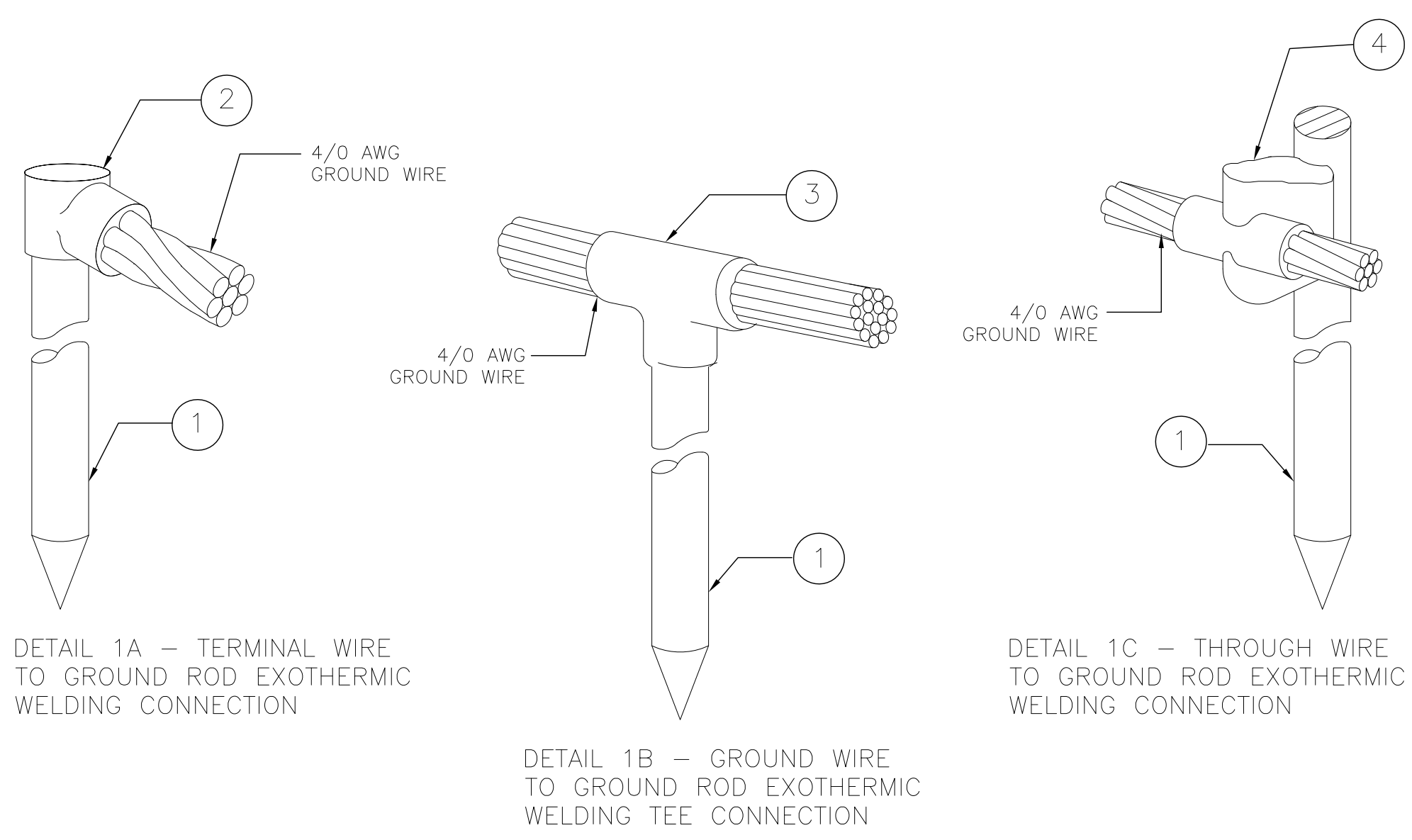
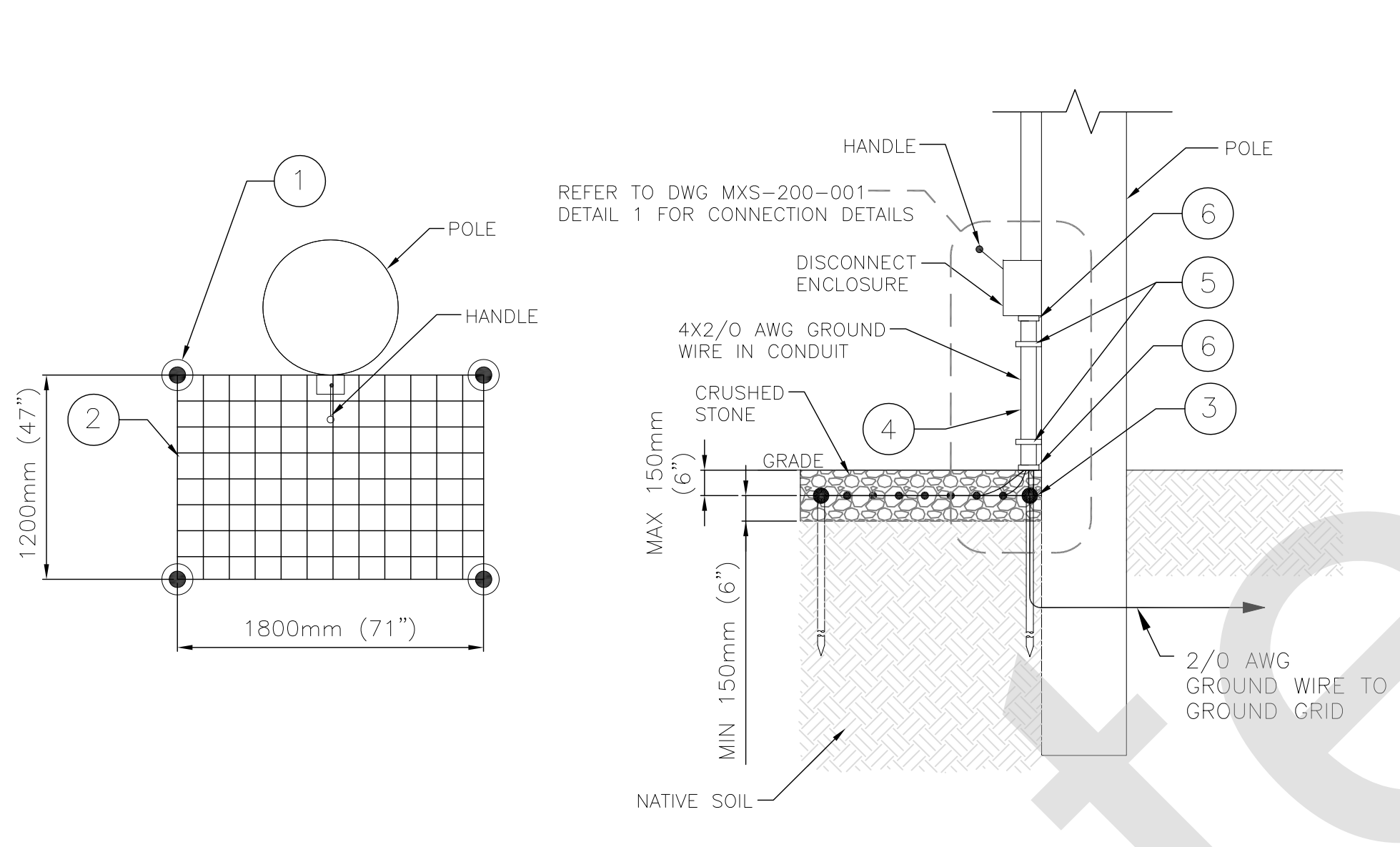


PLOTTED BY: PAULRI PLOTTED DATE: 2015/04/01 PAPER SIZE AT FULL: ANSI D (22.00 x 34.00 INCHES) FILE: \\FILE-RGDC01\DEPT\PROGRAM MANAGEMENT & STANDARDS\PMPS DESIGN STANDARDS\7 REFERENCE MATERIAL\24. ELECTRIFICATION\GROUNDING AND BONDING STANDARD DRAWINGS\MXS-100-005.DWG



DETAIL 1 - GROUNDING ROD ASSEMBLY CONNECTION DETAIL

ITEM	QTY	UNIT	MATERIAL DESCRIPTION	MANUFACTURER & CAT. NO.
1	1	EA	COPPER CLAD STEEL GROUND ROD 3M X 20MM (10' X 3/4")	(GENERIC)
2	1	EA	TERMINAL WIRE TO GROUND ROD EXOTHERMIC WELDING CONNECTION	BURNDY: B-518 OR EQUIVALENT
3	1	EA	GROUND WIRE TO GROUND ROD EXOTHERMIC WELDING TEE CONNECTION	BURNDY: B-561 OR EQUIVALENT
4	1	EA	THROUGH WIRE TO GROUND ROD EXOTHERMIC WELDING CONNECTION	BURNDY: B-2160 OR EQUIVALENT

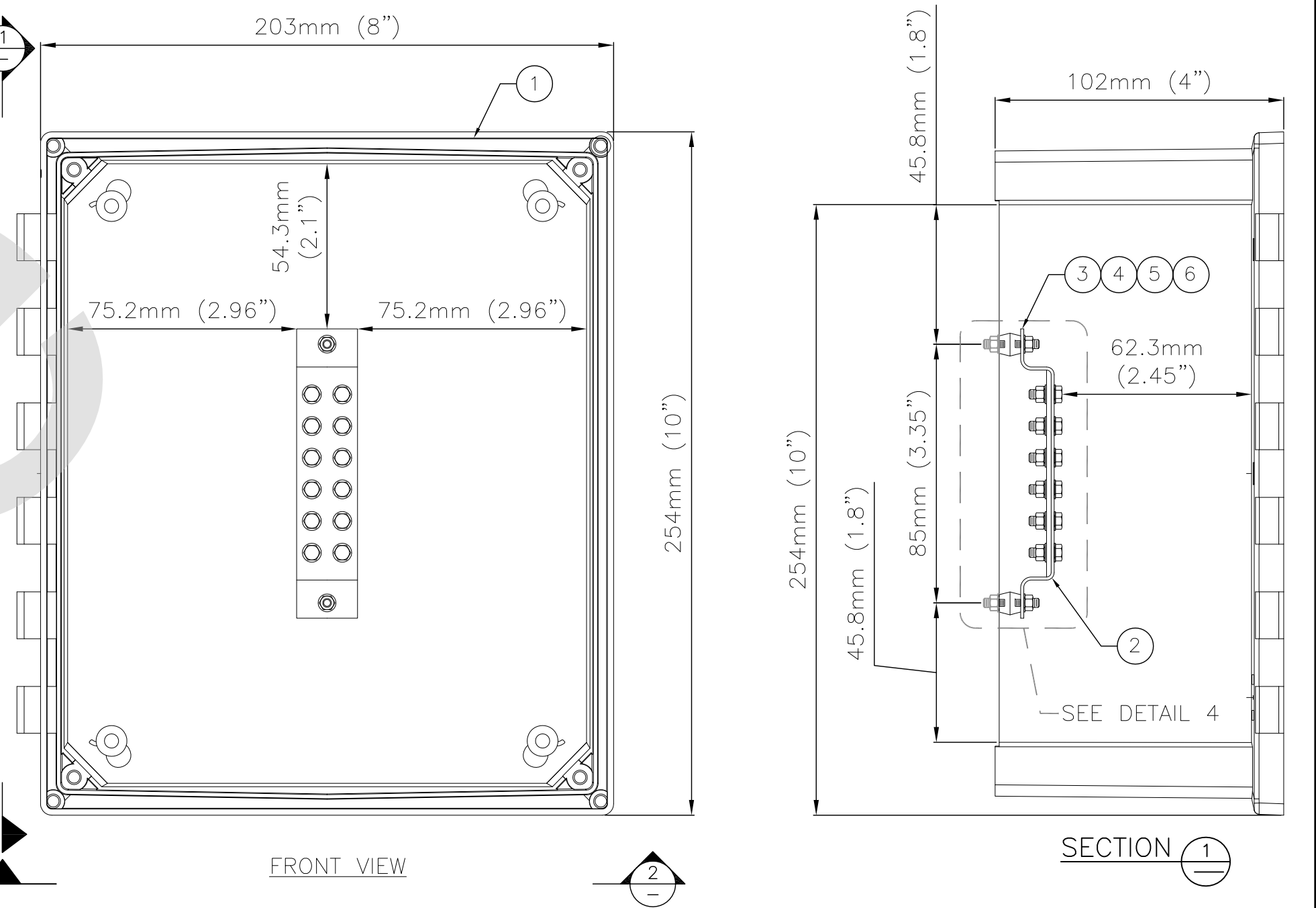


DETAIL 3 - GRADIENT CONTROL MAT

ITEM	QTY	UNIT	MATERIAL DESCRIPTION	MANUFACTURER & CAT. NO.
1	4	EA	COPPER CLAD STEEL GROUND ROD 3M X 20MM (10' X 3/4")	(GENERIC)
2	1	EA	CU GROUND MESH, 4' X 6', 6", #6 AWG	BURNDY: BGM640066 OR EQUIVALENT
3	1	EA	CABLE TERMINAL TO GROUND ROD	BURNDY: B-518 OR EQUIVALENT
4	PER DESIGN	N/A	51mm CONDUIT	(GENERIC)
5	2	EA	51mm CONDUIT CLAMP	T&B: 1281 OR EQUIVALENT
6	2	EA	BUSHING	(GENERIC)

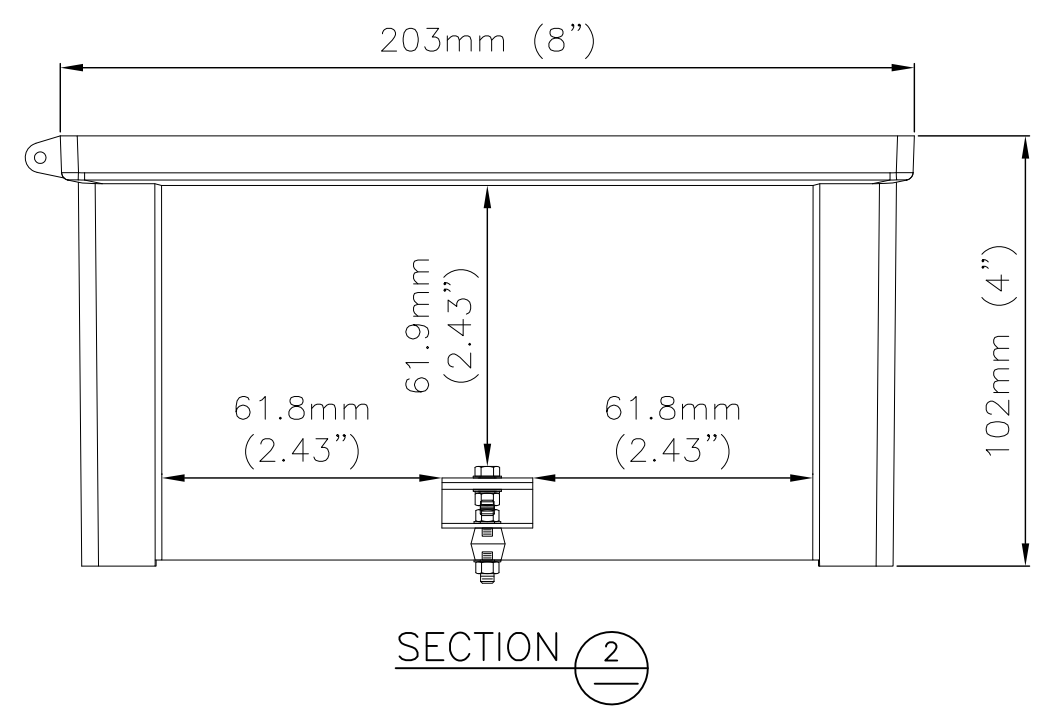
NOTES:

- INSTALL NON-METALLIC ENCLOSURES COMPLETE WITH GROUNDING BAR.
- ENCLOSURES SHALL BE NEMA 4X WITH STAINLESS STEEL LOCKABLE LATCH AND MOUNTING PANEL.



FRONT VIEW

SECTION 1



SECTION 2

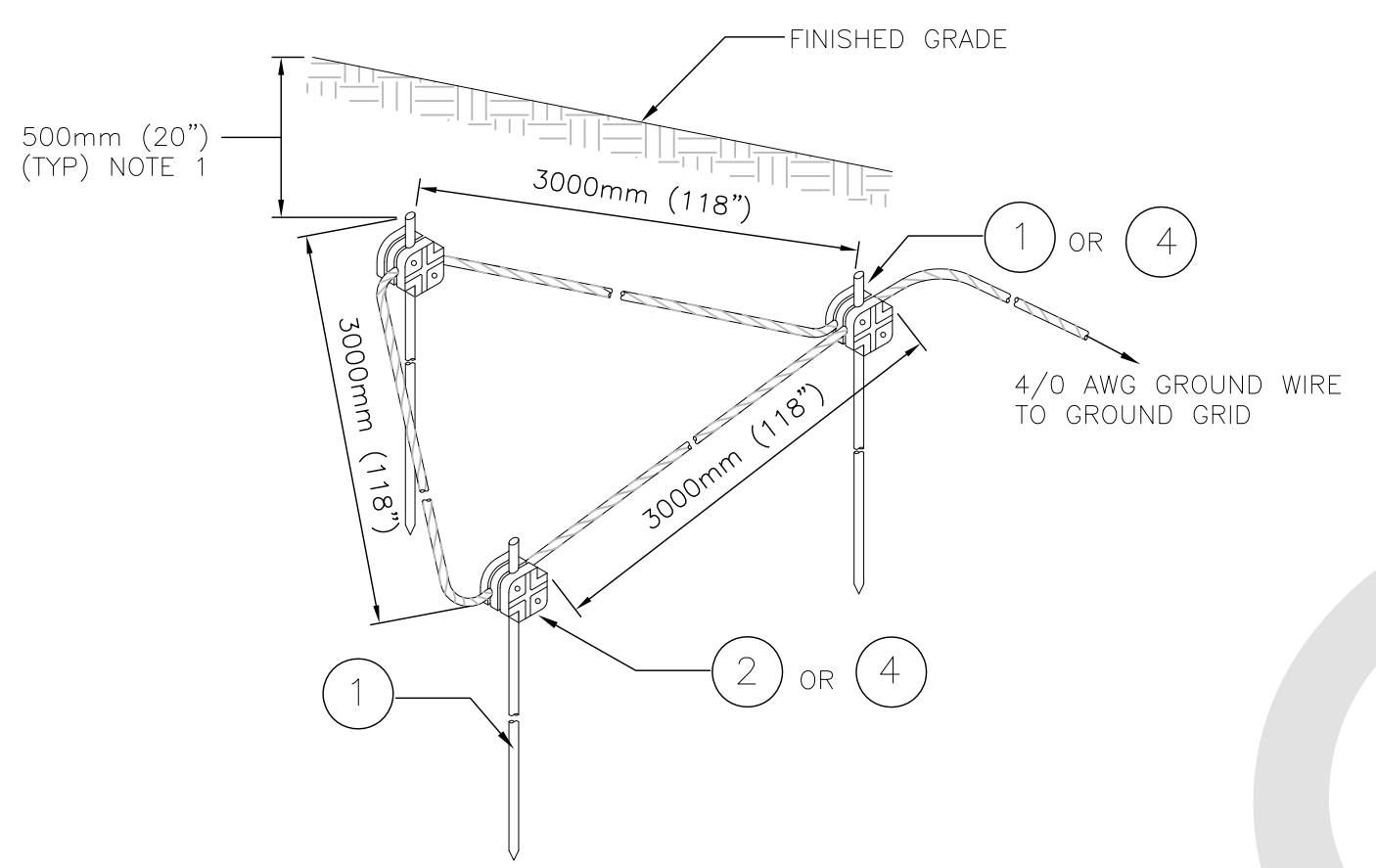
NOTE: THIS DRAWING IS PROVIDED FOR INSTRUCTIONAL DESIGN PURPOSES ONLY BASED ON METROLINX GO TRANSIT DESIGN GUIDELINES AND REQUIREMENTS. THE CONSULTANT SHALL VERIFY FOR LOCAL CODE COMPLIANCE, EXISTING SITE CONDITIONS AND INTER DISCIPLINARY DRAWING COORDINATION. ALL DIMENSIONS AND SPECIFICATIONS SHOULD BE VERIFIED BY CONSULTANT AND/OR CONTRACTOR BEFORE ACTUAL CONSTRUCTION BEGINS.

DETAIL 5 - GROUNDING ENCLOSURE ASSEMBLY C/W GROUND BAR ASSEMBLY

ITEM	QTY	UNIT	MATERIAL DESCRIPTION	MANUFACTURER & CAT. NO.
1	1	EA	NEMA 4X WITH STAINLESS STEEL LOCKABLE LATCH AND MOUNTING PANEL	FIBOX: ART084CHSSL OR EQUIVALENT
2	1	EA	COPPER GROUND BUS 6mm x 50mm x 300mm (1/2" x 2" x 12") MIN	(GENERIC)
3	2	EA	FIBERGLASS REINFORCED POLYESTER INSULATOR W/12mm (1/2") - 13 THREADED HOLES	ERICO: 559686 OR EQUIVALENT
4	2	EA	BRONZE BOLT 12MM - 13x25mm (1/2" - 13x1")	(GENERIC)
5	2	EA	LOCK WASHER, BRONZE, 1/2"	
6	2	EA	INSULATED WASHER, 1/2"	

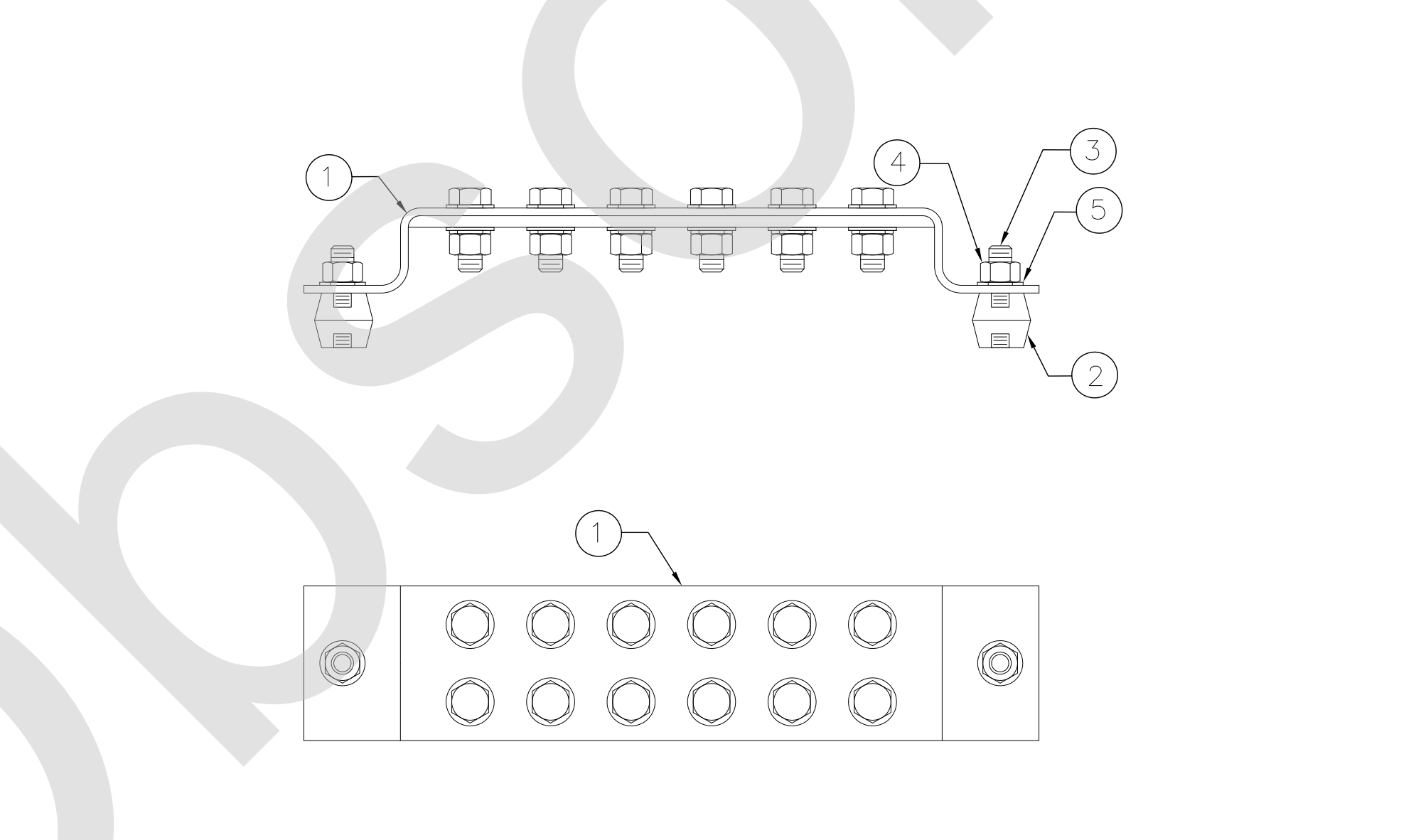
NOTES:

- THE DEPTH OF THE GROUNDING GRID WILL DEPEND ON LOCAL SITE CONDITIONS AND MUST BE DETERMINED BY THE CONTRACTOR BEFORE INSTALLATION. 500mm IS A TYPICAL VALUE THAT HAS BEEN PROVIDED FOR REFERENCE.



DETAIL 2 - REMOTE GROUNDING ASSEMBLY

ITEM	QTY	UNIT	MATERIAL DESCRIPTION	MANUFACTURER & CAT. NO.
1	3	EA	COPPER CLAD STEEL GROUND ROD 3M X 20MM (10' X 3/4")	(GENERIC)
2	2	EA	THROUGH GROUND WIRE TO GROUND ROD EXOTHERMIC CONNECTION	BURNDY: B-1596 OR EQUIVALENT
3	1	EA	THROUGH GROUND WIRE TO GROUND ROD EXOTHERMIC CONNECTION	BURNDY: B-2566 OR EQUIVALENT
4	3	EA	THROUGH GROUND WIRE TO GROUND ROD MECHANICAL CONNECTION	BURNDY: GP6429 OR EQUIVALENT



DETAIL 4 - GROUNDING COPPER BAR ASSEMBLY

ITEM	QTY	UNIT	MATERIAL DESCRIPTION	MANUFACTURER & CAT. NO.
1	1	EA	COPPER GROUND BUS BAR 6mm x 50mm x 300mm (1/2" x 2" x 12") MIN	(GENERIC)
2	2	EA	FIBERGLASS REINFORCED POLYESTER INSULATOR W/12mm (1/2") - 13 THREADED HOLES	ERICO: 559686 OR EQUIVALENT
3	2	EA	BRONZE BOLT 12MM - 13x25mm (1/2" - 13x1")	(GENERIC)
4	2	EA	LOCK WASHER, BRONZE, 1/2"	
5	2	EA	INSULATED WASHER, 1/2"	

DWG NO.	TITLE	NO.	DATE	ISSUED FOR	REV.	DATE
		3	15/04/06	FINAL DESIGN		
		2	15/03/06	100% DESIGN		
		1	15/02/09	90% DESIGN		
		0	15/01/16	60% DESIGN		

REVISIONS	ISSUE	REVISED BY	DATE	REASON

DRAWN BY: RCW 14/12/11	DESIGNED BY: SXF 14/12/11
CHECKED BY: CTG 15/01/16	APPROVED BY: ZBT 15/01/16
SCALE: NTS	FULL SIZE ONLY



TRACTION ELECTRIFICATION  
GROUNDING AND BONDING  
STANDARD INSTALLATION DESIGN DETAILS  
GROUNDING EQUIPMENT ASSEMBLIES

CONTRACT NO. RQ-2011-PP-032	DWG. NO. MXS-100-005	REV. 0	SHEET 8/26
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