

Civil Design Documentation

Proposed Olympic Park Grandstand Redevelopment

OYLMPIC PARK

3 Wilkinson Avenue, Muswellbrook, NSW, 2333

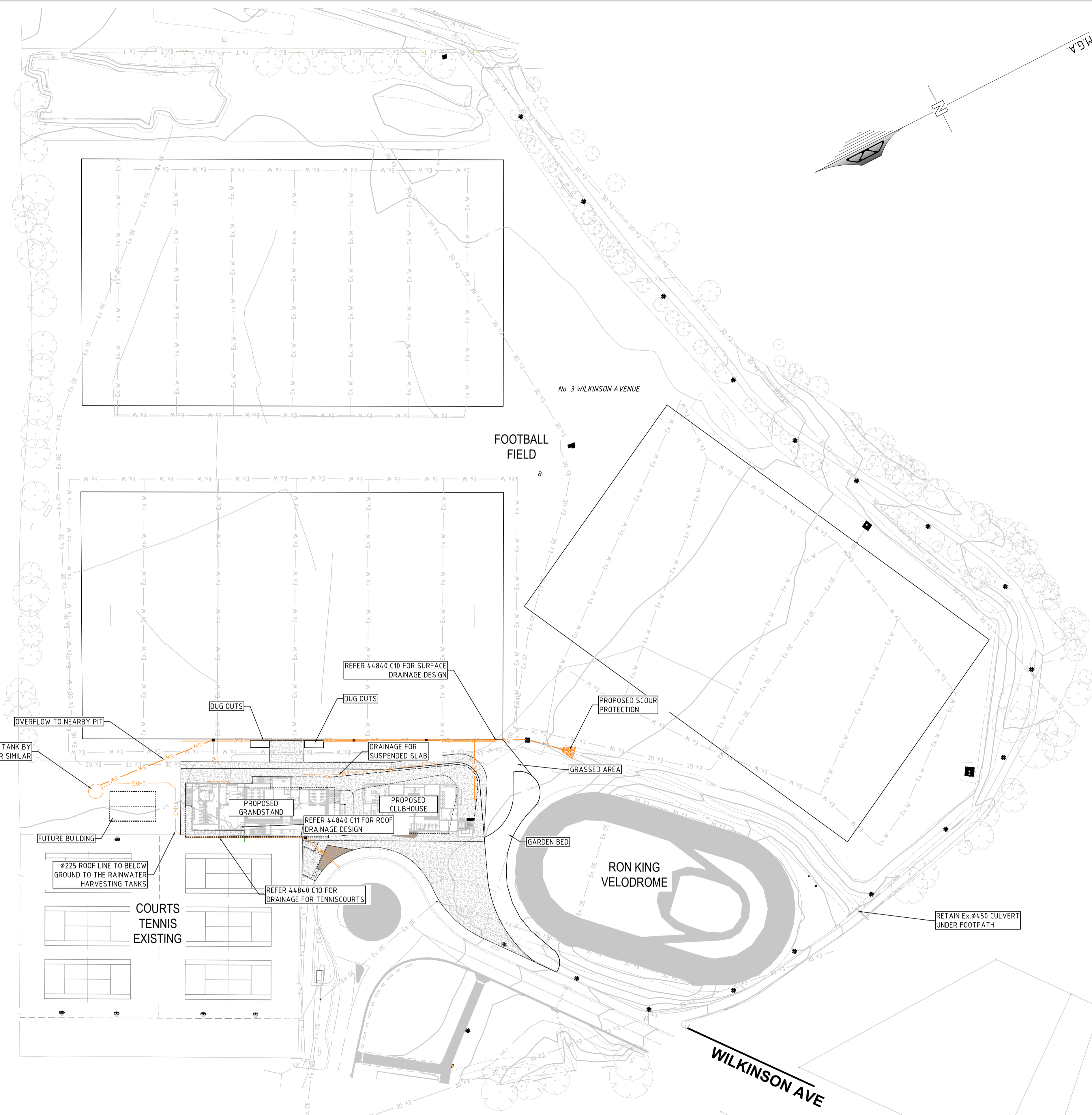
SCHEDULE OF DRAWINGS

SHEET No.	DESCRIPTION
44840-C00	COVER SHEET AND DRAWING SCHEDULE
44840-C01	EXISTING SITE PLAN
44840-C03	PROPOSED OVERALL SITE PLAN
44840-C10	PROPOSED STORMWATER MANAGEMENT PLAN
44840-C11	PROPOSED ROOF DRAINAGE PLAN
44840-C12	STORMWATER SPECIFICATION



LOCALITY PLAN
NOT TO REDUCTION RATIO

ISSUED FOR REVIEW



LEGEND (proposed)

- EXTENT OF PROPOSED CONCRETE PATH/CROSS OVER
- EXTENT OF PROPOSED LANDSCAPED AREA
- PROPOSED EARTH SWALE (600x100)
- PROPOSED UNDERGROUND STORMWATER PIPE
- PROPOSED CHARGED ROOF DRAINAGE PIPE
- PROPOSED GRATED STORMWATER PIT (WITH SPELL STORMSACK IN HARDSTAND AREA)
- PROPOSED SURFACE FALL DIRECTION
- PROPOSED PIPE SIZE & MATERIAL GRADIENT 5% AEP FLOW
- PROPOSED SURFACE FALL DIRECTION
- PROPOSED/EXISTING GROUND LEVEL

LEGEND (existing)

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- EXISTING FENCE LINE
- EXISTING GATE
- TOP OF BANK
- BOTTOM OF BANK
- EXISTING UNDERGROUND WATER MAIN - APPROX.
- EXISTING UNDERGROUND SEWER PIPE - APPROX.
- EXISTING UNDERGROUND ELECTRICITY CABLES - APPROX.
- EXISTING OVERHEAD ELECTRICITY CABLES
- EXISTING UNDERGROUND TELECOMMUNICATIONS ASSETS - APPROX.
- EXISTING TABLE DRAIN
- DRAIN PIPE
- ELECTRICITY POWER POLE, STAY WIRE AND ANCHOR
- ELECTRICITY POWER POLE
- ELECTRIC LIGHT POLE
- FIRE HYDRANT
- HYDRANT
- WATER STOP VALVE
- SEWER MANHOLE
- EXISTING SHRUB

PROPOSED OVERALL SITE PLAN
 REDUCTION RATIO 1:600 @ A1
 1:1200 @ A3

SCALE 1:600(A1)
 0 5 10 20 30 40 50

SCALE 1:1200(A3)
 0 5 10 20 30 40 50

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Rev	Date	Description
A	14-04-2025	75% DESIGN ISSUE
B	24-11-2025	ADDE DRAINAGE FOR TENNIS COURT

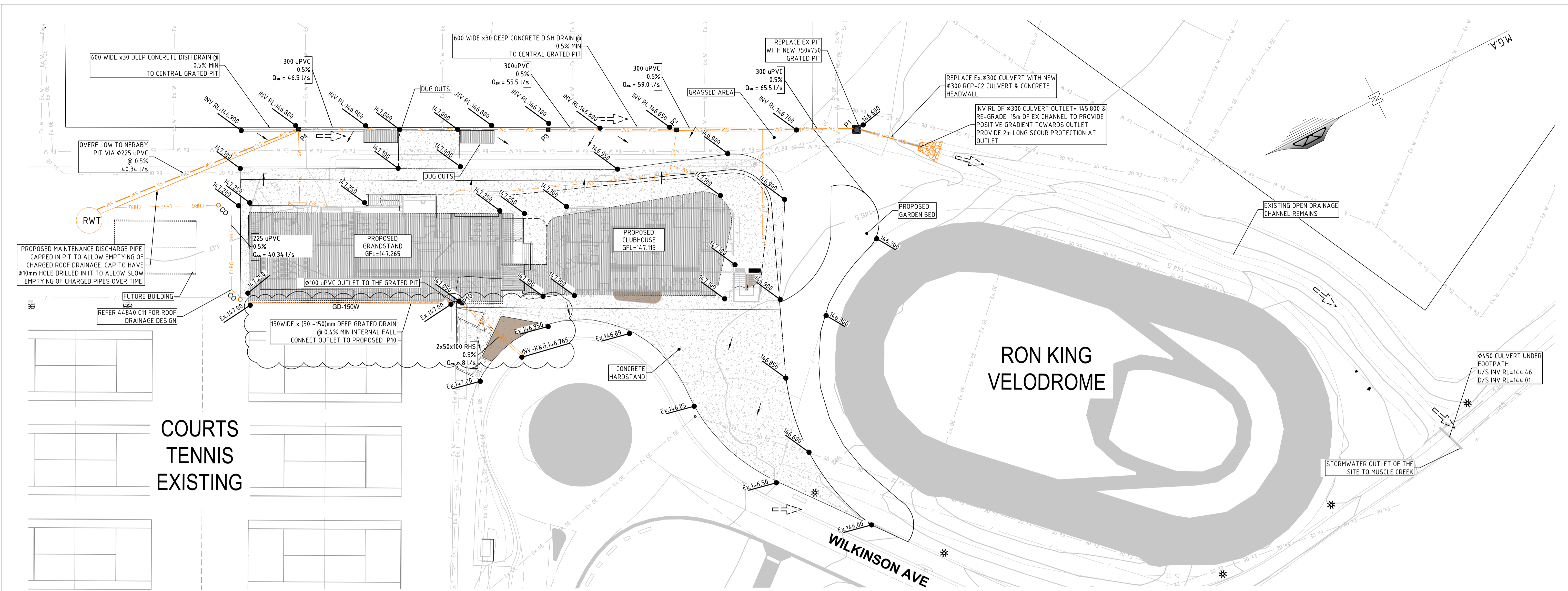
Project
OLYMPIC PARK GRANDSTAND REDEVELOPMENT
 Site Address
 3 WILKINSON AVENUE
 MUSWELLBROOK NSW 2333
 Client
 MUSWELLBROOK SHIRE COUNCIL

Drawing Title
PROPOSED OVERALL SITE PLAN

Design	ST	Original Sheet Size	A1
Drawn	AR	Revision	B
Check	DOS		

Certification

Project No	44840
Drawing No	C02



NOTE: REFER 44840 C12 FOR HYDRAULIC ANALYSIS

LEGEND (existing)

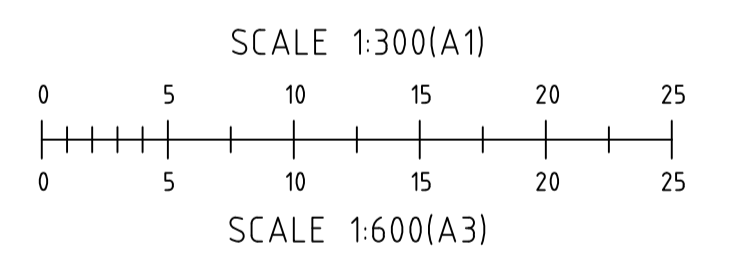
---	EXISTING SUBJECT CADASTRAL BOUNDARIES
- - - - -	EXISTING FENCE LINE
	EXISTING GATE
-----	TOP OF BANK
-----	BOTTOM OF BANK
Ex. W	EXISTING UNDERGROUND WATER MAIN - APPROX.
Ex. S	EXISTING UNDERGROUND SEWER PIPE - APPROX.
Ex. E	EXISTING UNDERGROUND ELECTRICITY CABLES - APPROX.
Ex. OE	EXISTING OVERHEAD ELECTRICITY CABLES
Ex. T	EXISTING UNDERGROUND TELECOMMUNICATIONS ASSETS - APPROX.
Ex. TD	EXISTING TABLE DRAIN
Ex. SW	DRAIN PIPE
●	ELECTRICITY POWER POLE, STAY WIRE AND ANCHOR
●	ELECTRICITY POWER POLE
●	ELECTRIC LIGHT POLE
●	FIRE HYDRANT
●	HYDRANT
●	WATER STOP VALVE
●	SEWER MANHOLE
●	EXISTING SHRUB

LEGEND (proposed)

▬	EXTENT OF PROPOSED CONCRETE PATH/CROSS OVER
▬	EXTENT OF PROPOSED LANDSCAPED AREA
— SW — SW — SW	PROPOSED UNDERGROUND STORMWATER PIPE
— CHR — CHR —	PROPOSED CHARGED ROOF DRAINAGE PIPE
▬	PROPOSED 1800x75 CONCRETE DISH DRAIN
■	PROPOSED GRATED STORMWATER PIT
→	PROPOSED SURFACE FALL DIRECTION
150 uPVC 1.0% Q _m = 26.7 l/s	PROPOSED PIPE SIZE & MATERIAL GRADIENT 5% AEP FLOW
→	PROPOSED SURFACE FALL DIRECTION
●	PROPOSED/EXISTING GROUND LEVEL

PROPOSED STORMWATER MANAGEMENT PLAN

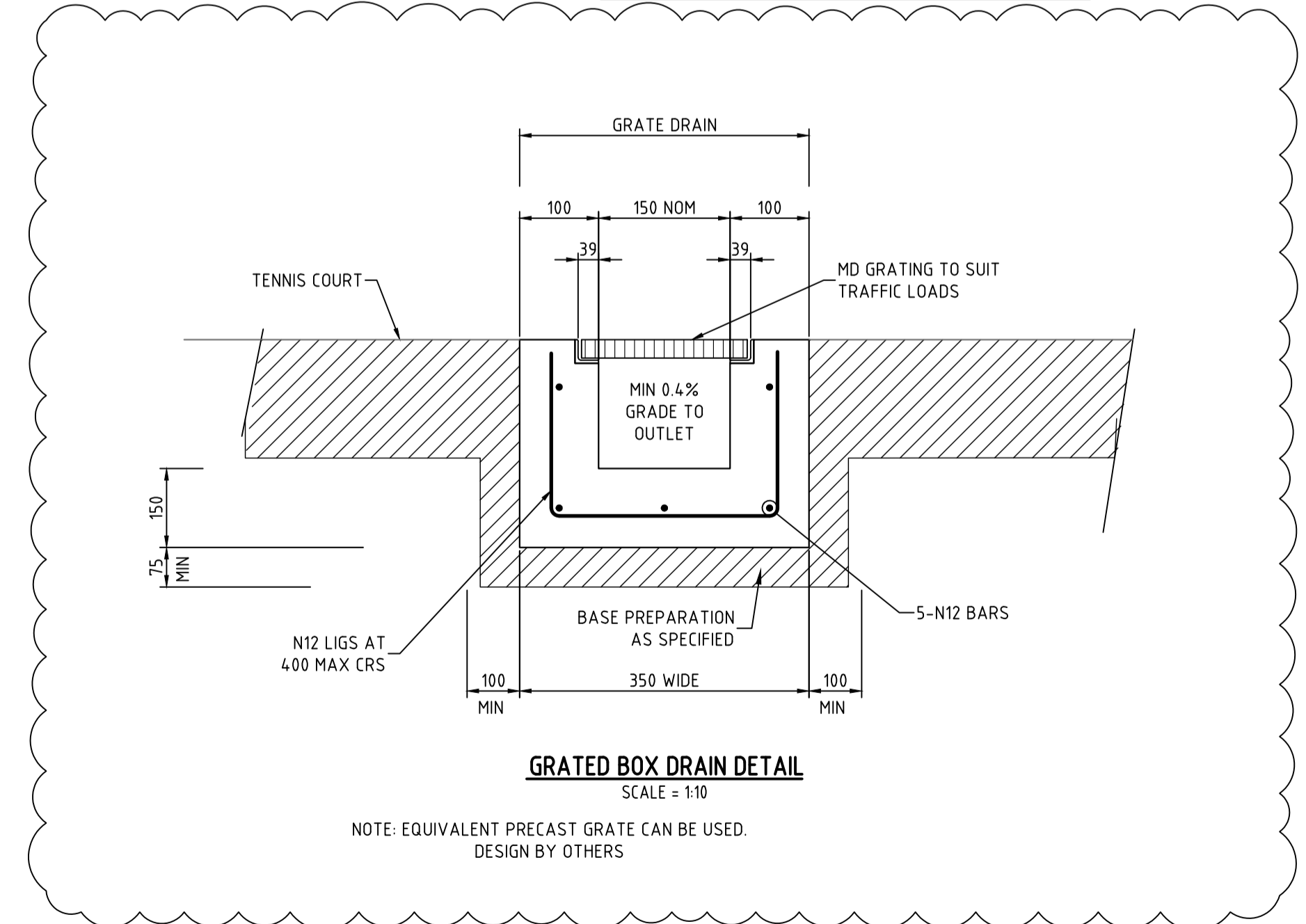
REDUCTION RATIO 1:300 @ A1
1:600 @ A3



STORMWATER PIT SCHEDULE

PIT No.	TOP RL	DEPTH (mm)	IL INLET	IL OUTLET	LxB	LID TYPE
P1	146.600	650	145.850	145.850	750x750	HD GRATED (GALV)
P2	146.650	650	146.000	146.000	750x750	HD GRATED (GALV)
P3	146.700	600	146.100	146.100	750x750	HD GRATED (GALV)
P4	146.800	500	146.300	146.300	750x750	HD GRATED (GALV)
P10	147.100	270	146.830	146.830	600x600	HD GRATED (GALV)

NOTE: ALL TOP RLs ARE INDICATIVE ONLY. LID RL TO MATCH FINISHED SURFACE LEVELS.



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Rev	Date	Description
A	14-04-2025	75% DESIGN ISSUE
B	24-11-2027	ADDED DRAINAGE FOR TENNIS COURT

Project
OLYMPIC PARK GRANDSTAND REDEVELOPMENT
Site Address
3 WILKINSON AVENUE
MUSWELLBROOK NSW 2333
Client
MUSWELLBROOK SHIRE COUNCIL

Drawing Title
PROPOSED STORMWATER MANAGEMENT PLAN

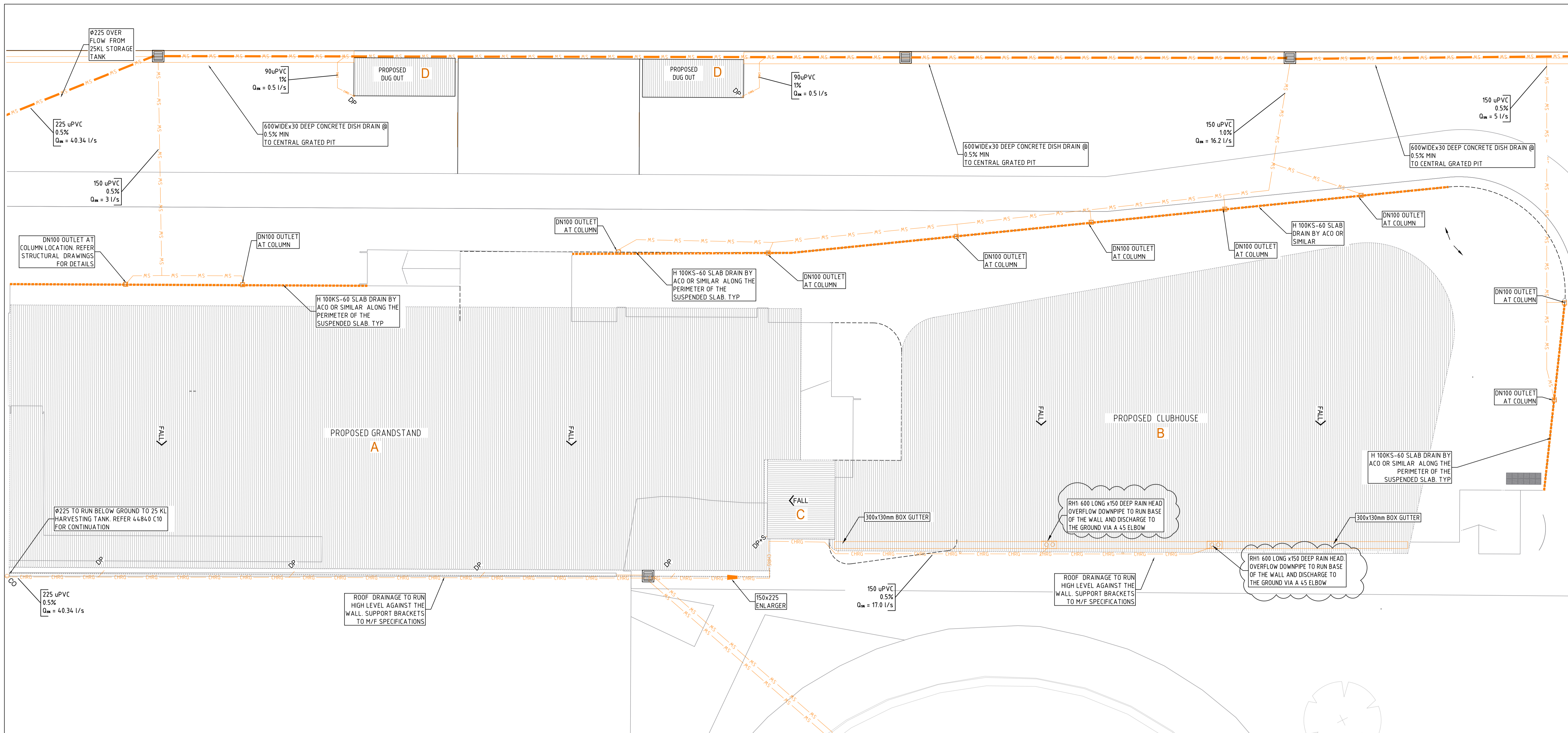
Design	ST	Original Sheet Size	A1
Drawn	AR	Revision	B
Check	DOS		

Certification

Project No 44840

Drawing No C10

44840
C10



DESIGN NOTE:
ARI = 1% AEP STORM
DURATION = 5 MIN
RAINFALL INTENSITY = 194mm/hr

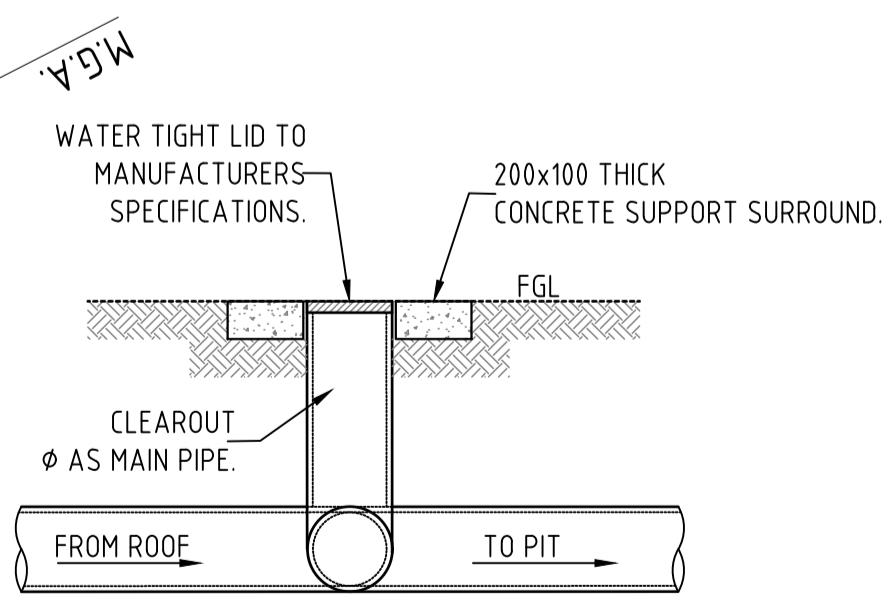
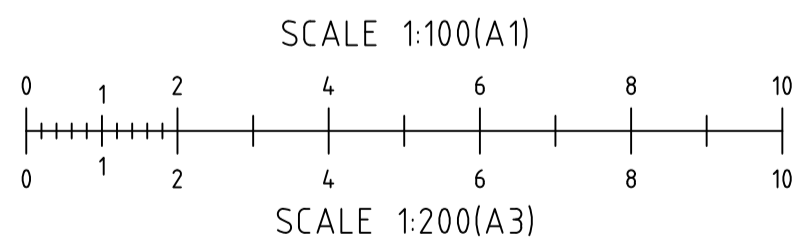
DESIGN NOTE:
ARI = 5% AEP STORM
DURATION = 5 MIN
RAINFALL INTENSITY = 14.4mm/hr

CATCHMENT, GUTTERS, & DOWNPIPES					
LOCATION	AREA (m ²)	FLOW l/s	GUTTER (m ²)	DP's	MAX m ² /DP
ROOF - A+C	560	23.38	18,400	4xφ150	156
ROOF - B	407	REFER BOX GUTTER DESIGN DETAILS			
ROOF - C	15	0.63	6,600	1xφ90	44
ROOF - D	11	0.46	6,600	1xφ90	44

STORMWATER ANALYSIS
1. DESIGN CALCULATIONS AS PER AS3500.3-2021
2. EAVES GUTTERS DESIGNED FOR 5% AEP STORM, 5 MINUTE INTENSITY. GUTTERS TO BE INSTALLED AT FALL 1:500 OR STEEPER. EAVE GUTTERS: GUTTER TO HAVE EQUIVALENT CROSS SECTIONAL AREA AS SPECIFIED

BOX GUTTER SPECIFICATION								
LOCATION	GUTTER	FLOW l/s	RAIN HEAD No.	H _a	H _r	W	L _r	DP's
ROOF B	BG1	22.00	2	130	150	300	600	φ150

PROPOSED ROOF DRAINAGE PLAN
REDUCTION RATIO 1:100 @ A1
1:200 @ A3



CLEAROUT (CO) DETAIL
SCALE = 1:20

LEGEND (proposed)

- EXTENT OF PROPOSED ROOF
- PROPOSED GRATED STORMWATER PIT
- PROPOSED CHARGED ROOF DRAINAGE PIPE
- PROPOSED UNDERGROUND STORMWATER PIPE
- ROOF - CATCHMENT IDENTIFIER
- ROOF - DIRECTION OF FALL
- PROPOSED DOWNPIPE
- PROPOSED DOWNPIPE WITH SPREADER
- PROPOSED CLEAR OUT
- PROPOSED PIPE SIZE & MATERIAL GRADIENT 5% AEP FLOW
- PROPOSED RAINHEAD & DOWN PIPE

ISSUED FOR REVIEW



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Rev	Date	Description
A	14-04-2025	75% DESIGN ISSUE
B	27-06-2025	REVISED BOX GUTTER OVERFLOW DETAILS

Project
OLYMPIC PARK GRANDSTAND REDEVELOPMENT
Site Address
3 WILKINSON AVENUE
MUSWELLBROOK NSW 2333
Client
MUSWELLBROOK SHIRE COUNCIL

Drawing Title
PROPOSED ROOF DRAINAGE PLAN
Design ST
Drawn AR
Check DOS
Original Sheet Size A1
Revision B

Certification
Project No 44840
Drawing No C11

SITWORKS NOTES

- ORIGIN OF LEVELS -- AHD
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.
- ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS, THE SPECIFICATIONS AND THE DIRECTIONS OF THE SUPERINTENDENT.
- EXISTING SERVICES HAVE BEEN OBTAINED FROM SURFACE INSPECTION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
- WHERE NEW WORKS ABOUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
- THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A QUALIFIED SURVEYOR.
- CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER TELECOM OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
- ON COMPLETION OF CONSTRUCTION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS.
- MAKE SMOOTH TRANSITION TO EXISTING AREAS.
- THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DIVERSION DRAINS AND MOUNDS TO ENSURE THAT AT ALL TIMES EXPOSED SURFACES ARE FREE DRAINING AND WHERE NECESSARY EXCAVATE SUMPS AND PROVIDE PUMPING EQUIPMENT TO DRAIN EXPOSED AREAS. ALL WORK TO BE UNDERTAKEN WITH ADHERENCE TO THE REQUIREMENTS OF THE SOIL AND WATER MANAGEMENT PLAN.
- THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS.

SURVEY NOTES

- CONTOURS SHOWN DEPICT THE TOPOGRAPHY. EXCEPT AT SPOT LEVELS SHOWN THEY DO NOT REPRESENT THE EXACT LEVEL AT ANY PARTICULAR POINT.
- SERVICES SHOWN HEREON HAVE BEEN DETERMINED FROM VISUAL EVIDENCE AND ARE INDICATIVE ONLY. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE THE RELEVANT AUTHORITY SHOULD BE CONTACTED TO ESTABLISH DETAILED LOCATION AND DEPTH.

PIPE TRENCH - FILL NOTES:

- BEDDING SAND**
BEDDING SAND SHALL BE GRANULAR MATERIAL HAVING A LOW PERMEABILITY AND HIGH STABILITY WHEN SATURATED, CONFORMING TO THE GRADING LIMITS FOR BEDDING SAND AS INDICATED IN THE CONTRACT DOCUMENTS. BEDDING SAND SHALL BE COMPACTED TO A DENSITY INDEX OF 95% AS DETERMINED IN ACCORDANCE WITH AS1289.
- APPROVED IMPORTED GRANULAR FILL**
ONLY IMPORTED GRANULAR FILL MATERIAL APPROVED BY THE SUPERINTENDENT SHALL BE USED. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK TO A DRY DENSITY OF 100% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL AND WITH A MOISTURE CONTENT NO MORE THAN 1% ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.
- ORDINARY EXCAVATED FILL MATERIAL**
ORDINARY EXCAVATED FILL MATERIAL IS EXCAVATED TRENCH MATERIAL THAT IS FREE OF VEGETABLE MATTER, HUMUS, LARGE CLAY LUMPS AND ROCK BOULDERS. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK, TO A DENSITY OF 95% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL WITH A MOISTURE CONTENT OF NOT MORE THAN 1% ABOVE THE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.

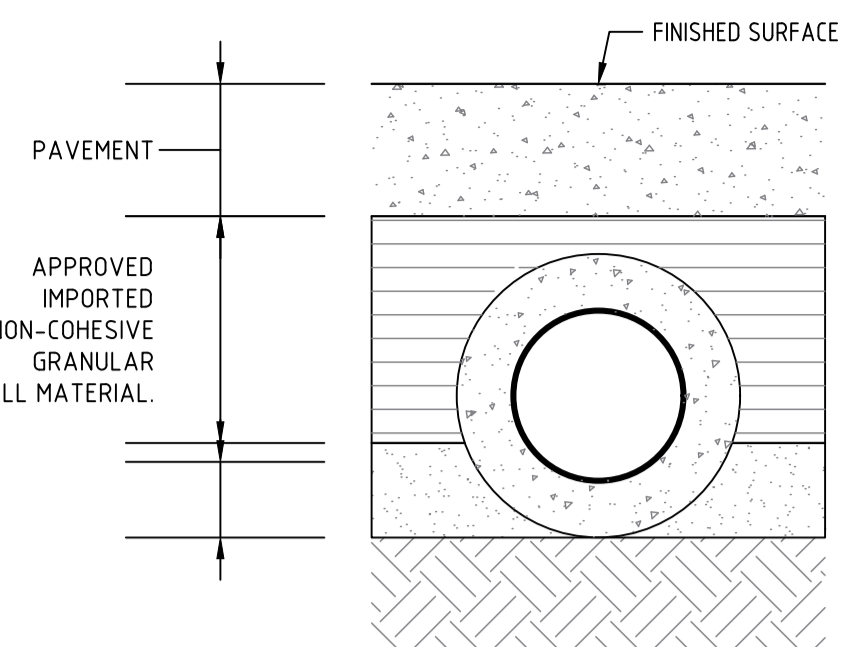
STORMWATER NOTES

- ALL DOWNPIPE LINES SHALL BE SEWER GRADE uPVC WITH SOLVENT WELD JOINTS (U.N.O)
- EQUIVALENT STRENGTH VCP OR FCP PIPES MAY BE USED.
- MINIMUM GRADE TO STORMWATER LINES TO BE 0.5% MINIMUM (U.N.O)
- CONTRACTORS TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
- ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
- APPROVED PRECAST PITS MAY BE USED.
- WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN. 50mm CONCRETE BED (75mm THICK BED OF 12mm BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR THE ROCK. IN OTHER THAN ROCK, PIPES SHALL BE LAID ON A 75mm THICK SAND BED. IN ALL CASES, BACKFILL THE TRENCH WITH THE SAND TO 200mm ABOVE THE PIPE. WHERE THE PIPE IS UNDER PAVEMENTS, BACKFILL REMAINDER OF TRENCH WITH SAND OR APPROVED GRANULAR BACKFILL COMPACTED IN 150mm LAYERS TO 98% MAX. DRY DENSITY.
- WHERE STORMWATER LINES PASS UNDER FLOOR SLABS, SEWER GRADE RUBBER RING JOINTS ARE TO BE USED.
- ALL PIPES IN THE ROADWAY AND FOOTPATH AREAS, WHERE THE DEPTH OF PIPE IS LESS THAN 500mm FROM THE FINISHED SURFACE LEVEL ARE TO BE CONCRETE ENCASED.

STORMWATER ANALYSIS

DESIGN CALCULATIONS AS PER AS3500.3-2021

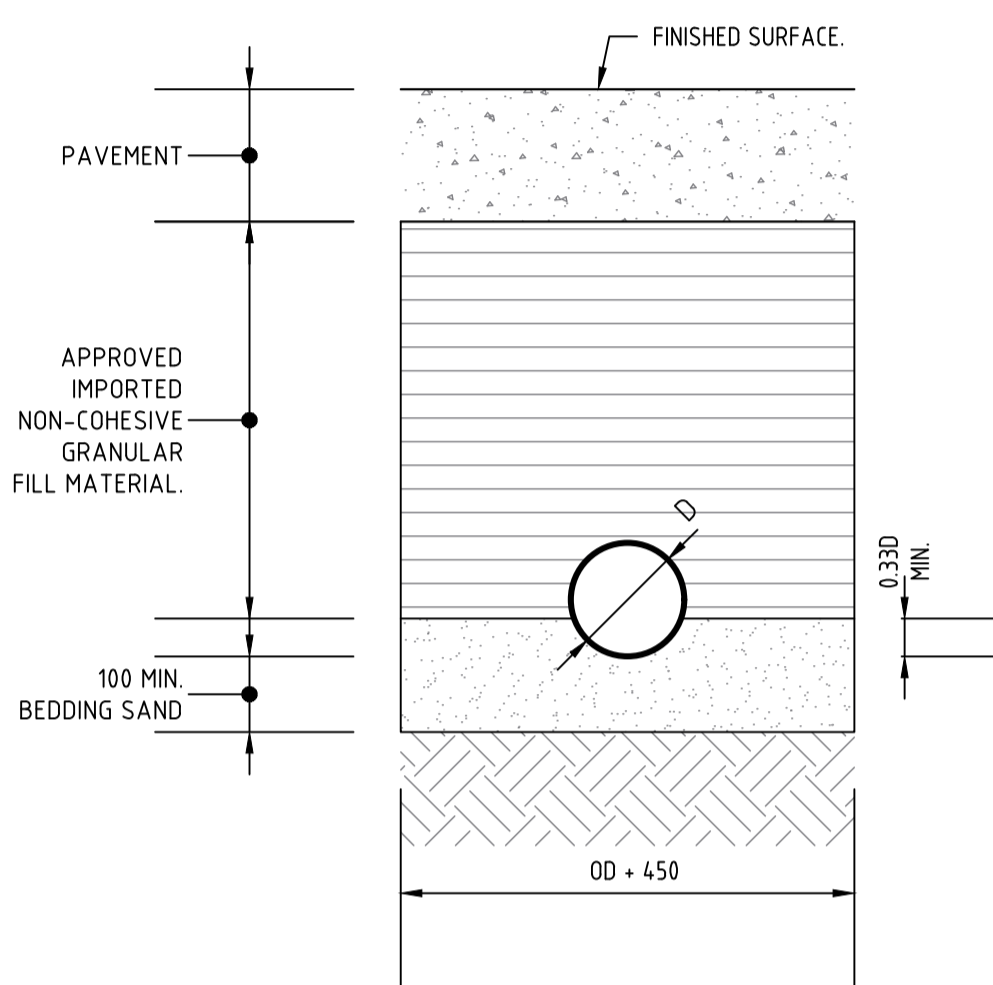
- A) PRE-DEVELOPED:**
- TOTAL APPLICABLE CATCHMENT AREA (A) = 3,400m²
 - RAINFALL INTENSITY (I) = 14.4 mm/hr (5min- 5% AEP)
 - Cr = RUNOFF COEFFICIENT FOR ROOFED AREA = 1.0
 - Ar = TOTAL ROOFED AREA= 230 m²
 - Ci = RUNOFF COEFFICIENT FOR UNROOFED IMPERVIOUS AREA = 0.9
 - Ai = TOTAL UNROOFED IMPERVIOUS AREA= 900 m²
 - Cp = RUNOFF COEFFICIENT FOR PERVIOUS AREA = 0.3
 - Ap = TOTAL PERVIOUS GRASS AREA = 2,270m²
 - TOTAL FLOW Qpre = (Cr Ar +Ci Ai + Cp Ap). I / 3600 = 68.8 l/s
- B) POST-DEVELOPED:**
- TOTAL APPLICABLE CATCHMENT AREA (A) = 3,400m²
 - RAINFALL INTENSITY (I) = 14.4 mm/hr (5min- 5% AEP)
 - Cr = RUNOFF COEFFICIENT FOR ROOFED AREA = 1.0
 - Ar = TOTAL ROOFED AREA=1,000 m²
 - Ci = RUNOFF COEFFICIENT FOR UNROOFED IMPERVIOUS AREA = 0.9
 - Ai = TOTAL UNROOFED IMPERVIOUS AREA= 1,375 m²
 - Cp = RUNOFF COEFFICIENT FOR PERVIOUS AREA = 0.3
 - Ap = TOTAL PERVIOUS AREA = 1025 m²
 - TOTAL FLOW Qpost = (Cr Ar +Ci Ai + Cp Ap). I / 3600 = 101.80 l/s



TYPICAL PIPE ENCASEMENT

SCALE 1:10

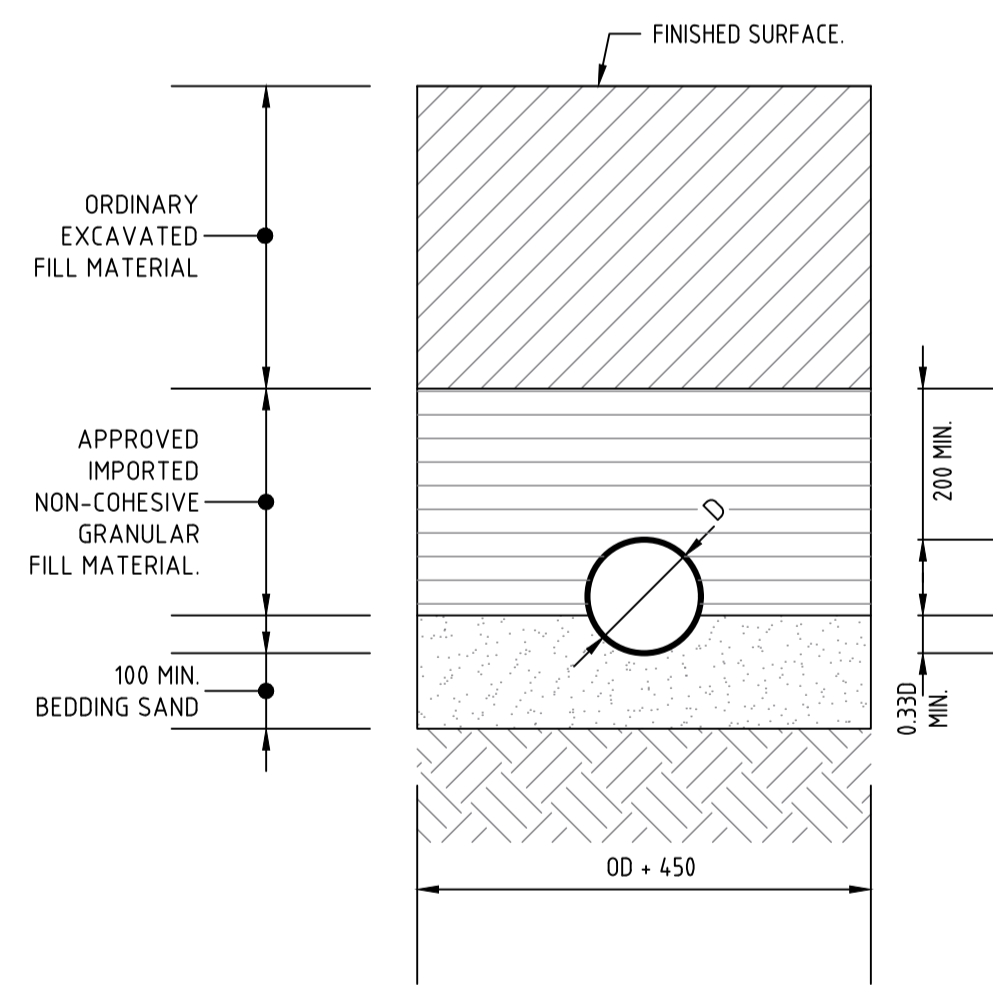
NOTE: PIPE COLLAR IS NOT TO REST ON ORIGINAL MATERIAL



TYPICAL SECTION TRENCH IN ROADWAY

SCALE 1:10

NOTE: PIPE COLLAR IS NOT TO REST ON ORIGINAL MATERIAL



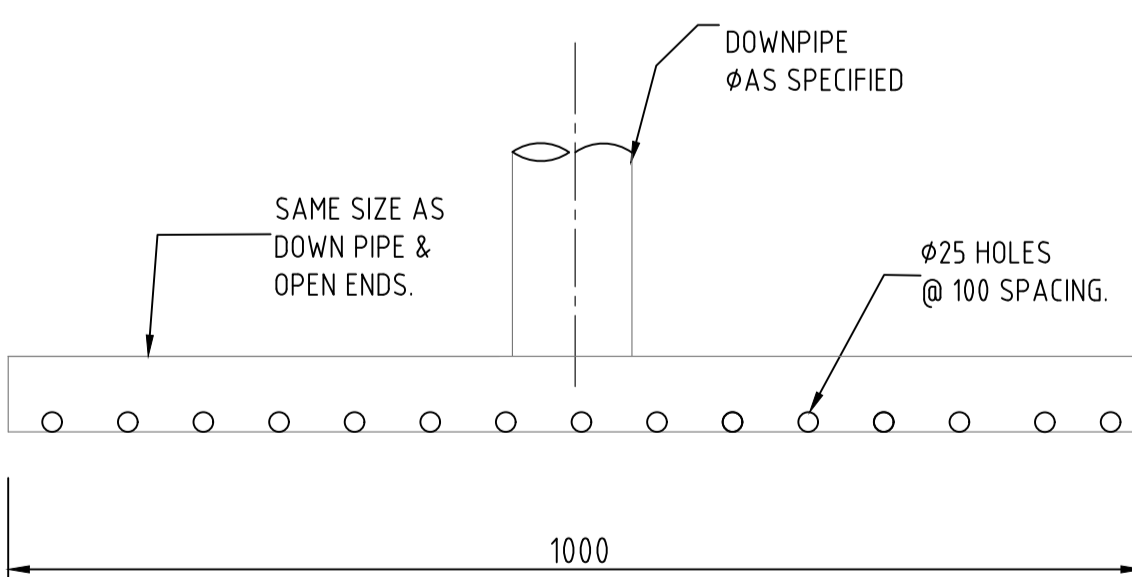
TYPICAL SECTION EARTH FOUNDATION TRENCH

SCALE 1:10

NOTE: PIPE COLLAR IS NOT TO REST ON ORIGINAL MATERIAL

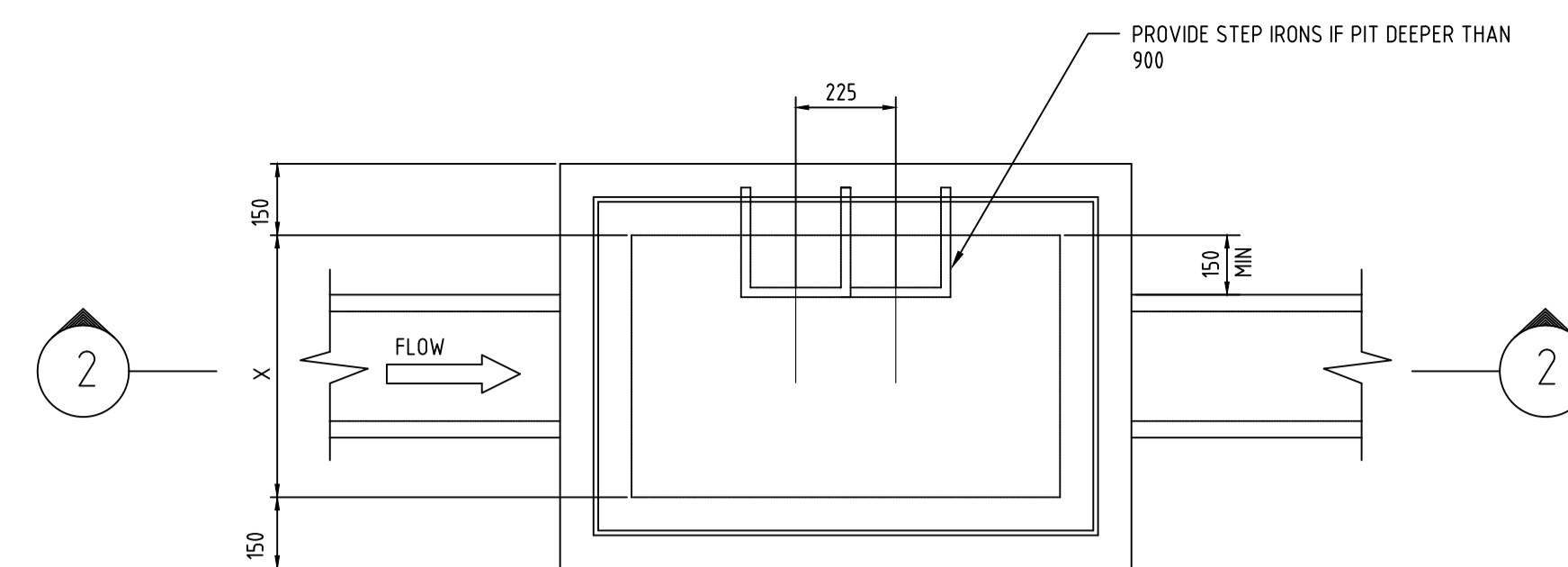
THE DIAMETER OF A SPHERE WITH AN EQUIVALENT VOLUME TO THE INDIVIDUAL ROCK.
 ++ D₅₀ IS THE MEDIAN RIP RAP DIAMETER OF THE ROCK MIX. (i.e. 50% (BY WEIGHT) IS SMALLER AND 50% (BY WEIGHT) IS LARGER).

EQUIVALENT SPHERICAL DIAMETER ##	PERCENT (BY WEIGHT) OF RIP RAP OF SMALLER SIZE
1.5 - 2.0 TIMES D ₅₀ ++	100%
D ₅₀	50%
0.3 D ₅₀	10 - 20%



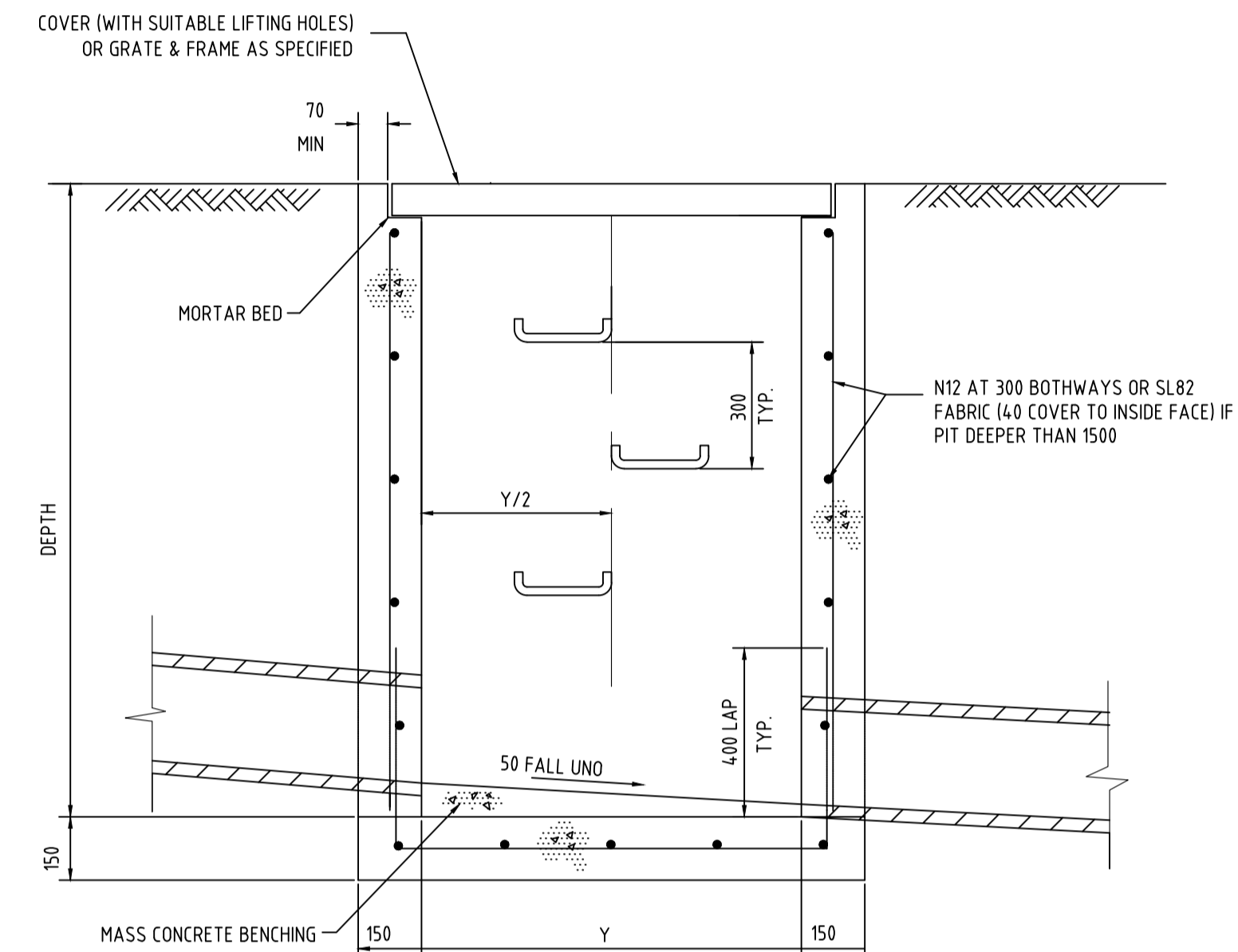
SPREADER DETAIL

SCALE = 1:10

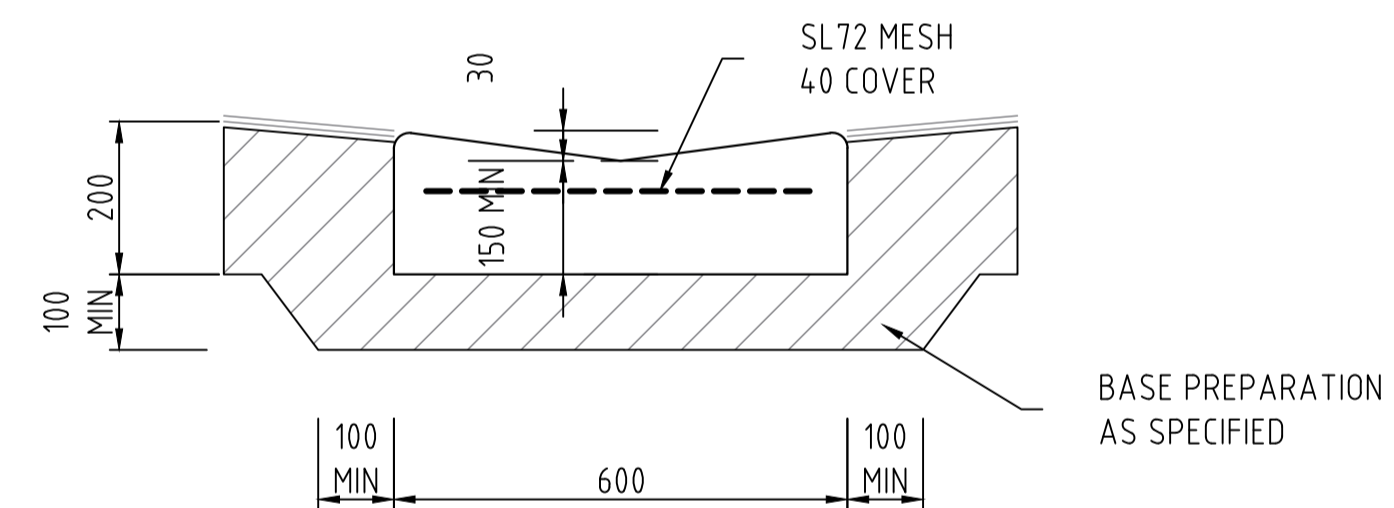


PLAN GRATED INLET PIT

N.T.S.

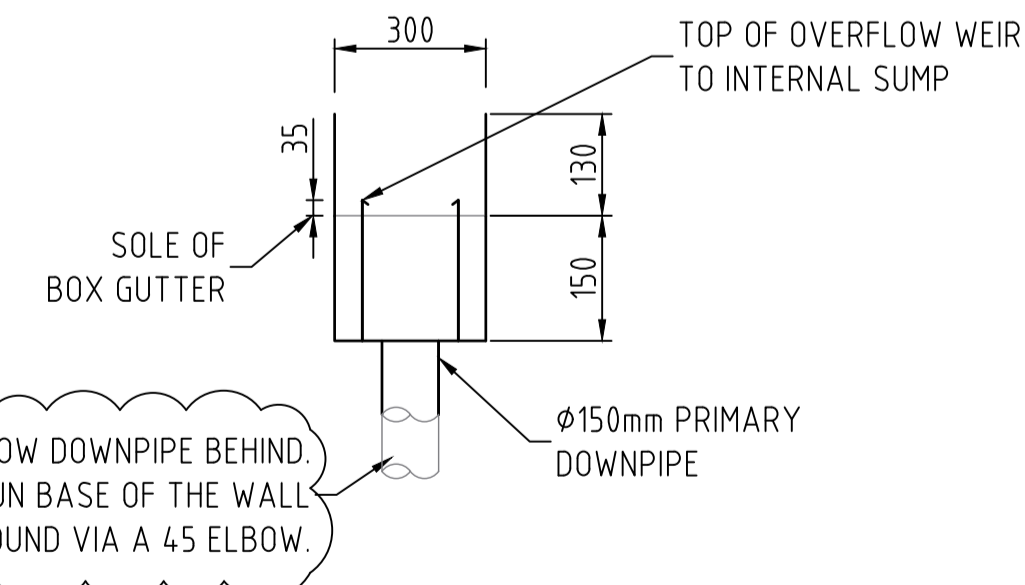


SECTION 2



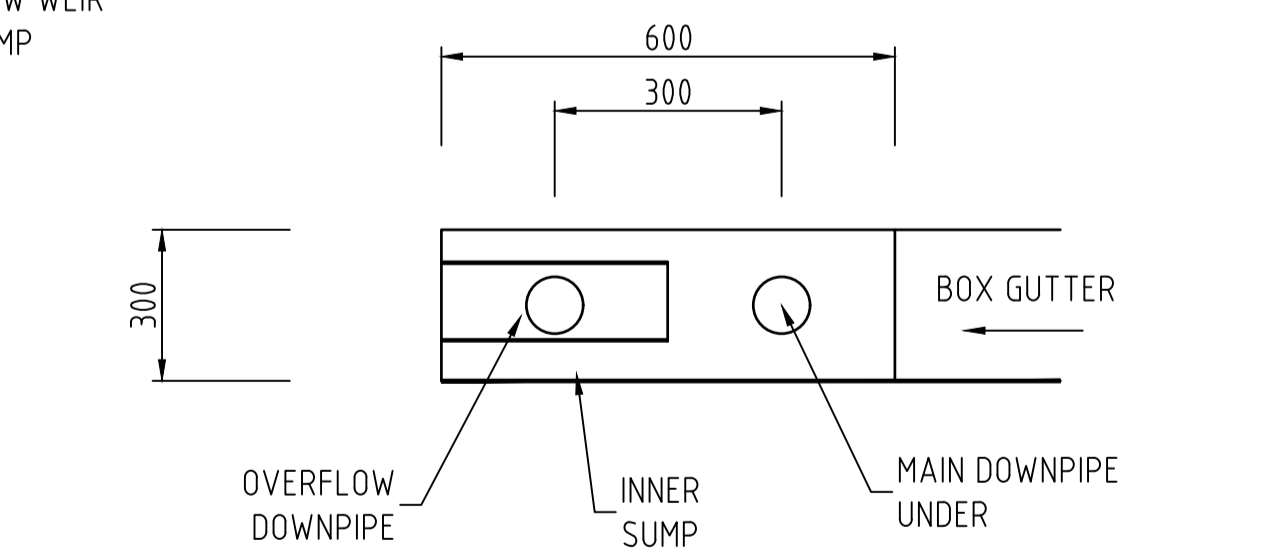
DD1 - DISH DRAIN DETAIL

SCALE = NTS



RAINHEAD & BOX GUTTER SECTIONAL DETAIL

SCALE = NTS



RAINHEAD 1 & BOX GUTTER PLAN- VERTICAL OVERFLOW

SCALE = NTS

ISSUED FOR REVIEW