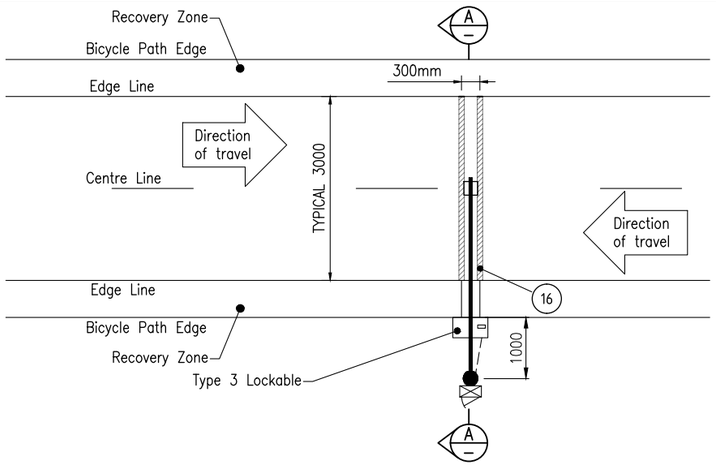


PIEZO–PIEZO–PIR CONFIGURATION
BI–DIRECTIONAL BICYCLE AND PEDESTRIAN PATH

EQUIPMENT LIST:

ITEM No.	EQUIPMENT DESCRIPTION	QTY
1	Pole Mount Cabinet SS IP65 Lockable with TMR 190 Key	1
2	Cycle & Ped Monitoring Unit with built in 3G/4G/5G modem	1
3	Sensor connector interface	1
4	MPPT Solar charge controller	1
5	12vdc to 6vdc converter (if required)	0 or 1
6	Sealed lead acid AGM battery	1
7	Bluetooth Antenna of CPMU for laptop connection	1
8	PV Isolator (32A double pole)	1
9	Load Isolator (16A double pole)	1
10	Fuse 20A	2
11	DC surge diverter	2
12	RF (Coaxial) Surge Protector with DIN rail clip	1
13	Solar Panel 12V, 80W(min) –175W(max)	1
14	3G/4G/5G Antenna (Low Profile)	1
15	Alternative Antenna to suit site having weak signal coverage	0 or 1
16	Piezo sensor	1
17	False back mounting panel	1
18	Solar Panel Pole, Bracket and Frame	1
19	Outreach Bracket	1
20	PIR Ped Sensor	1
21	Ped Sensor RS232 Control Port (DB9–F)	1
22	Communications Earth Terminal Junction Box	1
123	Type 3 lockable pit and lid – Part no. 123 listed on SD1699	1
537	Cabinet ID Label – Part no. 537 listed on SD1699.	1

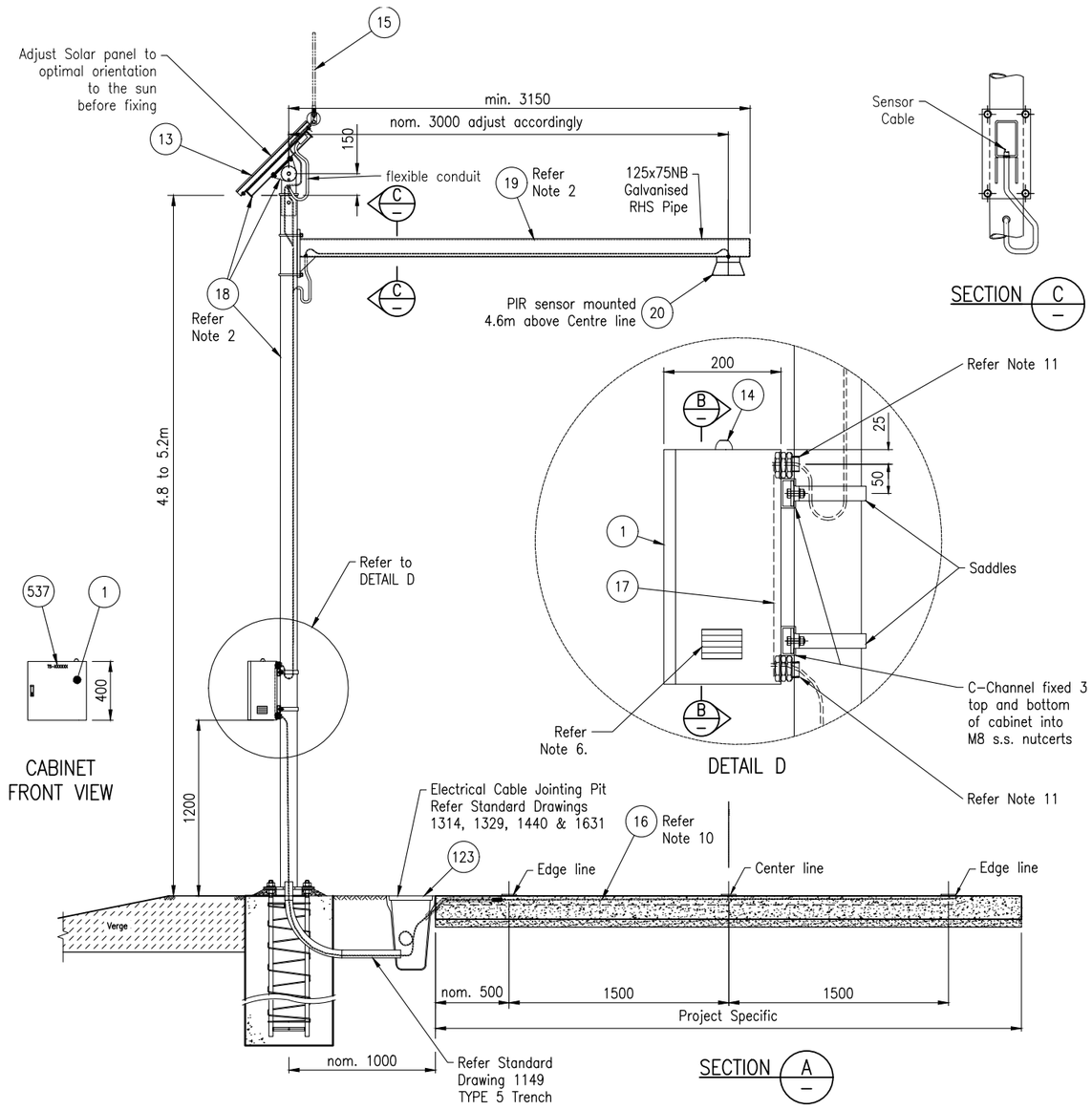
NOTES:

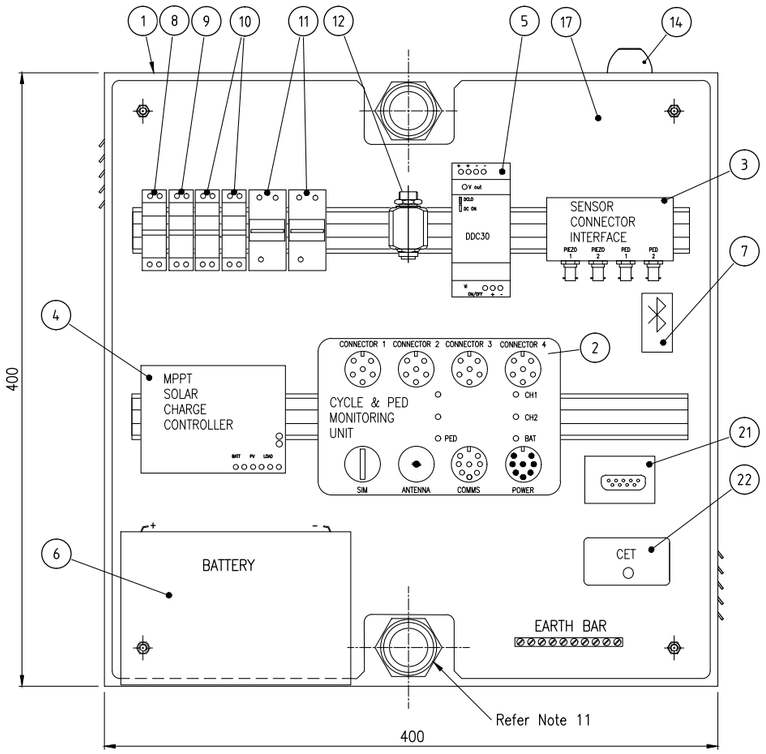
1. This drawing is conceptual arrangement of a typical combined bicycle and pedestrian counting site. Exact arrangement will vary from project to project.
2. Pole, footing, brackets, and associated steelwork for solar panel installation shall be RPEQ certified by qualified engineers of appropriate disciplines.
3. Contact Engineering and Technology / Structures team for approval of structural components and installations.
4. The maximum design parameters for solar panel installation (height, panel dimensions and weight) shall be as per MRTS97.
5. This Type 3 pit is not needed if the cabinet pole is less than 3m away from the piezo installation.
6. Stainless steel cabinet is to have louvre vents with vermin mesh behind one on the upper side and on the lower opposite side.
7. Stainless steel cabinet to be mounted 1.2m above ground.
8. Antenna to be external to cabinet. If alternative antenna is used in lieu of low profile antenna, then low loss coax cable shall be considered.
9. Refer to manufacturer's manual for wiring instruction. Cabinet internal layout shall be adjusted accordingly.
10. Refer Standard Drawing 1916 for installation of piezo sensors.
11. Cable entry Adaptaflex (or equivalent) M25 swivel fitting & conduit rated at IP66.
12. Dimensions are in millimetres (mm) unless noted otherwise.

ASSOCIATED DEPARTMENTAL DOCUMENTS:
- Standard Drawings
- Specifications

REFERENCED DOCUMENTS:
Departmental Standard Drawings:
- 1149 Traffic Signals/Road Lighting/ITS – Installation of Underground Electrical and Communications Conduit
- 1314 Traffic Signals/Road Lighting – Cable Jointing Pit Drainage Details
- 1329 Road Lighting – Typical Physical Arrangement
- 1392 Road Lighting – Base Plate Mounted Pole and Footing Installation Details for Crossfalls Upto and Including 1:2
- 1440 Traffic Signals/Road Lighting – Cable Jointing Pit Rectangular Concrete Surround
- 1631 Traffic Signals/Road Lighting – Cable Jointing Pit Types 1(J), 3, 4. 7, & 8
- 1635 Traffic Signal – Traffic Signal Upper Mounting Assembly and Split Shell Assembly
- 1699 Traffic Signals/Road Lighting/ITS – Parts List
- 1916 ITS – Axle–based Vehicle Classifier Sensor Installation Details

Departmental Specifications:
- MRTS97 Mounting Structures for Roadside Equipment
- MRTS200 General Requirements for Intelligent Transport Systems (ITS) Infrastructure
- MRTS201 General Equipment Requirements
- MRTS251 Traffic Counter / Classifier
- MRTS263 Standalone Solar (PV) Power Systems





SECTION B TYPICAL CABINET LAYOUT

Acronyms
- MPPT = Maximum Power Point Tracking (Solar Charge Controller)
- CPMU = Cycle & Ped Monitoring Unit
- AGM = Absorbent Glass Mat (Battery)
- CET = Communications Earth Terminal
- PIR = Passive Infrared (Detector)

LEGEND

SYMBOL	DESCRIPTION
	Stainless Steel Cabinet
	Type 3 Pit (Lockable)
—— ——	1x50mm dia Conduit (White)

INSTALLATION OF CONDUITS AND PITS IS THE RESPONSIBILITY OF THE LICENSED ELECTRICAL CONTRACTOR

Department of Transport and Main Roads

ITS

BICYCLE AND PEDESTRIAN COUNTER
SHEET 1 OF 2

Queensland Government

A3
Not to Scale
A

Standard Drawing No
1929
Date 7/2022

SOLAR PANEL
12V/80W to 175W

ANTENNA
Refer Note 8

32A
SWITCH

MPPT SOLAR CHARGE
CONTROLLER

SOLAR +
SOLAR –
BATT +
BATT –
LOAD +
LOAD –

SURGE
DIVERTER

Earth

20A FUSE

CET

20A
FUSE

12V/30AH
BATTERY

16A
SWITCH

Optional. Needed if the selected equipment operates at a DC voltage other than 12V e.g. 6VDC

12VDC +
12VDC TO 6VDC
CONVERTER
+6VDC

CYCLE & PED MONITORING UNIT
(with built–in modem)

POWER
BT Antenna
Ground
Antenna

(for Technician
Servicing Connection)

SURGE
DIVERTER

Earth

50Ω COAX

RF SURGE PROTECTOR
SMA
SMA

50Ω COAX

Earth

SENSOR CONNECTOR INTERFACE
PIEZO 1
PIEZO 2
PED 1
PED 2

CET

12VDC +
PED
SW1
PED
SW2
PED SENSOR

Tx
Rx

DB9
FEMALE
CONNECTOR

CET

TYPICAL SCHEMATIC DIAGRAM

Department of Transport and Main Roads

ITS

BICYCLE / PEDESTRIAN COUNTER
SHEET 2 OF 2

A3
Not to Scale

Standard Drawing No
1929
Date 7/2022

A