMITH CONSULTING ENGINEERS
 SINCE 1981.
 NSW: 9/233 Castlereagh St. Sydney 2000 NSW Australia
 VIC: Suite 7.03, 365 Little Collins St Melbourne 3000 VIC Australia
 PH +61 (0) 9299 1312 PH +61 (0) 3 8648 9942
 www.warrensmith.com.au
 ACN 002 197 088 ABN 36 500 430 126

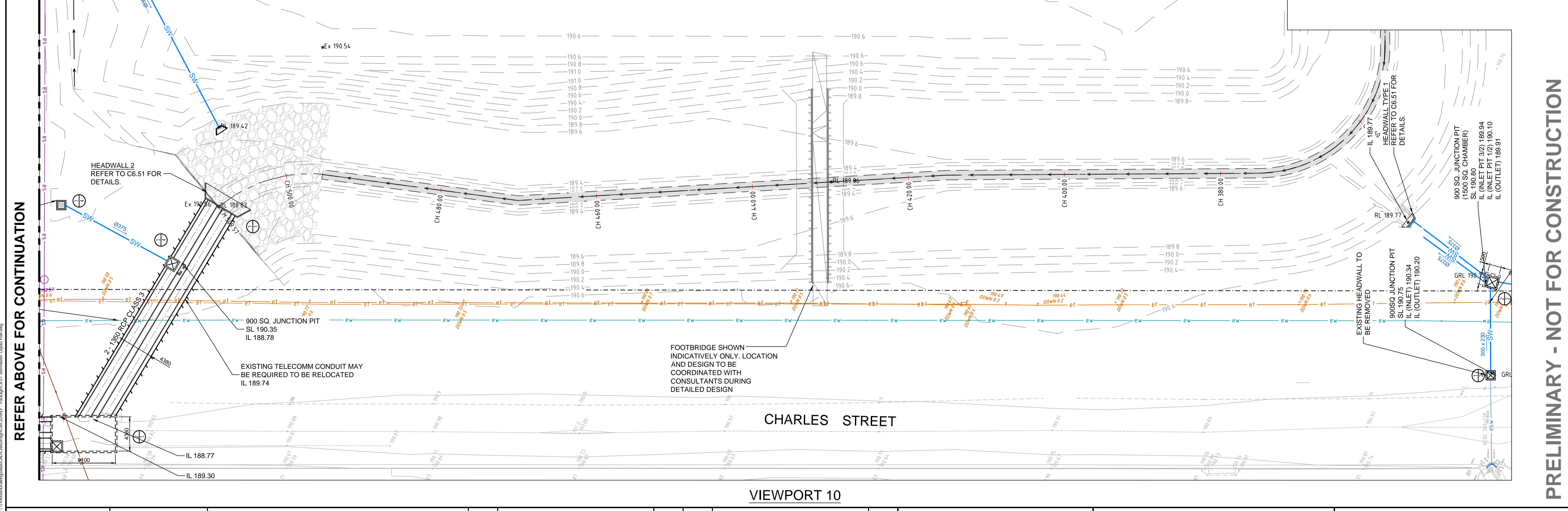
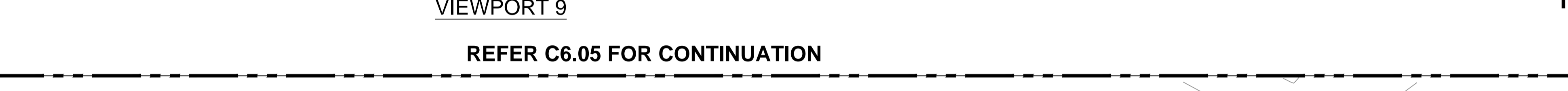
TITLE
STORMWATER LAYOUT PLAN - SHEET 3

SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	N.G.	R.X.	J.G.	M.C.
JOB No.	7490000	DRAWING No.	C6.03	ISSUE
				4
DATE	STATUS			
APRIL 2022	ISSUED FOR APPROVAL			



LEGEND

- BOUNDARY
- INDICATIVE OVERLAND FLOW ROUTE
- ∅450 esw — EXISTING STORMWATER PIPE
- X esw X — EXISTING STORMWATER PIPE TO BE REMOVED
- ∅450 — PIPE DIAMETER AND DIRECTION OF FLOW
- SW — STORMWATER PIPE (SI E 10 0)
- RW — STORMWATER ROOF PIPE (SI E 10 0)
- GRATED INLET PIT
- ▒ KERB INLET PIT (AT SAG)
- ▒ KERB INLET PIT (ON GRADE)
- JUNCTION PIT
- PIT STRUCTURE NUMBER
- STORMWATER LINE NUMBER
- ✱ RL 91.86 FINISHED SURFACE LEVEL
- ✱ GRL 91.86 FINISHED STORMWATER PIT LID/GRATE LEVEL
- ↗ 2.5% GRADE ARROW
- ▒ CONCRETE HEADWALL
- ▒ RIP RAP SCOUR PROTECTION
- ▒ 1.20 m WIDE CONC. V-DRAIN
- ○ PROPOSED SAFETY BARRIER



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5.0 0 2.5 5.0 7.5 10.0m
PLAN SCALE 1:250 A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	DRAFT PROGRESS ISSUE	08/03/22			
2	ISSUED FOR APPROVAL	25/03/22			
3	RE-ISSUED FOR APPROVAL	06/04/22			
4	REVISED AS CLOUDED- FOOTBRIDGES ADDED	08/04/22			
5	REVISED PROJECT DESCRIPTION	12/05/22			

Built **NSW GOVERNMENT**

PROJECT
WEE WAA FLOOD MITIGATION WORKS

PREPARED BY
Warren Smith Consulting Engineers

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

NSW 9/233 Castlereagh St. Sydney 2000 NSW Australia
VIC 306 Little Collins St Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942
www.warrensmith.com.au
wsp@warrensmith.com.au
ACN 002 197 088 ABN 36 300 430 126

Hydraulic Fire Civil Utilities Infrastructure

TITLE
STORMWATER LAYOUT PLAN - SHEET 4

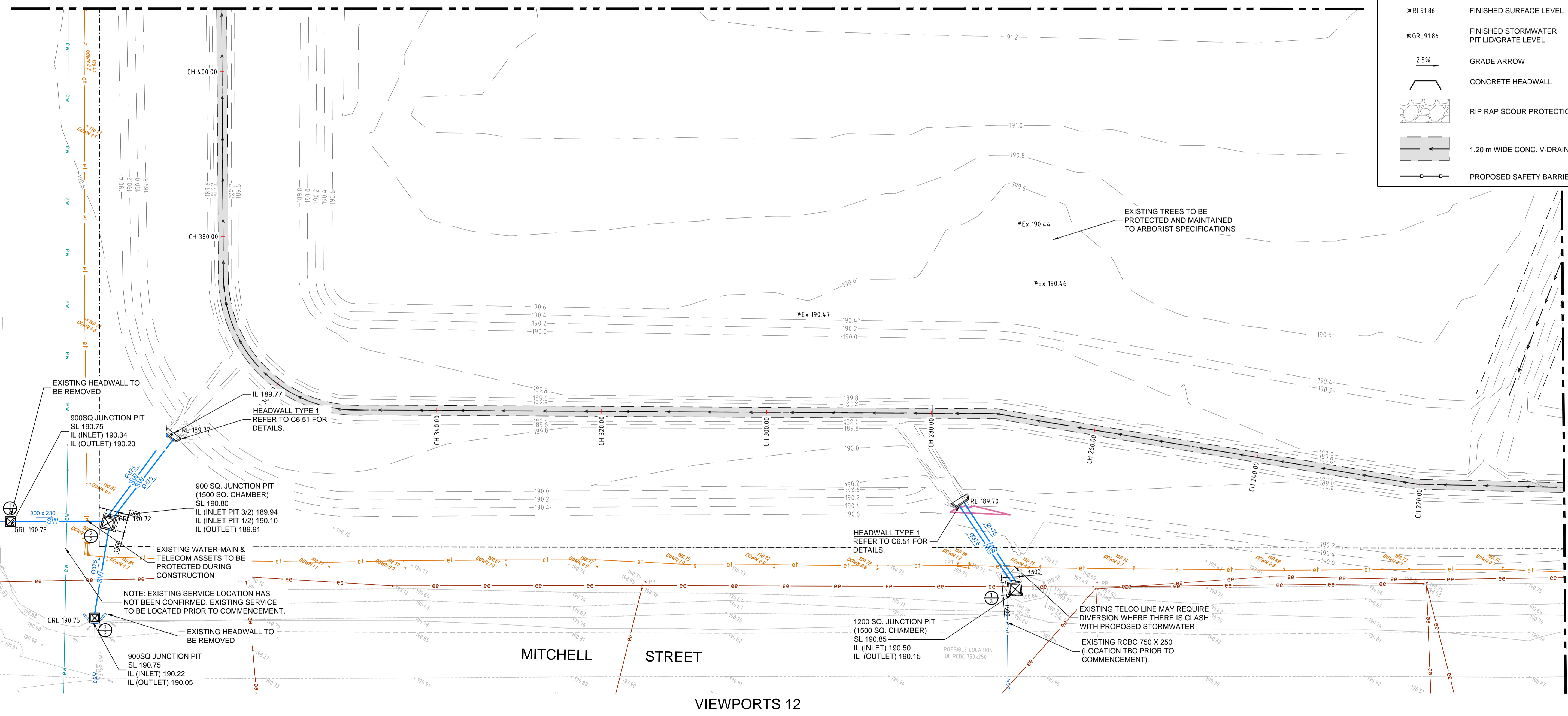
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JOB No. 7490000	DRAWING No. C6.04	ISSUE 5		
DATE APRIL 2022	STATUS ISSUED FOR APPROVAL			

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LEGEND

- BOUNDARY
- INDICATIVE OVERLAND FLOW ROUTE
- Ø450
esw EXISTING STORMWATER PIPE
- ✕ ✕w ✕ EXISTING STORMWATER PIPE TO BE REMOVED
- Ø450 PIPE DIAMETER AND DIRECTION OF FLOW
- SW STORMWATER PIPE (SI E 10 0)
- RW STORMWATER ROOF PIPE (SI E 10 0)
- ☐ GRATED INLET PIT
- ☐ KERB INLET PIT (AT SAG)
- ☐ KERB INLET PIT (ON GRADE)
- ☐ JUNCTION PIT
- PIT STRUCTURE NUMBER
- STORMWATER LINE NUMBER
- ✕ RL 91.86 FINISHED SURFACE LEVEL
- ✕ GRL 91.86 FINISHED STORMWATER PIT LID/GRATE LEVEL
- 2.5% GRADE ARROW
- ☐ CONCRETE HEADWALL
- ☐ RIP RAP SCOUR PROTECTION
- ☐ 1.20 m WIDE CONC. V-DRAIN
- ☐ PROPOSED SAFETY BARRIER

REFER C6.05 FOR CONTINUATION



REFER C6.07 FOR CONTINUATION

PRELIMINARY - NOT FOR CONSTRUCTION

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SCALE 1:250 A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	25/03/22			
2	RE-ISSUED FOR APPROVAL	06/04/22			
3	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT

PROJECT

WEE WAA FLOOD MITIGATION WORKS

PREPARED BY

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
VIC: Suite 7.03, 365 Little Collins St, Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942
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ACN 002 197 088 ABN 36 300 430 126

Hydraulic Fire Civil Utilities Infrastructure

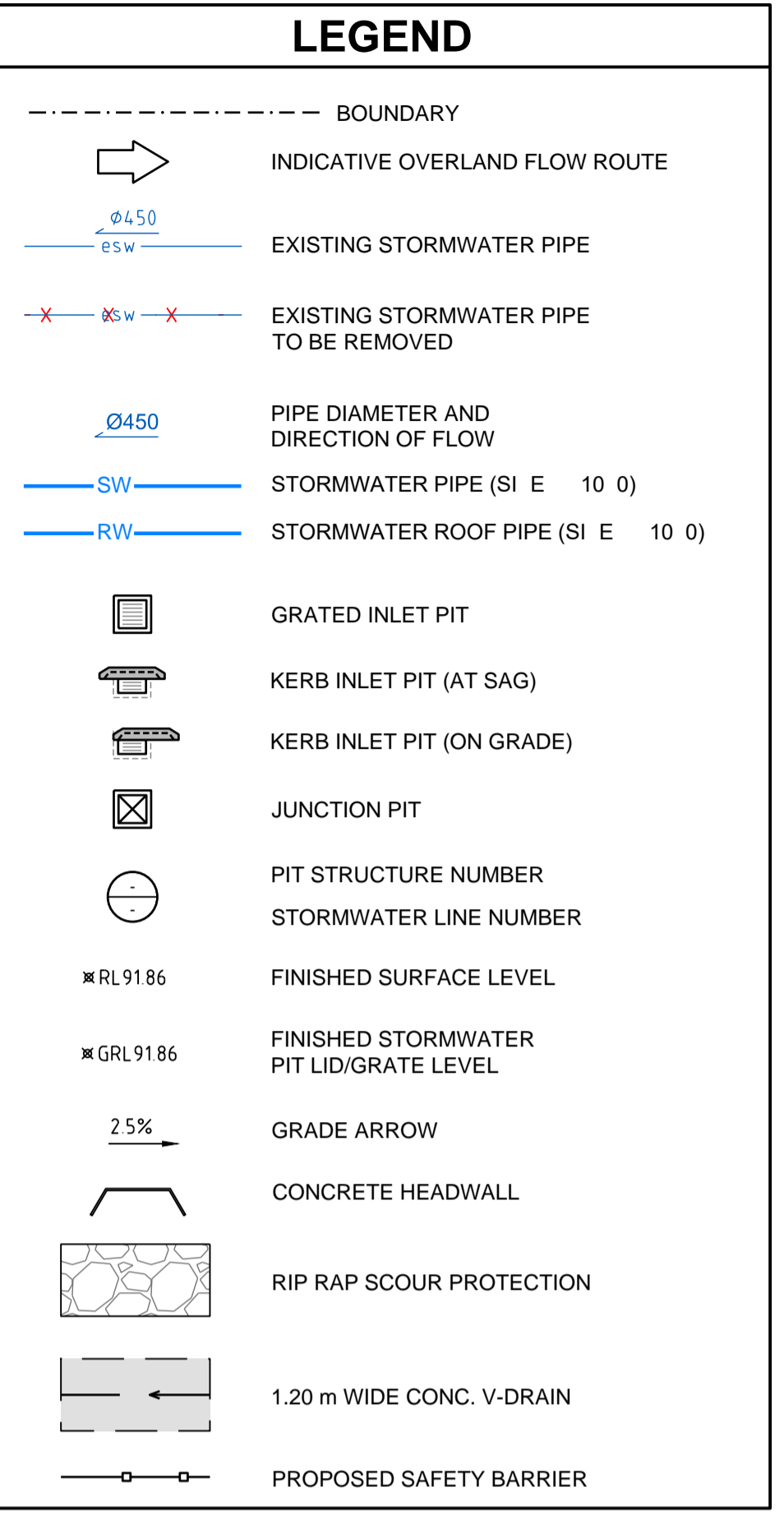
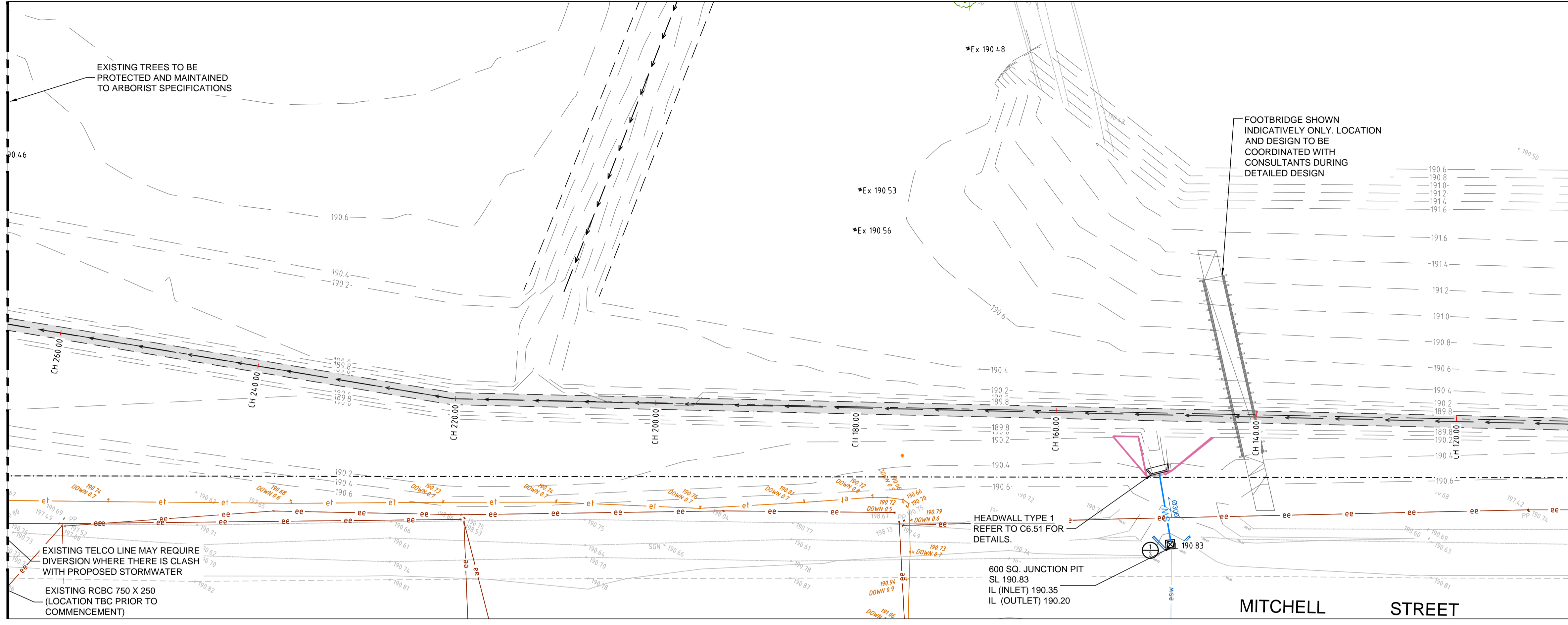
TITLE

STORMWATER LAYOUT PLAN - SHEET 6

SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	M.T.	R.X.	J.G.	M.C.
JOB No.	DRAWING No.		ISSUE	
7490000	C6.06		3	
DATE	STATUS			
APRIL 2022	ISSUED FOR APPROVAL			

REFER C6.06 FOR CONTINUATION

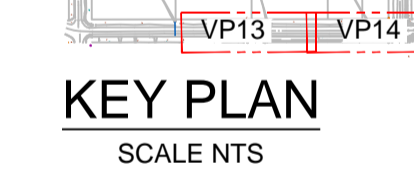
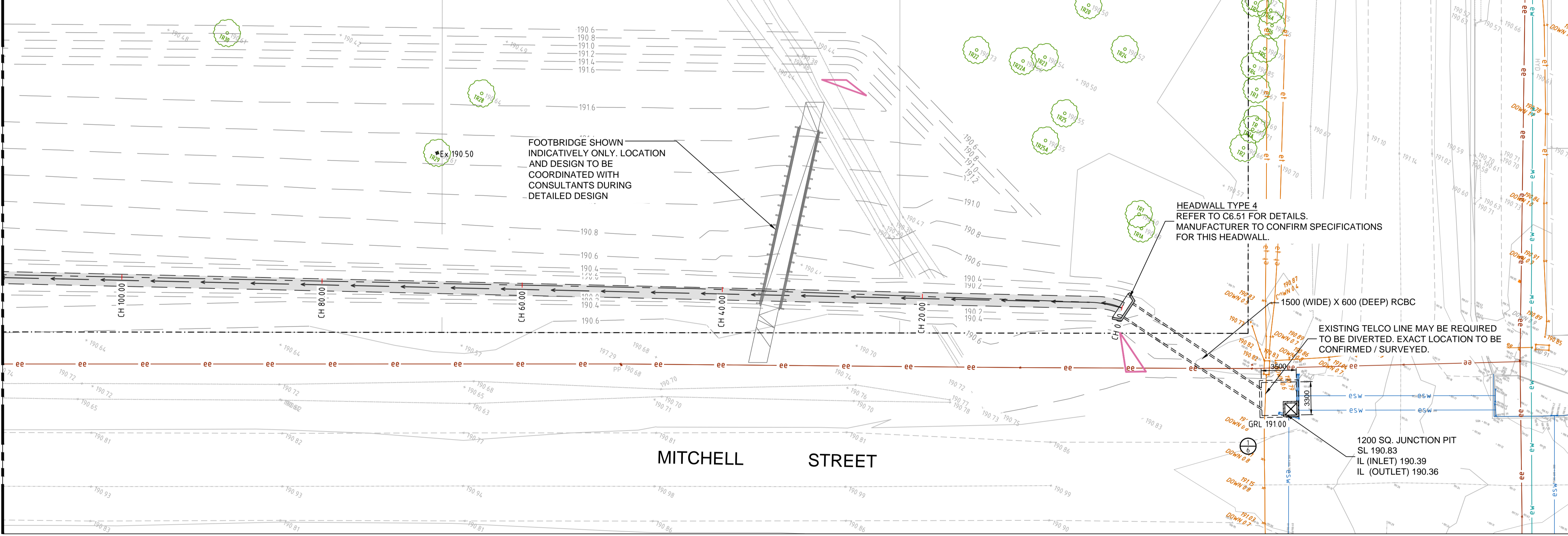
REFER BELOW FOR CONTINUATION



VIEWPORTS 13

REFER ABOVE FOR CONTINUATION

PRELIMINARY - NOT FOR CONSTRUCTION



VIEWPORTS 14

Vertical project information text including drawing title, date, and version history.

North arrow and scale bar (1:250).

Revision table with columns for revision number, amendment, date, and status.

Client logos (Built, NSW Government) and project name: WEE WAA FLOOD MITIGATION WORKS.

Warren Smith Consulting Engineers logo and contact information.

Title block containing drawing title 'STORMWATER LAYOUT PLAN - SHEET 7', scale, drawing number '7490000', and status 'ISSUED FOR APPROVAL'.

CHAINAGE	DESIGN LEVEL	EXISTING LEVEL	DEPTH
440.000	187.783	188.976	-1.193
450.000	187.773	188.983	-1.210
454.304	187.769	188.979	-1.210
459.442	187.764	188.930	-1.166
460.000	187.763	188.938	-1.174
470.000	187.753	188.985	-1.231
480.000	187.743	188.948	-1.205
490.000	187.733	188.942	-1.208
497.120	187.726	188.983	-1.256
500.000	187.723	188.961	-1.238
510.000	187.713	188.959	-1.245
520.000	187.704	188.995	-1.292
529.662	187.694	188.978	-1.284
530.000	187.694	188.980	-1.286
539.424	187.684	188.978	-1.294
540.000	187.684	188.978	-1.294
550.000	187.674	188.964	-1.291
560.000	187.664	188.963	-1.300
570.000	187.654	188.985	-1.332
571.583	187.652	188.962	-1.330

LONGITUDINAL SECTION 1 CONTINUED
SCALE - HORIZONTAL 1:200 VERTICAL 1:100

CHAINAGE	DESIGN LEVEL	EXISTING LEVEL	DEPTH
579.394	187.644	188.968	-1.324
580.000	187.644	188.968	-1.325
590.000	187.634	188.977	-1.343
600.000	187.624	188.946	-1.322
610.000	187.614	188.963	-1.349
619.457	187.604	188.961	-1.357
620.000	187.604	188.959	-1.356
630.000	187.594	188.934	-1.340
640.000	187.584	188.924	-1.340
650.000	187.574	188.983	-1.410
659.391	187.564	188.983	-1.419
660.000	187.564	188.983	-1.419
670.000	187.554	188.928	-1.375
680.000	187.544	188.957	-1.413
680.858	187.543	188.957	-1.414
690.000	187.534	188.921	-1.387
699.356	187.524	189.012	-1.488
700.000	187.524	189.015	-1.491
706.352	187.517	189.016	-1.499
710.000	187.514	188.928	-1.414

LONGITUDINAL SECTION 1 CONTINUED
SCALE - HORIZONTAL 1:200 VERTICAL 1:100

CHAINAGE	DESIGN LEVEL	EXISTING LEVEL	DEPTH
720.000	187.504	188.881	-1.377
723.560	187.500	188.810	-1.310
730.000	187.494	188.749	-1.256
733.556	187.490	188.753	-1.263
739.420	187.484	188.733	-1.249
740.000	187.484	188.738	-1.254
750.000	187.474	188.743	-1.270
753.303	187.470	188.677	-1.207
760.000	187.464	188.596	-1.132
770.000	187.454	188.511	-1.057
779.411	187.444	188.338	-0.883
780.000	187.444	188.326	-0.882
787.716	187.436	188.194	-0.758
790.000	187.434	188.185	-0.751
800.000	187.424	188.200	-0.776
808.721	187.415	188.199	-0.784
810.000	187.414	188.199	-0.786
816.824	187.407	188.055	-0.648
820.000	187.397	187.902	-0.506
823.357	187.348	187.739	-0.391
830.000	187.252	187.399	-0.146
840.000	187.108	187.164	-0.056
844.162	187.048	187.088	-0.050
844.162	187.049	187.088	-0.050
844.815	187.047	187.090	-0.049
850.000	186.964	186.999	-0.035
855.278	186.887	186.887	-0.010

LONGITUDINAL SECTION 1 CONTINUED
SCALE - HORIZONTAL 1:200 VERTICAL 1:100

<p>DO NOT SCALE FROM DRAWINGS, CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK.</p> <p>THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH CONSULTING ENGINEERS.</p>	<p>DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR</p>	<table border="1"> <thead> <tr> <th>REVISION</th> <th>AMENDMENT</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>ISSUED FOR APPROVAL</td> <td>25/03/21</td> </tr> <tr> <td>2</td> <td>RE-ISSUED FOR APPROVAL</td> <td>06/04/22</td> </tr> <tr> <td>3</td> <td>REVISED PROJECT DESCRIPTION</td> <td>12/05/22</td> </tr> </tbody> </table>	REVISION	AMENDMENT	DATE	1	ISSUED FOR APPROVAL	25/03/21	2	RE-ISSUED FOR APPROVAL	06/04/22	3	REVISED PROJECT DESCRIPTION	12/05/22	<table border="1"> <thead> <tr> <th>REVISION</th> <th>AMENDMENT</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISION	AMENDMENT	DATE										<p>CLIENT</p>	<p>PREPARED BY</p>	<p>TITLE</p> <p>STORMWATER CHANNEL 1 LONGITUDINAL SECTIONS - SHEET 2</p>
		REVISION	AMENDMENT	DATE																										
1	ISSUED FOR APPROVAL	25/03/21																												
2	RE-ISSUED FOR APPROVAL	06/04/22																												
3	REVISED PROJECT DESCRIPTION	12/05/22																												
REVISION	AMENDMENT	DATE																												
<p>SCALE: AS SHOWN</p> <p>JOB No: 7490000</p> <p>DATE: APRIL 2022</p>	<p>SCALE: R.X</p> <p>DRAWING No: C6.32</p> <p>STATUS: ISSUED FOR APPROVAL</p>	<p>PROJECT</p> <p>WEE WAA FLOOD MITIGATION WORKS</p>	<p>NSW 9/233 Castlereagh St Sydney 2000 NSW Australia</p> <p>VIC Suite 7.03, 365 Little Collins St Melbourne 3000 VIC Australia</p> <p>PH +61 (2) 9299 1312 PH +61 (3) 8648 9942</p> <p>www.warrensmith.com.au</p> <p>ACN 002 197 088 ABN 36 300 430 126</p> <p>Hydraulic Fire Civil Utilities Infrastructure</p>	<p>SCALE: AS SHOWN</p> <p>DESIGNED: R.X</p> <p>CHECKED: J.G.</p> <p>APPROVED: M.C.</p> <p>ISSUE: 3</p>																										

PRELIMINARY - NOT FOR CONSTRUCTION FOR CONTINUATION REFER BELOW

DATUM 184.00		-0.22%																-0.5%						
DESIGN LEVEL	279.070 280.000	189.412 189.410																						
EXISTING LEVEL			190.522 190.506	189.401	189.390 189.389	189.368 189.366	189.357	189.343	189.335	189.324 189.321	189.312	189.301 189.299	189.290	189.278 189.276	189.267	189.256 189.254	189.246	189.232 189.230	189.218 189.210	189.204 189.193	189.187	189.165	189.144 189.144	
DEPTH			-1.109 -1.096	-1.037	-1.084 -1.112	-1.234 -1.241	-1.261	-1.273	-1.296	-1.324 -1.326	-1.336	-1.350 -1.353	-1.364	-1.380 -1.384	-1.402	-1.424 -1.428	-1.449	-1.485 -1.486	-1.486 -1.480	-1.461 -1.454	-1.413	-1.413	-1.546 -1.546	
CHAINAGE	279.070 280.000	284.070	289.304 290.000	299.821 300.000	304.070	310.000	313.826	318.842 320.000	323.858	328.875 330.000	333.960	339.069 340.000	344.069	349.069 350.000	353.459	355.797	360.000 360.896	366.346	370.000	372.393	377.478	380.000	390.000	400.000

LONGITUDINAL SECTION 3 CONTINUED
SCALE - HORIZONTAL 1:200 VERTICAL 1:100

FOR CONTINUATION REFER BELOW

DATUM 184.00		2%				-0.24%				-0.27%				-0.53%											
DESIGN LEVEL	410.000	189.122	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100	189.100
EXISTING LEVEL																									
DEPTH																									
CHAINAGE	410.000	419.634 420.000	430.000	440.000	450.000	460.000	470.000	474.054	480.000	490.000	500.000 500.372	507.124	510.000	514.358											

LONGITUDINAL SECTION 3 CONTINUED
SCALE - HORIZONTAL 1:200 VERTICAL 1:100

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PLAN SCALE 1:100 A1 SHEET

PLAN SCALE 1:200 A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	25/03/22			
2	RE-ISSUED FOR APPROVAL	06/04/22			
3	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT

PROJECT

WEE WAA FLOOD MITIGATION WORKS

PREPARED BY

Warren Smith
Consulting Engineers

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
VIC: Suite 7.03, 365 Little Collins St, Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942
www.warrensmith.com.au
ACN 002 197 088 ABN 36 500 430 126

Hydraulic Fire Civil Utilities Infrastructure

TITLE

STORMWATER CHANNEL 3 LONGITUDINAL SECTIONS - SHEET 2

SCALE	AS SHOWN	DRAWN	M.T.	DESIGNED	R.X	CHECKED	J.G.	APPROVED	M.C.
JOB No.	7490000		DRAWING No.		C6.35		ISSUE		3
DATE	APRIL 2022			STATUS					ISSUED FOR APPROVAL

DESIGN LEVEL					
EXISTING LEVEL	190.983	190.813	190.724	190.179	190.635
OFFSET	-15.000	-10.373	-5.163	0.000	2.575

CHAINAGE 0.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

DESIGN LEVEL					
EXISTING LEVEL	190.922	190.768	190.518	190.477	190.567
OFFSET	-15.000	-8.805	0.000	4.095	15.000

CHAINAGE 20.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

DESIGN LEVEL					
EXISTING LEVEL	190.895	190.562	190.043	190.599	190.505
OFFSET	-15.000	-2.037	0.000	4.020	15.000

CHAINAGE 40.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

DESIGN LEVEL					
EXISTING LEVEL	190.841	190.661	190.610	189.984	190.779
OFFSET	-15.000	-3.614	0.000	8.452	13.821

CHAINAGE 60.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

DESIGN LEVEL					
EXISTING LEVEL	190.834	190.617	190.571	189.925	190.714
OFFSET	-15.000	-3.914	0.000	9.704	15.000

CHAINAGE 80.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

DESIGN LEVEL					
EXISTING LEVEL	190.829	190.683	189.866	190.652	190.713
OFFSET	-15.000	-5.480	0.000	7.457	12.972

CHAINAGE 100.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

DESIGN LEVEL					
EXISTING LEVEL	190.818	190.754	190.555	189.807	190.577
OFFSET	-15.000	-7.313	-5.373	0.000	5.516

CHAINAGE 120.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

DESIGN LEVEL					
EXISTING LEVEL	190.806	190.690	190.460	189.747	190.553
OFFSET	-15.000	-7.368	-5.012	0.000	7.037

CHAINAGE 140.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

DESIGN LEVEL					
EXISTING LEVEL	190.839	190.775	190.513	189.688	190.459
OFFSET	-15.000	-8.110	-6.487	0.000	5.340

CHAINAGE 160.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

DESIGN LEVEL					
EXISTING LEVEL	190.822	190.740	190.416	189.634	190.455
OFFSET	-15.000	-8.645	-6.117	0.000	5.076

CHAINAGE 180.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

DESIGN LEVEL					
EXISTING LEVEL	190.761	190.790	190.182	189.589	190.203
OFFSET	-15.000	-10.187	-5.184	0.000	7.005

CHAINAGE 200.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

DESIGN LEVEL					
EXISTING LEVEL	190.781	190.780	190.095	189.544	190.114
OFFSET	-15.000	-11.337	-7.199	0.000	8.825

CHAINAGE 220.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

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REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	25/03/22			
2	REVISED PROJECT DESCRIPTION	12/05/22			


CLIENT



PROJECT

WEE WAA FLOOD MITIGATION WORKS

PREPARED BY



WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

NSW 9/233 Castlereagh St
Sydney 2000 NSW Australia
www.warrensmith.com.au
ACN 002 197 088 ABN 36 300 430 126

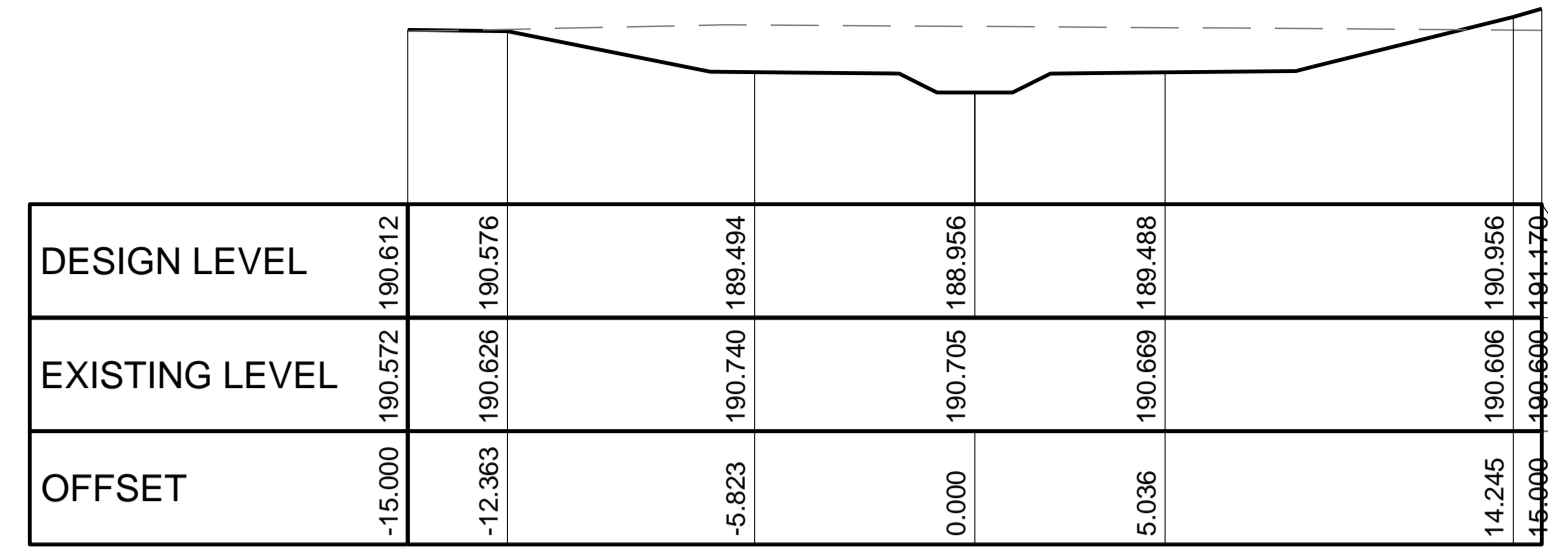
VIC Suite 7.03, 365 Little Collins St
Melbourne 3000 VIC Australia
PH +61 (2) 9299 1312 PH +61 (3) 8648 9942
wsp@warrensmith.com.au

Hydraulic Fire Civil Utilities Infrastructure

TITLE

STORMWATER CHANNEL 1 CROSS SECTIONS - SHEET 1

SCALE	AS SHOWN	DRAWN	R.X	DESIGNED	R.X	CHECKED	J.G.	APPROVED	M.C.
JOB No.	7490000		DRAWING No.		C6.41		ISSUE		
DATE	APRIL 2022		STATUS		ISSUED FOR APPROVAL				



CHAINAGE 480.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200



CHAINAGE 500.00
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

PRELIMINARY - NOT FOR CONSTRUCTION

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 Plot Date: 12/05/2022 11:43:51 User Name: nra - Client: 12197000\WarrenSmith\Projects\WMA\CA1 - Stormwater Pipe Cross Section.dwg

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REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	25/03/22			
2	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT

PROJECT

WEE WAA FLOOD MITIGATION WORKS

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ACN 002 197 088 ABN 36 300 430 126

Hydraulic Fire Civil Utilities Infrastructure

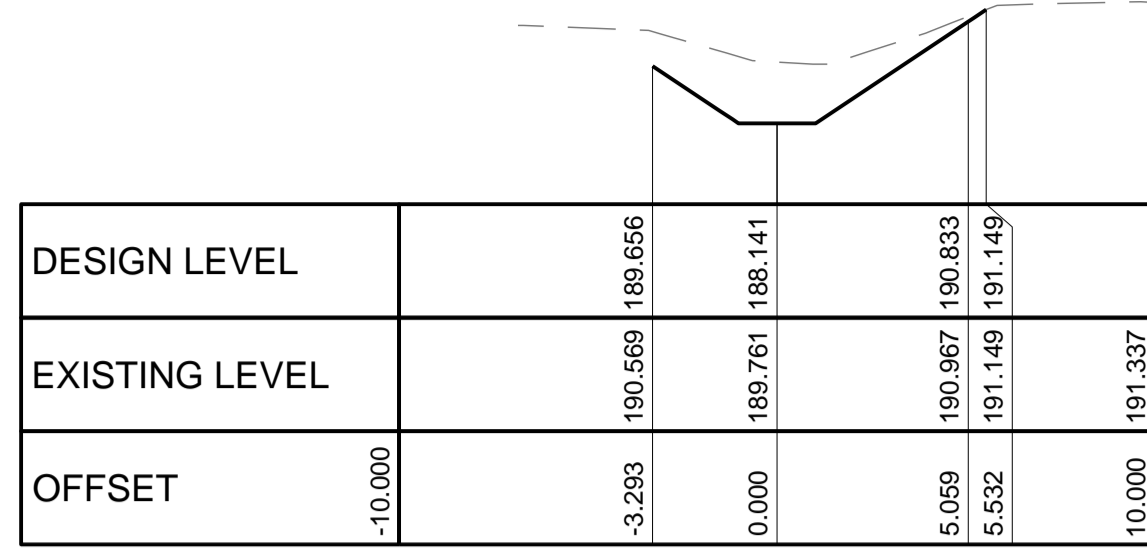
TITLE

STORMWATER CHANNEL 1 CROSS SECTIONS - SHEET 3

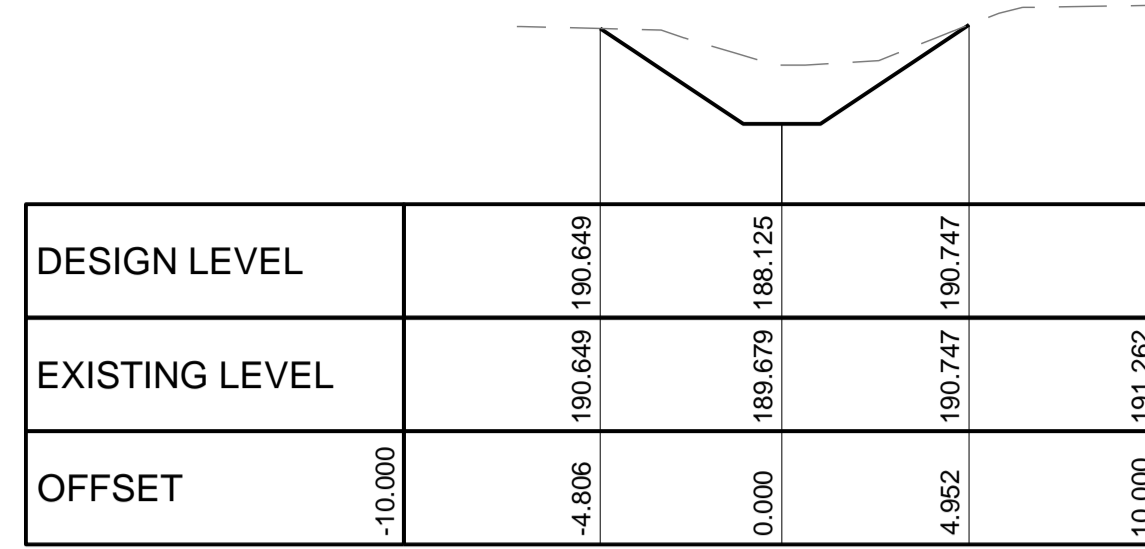
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AS SHOWN	R.X	R.X	J.G.	M.C.
JOB No.	DRAWING No.		ISSUE	
7490000	C6.43		2	
DATE	STATUS			
APRIL 2022	ISSUED FOR APPROVAL			



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HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200



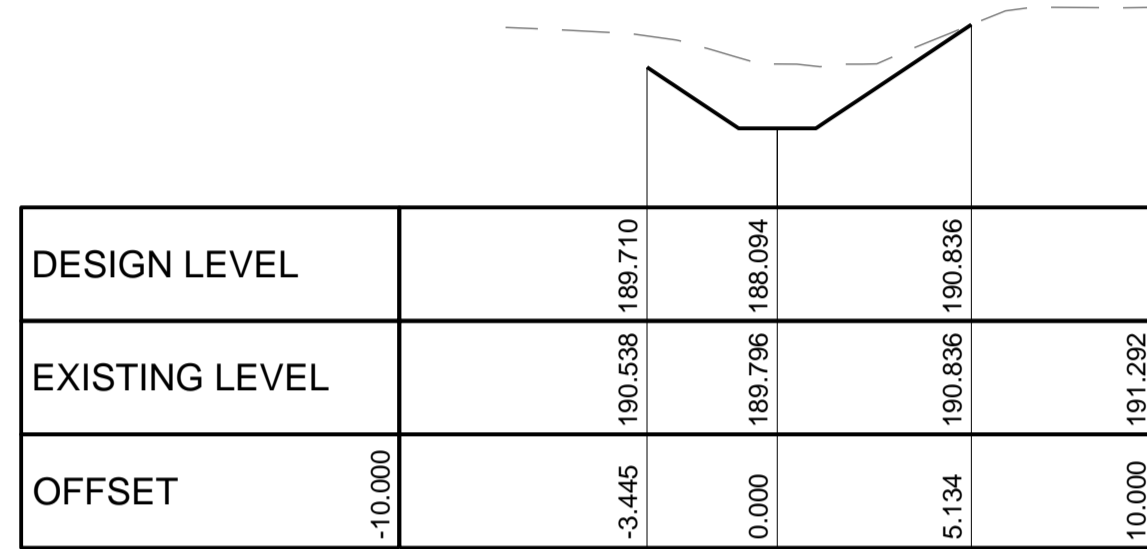
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HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200



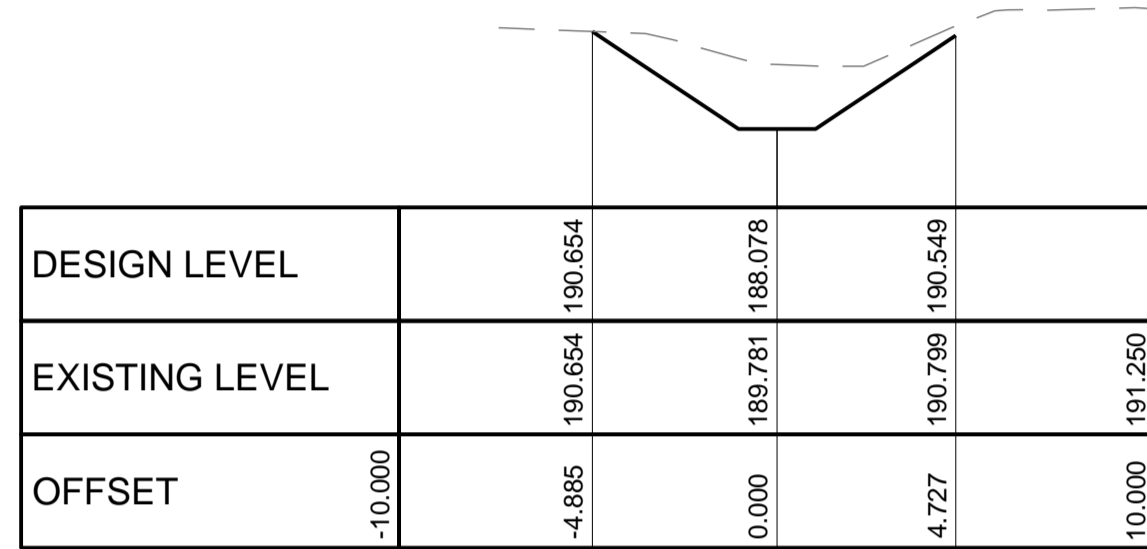
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HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200



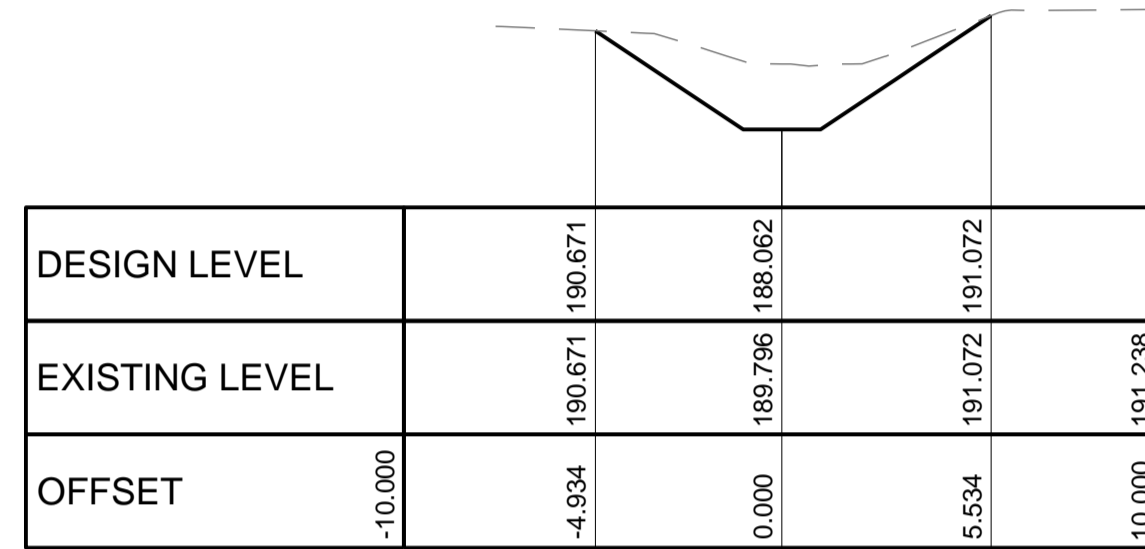
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VERTICAL SCALE 1:200



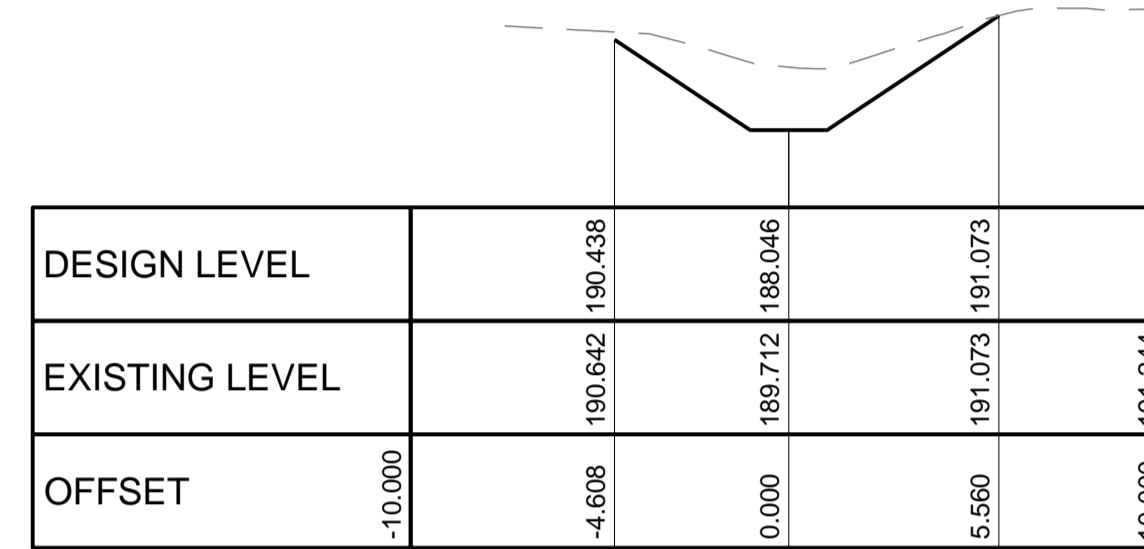
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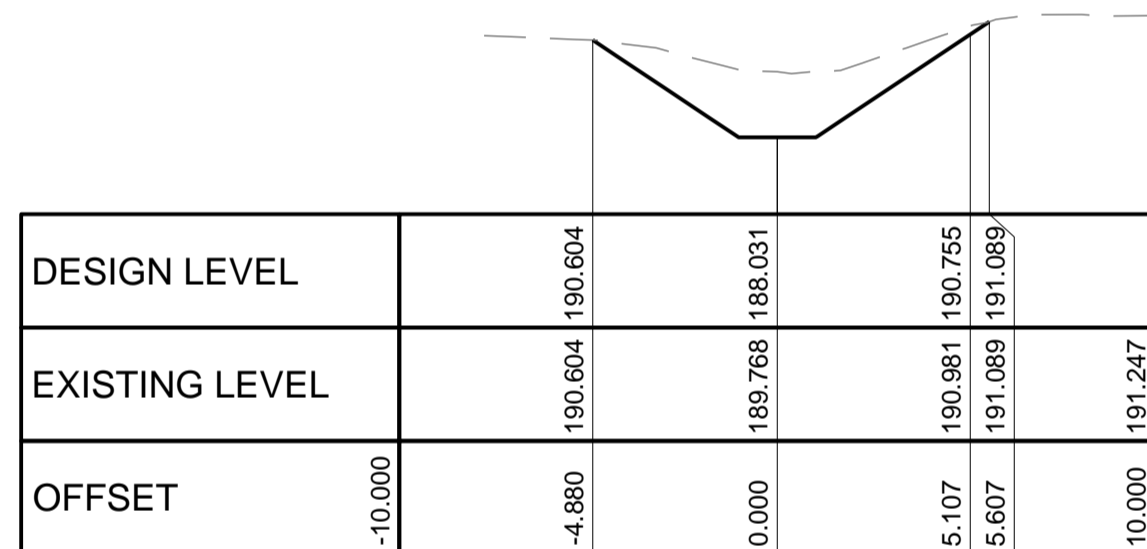
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HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200



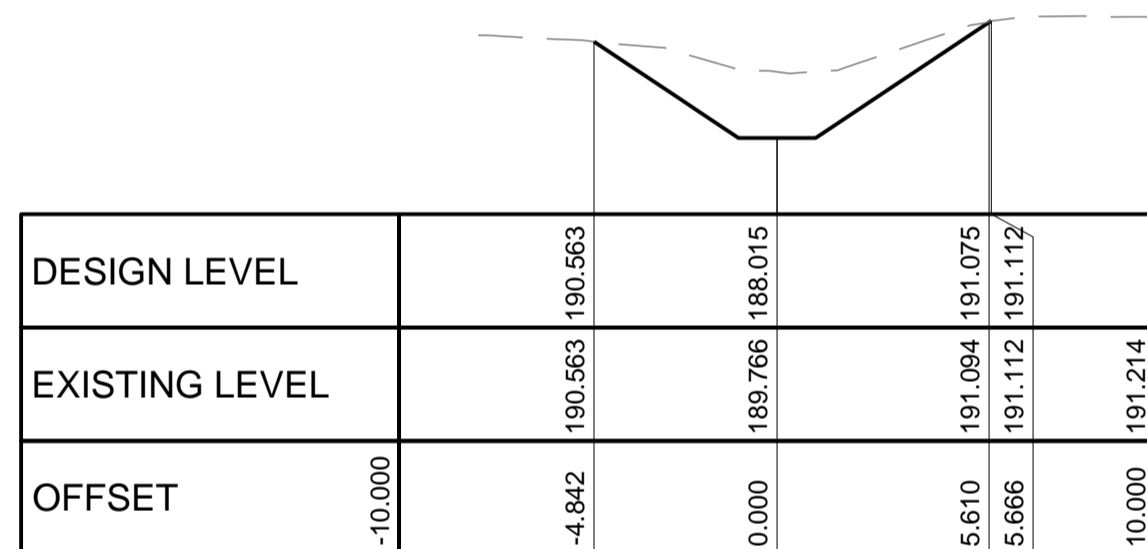
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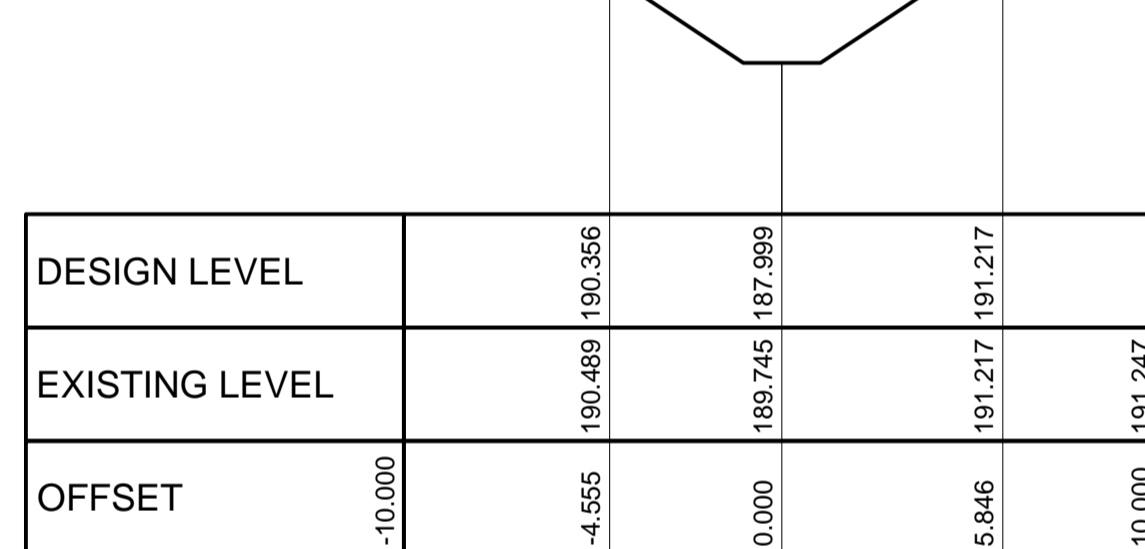
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HORIZONTAL SCALE 1:200
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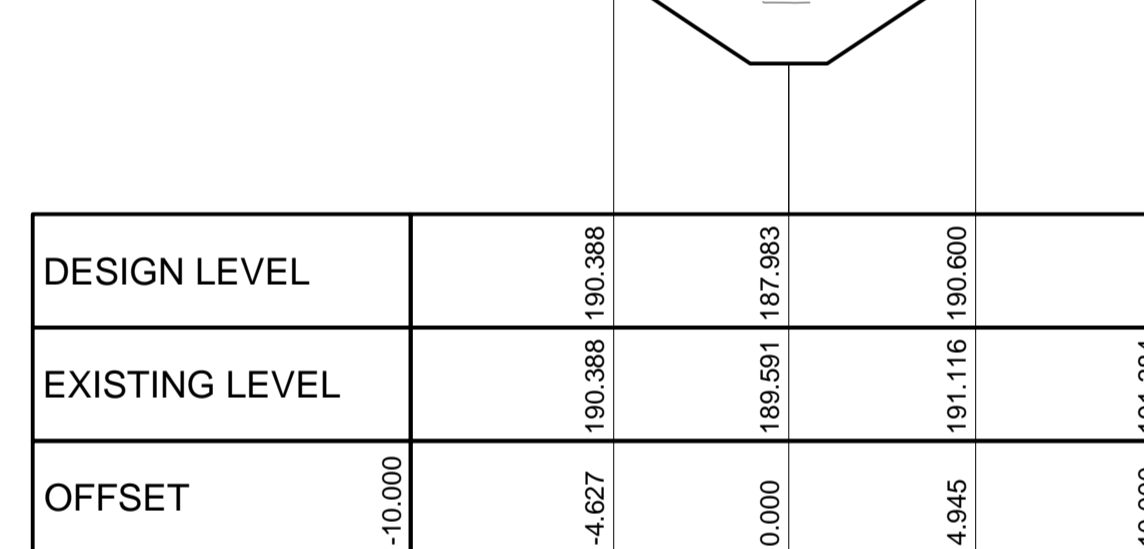
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VERTICAL SCALE 1:200



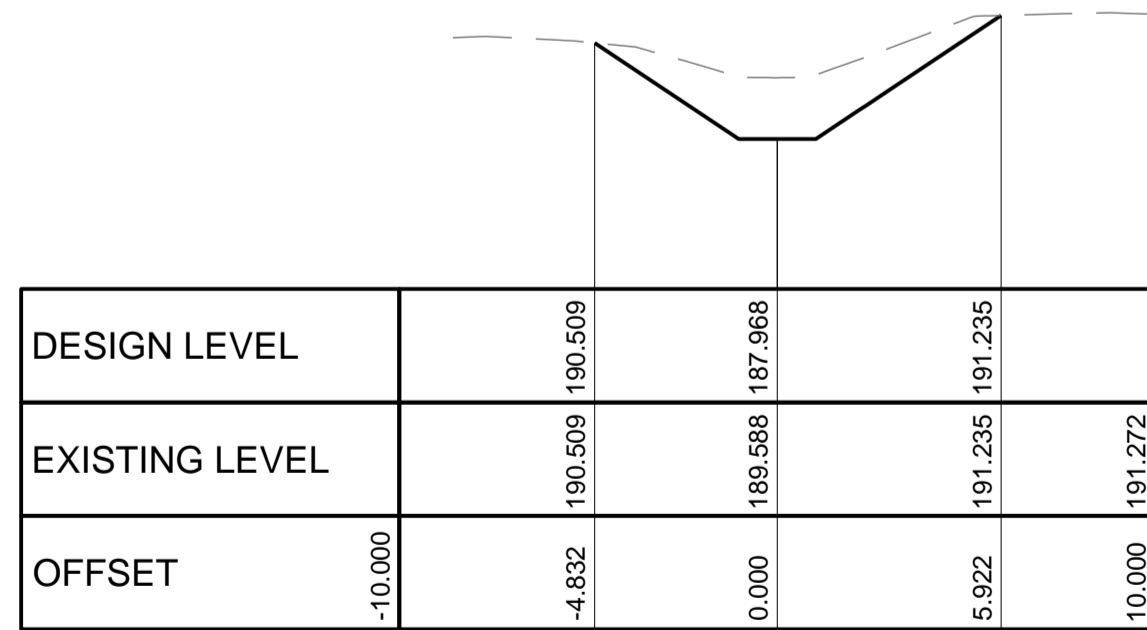
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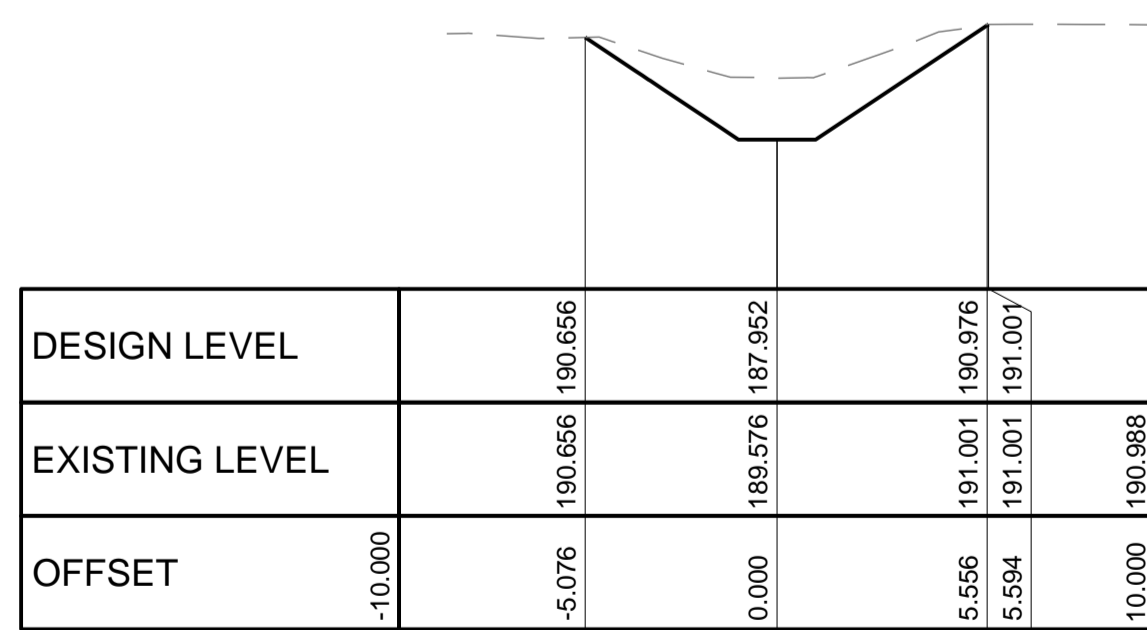
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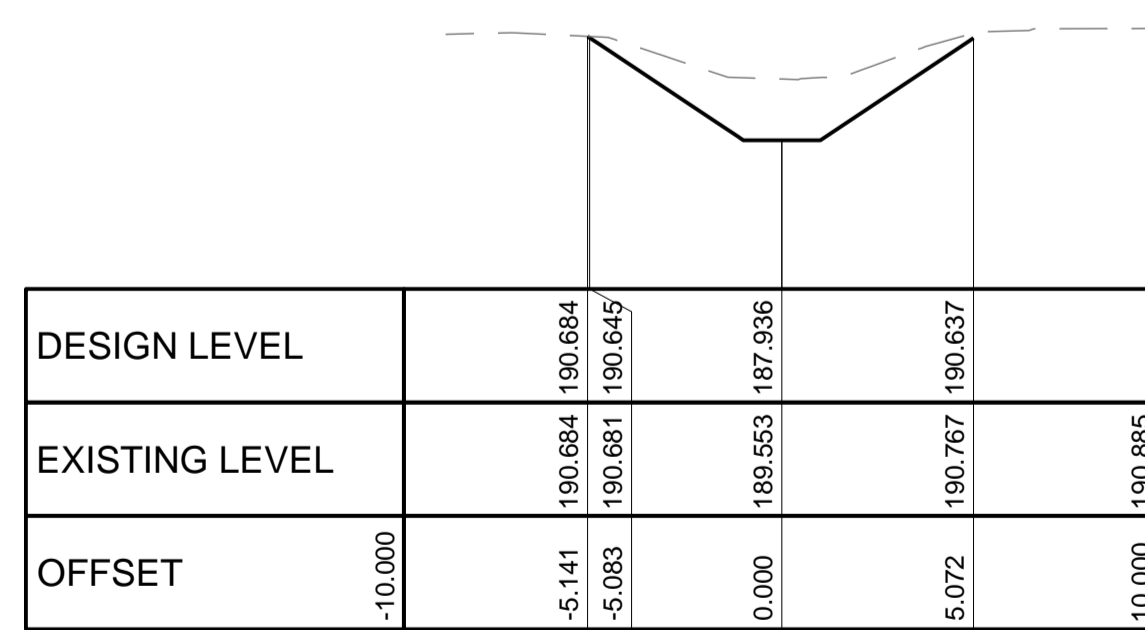
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VERTICAL SCALE 1:200



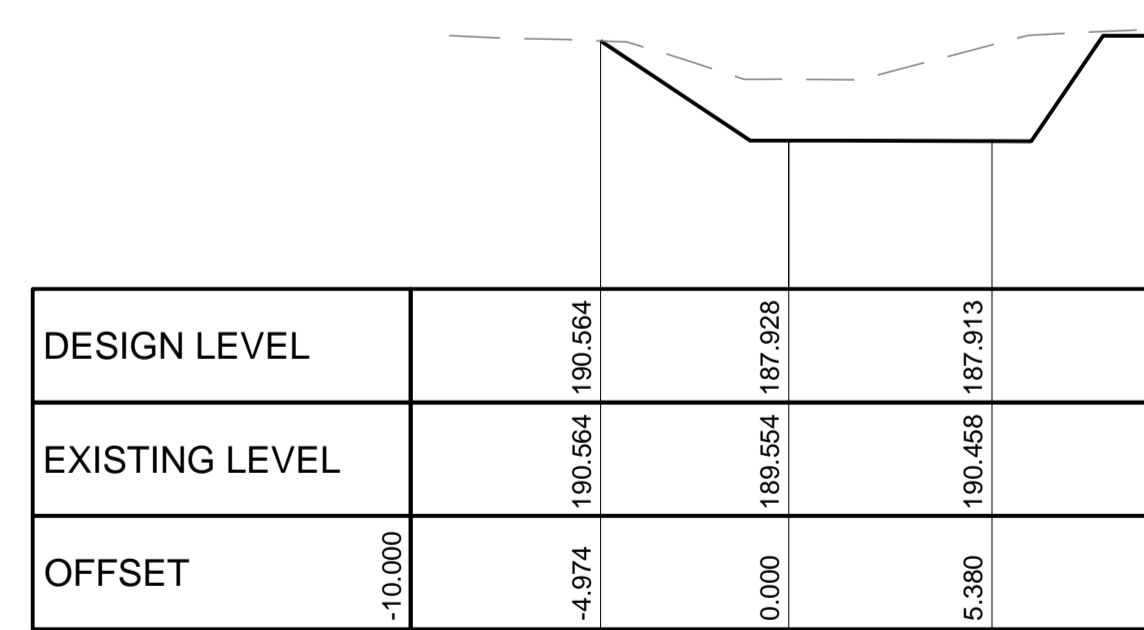
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HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200



CHAINAGE 260.00
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No. 1: 10/0000.00; Rev. 1: 08/09/2022; CS: 10/0000.00; Name: Stormwater Channel Cross Sections; Date: 12/05/22 11:46:36; User: jay; Path: \\192.168.1.100\share\AutoCAD\Drawings\2022\Stormwater Channel Cross Sections.dwg

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REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	25/03/22			
2	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT: **Built NSW GOVERNMENT**

PROJECT: **WEE WAA FLOOD MITIGATION WORKS**

PREPARED BY: **WARREN SMITH CONSULTING ENGINEERS** SINCE 1981.

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
VIC: Suite 7.03, 365 Little Collins St, Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942

www.warrensmith.com.au
wsp@warrensmith.com.au

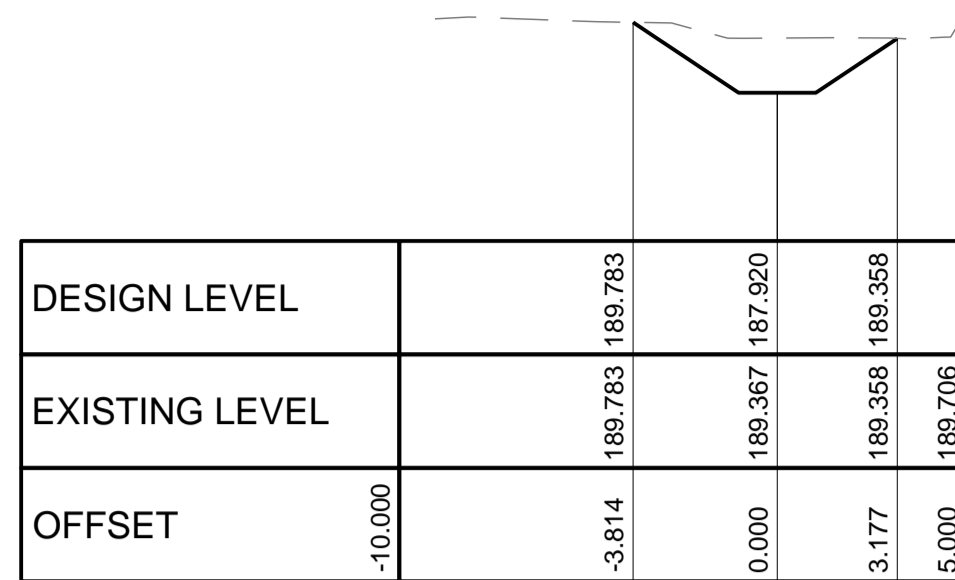
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Hydraulic Fire Civil Utilities Infrastructure

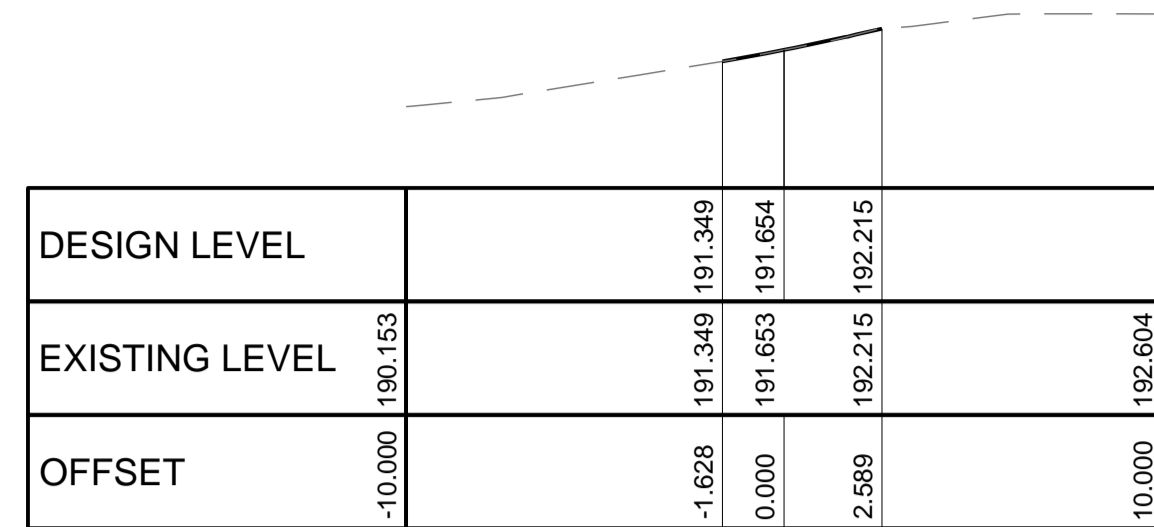
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JOB No: 7490000	DRAWING No: C6.44	ISSUE: 2		
DATE: APRIL 2022	STATUS: ISSUED FOR APPROVAL			

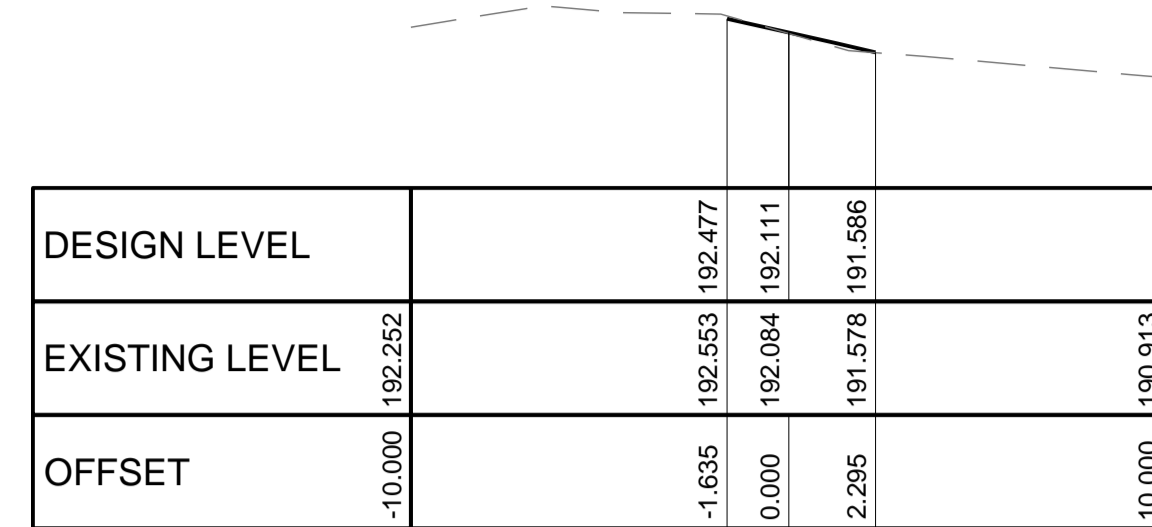
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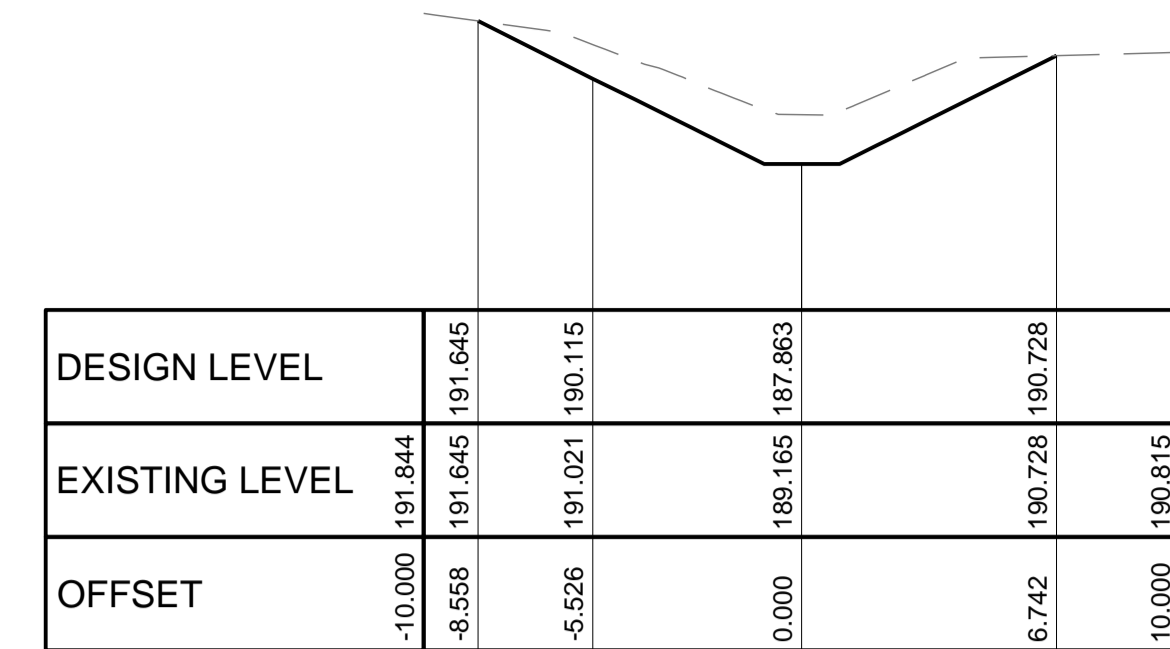
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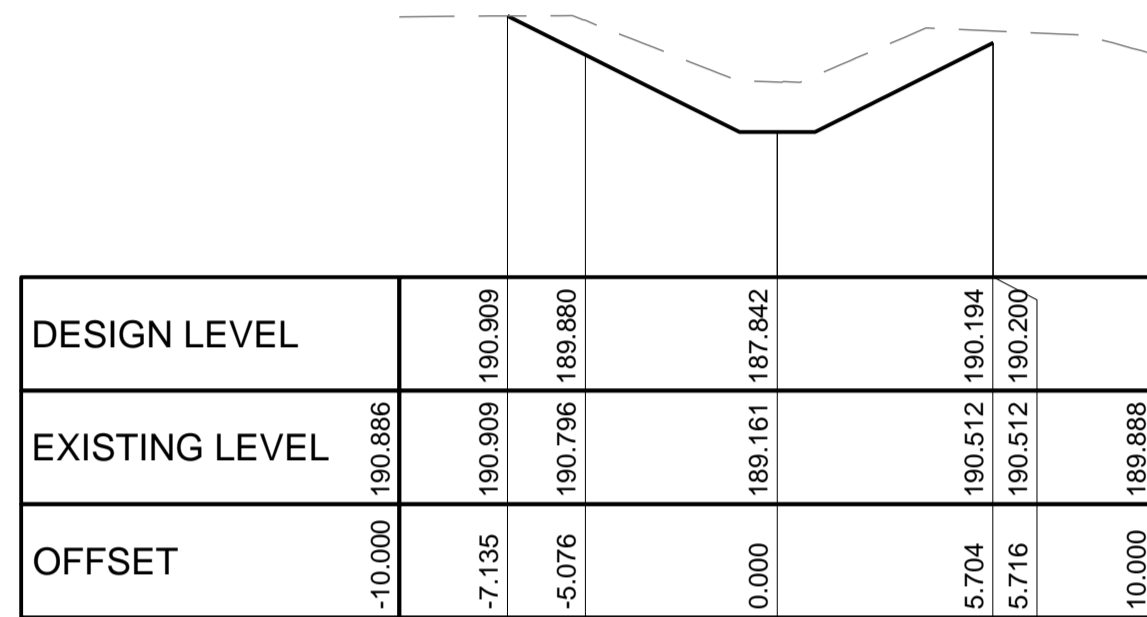
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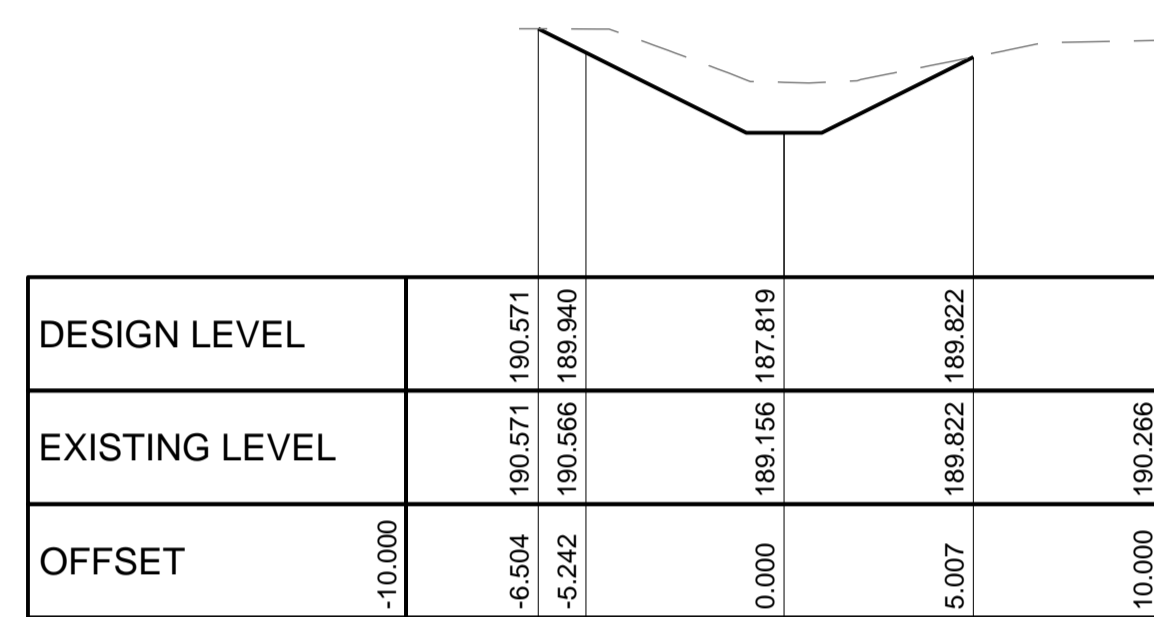
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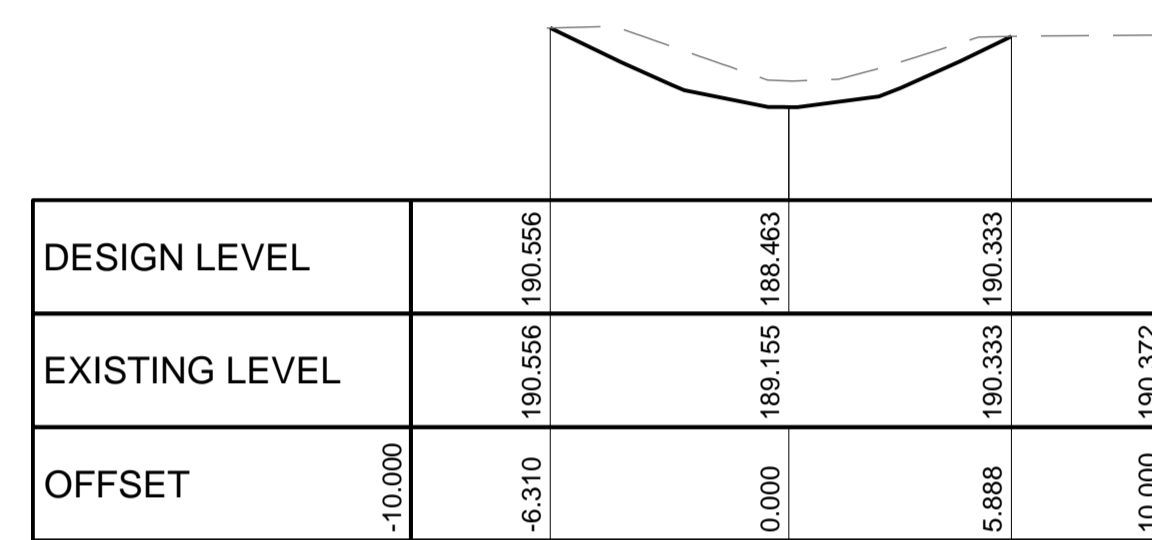
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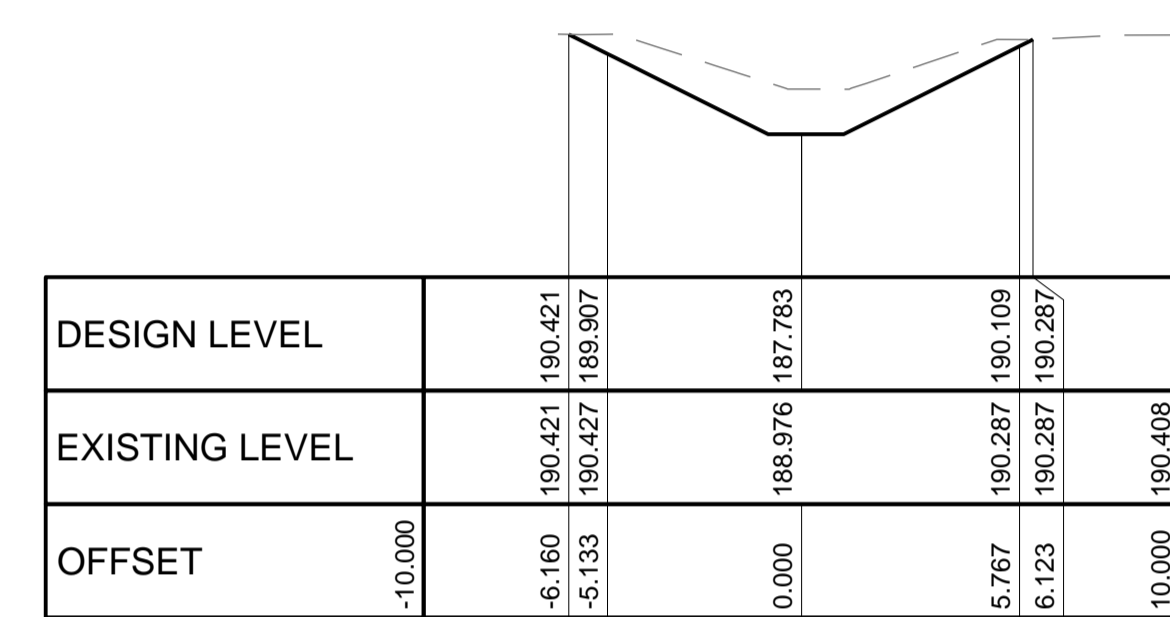
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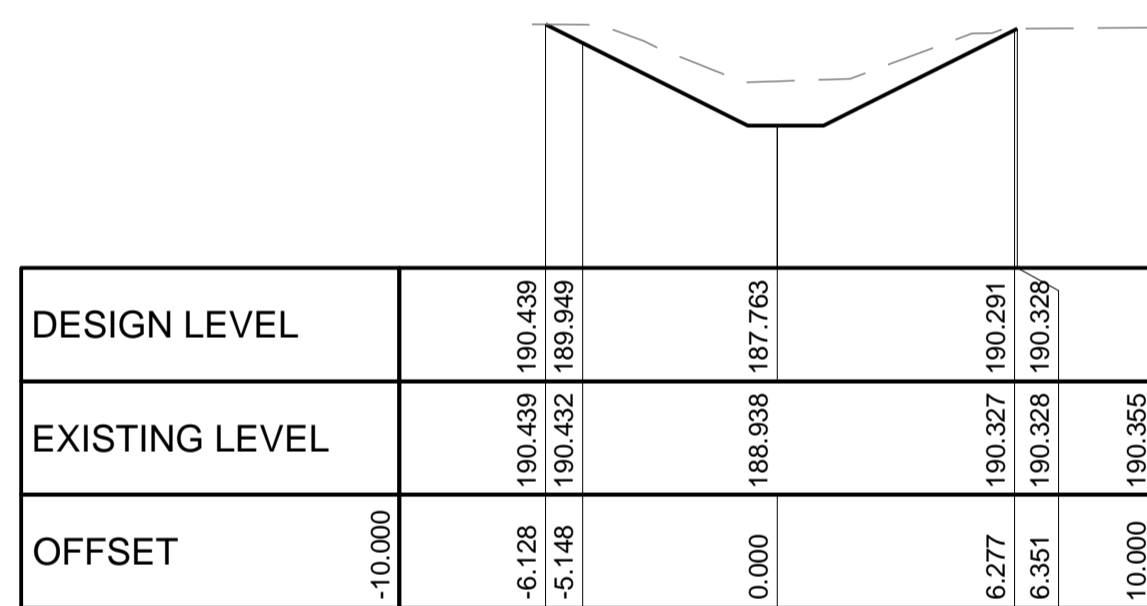
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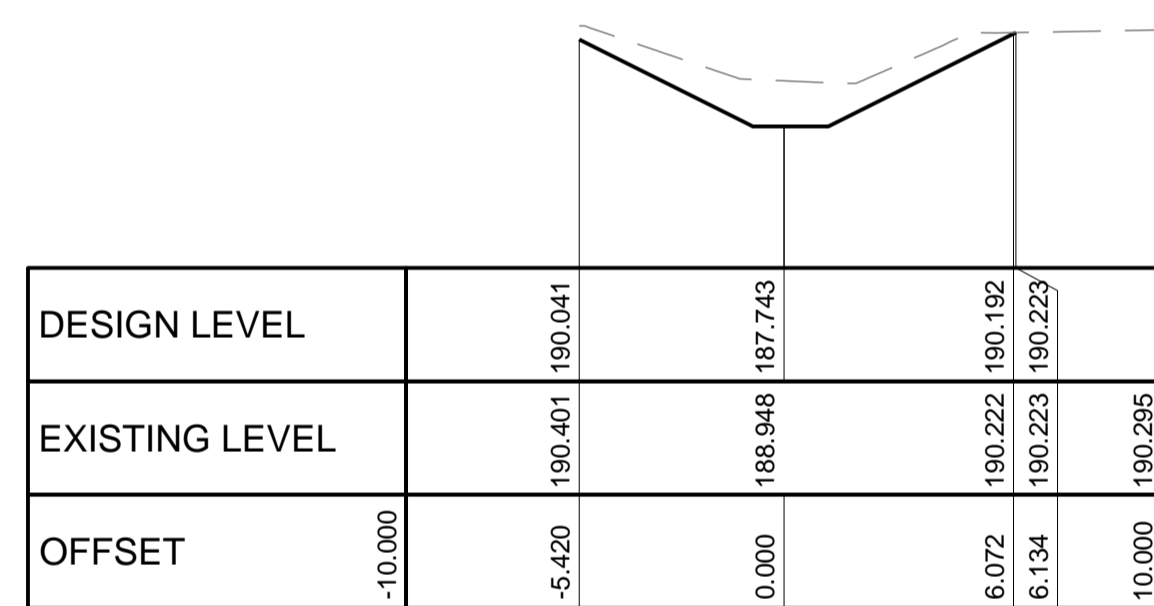
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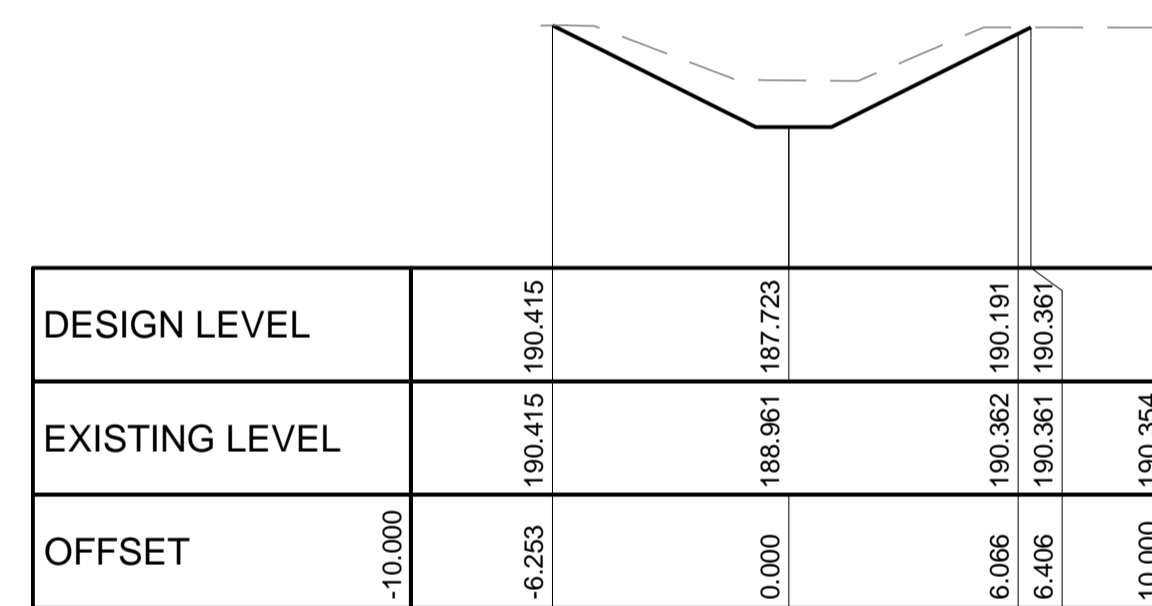
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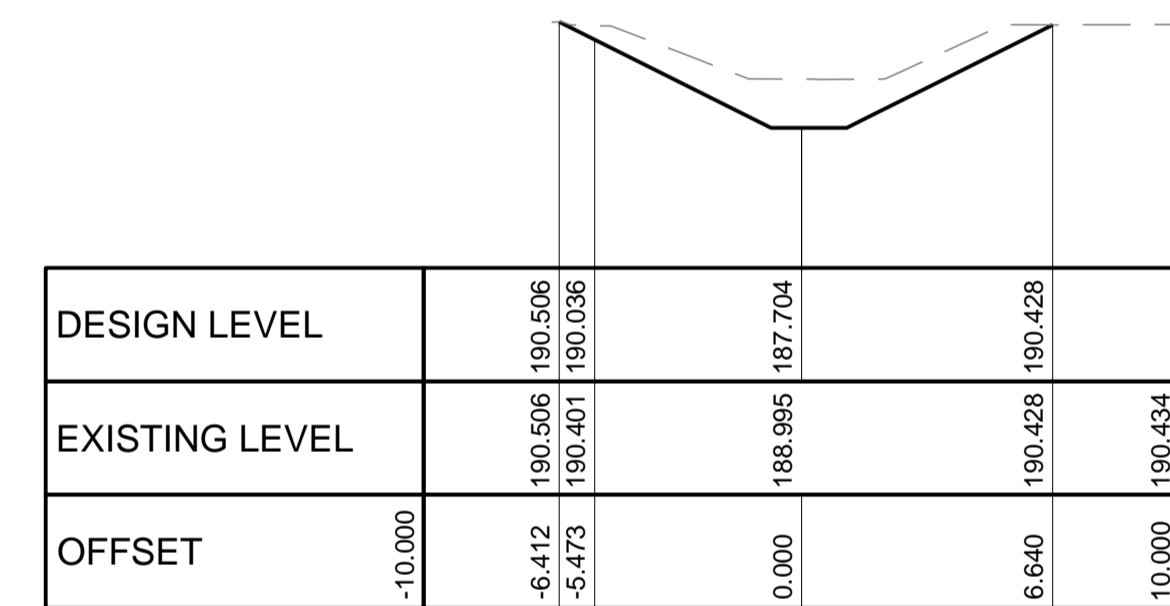
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REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	25/03/22			
2	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT
Built NSW GOVERNMENT

PROJECT
WEE WAA FLOOD MITIGATION WORKS

PREPARED BY
Warren Smith Consulting Engineers

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
VIC: Suite 7.03, 365 Little Collins St Melbourne 3000 VIC Australia

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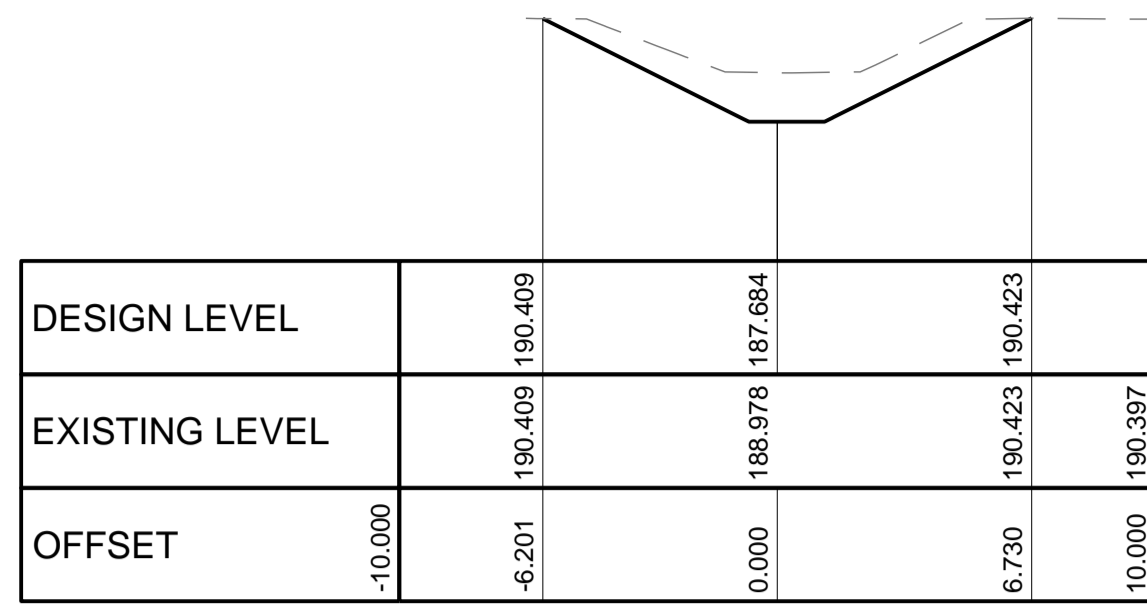
ACN 002 197 088 ABN 36 300 430 126
Hydraulic Fire Civil Utilities Infrastructure

TITLE
STORMWATER CHANNEL 3 CROSS SECTIONS - SHEET 2

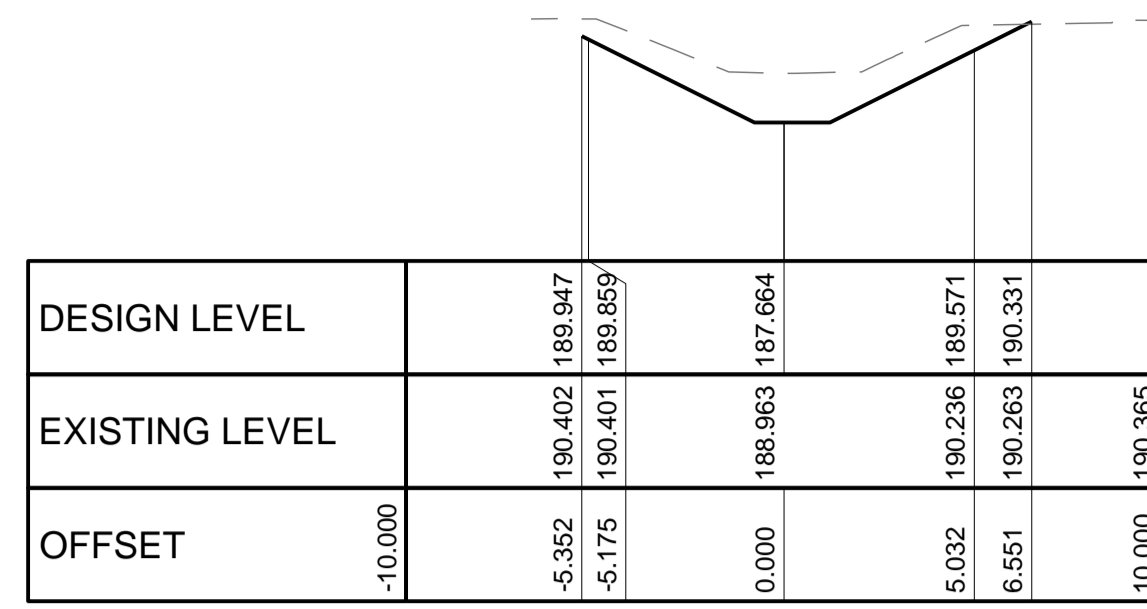
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AS SHOWN	R.X	R.X	J.G.	M.C.

JOB No. **7490000** DRAWING No. **C6.45** ISSUE **2**

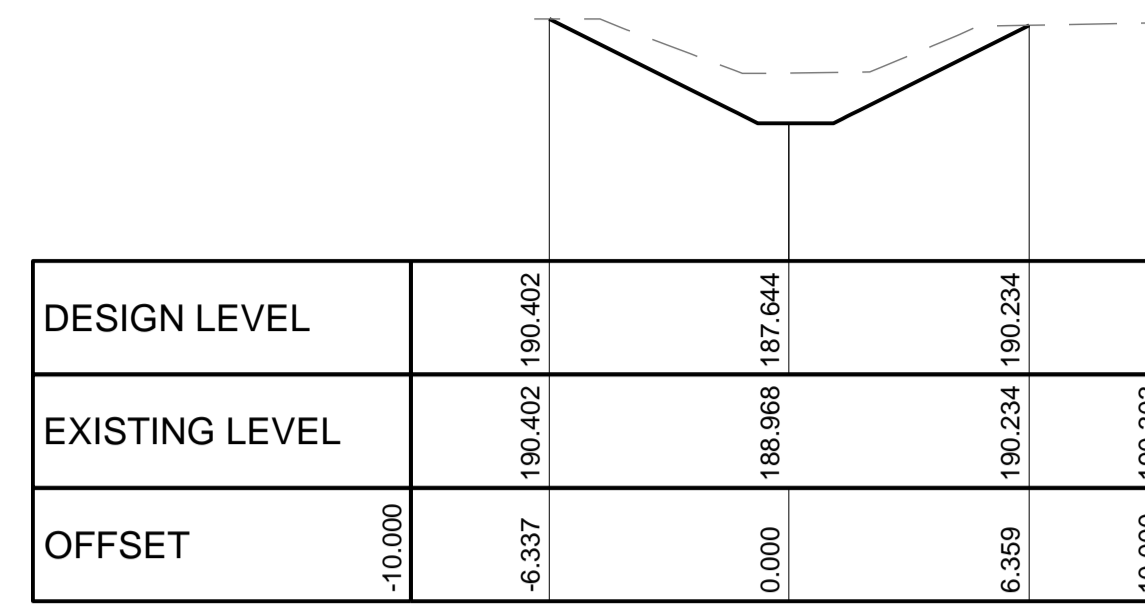
DATE: APRIL 2022 STATUS: ISSUED FOR APPROVAL



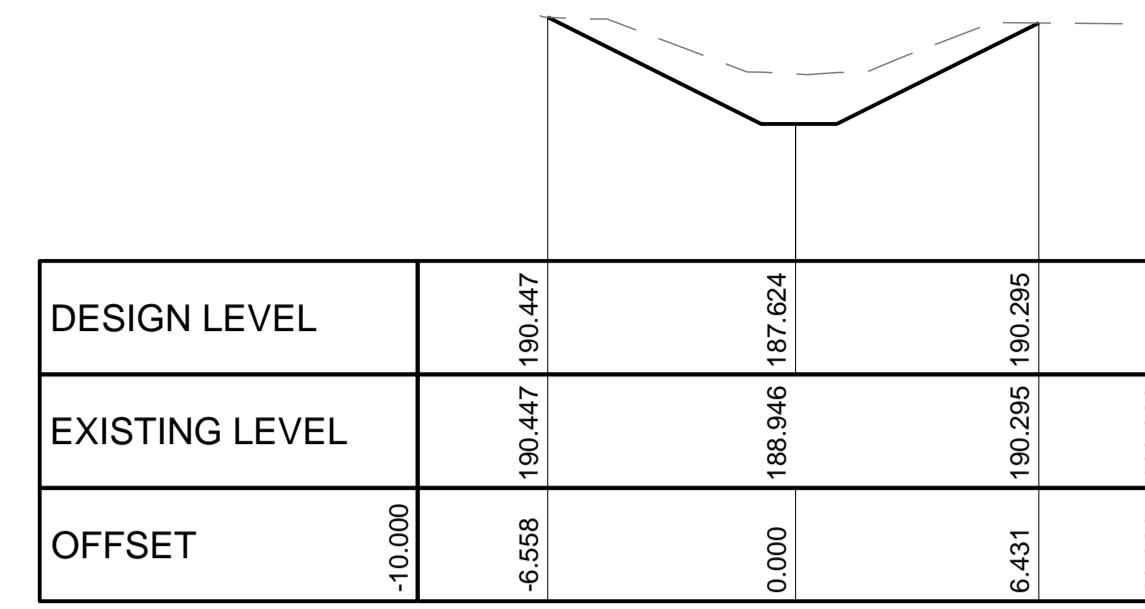
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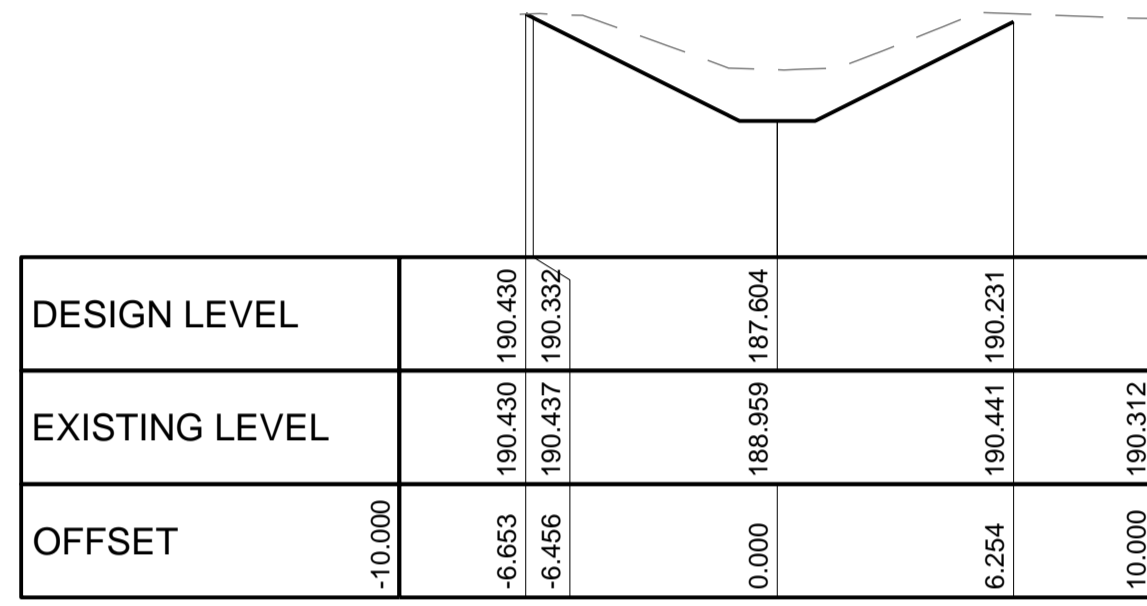
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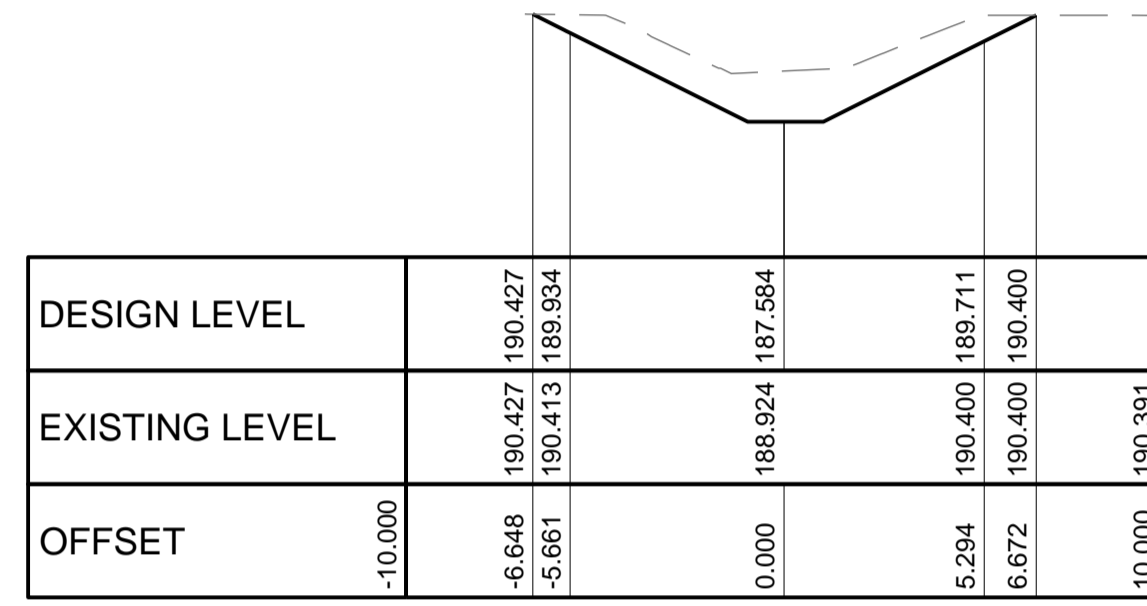
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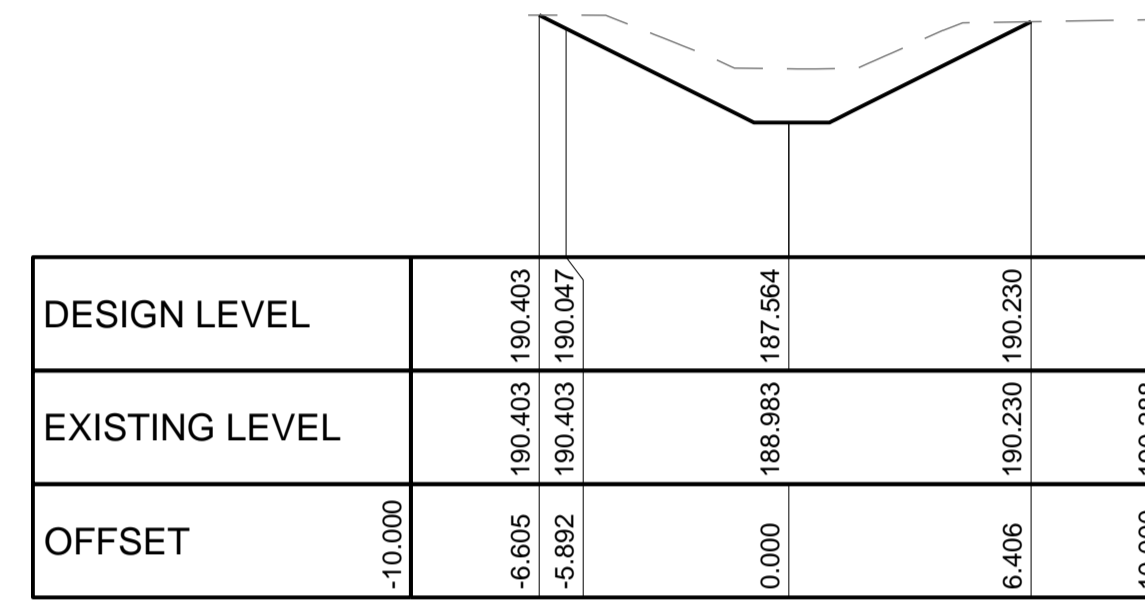
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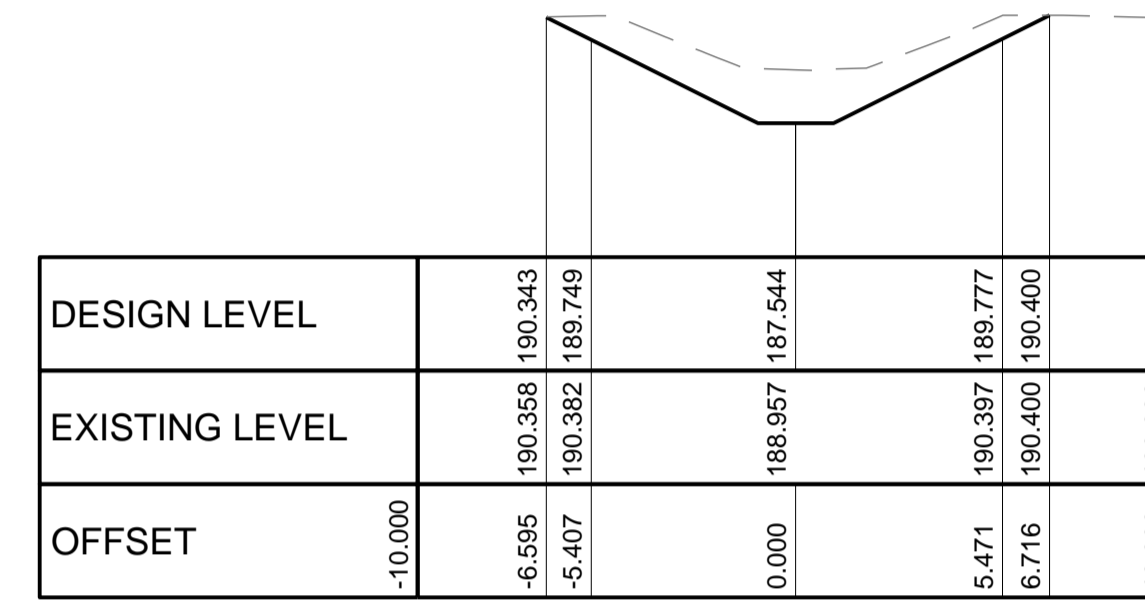
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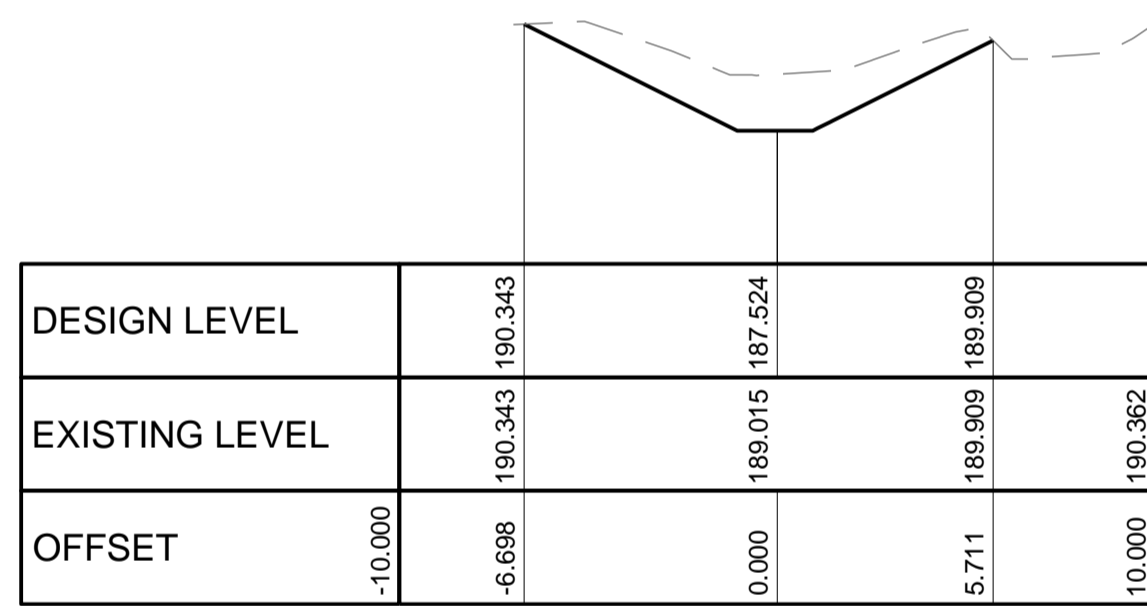
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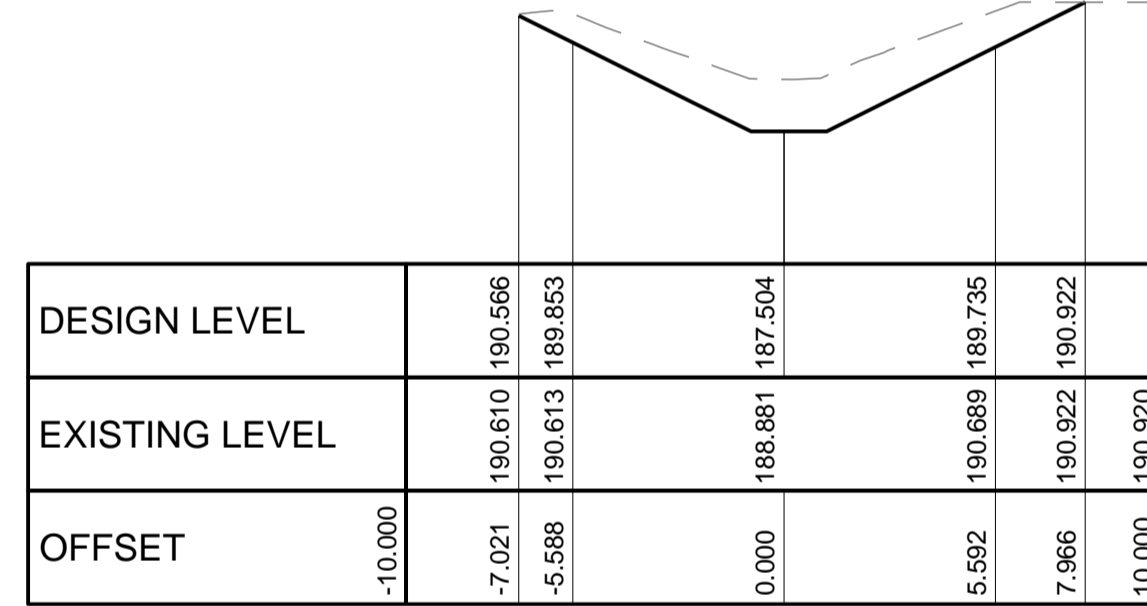
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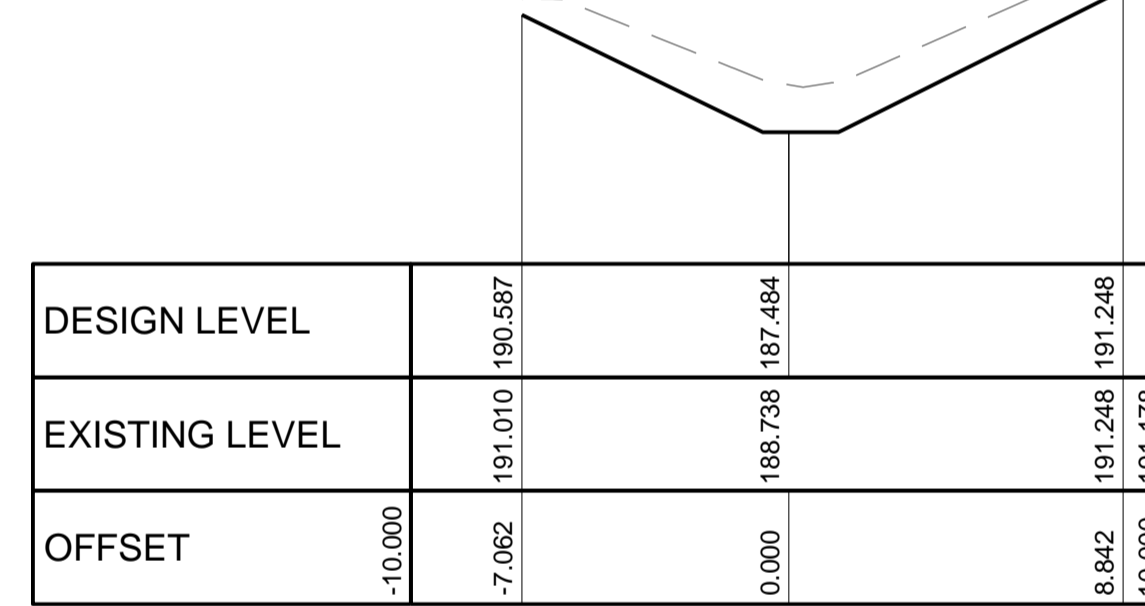
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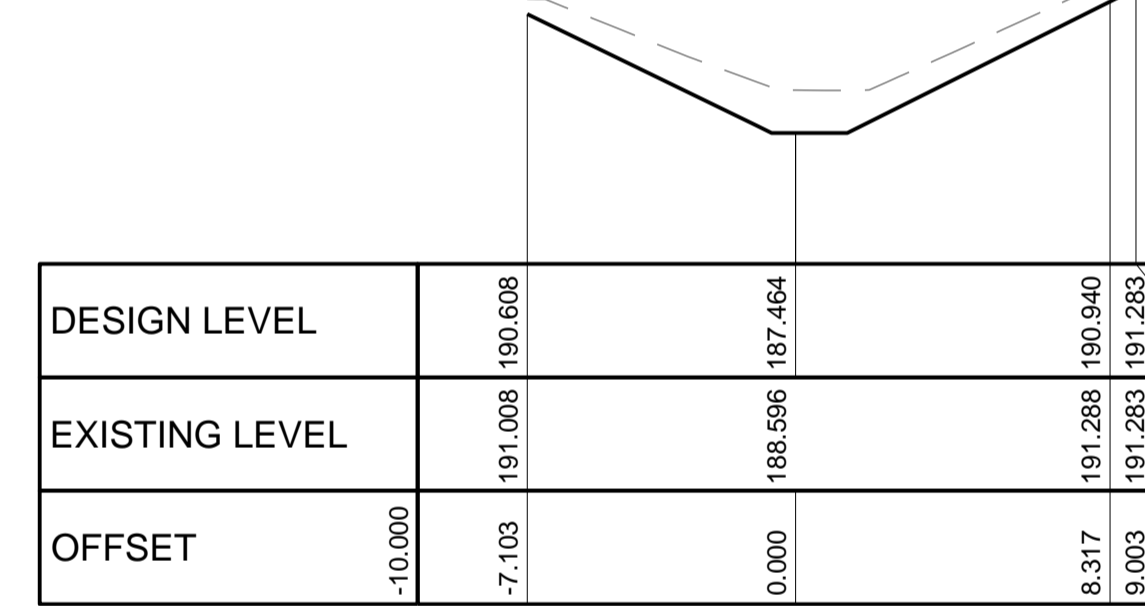
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1	ISSUED FOR APPROVAL	25/03/22			
2	REVISED PROJECT DESCRIPTION	12/05/22			

Built NSW GOVERNMENT

WEE WAA FLOOD MITIGATION WORKS

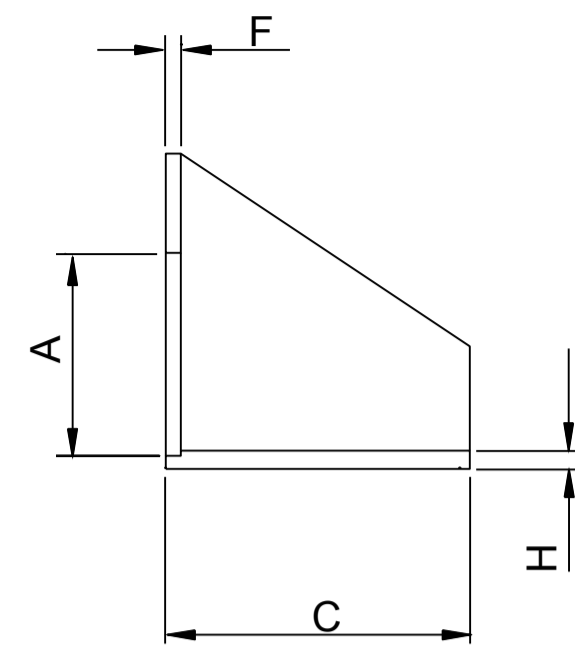
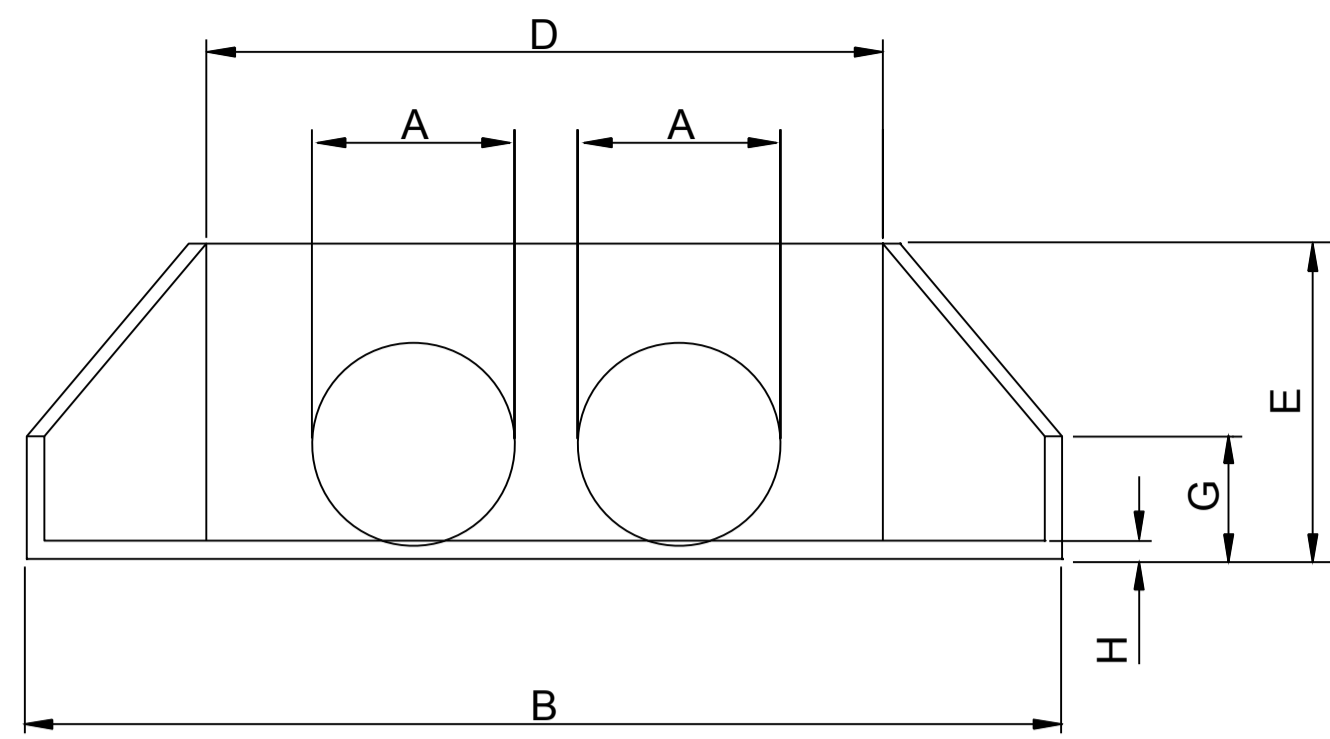
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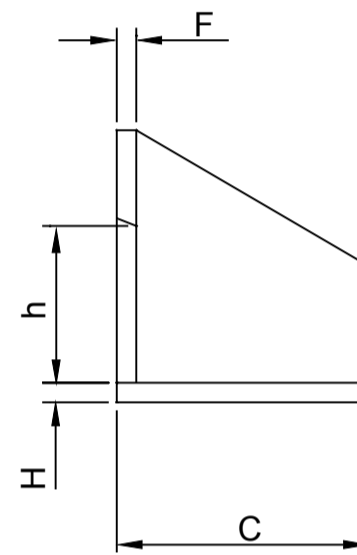
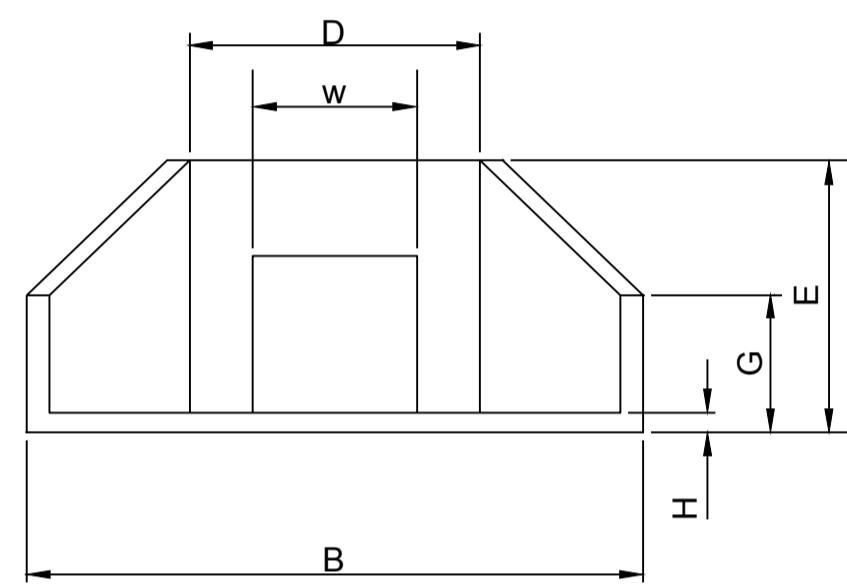
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ACN 002 197 088 ABN 36 300 430 126
Hydraulic Fire Civil Utilities Infrastructure

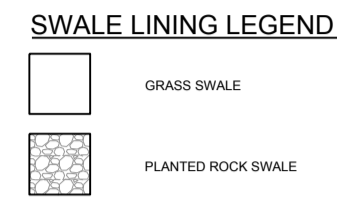
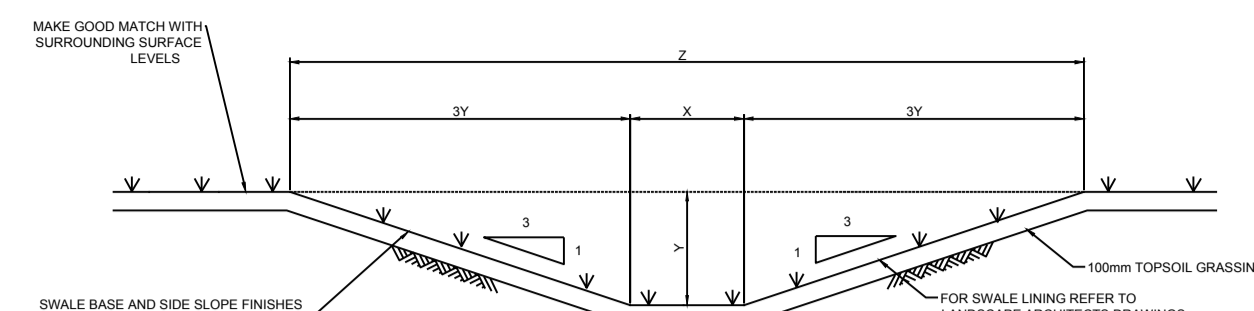
STORMWATER CHANNEL 3 CROSS SECTIONS - SHEET 3				
SCALE AS SHOWN	DRAWN R.X	DESIGNED R.X	CHECKED J.G.	APPROVED M.C.
JOB No. 7490000	DRAWING No. C6.46		ISSUE 2	
DATE APRIL 2022		STATUS ISSUED FOR APPROVAL		



HEADWALL DIMENSIONS								
TYPE	A	B	C	D	E	F	G	H
HEADWALL TYPE 1	460	2351	650	1775	840	90	467	90
HEADWALL TYPE 2	1545	5415	1620	3515	1900	120	900	120
HEADWALL TYPE 3	1500	5915	1620	4015	2065	120	1065	120



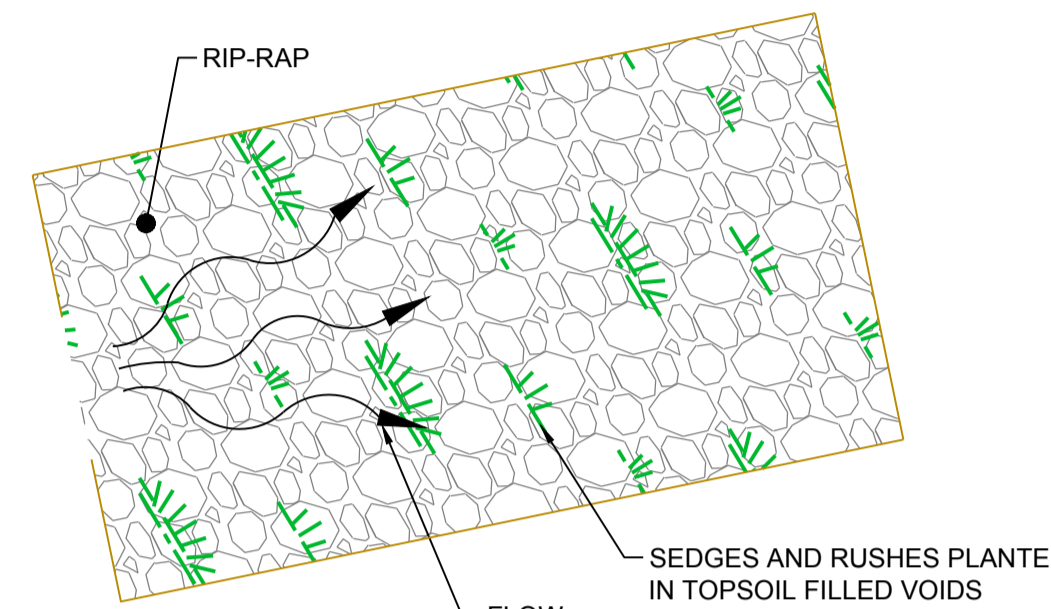
HEADWALL DIMENSIONS								
TYPE	W	B	C	D	E	F	G	H
HEADWALL TYPE 4	1500	4215	1620	2315	1120	120	520	120



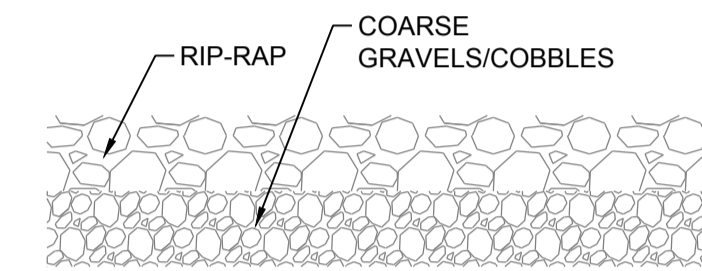
TYPICAL SECTION THROUGH SWALE

SWALE TYPE TABLE (METRES)				
TYPE	X	Y	Z	2
TYPE 1	0.3	0.3	2.1	

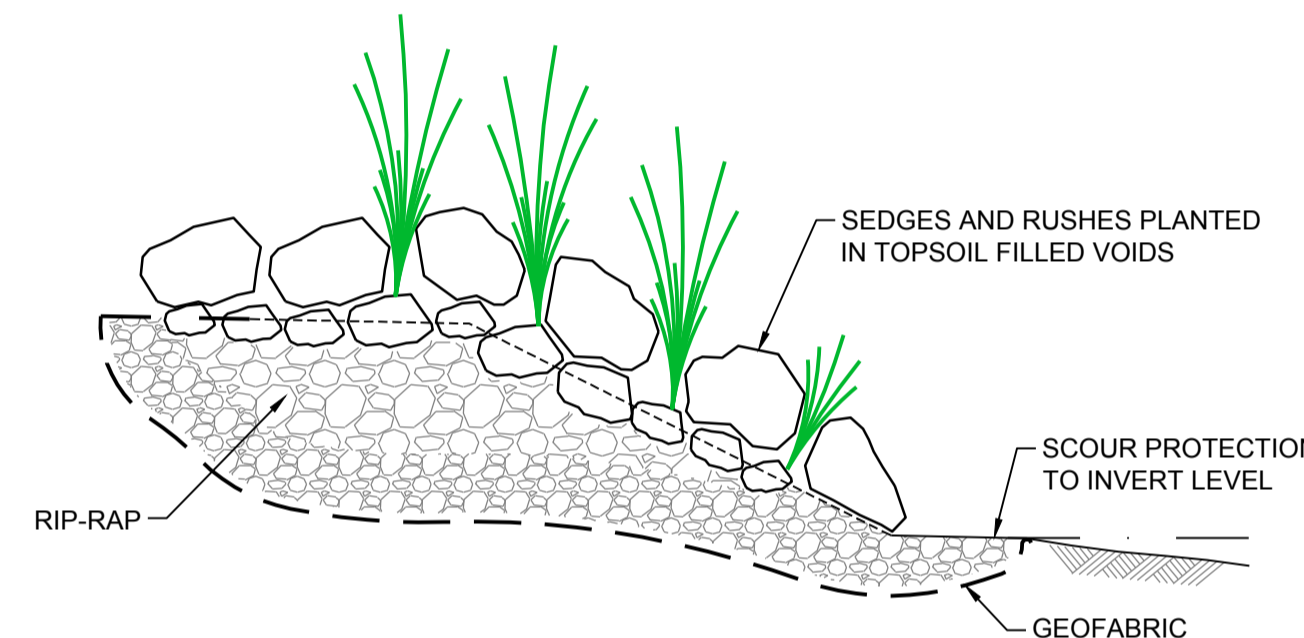
1. REFER TO SWALE TYPE TABLE FOR 'X', 'Y', AND 'Z' DIMENSIONS
2. SWALE INVERT LEVELS AS SPECIFIED ON PLAN. MIN LONGITUDINAL GRADE 0.3% (MIN)



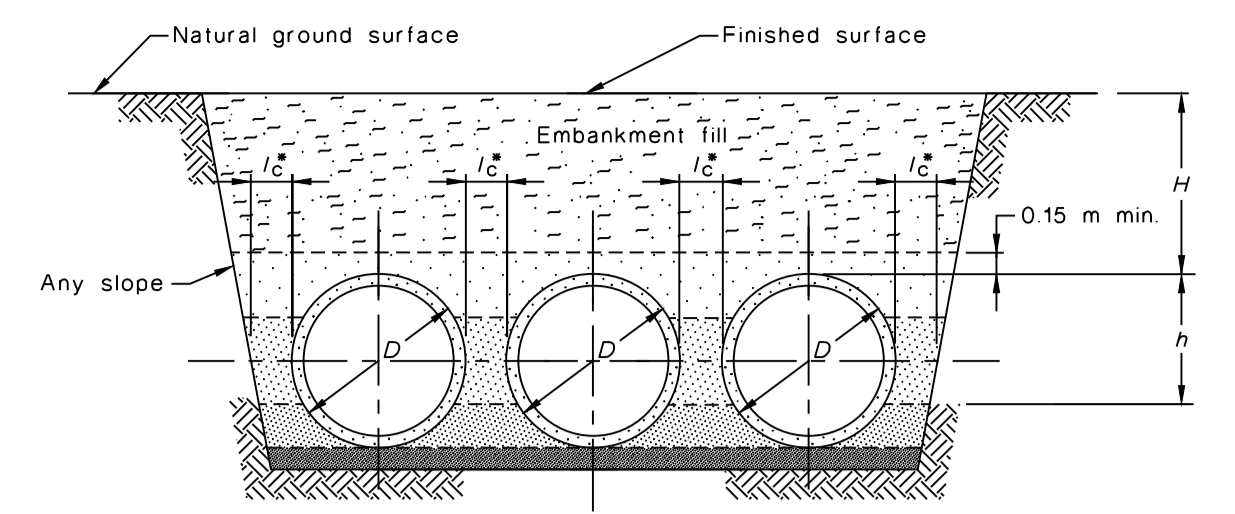
PLAN NOT TO SCALE



CROSS SECTION NOT TO SCALE



RIP-RAP - TYPICAL ARRANGEMENT NOT TO SCALE



D	Minimum Ic	
	Compacted fill, (see Clause 4.4)	CLSM* (see Appendix A)
≤600	150	100
>600, ≤1200	200	100
>1200	D/6	100

* For socketed pipes, a minimum of 50 mm should be maintained between adjacent pipe sockets
NOTE: The minimum values should only be used when necessary compaction between the pipes can be assured.

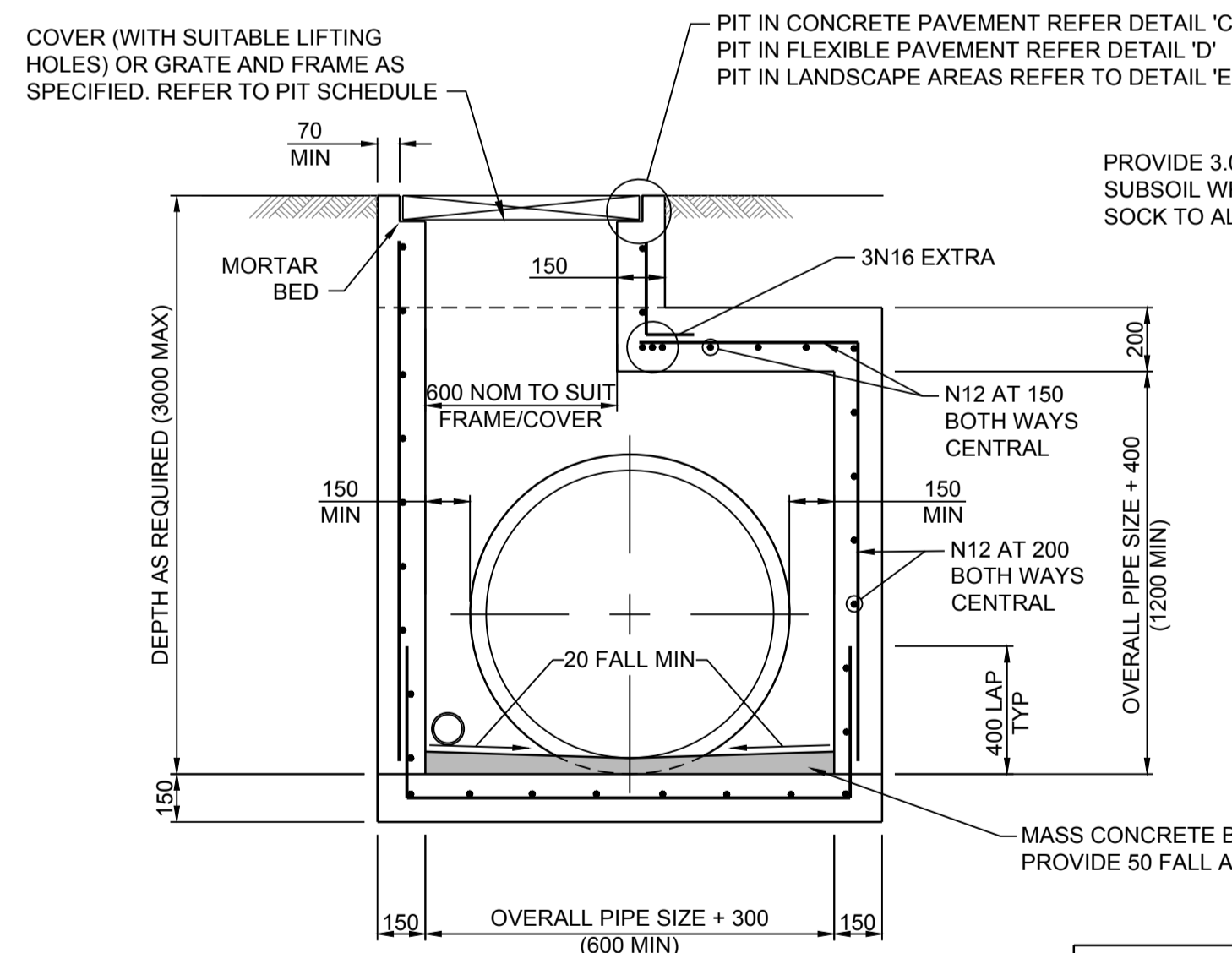
MULTIPLE PIPES CONDITION NOT TO SCALE

NOTES:

ROCK RIP-RAP DETAILS:

- ALL ROCK THAT WILL BE USED FOR THE CONSTRUCTION OF THE RIP-RAP SHALL HAVE A CRUSHING STRENGTH OF AT LEAST 25MPa.
- THE ROCKS SHALL BE ANGULAR IN SHAPE WITH NOT MORE THAN 25% OF ROCKS, DISTRIBUTED THROUGH GRADATION, HAVING A LENGTH MORE THAN TWICE THE BREADTH OR THICKNESS.
- NO ROCKS SHOULD HAVE A LENGTH EXCEEDING 2.5 TIMES ITS BREADTH OR THICKNESS.
- THE ROCK GRADATION SHALL BE AS FOLLOWS ($D_{90} = 260\text{mm}$):

EQUIVALENT SPHERICAL DIAMETER OF ROCK (mm)	PERCENT BY WEIGHT OF ROCK OF SMALLER SIZE
1.5 - 2.0 D_{50}	100%
D_{50}	50%
0.3 - 0.4 D_{50}	10% - 20%

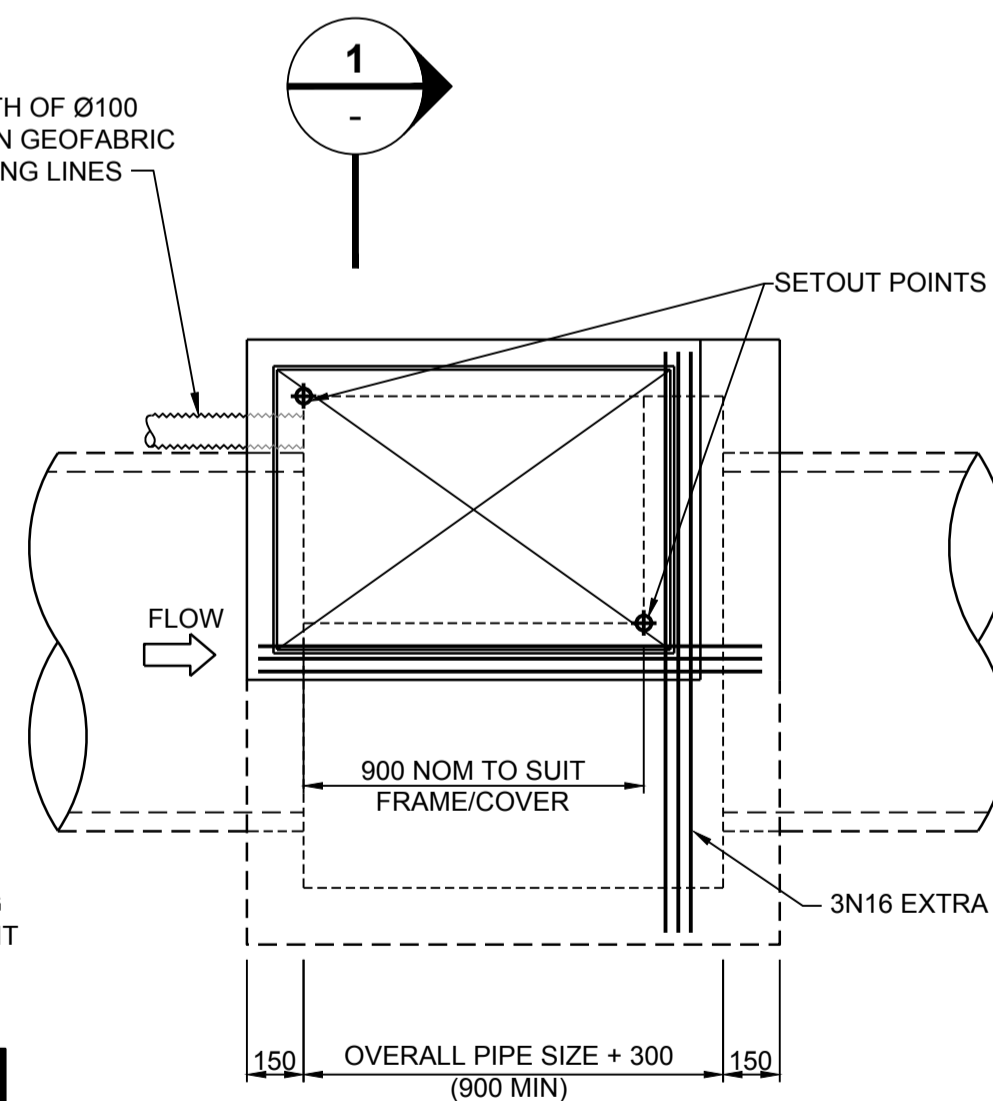


DETAIL SCALE 1:20

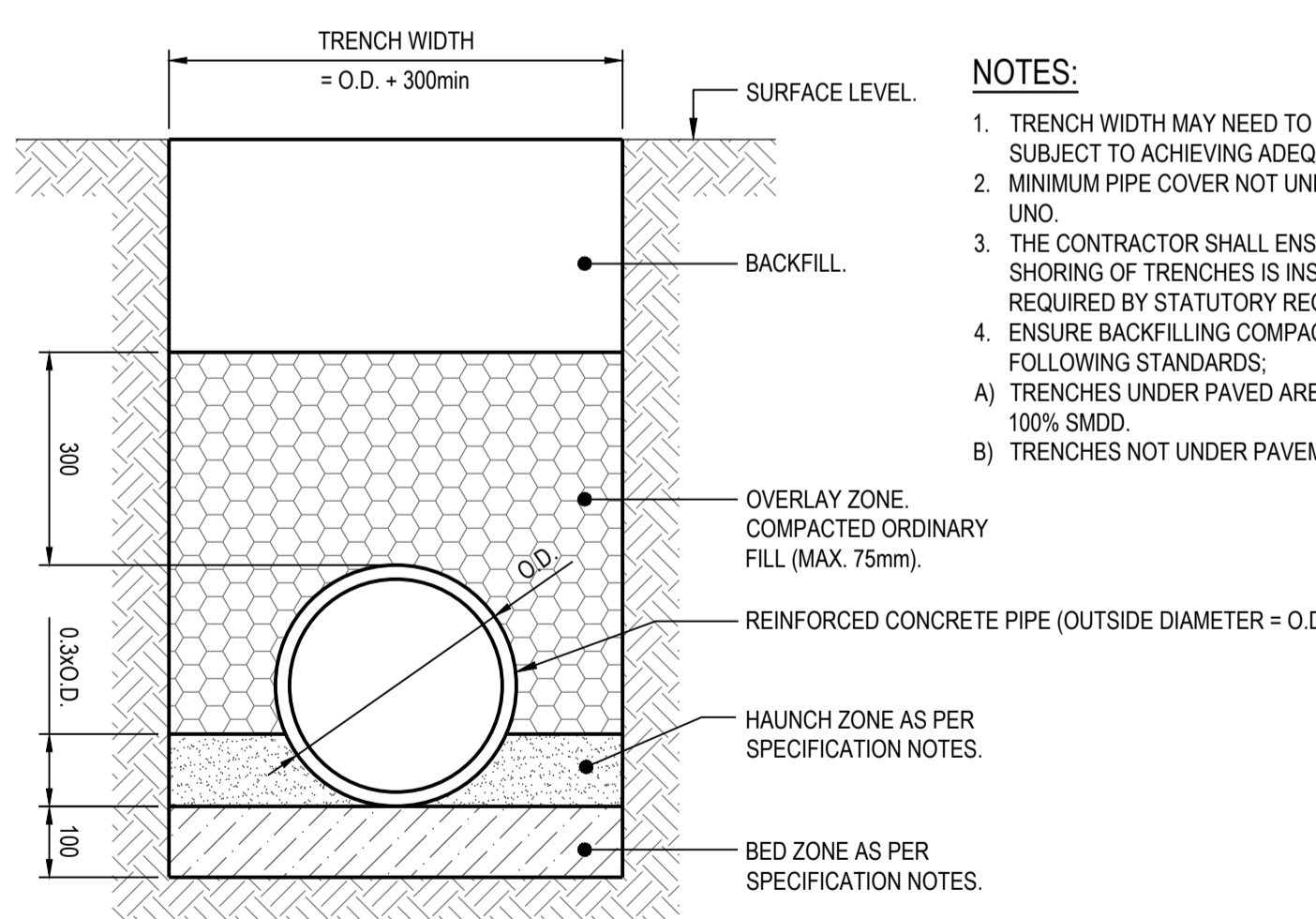
SURFACE INLET / JUNCTION PIT (PIPE SIZES > Ø450)

PROVIDE STEP IRONS IF PIT DEEPER THAN 1000 (REFER DETAIL)

PROVIDE 3.0m LENGTH OF Ø100 SUBSOIL WRAPPED IN GEOFABRIC SOCK TO ALL INCOMING LINES



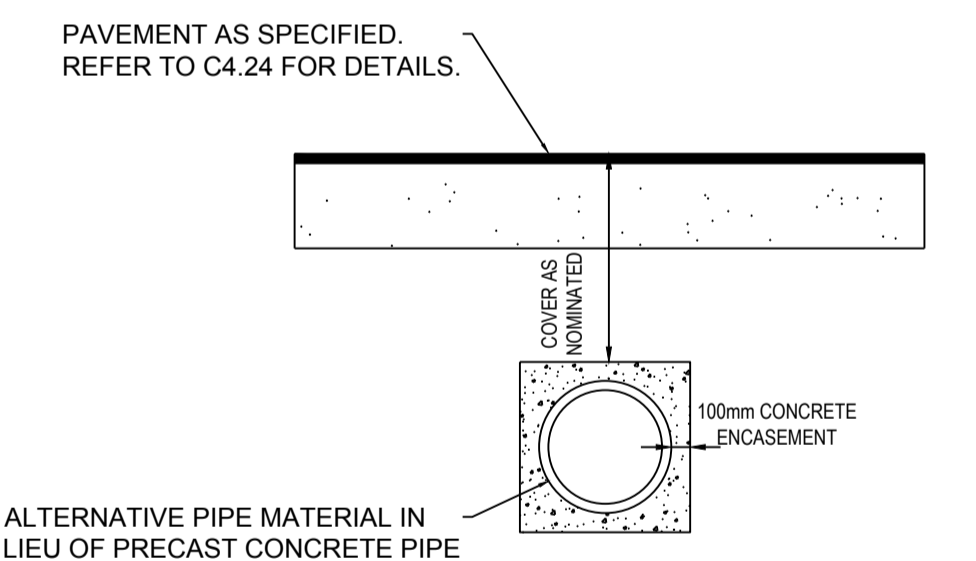
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GENERAL AREAS TYPICAL PIPE TRENCH NOT TO SCALE

NOTES:

- TRENCH WIDTH MAY NEED TO BE INCREASED SUBJECT TO ACHIEVING ADEQUATE COMPACTION.
- MINIMUM PIPE COVER NOT UNDER ROADS = 300mm UNO.
- THE CONTRACTOR SHALL ENSURE THAT THE SHORING OF TRENCHES IS INSTALLED AS REQUIRED BY STATUTORY REQUIREMENTS.
- ENSURE BACKFILLING COMPACTION MEETS THE FOLLOWING STANDARDS:
 - A) TRENCHES UNDER PAVED AREAS & BUILDINGS - 100% SMDD.
 - B) TRENCHES NOT UNDER PAVEMENTS - 90% SMDD.

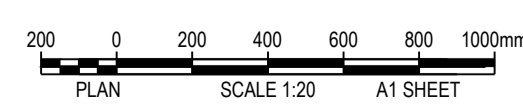


GENERAL ALTERNATIVE INGROUND PIPE DETAIL NOT TO SCALE

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1	ISSUED FOR APPROVAL	25/03/22			
2	RE-ISSUED FOR APPROVAL	06/04/22			
3	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT: **Built** NSW GOVERNMENT

PROJECT: **WEE WAA FLOOD MITIGATION WORKS**

PREPARED BY: **Warren Smith Consulting Engineers**

WARREN SMITH CONSULTING ENGINEERS SINCE 1981.

NSW: 9/233 Castlereagh St, Sydney 2000 NSW Australia
VIC: Suite 7.03, 365 Little Collins St Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942
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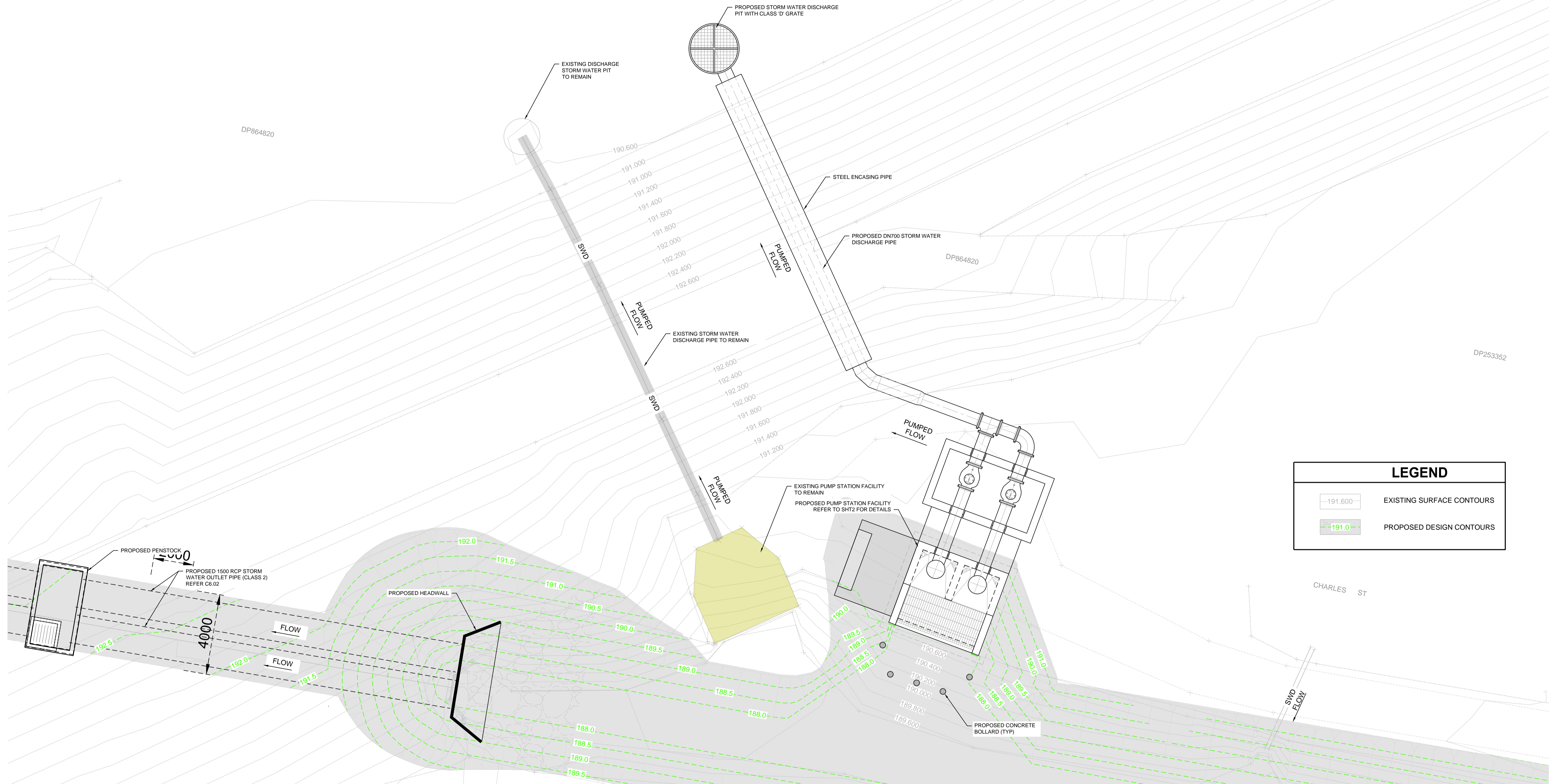
ACN 002 197 088 ABN 36 300 430 126
Hydraulic Fire Civil Utilities Infrastructure

TITLE: **STORMWATER DRAINAGE DETAILS**

SCALE: AS SHOWN	DRAWN: M.T.	DESIGNED: R.X.	CHECKED: J.G.	APPROVED: M.C.
JOB No: 7490000	DRAWING No: C6.51	ISSUE: 3		
DATE: MAY 2022	STATUS: ISSUED FOR APPROVAL			

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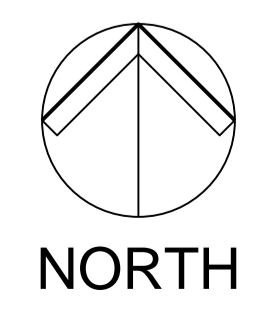


LEGEND	
	EXISTING SURFACE CONTOURS
	PROPOSED DESIGN CONTOURS

PUMP STATION LAYOUT
SCALE 1:100

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1:0 0 1.0 2.0 3.0 4.0 5.0m
PLAN SCALE 1:100 A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	30/03/22			
2	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT

PROJECT

WEE WAA FLOOD MITIGATION WORKS

PREPARED BY

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

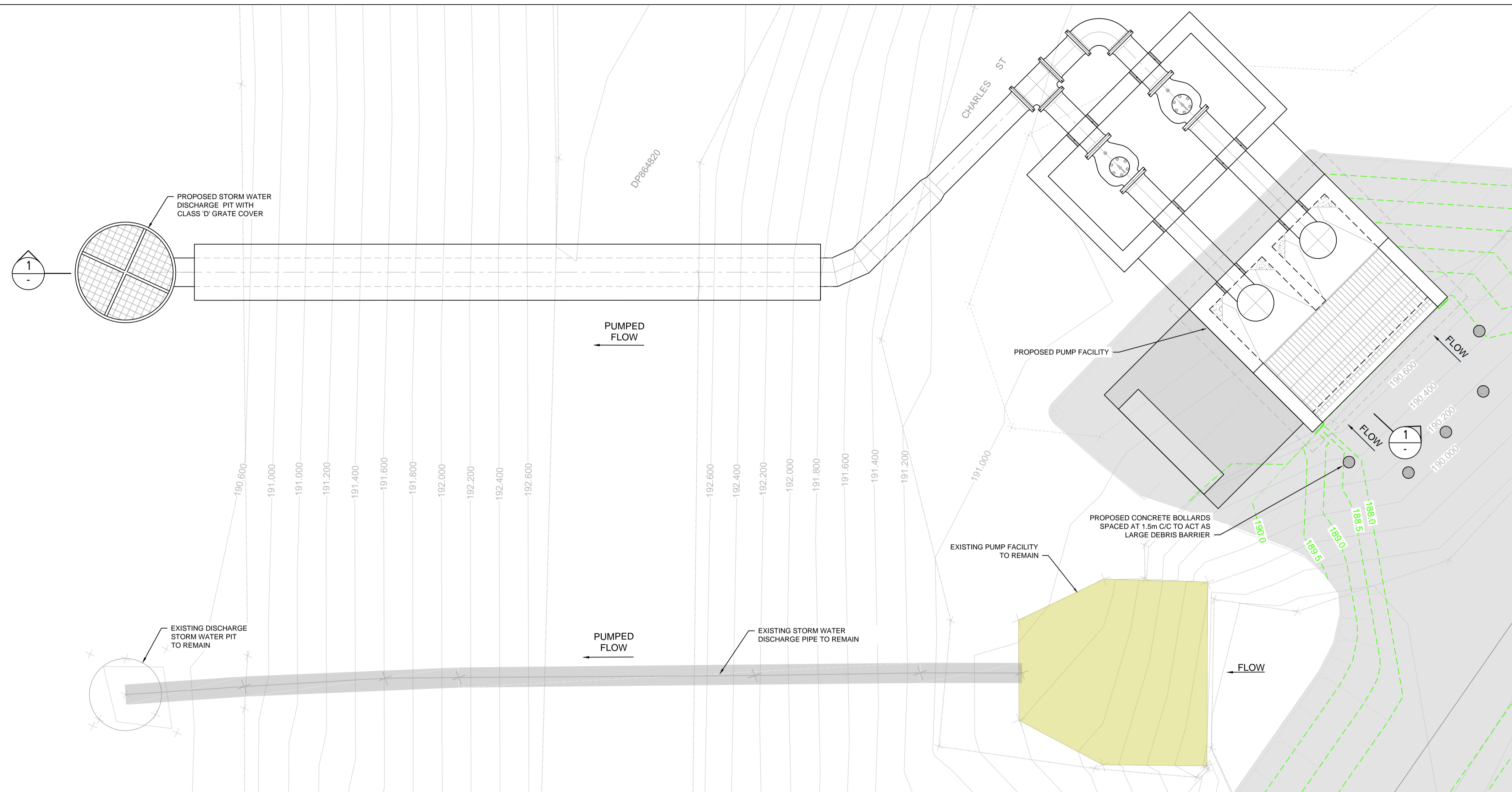
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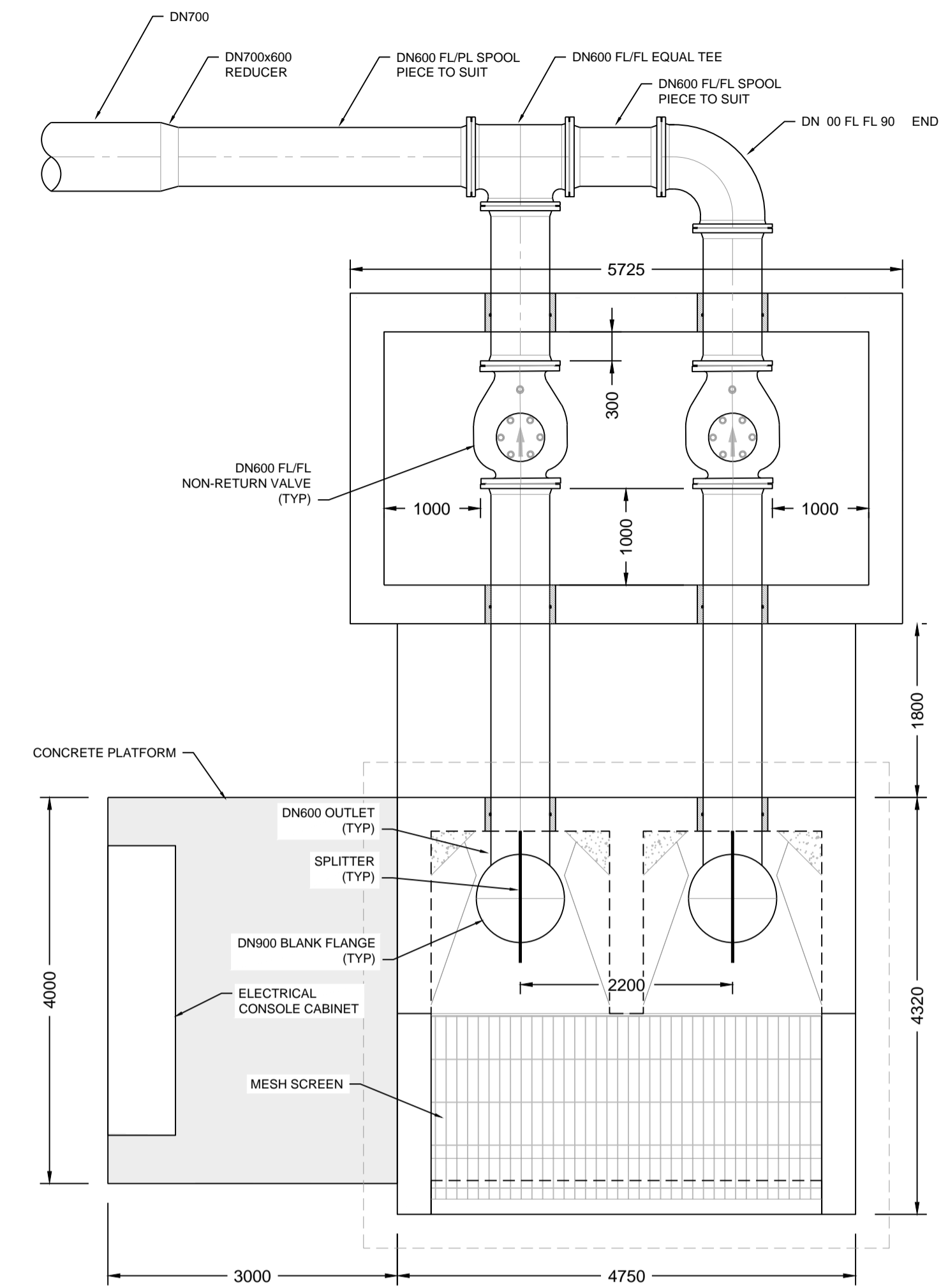
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Hydraulic Fire Civil Utilities Infrastructure

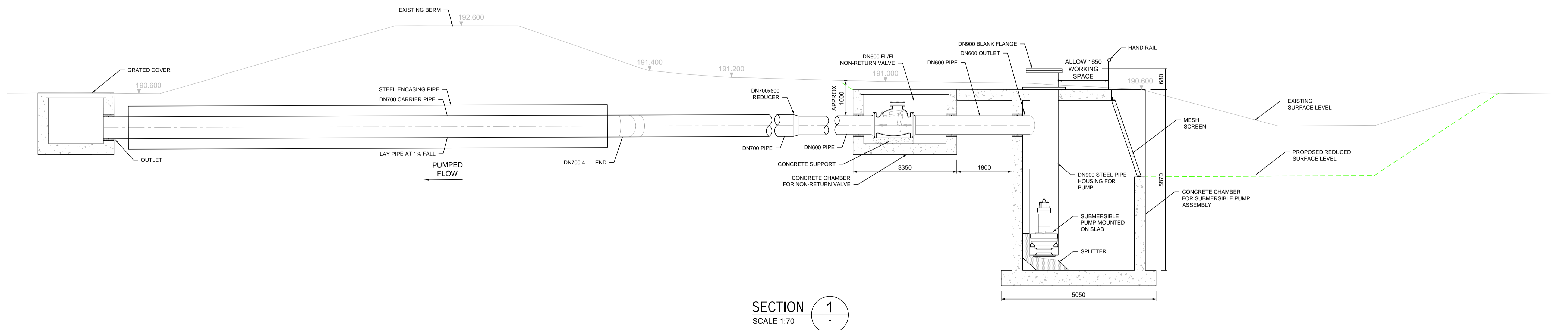
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JOB No.	DRAWING No.		ISSUE	
7490000	C6.61		2	
DATE	STATUS			
APRIL 2022	ISSUED FOR APPROVAL			



PUMP STATION LAYOUT
SCALE 1:70



PUMP STATION PLAN
SCALE 1:50



SECTION 1
SCALE 1:70

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 Plot Date: 12/05/22 11:14:52 User: nsw Date: 12/05/22 11:14:52 Job Name: nsw
 W:\01_2022\7490000\7490000_01_PUMP STATION LAYOUT\7490000_PUMP STATION LAYOUT.dwg
 Plot Date: 12/05/22 11:14:52 User: nsw Date: 12/05/22 11:14:52 Job Name: nsw

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REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR APPROVAL	30/03/22			
2	REVISED PROJECT DESCRIPTION	12/05/22			

CLIENT

PROJECT

WEE WAA FLOOD MITIGATION WORKS

PREPARED BY

WARREN SMITH CONSULTING ENGINEERS
SINCE 1981.

NSW 9/233 Castlereagh St Sydney 2000 NSW Australia
VIC Suite 7.03, 365 Little Collins St Melbourne 3000 VIC Australia

PH +61 (2) 9299 1312 PH +61 (3) 8648 9942
www.warrensmith.com.au
wsp@warrensmith.com.au

ACN 002 197 088 ABN 36 500 430 126
Hydraulic Fire Civil Utilities Infrastructure

TITLE

PUMP STATION LAYOUT SHEET 2

SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	N.W.	P.G.	J.G.	M.C.
JOB No.	DRAWING No.		ISSUE	
7490000	C6.62		2	
DATE	STATUS			
APRIL 2022	ISSUED FOR APPROVAL			

PRELIMINARY - NOT FOR CONSTRUCTION