

3. The following MMCD Standard Detail Drawings are to be used or replaced as indicated below:

3.2 ELECTRICAL DETAILS			
MMCD STANDARD DETAIL DRAWING		CITY OF VICTORIA SUPPLEMENTARY STANDARD DETAIL DRAWINGS	
CE1.1	Concrete Base Index		Adopt MMCD Drawing
		SD CE1.1a	Victoria Concrete Base Index & Conduit Detail
CE1.2	Type A and B Sonotube Concrete Bases		Adopt MMCD Drawing
		SD CE1.2a	V1 Concrete Base for City of Victoria Cluster Lights
CE1.3	Type C, C1, C2 & C3 Trapezoidal Shape Concrete Bases		Adopt MMCD Drawing
CE1.4	Type C, C1, C2 & C3 Trapezoidal Shape Concrete Bases		Adopt MMCD Drawing
CE1.5	Type C4 & C5 Spread Footing Shape Concrete Bases		Adopt MMCD Drawing
CE1.6	Type C4 & C5 Spread Footing Shape Concrete Bases		Adopt MMCD Drawing
CE1.7	Type C4 & C5 Spread Footing Shape Concrete Bases		Adopt MMCD Drawing
CE1.8	Type E2 Trapezoidal Shape Concrete Base		Adopt MMCD Drawing
CE1.9	Type E2 Trapezoidal Shape Concrete Base		Adopt MMCD Drawing
CE1.10	Type F1, L1 & S1 Spread Footing Shape Concrete Bases		Adopt MMCD Drawing
CE1.11	Types F1, L1 & S1 Spread Footing Shape Concrete Bases		Adopt MMCD Drawing
CE1.12	Types F1, L1 & S1 Spread Footing Shape Concrete Bases		Adopt MMCD Drawing
CE1.13	Types F2, L2 & S2 Trapezoidal Shape Concrete Bases		Adopt MMCD Drawing
CE1.14	Types F2, L2 & S2 Trapezoidal Shape Concrete Bases		Adopt MMCD Drawing
CE1.15	25mm $\varnothing$ Anchor Bolts		Adopt MMCD Drawing
CE1.16	Anchor Bolts Cage for Type 6, 7, & S Poles		Adopt MMCD Drawing
CE1.17	Anchor Bolt Cage for Type L Poles		Adopt MMCD Drawing
CE1.18	Concrete Base for Post Mounted Flasher Luminaire (Precast)		Do Not Use
CE1.19	Pole Base Installation Details		Adopt MMCD Drawing
CE1.20	Pole Base Installation Details		Adopt MMCD Drawing

3. The following MMCD Standard Detail Drawings are to be used or replaced as indicated below:

3.2 ELECTRICAL DETAILS			
MMCD STANDARD DETAIL DRAWING		CITY OF VICTORIA SUPPLEMENTARY STANDARD DETAIL DRAWINGS	
E1.1	Type M (Nema Cabinet) Concrete Controller Base		Do Not Use
		SD E1.1a	332 Cabinet Base
E1.2	Type M (Nema Cabinet) Concrete Controller Base		Do Not Use
E1.3	Model 170 Controller Base		Do Not Use
E1.4	Controller Installation (Type P & M Cabinets)		Do Not Use
E1.5	Controller Installation (Model 170 Cabinets)		Do Not Use
E1.6	Type F Controller Pedestal		Do Not Use
E1.7	Type F Controller Pedestal		Do Not Use
E2.1	Round Plastic Junction Boxes		Do Not Use
		SD E2.1a	City Light Junction Box (retrofit ONLY)
		SD E2.1b	City Light Junction Box- Casting Detail (retrofit ONLY)
		SD E2.1c	Traffic Signal Junction Box (retrofit ONLY)
		SD E2.1d	Traffic Signal Junction Box - Casting Details (retrofit ONLY)
		SD E2.1e	Round Steel Casting for Roadway Applications (Retrofit ONLY)
E2.2	Type 37 and 66 Concrete Junction Boxes		Adopt MMCD Drawing or City Approved Composite Box
E2.3	Large Concrete Junction Boxes		Adopt MMCD Drawing
E2.4	Large Concrete Junction Boxes		Adopt MMCD Drawing
E2.5	Concrete Vault		Adopt MMCD Drawing
E2.6	Concrete Vault		Adopt MMCD Drawing
E3.1	Underground Conduit in Paved Area		Adopt MMCD Drawing
E3.2	Underground Conduit in Non-Paved Area		Adopt MMCD Drawing
E4.1	Luminaire Pole (Type 2 Shaft)		Adopt MMCD Drawing

3. The following MMCD Standard Detail Drawings are to be used or replaced as indicated below:

3.2 ELECTRICAL DETAILS			
MMCD STANDARD DETAIL DRAWING		CITY OF VICTORIA SUPPLEMENTARY STANDARD DETAIL DRAWINGS	
		SD E4.1a	Street Light Pole
E4.2	Luminaire Pole (Type 2 Shaft)		Adopt MMCD Drawing
E4.3	Signal Pole (Type 1 Shaft)		Adopt MMCD Drawing
E4.4	Signal Pole (Type 1 Shaft)		Adopt MMCD Drawing
E4.5	Signal Pole (Type 3 Shaft)		Adopt MMCD Drawing
E4.6	Signal Pole (Type 3 Shaft)		Adopt MMCD Drawing
E4.7	Signal Pole (Type 6 Shaft)		Adopt MMCD Drawing
E4.8	Signal Pole (Type 6 Shaft)		Adopt MMCD Drawing
E4.9	Signal Pole (Type 7 Shaft)		Adopt MMCD Drawing
E4.10	Signal Pole (Type 7 Shaft)		Adopt MMCD Drawing
E4.11	Signal Pole (Type S Shaft)		Adopt MMCD Drawing
E4.12	Signal Pole (Type S Shaft)		Adopt MMCD Drawing
E4.13	Signal Pole (Type S Shaft)		Adopt MMCD Drawing
E4.14	Signal Pole (Type L Shaft)		Adopt MMCD Drawing
E4.15	Signal Pole (Type L Shaft)		Adopt MMCD Drawing
E4.16	Signal Pole (Type L Shaft)		Adopt MMCD Drawing
E4.17	Signal Pole (Type 4, 4A, & 5 Shaft)		Adopt MMCD Drawing
E4.18	Signal Pole (Type 4, 4A & 5 Shaft)		Adopt MMCD Drawing
E4.19	Post Top Luminaire Poles		Adopt MMCD Drawing
		SD E4.19a	City of Victoria Cluster Lights Type 'A' & 'B'
E4.20	Post Top Luminaire Poles		Adopt MMCD Drawing
E4.21	Service Base		Do Not Use

3. The following MMCD Standard Detail Drawings are to be used or replaced as indicated below:

3.2 ELECTRICAL DETAILS			
MMCD STANDARD DETAIL DRAWING		CITY OF VICTORIA SUPPLEMENTARY STANDARD DETAIL DRAWINGS	
E4.22	Pole Accessories		Adopt MMCD Drawing
E5.1	Post Top Signal Head Mounting		Do Not Use
E5.2	Side of Pole Signal Head Mounting (Method 1)		Do Not Use
E5.3	Side of Pole Signal Head Mounting (Method 2)		Do Not Use
E5.4	Side of Pole Signal Head Mounting (Method 3)		Adopt MMCD Drawing
E5.5	Overhead Signal Head Mounting (Spring Cushion End Hanger Method)		Do Not Use
E5.6	Overhead Signal Head Mounting (Spring Cushion Mid Hanger Method)		Do Not Use
E5.7	Overhead Signal Head Mounting (Plumbizer Method)		Do Not Use
E5.8	Overhead Signal Head Mounting (Spring Cushion End Hanger Method)		Do Not Use
E5.9	Overhead Signal Head Mounting (Adjustable Bracket Method)		Adopt MMCD Drawing
E5.10	Overhead Signal Head Mounting on Pole Arm (Ball Hanger Method)		Do Not Use
E5.11	Overhead Signal Head Mounting on Span Wire (Ball Hanger Method)		Do Not Use
E5.12	Audible Signals		Do Not Use
E5.13	Video Detection Installation Detail on Special 2A Arm		Do Not Use
E5.14	Video Detection Installation Detail on Signal Arm		Do Not Use
E5.15	Internally Illuminated Pedestrian Crosswalk Sign		Adopt MMCD Drawing
E6.1	Pedestrian Pushbutton with Separate Sign		Adopt MMCD Drawing
E6.2	Pedestrian Pushbutton with Integral Sign		Adopt MMCD Drawing
E6.3	Pedestrian Pushbutton Post		Adopt MMCD Drawing
E7.1	Underground Dip Service		Adopt MMCD Drawing
		SD E7.1a	Overhead Dip Service for Signals and Street Lights
E7.2	Service Panel in Service Base (Mounting Details)		Do Not Use

3. The following MMCD Standard Detail Drawings are to be used or replaced as indicated below:

3.2 ELECTRICAL DETAILS			
MMCD STANDARD DETAIL DRAWING		CITY OF VICTORIA SUPPLEMENTARY STANDARD DETAIL DRAWINGS	
E7.3	Service Panel in Service Base (Mounting Details)		Do Not Use
E7.4	60A Streetlight and 100A Streetlight/Traffic Signal Service Panel in Service Base		Do Not Use
E7.5	60A (120/240V) Street Lighting Service Panel in Service Base (Wiring Diagram)		Adopt MMCD Drawing
E7.6	60A (120/240V) Traffic Signal / Street Lighting Service Panel in Service Base		Adopt MMCD Drawing
E7.7	100A Traffic Signal / Street Lighting Service Panel on Pole (Mounting Details)		Adopt MMCD Drawing
E7.8	100A Traffic Signal / Street Lighting Service Panel on Pole (Mounting Details)		Adopt MMCD Drawing
E7.9	100A (120/240V) Traffic Signal / Street Lighting Service Panel (Wiring Diagram)		Adopt MMCD Drawing
E7.10	Service Ground Plate Installation Detail		Adopt MMCD Drawing
E7.11	Luminaire Wiring in Pole Handhole		Adopt MMCD Drawing
E7.12	Signal Cable Wiring in Pole Handhole		Adopt MMCD Drawing
E7.13	Signal Cable Colour Code Sample (Ontario Spec Method)		Do Not Use
E7.14	Minimum Clearances to Overhead Powerlines		Adopt MMCD Drawing
E7.15	Pole Mounted Receptacle		Adopt MMCD Drawing
E7.16	Telephone Demarcation Enclosure Mounting Details on Controller or Pole		Do Not Use
E7.17	Telephone Conduit on Utility Pole		Do Not Use
E7.18	Conduit Tie-in to Telephone Vault, Manhole or Junction Box		Do Not Use
E8.1	Typical Detector Loop types		Do Not Use
		SD E8.1a	Traffic Signal Loops & Wiring
E8.2	Detector Loops		Adopt MMCD Drawing
E8.3	Detector Loops		Adopt MMCD Drawing
E8.4	Detector Loops to Shielded Cable Splices		Adopt MMCD Drawing
E8.5	Detector Loop Procedures and Rules		Adopt MMCD Drawing

3. The following MMCD Standard Detail Drawings are to be used or replaced as indicated below:

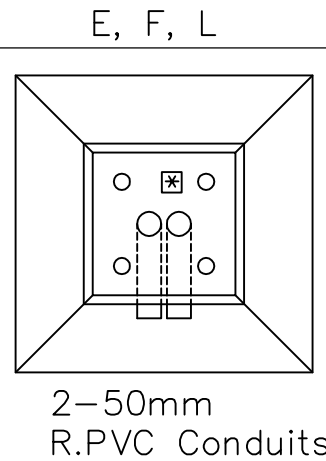
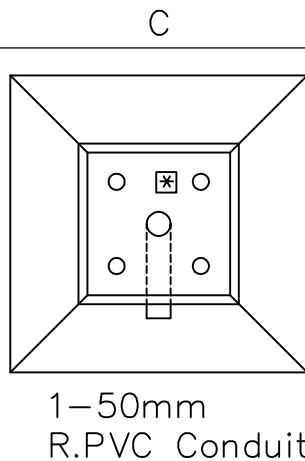
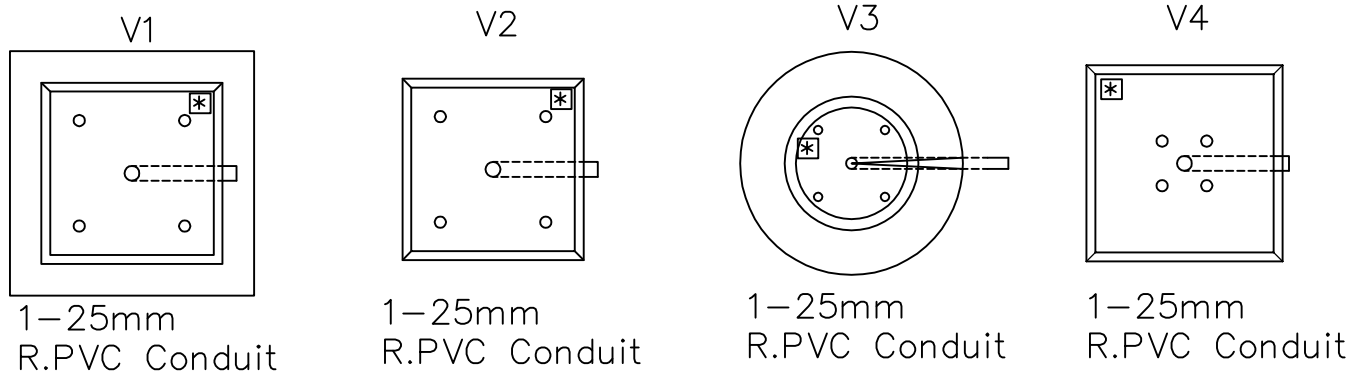
3.2 ELECTRICAL DETAILS			
MMCD STANDARD DETAIL DRAWING		CITY OF VICTORIA SUPPLEMENTARY STANDARD DETAIL DRAWINGS	
E8.6	Detector Loop procedures and Rules		Adopt MMCD Drawing
E8.7	Typical Layout for Diamond and Round Traffic signal Detector Loops		Adopt MMCD Drawing
E8.8	Pre-formed Diamond Detector Loop Installation Details		Do Not Use
E8.9	Pre-formed Diamond Detector Loop Installation Details		Do Not Use
E8.10	Pre-formed Diamond Detector Loop Installation Details		Do Not Use
E9.1	Flasher Luminaire and Signs on Perforated Steel Tubing		Do Not Use
E9.2	Flasher Luminaire and Signs on Perforated Steel Tubing		Do Not Use
E9.3	Flasher Luminaire and Signs on Perforated Steel Pole		Do Not Use
E9.4	Flasher Luminaire and Signs on Steel Pole		Do Not Use
E10.1	Overhead Extruded Aluminum Advance Warning Sign Assembly Details		Do Not Use
E10.2	Overhead Extruded Aluminum Advance Warning Sign Installation Details		Do Not Use
E10.3	Overhead Extruded Aluminum Advance Warning Sign Installation Details		Do Not Use
E10.4	Overhead Extruded Aluminum Sign Installation Details		Do Not Use
E10.5	Overhead Extruded Aluminum Sign Installation Details		Do Not Use
E10.6	Overhead Extruded Aluminum Sign Assembly Details		Do Not Use
E10.7	Overhead Extruded Aluminum Sign Assembly Details		Do Not Use
E10.8	Overhead Extruded Aluminum Sign Installation Details		Do Not Use
E10.9	Overhead Extruded Aluminum Sign Luminaire Installation Details		Do Not Use
E10.10	Junction Box Installation Details on Sign Arms		Do Not Use

Victoria – Concrete Base Index

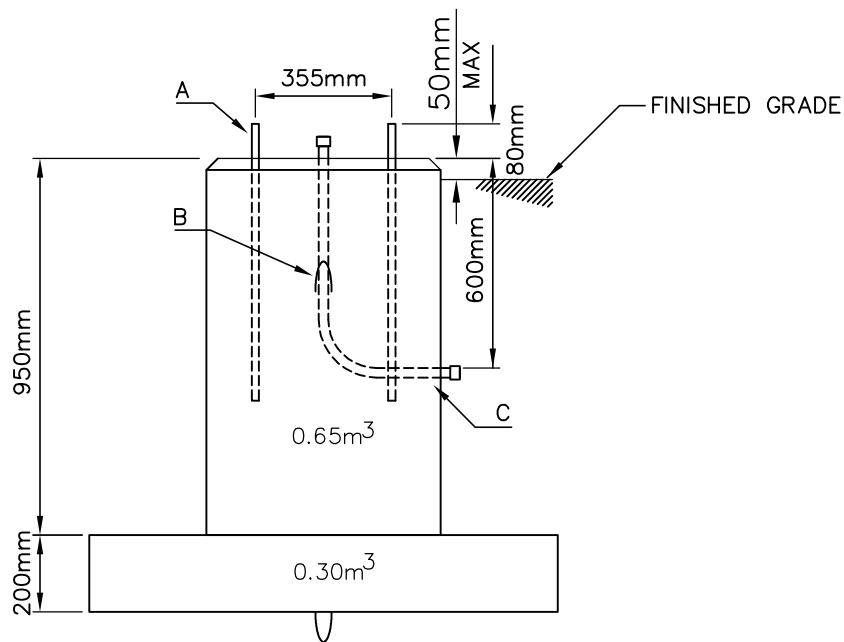
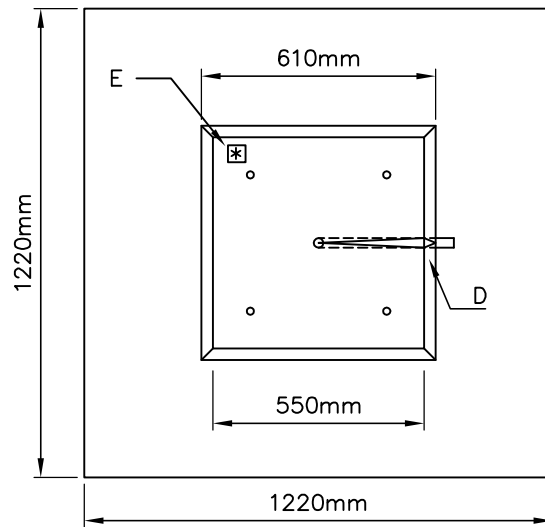
TYPE	DRAWING	BASE TYPE	POLE TYPE
V1	CE 1.2a	SQUARE	TYPE A AND B CLUSTERS
V2		SQUARE	TYPE A AND B CLUSTERS
V3		SONOTUBE	DECORATIVE LIGHT (PEDESTRIAN)
V4		SQUARE	NEW CHINATOWN POLE

NOTE: ALL PRE-CAST BASES MUST HAVE A "V" GROOVE DRAIN ALIGNED WITH CONDUIT DIRECTION.

Victoria – Base Conduit Detail



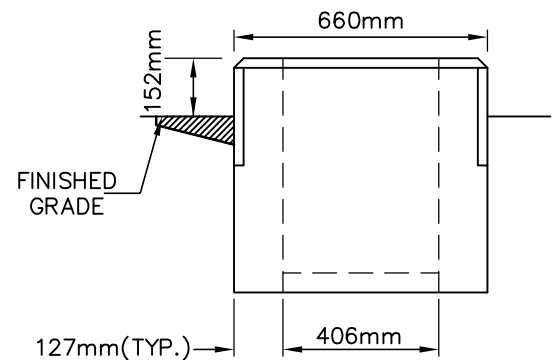
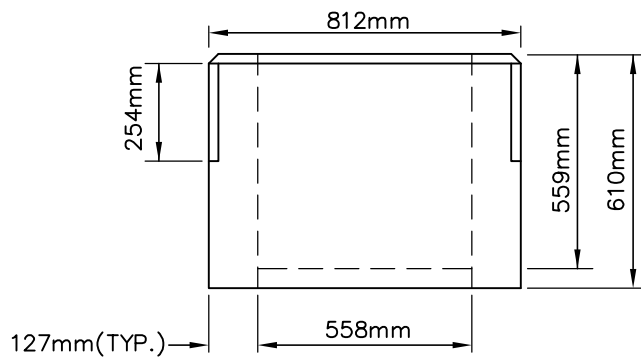
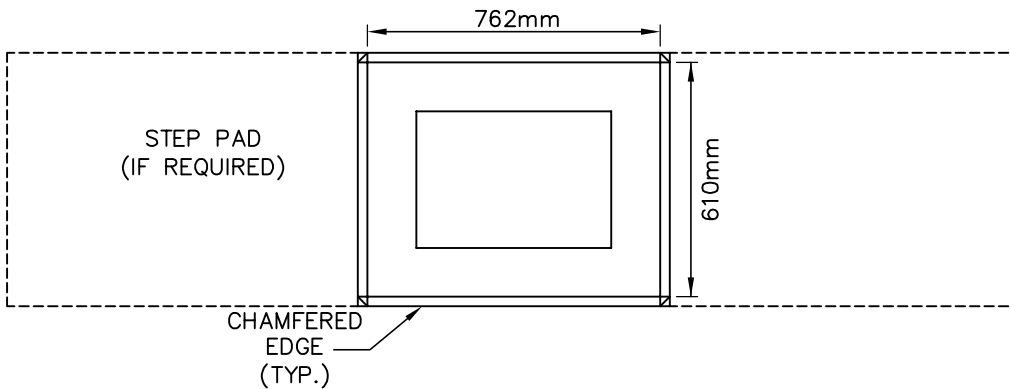
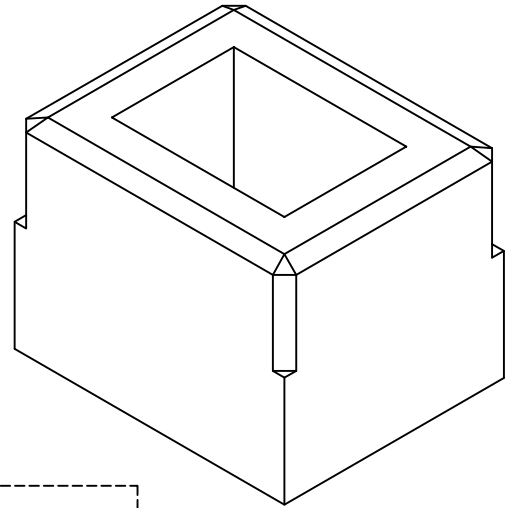
NTS



NOTES:

- A – 19 ϕ X 760 C.I. GALV ANCHOR BOLTS
- B – SINGLE 6 ϕ X 1200 c.I. PLACING CABLES
- C – 25 ϕ R.PVC FACTORY BEN, CONDUIT STUBBED OUT 50mm AND CAPPED AT BOTH ENDS
- D – V-GROOVE DRAIN TROUGH TO START AT ZERO DEPTH IN CENTRE OF BASE TO 10mm AT THE OUTSIDE EDGE. ALIGN WITH CONDUIT.
- E – BASE SHALL BE IMPRINTED "V1" IN CONCRETE WITH 25mm HIGH LETTERS. LOCATE SO IT IS VISIBLE AFTER POLE INSTALLATION.

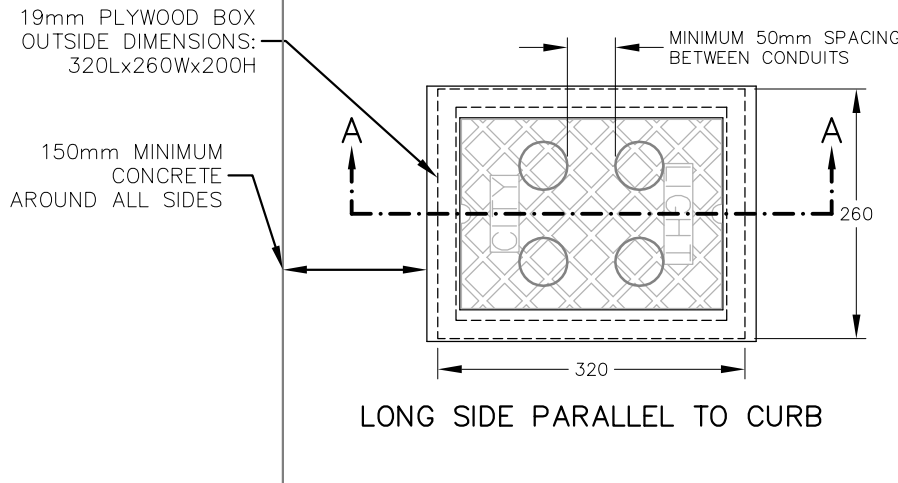
NTS



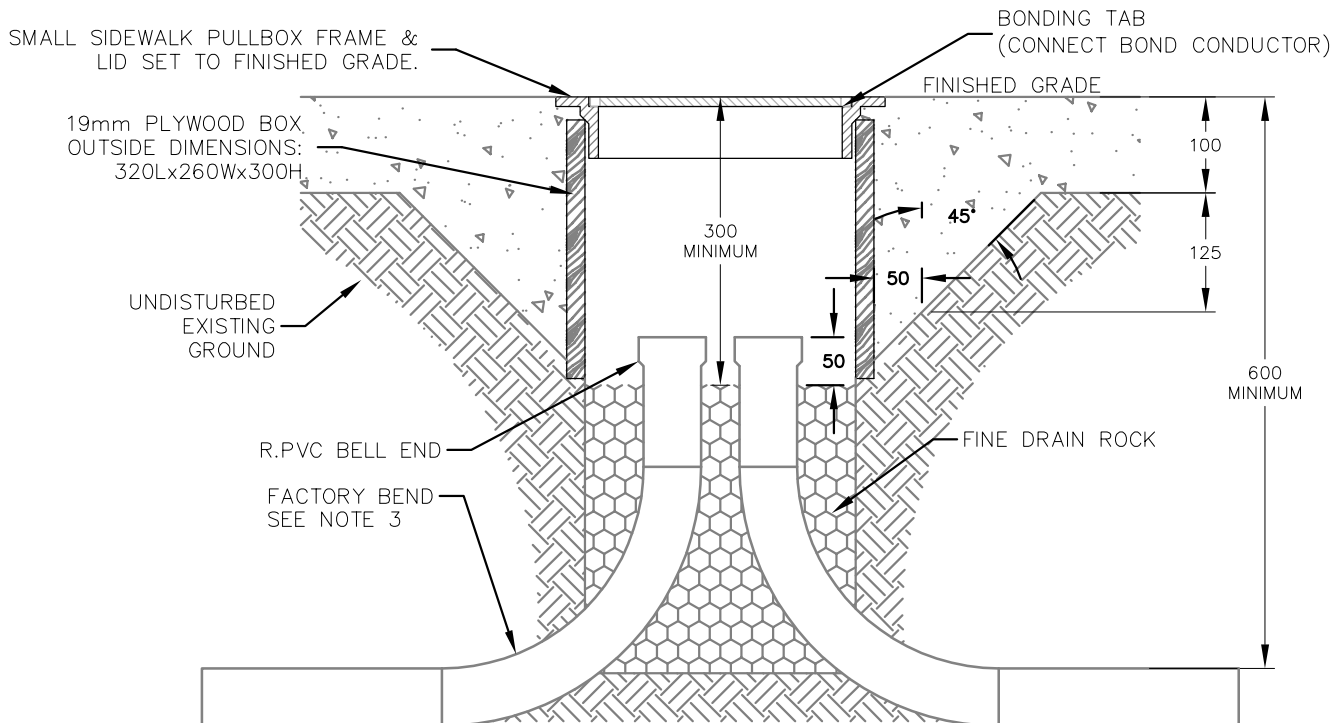
NOTES:

1. ALL CHAMFER IS 25mm.
2. FINISHED BASE TO SUIT 762mm X 610mm CABINET FOOTPRINT.
3. FLOOR TO BE POURED AFTER THE SIDES ARE CURED
4. FLOOR TO INCLUDE:
 - 2-76mm CONDUITS [1-76mm FOR 120V AND 1-76mm FOR LOW VOLTAGE].
 - 1-25mm CONDUIT (SERVICE CONDUCTORS)
 - 13mm DRAIN IN SLOPED FLOOR
5. STEP PADS 660mm X 914mm REQUIRED IF BASE IS NOT SURROUNDED BY SIDEWALK

NTS



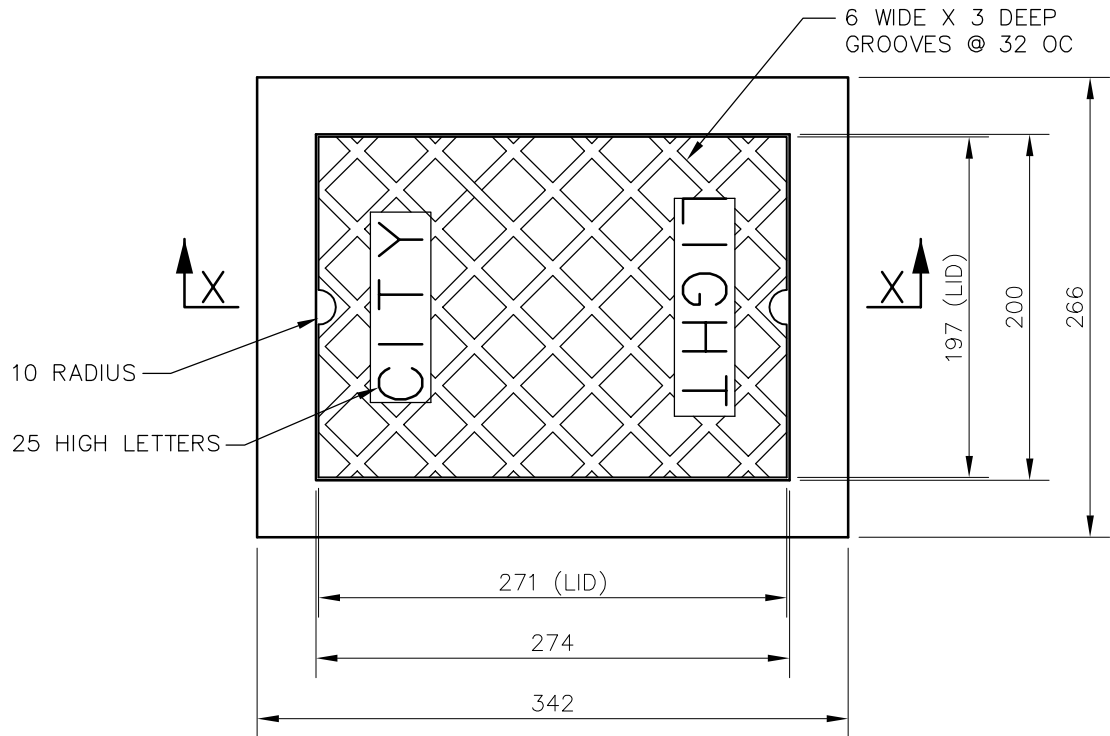
PLAN – FRAME & COVER



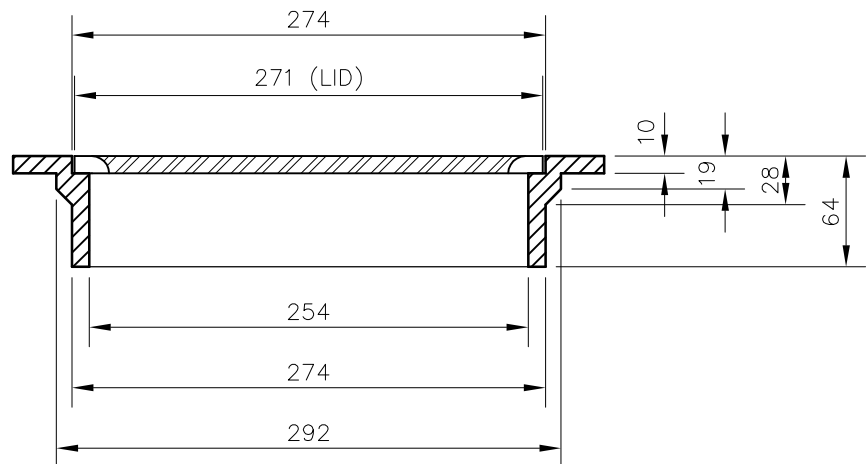
SECTION A—A

NOTES:

1. NUMBER & SIZE OF CONDUIT VARIES.
2. PULLBOX SIZE VARIES WITH NUMBER OF CONDUIT:
 - UP TO 4 CONDUIT, USE SMALL PULLBOX (STD300A)
 - 5–8 CONDUIT, USE SIGNAL PULLBOX (STD301A)
 - 9+ CONDUIT, USE STREET PULLBOX (STD302A)
3. USE RIGID PVC CONDUIT INSIDE PULLBOX.
4. DO NOT INSTALL IN AREAS SUBJECT TO VEHICLE TRAFFIC.
5. ALL DIMENSIONS MILLIMETRES UNLESS OTHERWISE NOTED.



PLAN — FRAME & COVER



SECTION X-X

NOTES

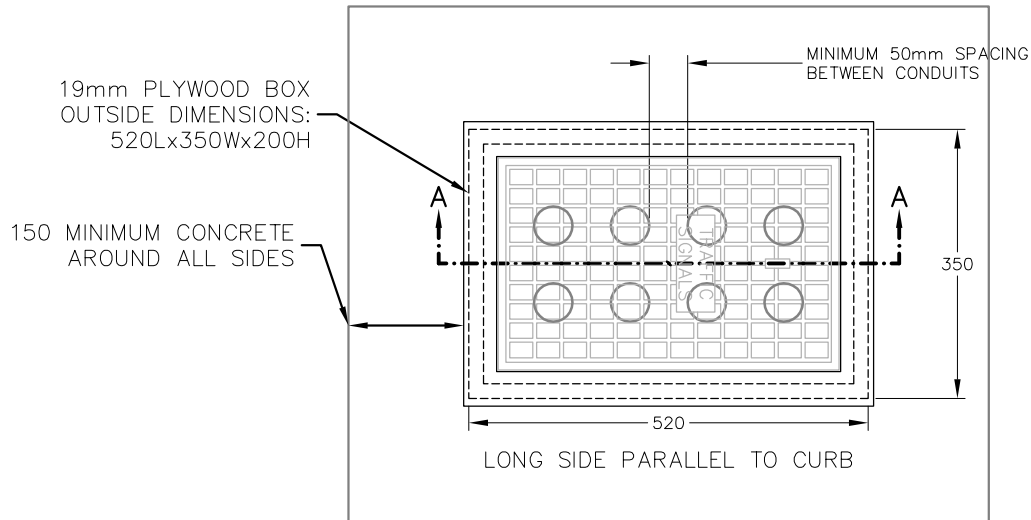
1. ALL METAL BEARING SURFACES BETWEEN FRAME AND COVER MACHINED TO ENSURE GOOD SEATING.
2. DIMENSIONS ARE BASED ON GRAY IRON CASTINGS
3. CASTING TO HAVE GROUNDING STUD AND BE BONDED TO GROUND.

**CITY LIGHT JUNCTION BOX
CASTING DETAIL (RETROFIT ONLY)**

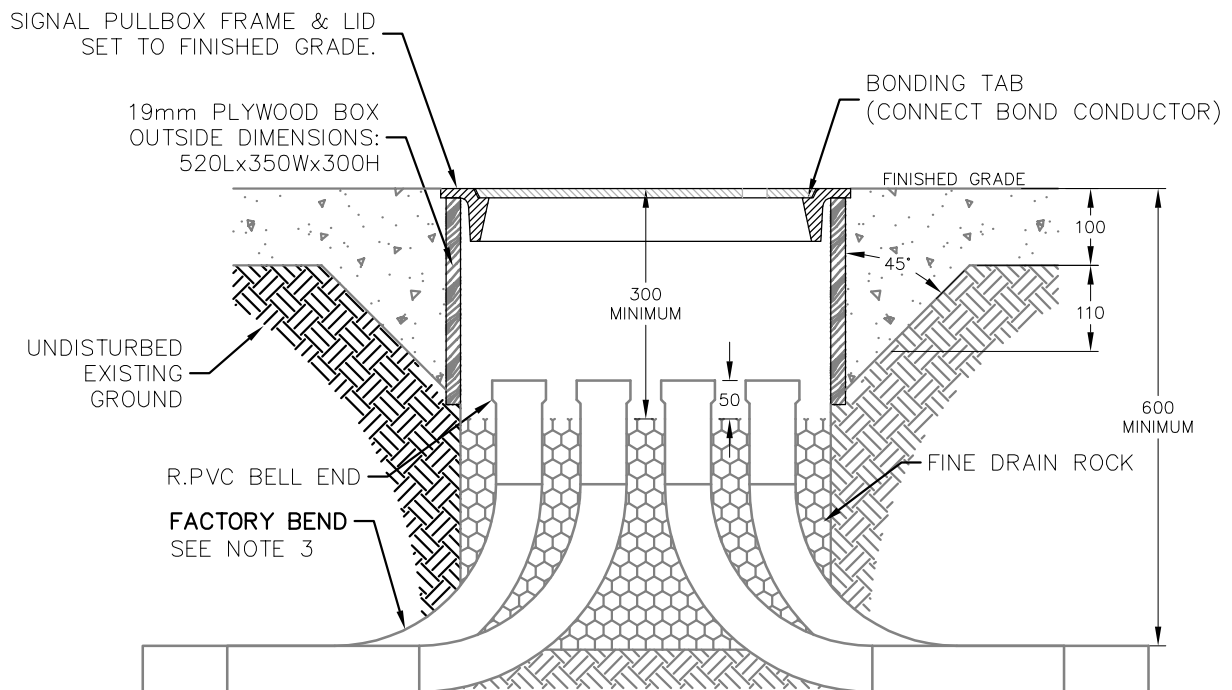
REVISIONS

DRAWING NUMBER:

SD E2.1b



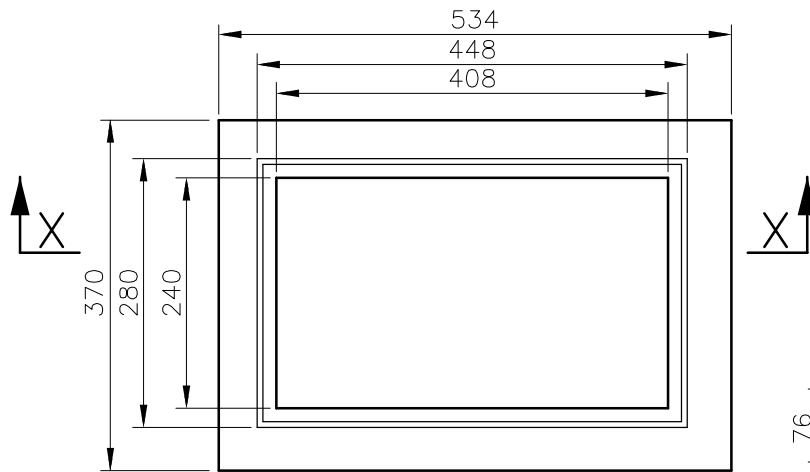
PLAN – FRAME & COVER



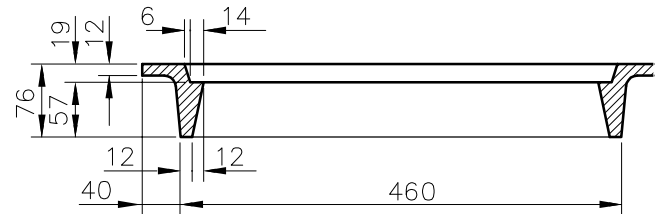
SECTION A-A

NOTES:

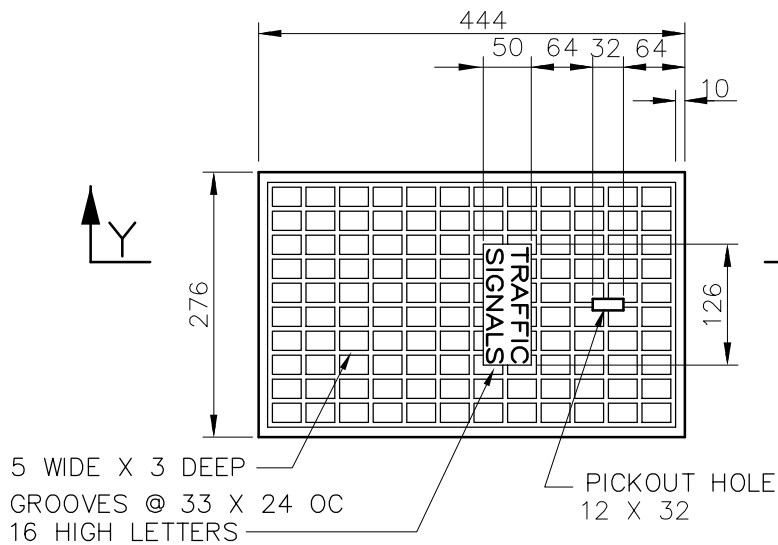
1. NUMBER & SIZE OF CONDUIT VARIES.
2. PULLBOX SIZE VARIES WITH NUMBER OF CONDUIT:
 - UP TO 4 CONDUIT, USE SMALL PULLBOX (STD300A)
 - 5-8 CONDUIT, USE SIGNAL PULLBOX (STD301A)
 - 9+ CONDUIT, USE STREET PULLBOX (STD302A)
3. USE RIGID PVC CONDUIT INSIDE PULLBOX.
4. DO NOT INSTALL IN AREAS SUBJECT TO VEHICLE TRAFFIC.
5. ALL DIMENSIONS MILLIMETRES UNLESS OTHERWISE NOTED.



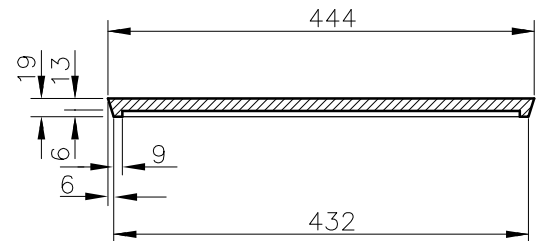
PLAN - FRAME



SECTION X-X



PLAN - COVER



SECTION Y-Y

NOTES

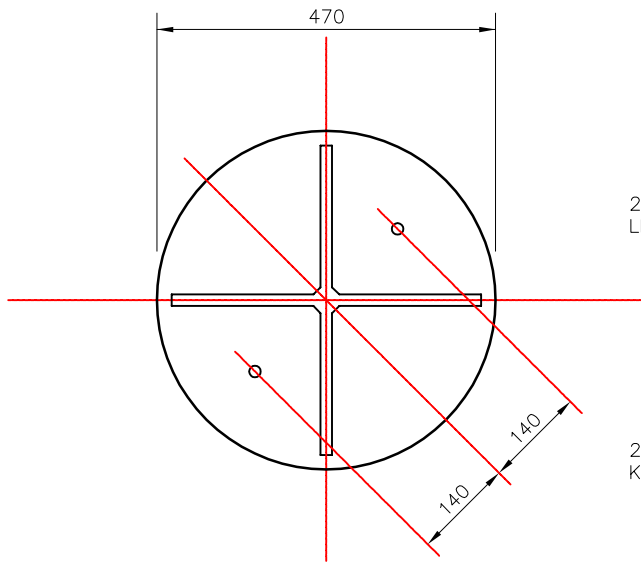
1. FRAME AND COVER MACHINED TO ENSURE ALL METAL BEARING SURFACES BETWEEN GOOD SEATING.
2. DIMENSIONS ARE BASED ON GRAY IRON CASTINGS
3. CASTING TO HAVE GROUNDING STUD AND BE BONDED TO GROUND.

**TRAFFIC SIGNAL JUNCTION BOX
CASTING DETAILS (RETROFIT ONLY)**

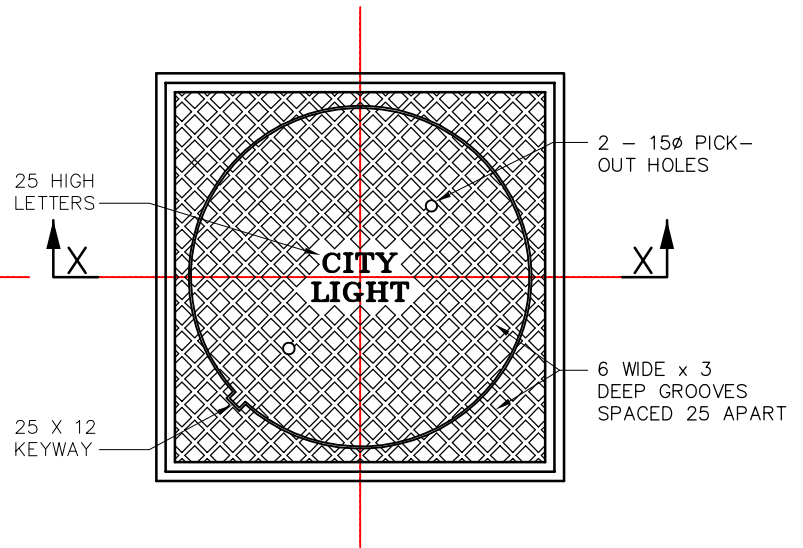
REVISIONS

DRAWING NUMBER:

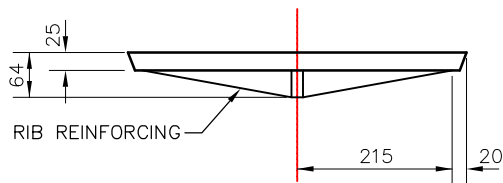
SD E2.1d



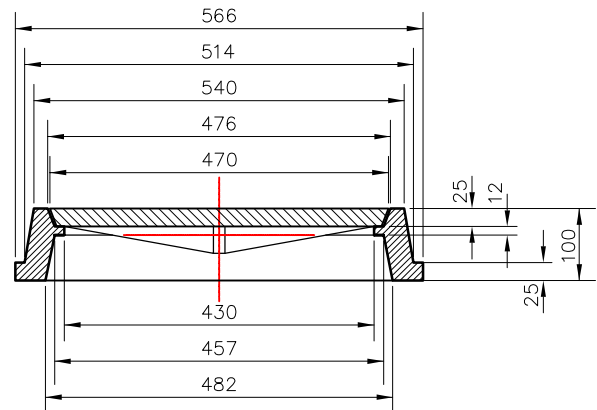
PLAN - COVER U/S REINF.



PLAN - FRAME & COVER



SECTION - COVER



SECTION X-X

NOTES

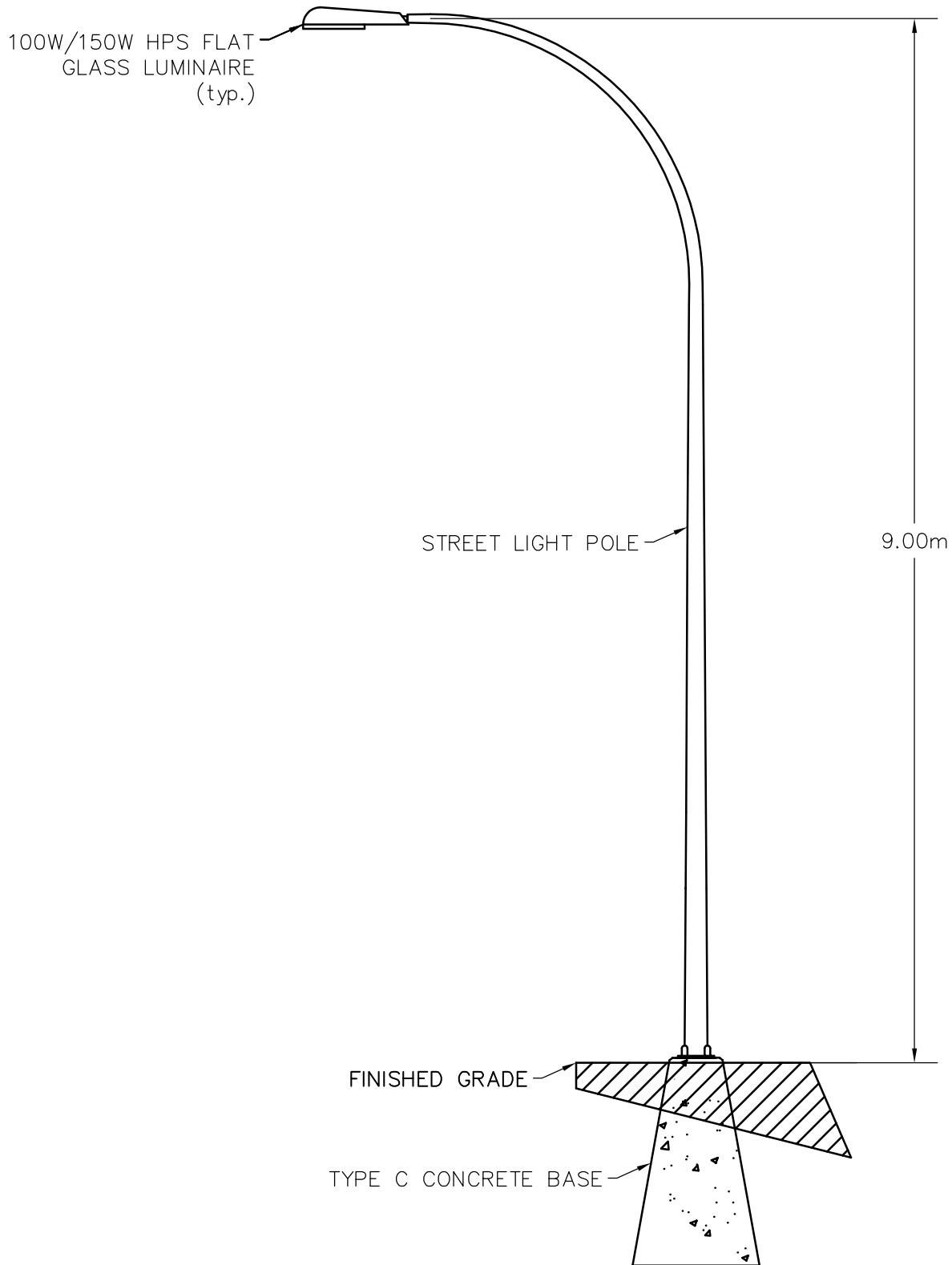
1. MATERIAL: CAST IRON.
2. CASTING SHALL HAVE A DESIGN LOAD STRENGTH IN ACCORDANCE WITH ASSHO H20 LOADING.
3. ALL METAL BEARING SURFACES BETWEEN FRAME AND COVER MACHINED TO INSURE GOOD SEATING.
4. CASTING TO HAVE GROUNDING STUD AND BE BONDED TO GROUND.

**ROUND STEEL CASTING FOR
ROADWAY APPLICATIONS (RETROFIT ONLY)**

REVISIONS

DRAWING NUMBER:

SD E2.1e

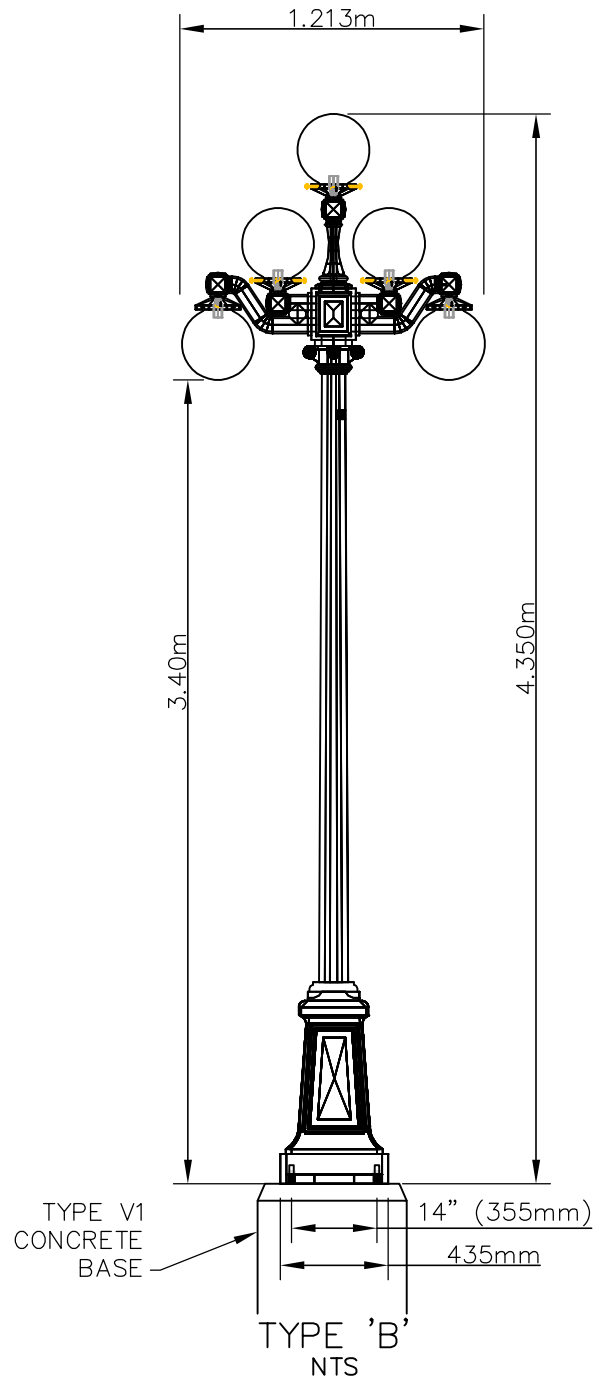
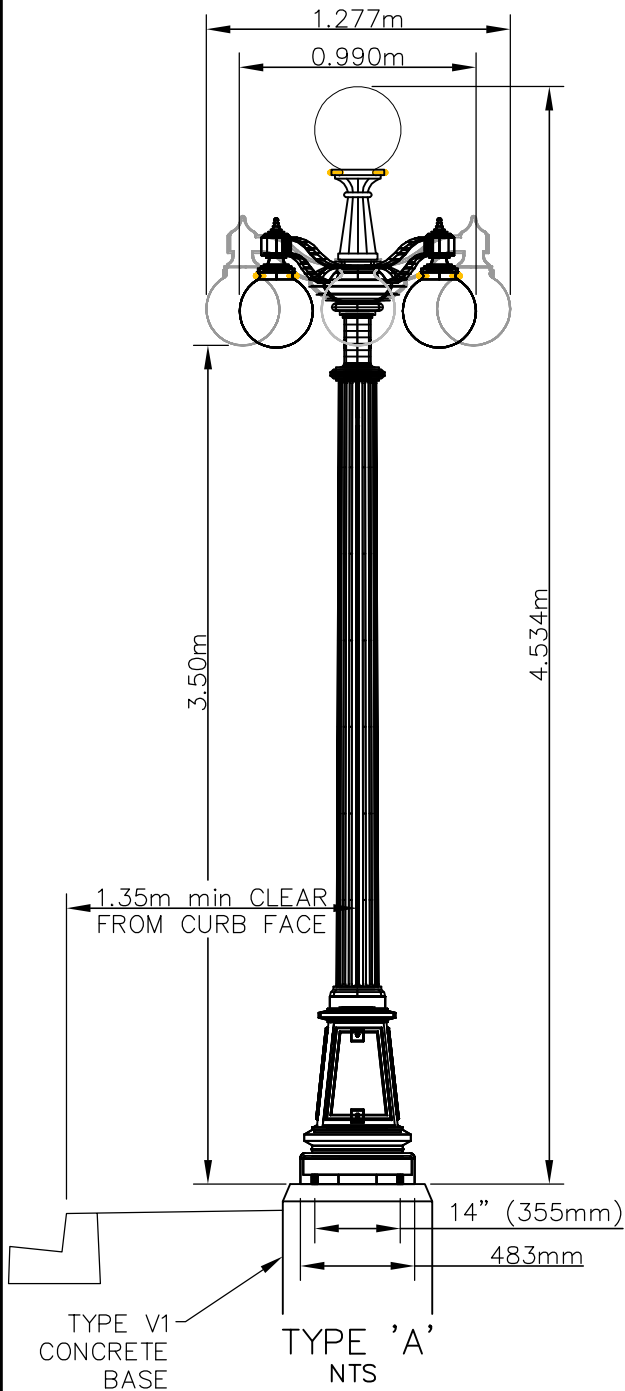
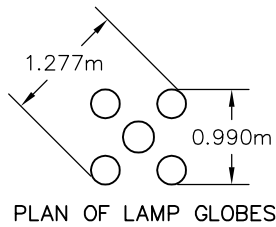


STREET LIGHT POLE (TYPICAL)

REVISIONS

DRAWING NUMBER:

SD E4.1a

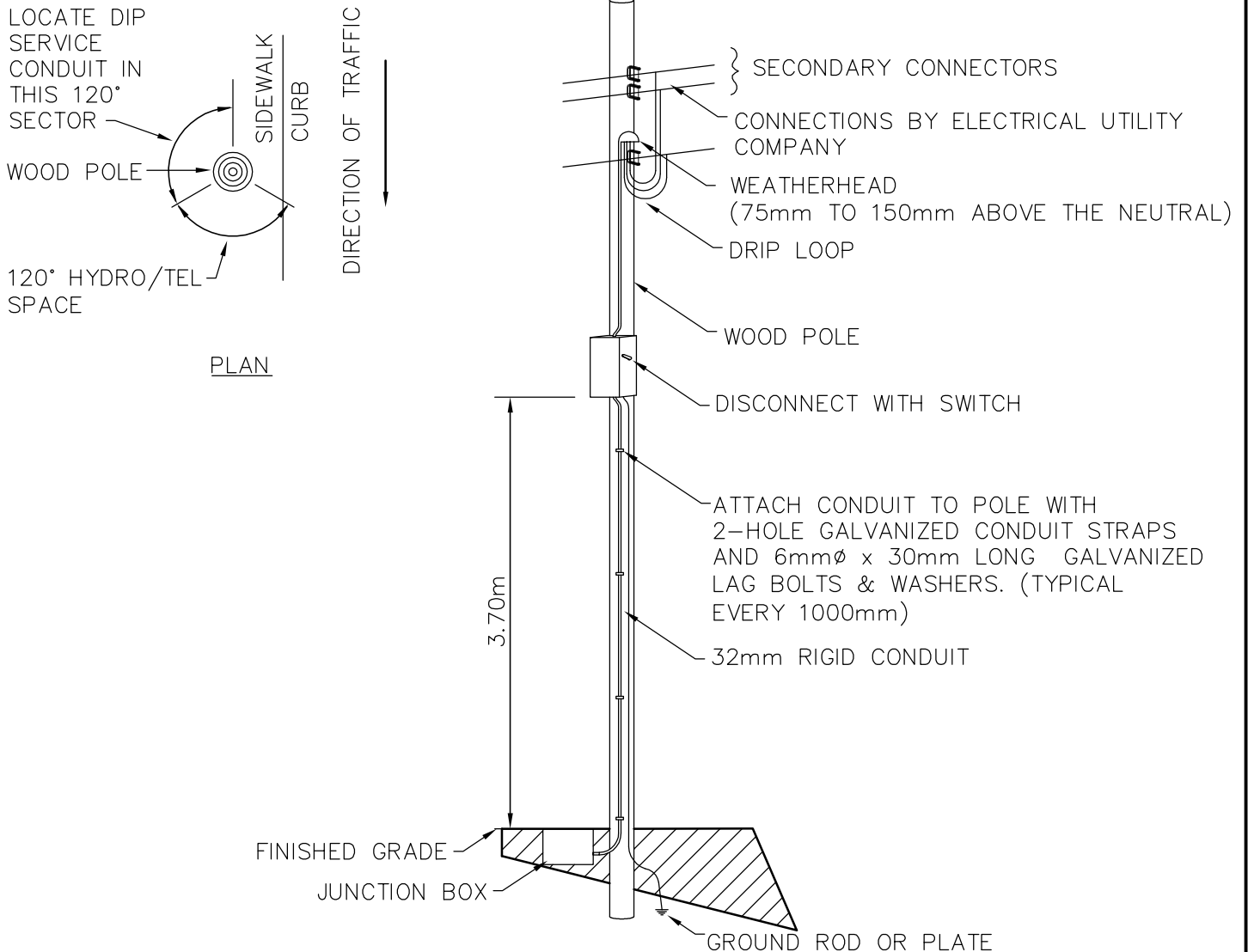


CITY OF VICTORIA CLUSTER LIGHTS
TYPE 'A' & 'B'

REVISIONS

DRAWING NUMBER:

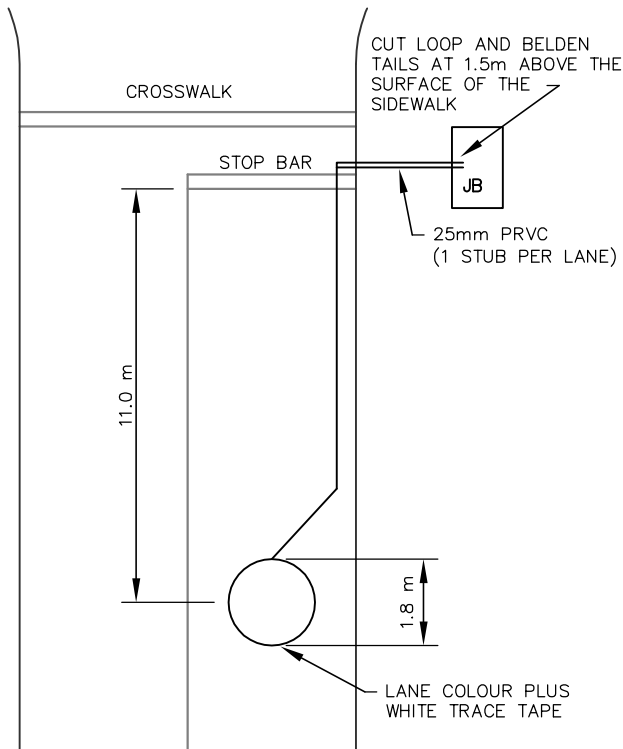
SD E4.19a



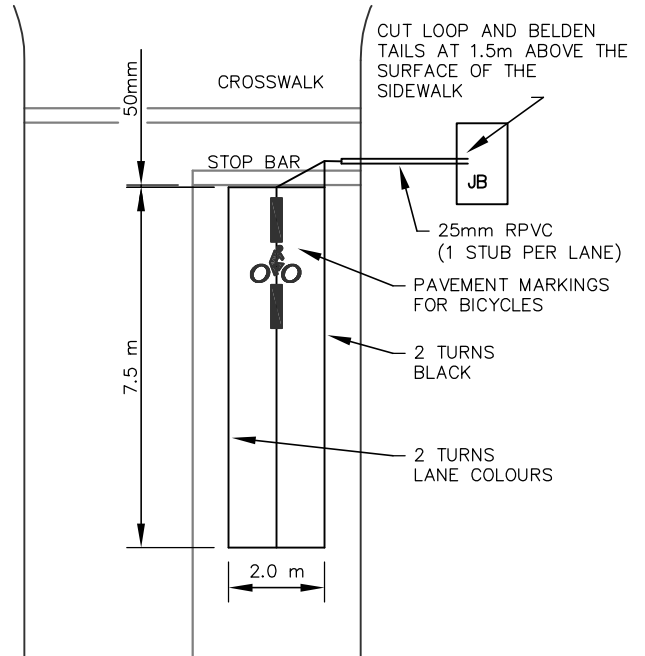
NOTES

1. REFER TO CONTRACTOR DRAWINGS, AND MMCD SECTION 34 41 13 FOR DETAIL SPECIFICATIONS
2. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF SERVICE CONDUCTORS. CONNECTION BY ELECTRICAL UTILITY COMPANY UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO OBTAIN PERMISSION FROM UTILITY COMPANY PRIOR TO EQUIPMENT ON THEIR POLE.
4. ALL DIMENSIONS IN MILLEMETRES UNLESS OTHERWISE NOTED.
5. SERVICE CONDUCTORS AS DETAILED ON CONTRACT DRAWINGS.

1.8m (4 TURN) ROUND LOOP- EXTENSION



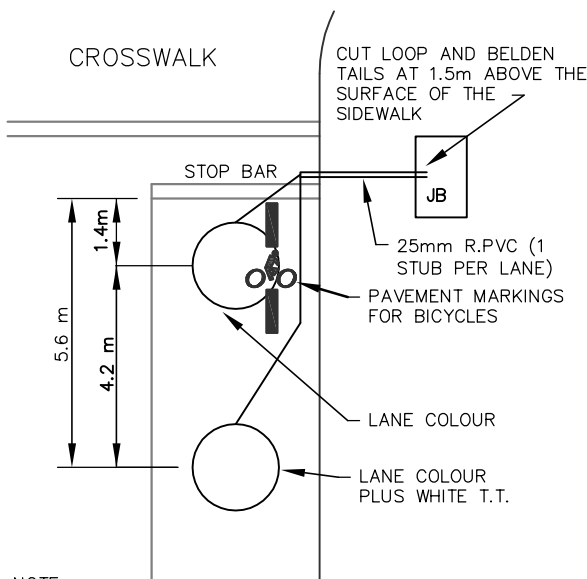
2.0m X 7.5m QUADRAPOLE LOOP



NOTES:

1. BIKE LOOP 1m X 2m QUADRAPOLE LOOP
2. ALL LOOPS MUST BE TESTED PRIOR TO MARKING BIKE SYMBOL

1.8m (4 TURN) CIRCLE LOOPS



NOTE:

ALL LOOPS MUST BE TESTED PRIOR TO MARKING BIKE SYMBOL

SIGNAL WIRING

LOOP WIRE	PHASE MOVEMENT
CURB = BLUE	Ø 2 = RED
NEXT = YELLOW	Ø 4 = GREEN
NEXT = RED	Ø 6 = YELLOW
NEXT = BROWN	Ø 8 = BLUE
T.T. = TRACE TAPE	

SIGNAL CONDUCTORS

- 5C (#14AWG) = VEHICLE
- 4C (#14AWG) = L/T ARROW AND PED
- 3C (#14AWG) = PRE-EMPTION (120V)
- 3C (#20AWG) C/W DRAIN = PRE-EMPTION (LOW VOLTAGE)
- 2C (#16AWG) = PUSH BUTTON
- 2C (#16AWG) BELDEN c/w SHIELD = VEHICLE LOOP
- 2C (#16AWG) BELDEN NO SHIELD = PED INHIBIT

*ALL CONDUCTORS TO THE CONTROLLER NEED TO BE 2X THE CABINET HEIGHT

STREET LIGHTING CONDUCTOR NOTES:

1. #6 STREET LIGHTING CONDUCTORS THAT ARE TERMINATED WITHIN UNDERGROUND JB'S ARE TO BE DONE SO WITH THE APPROPRIATE RATED SPLIT BOLTS.
2. TAPING TO BE BLACK VINYL TAPE, VULCANIZED RUBBER, THEN BLACK TAPE.
3. ALL TERMINATIONS TO BE MINIMUM 450mm OUT OF THE JB.
4. STREET LIGHTING CONDUCTORS WITHIN HANDHOLES (MINIMUM 200mm) ARE TO BE CONNECTED BY A C.E.C. APPROVED METHOD AND TAPED WITH BLACK VINYL TAPE.
5. ALL UNUSED CONDUITS TO BE CAPPED, COMPLETE WITH PULLSTRING.
6. MINIMUM WIRE SIZES:
 - FEEDERS: #6
 - JB TO POLE: #10
 - INSIDE POLE: #14