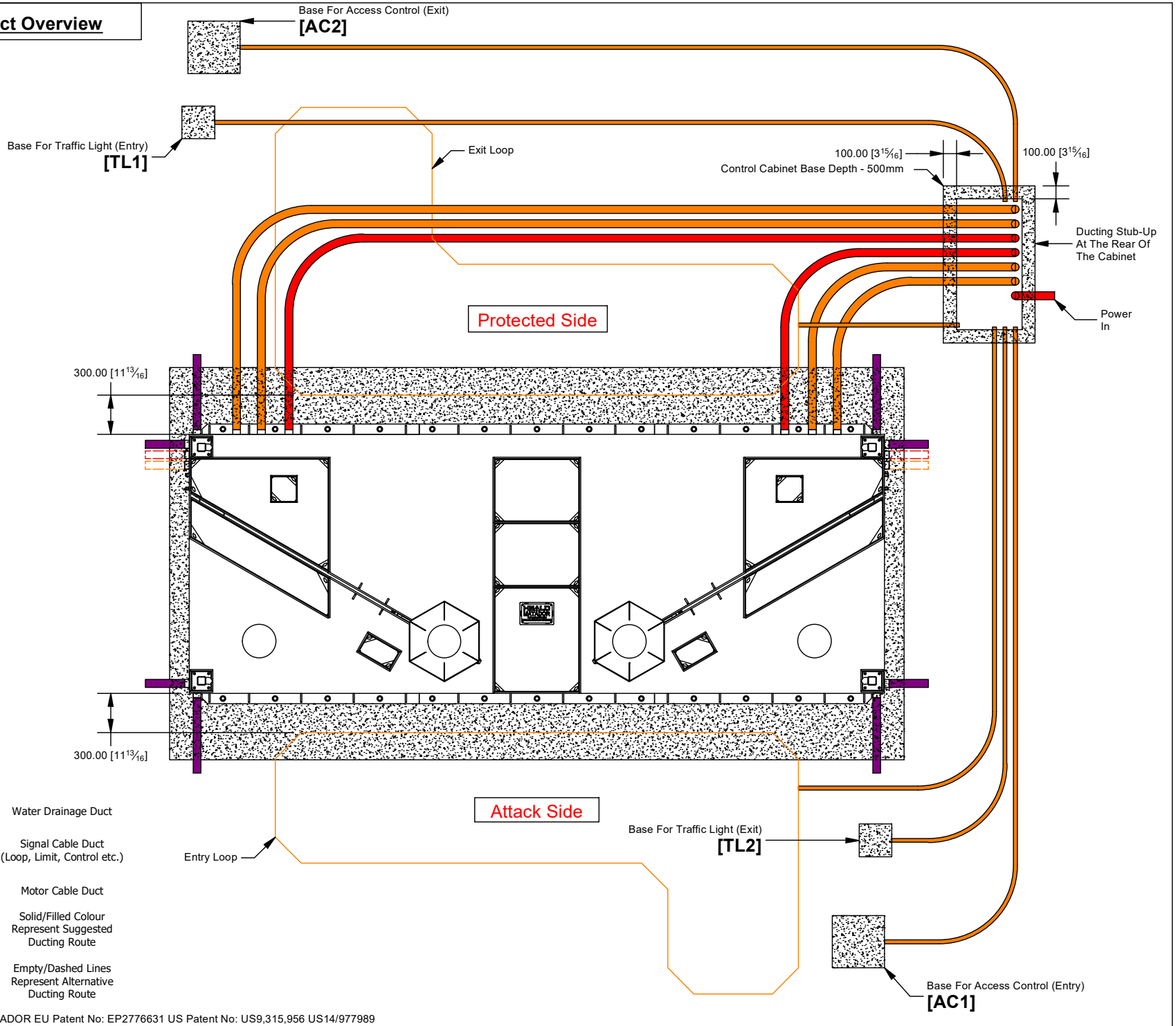
Sheet Name

Product Overview



HEALD MATADOR EU Patent No: EP2776631 US Patent No: US9,315,956 US14/977989

Notes:

- All Drainage Ducts Can Be Utilised Dependant On Installation Of Matador i.e. Road Gradient / Slope. Drainage Should Be Connected To The Lowest Lying Outlet To Aid Flow. Utilised Ducts Should Be Connected To Suitable Local Drainage.
- Ducts Should Be Connected As Straight As Possible With No Tight Radius Bends.

Further Notes:

- All Signal, Motor, Hydraulic Or Other Service Duct Routes Utilised (Suggested Or Alternate) Should Be Routed Back To The Cabinet. All Unused Ducts To Be Capped Off Prior To Concrete Pouring.
- Cabinet Location And Size For Illustration Only. Cabinet Information Is Subject To Change Depending On The Features Required. Please See Heald For Exact Size Once All The Features Have Been Confirmed.
- Loop Configuration Dependant On Operation Details. Please Confirm With Heald Before Installation.
- Installation Drawing Shows Two Way System For Illustration Purposes. For One Way, And Other Systems, Arrangement Will Change.
- For Details Of TL1, TL2, AC1 and AC2
  - See Installation Procedure Page.

Minimum Ground Bearing Pressure To Be 100kN Per m²

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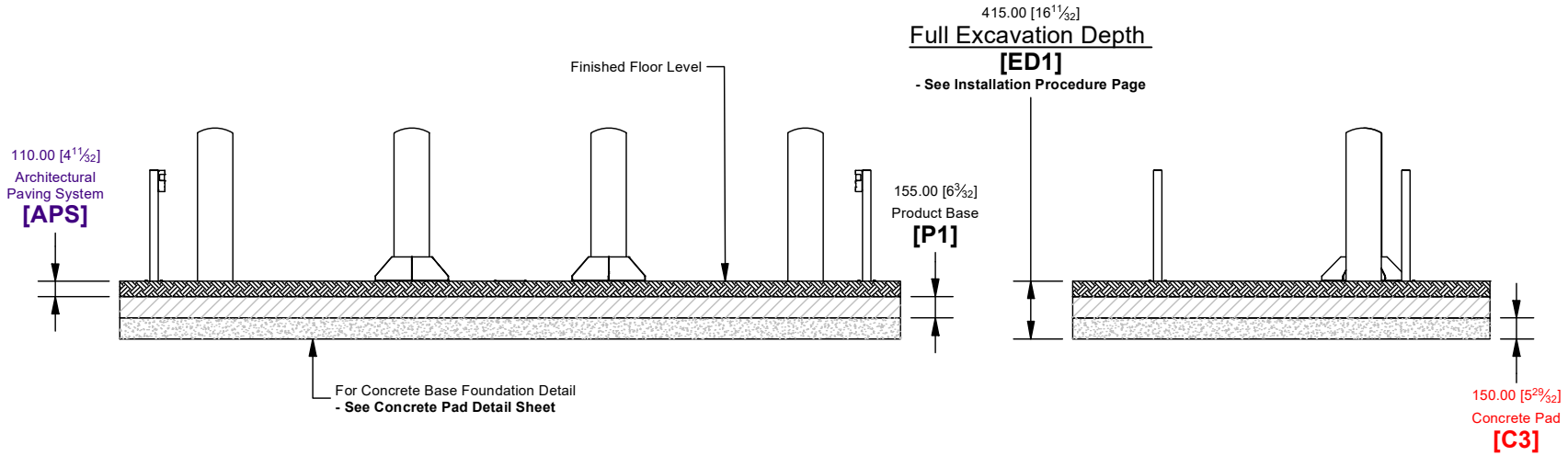
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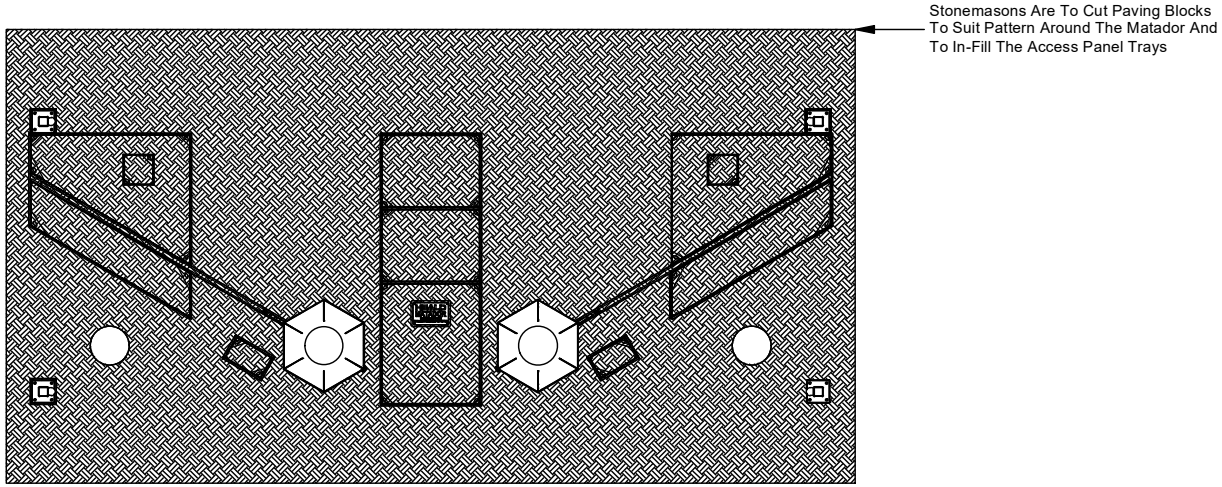
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Drawing Title	HT2-Mat-EM-4-155-110APS Install
Drawn: C.Daniels	Drawn Date: 30/10/2020
Projection	Scale: NTS
Assembly Number Used: 138839	
Project: N/A	Job No.: N/A
Drawing No.: 139010	Sheet No.: 1 of 6

Sheet Name

Excavation Depths





HEALD MATADOR EU Patent No: EP2776631 US Patent No: US9,315,956 US14/977989

Notes:

1. Pour Material i.e. Concrete, Tarmac, Gravel etc. To Surround Matador Around The Product Base.
2. Stonemasons Are To Cut Paving Blocks To Suit Pattern Around The Matador And To In-Fill The Access Panel Trays.
3. Manhole Lifting Keys Are Provided To Remove Access Panel Trays. Lifting Equipment Should Be Used If Weight Exceeds Recommended Safety Threshold. Contractors And Maintenance Staff To Abide By Relevant Legislation.
4. Matador Products Should Ideally Be Installed On A Flat And Level Base.
5. Matador Products Will Operate Up To 10° From Flat And Level In Any Direction, However, The Bollards Will Remain Perpendicular To The Base Plate.
6. Stainless Steel Bollard Covers Can Be Compensated For Shallow Falls; However, This Will Incur Extra Charges And Must Be Confirmed At Order Stage

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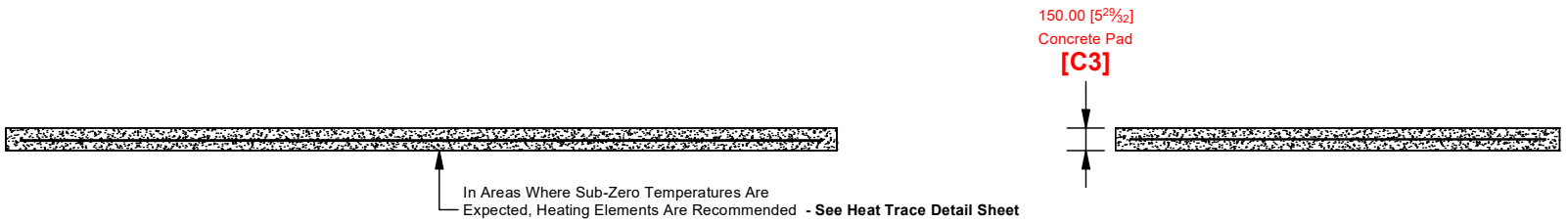
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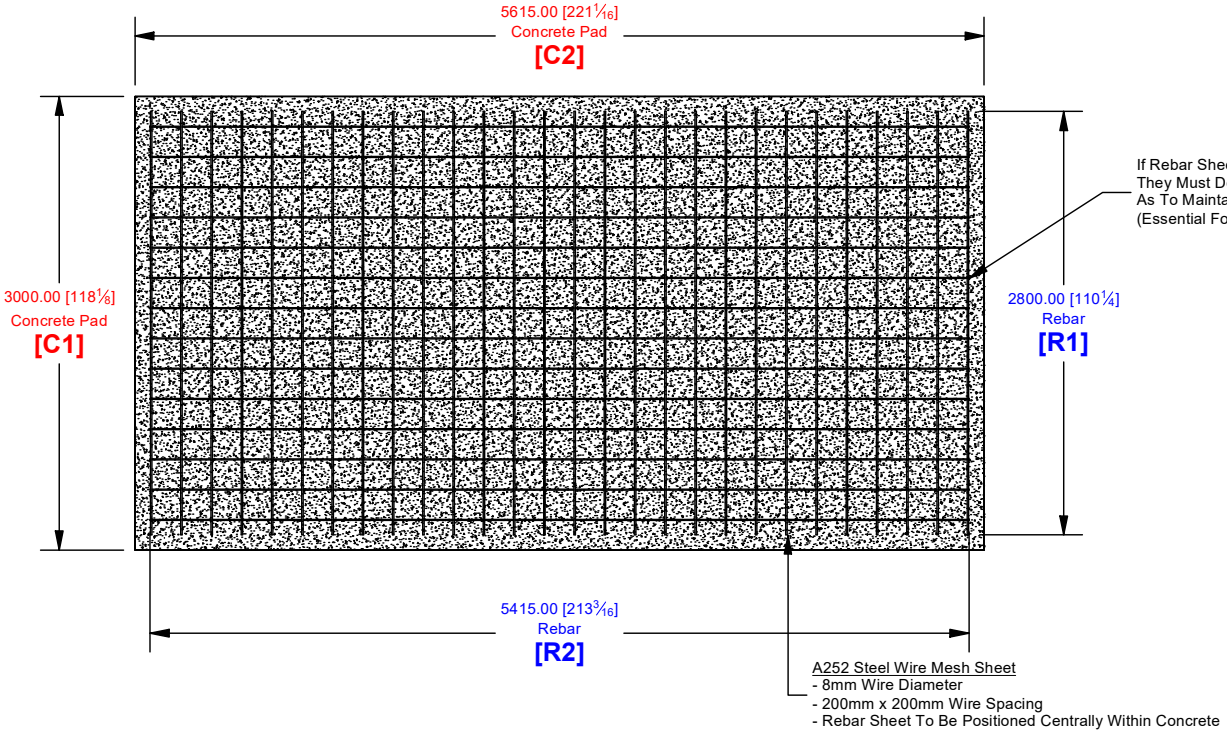
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Drawing Title	HT2-Mat-EM-4-155-110APS Install
Drawn: C.Daniels	Drawn Date: 30/10/2020
Projection	Scale: NTS
	Assembly Number Used: 138839
Project: N/A	Job No.: N/A
Drawing No.: 139010	Sheet No.: 2 of 6

Sheet Name

Concrete Pad Detail





Volume Of Concrete:
2.6 Cubic Metres Approx.
[CU]

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Construction Notes:

Excavation
- All Excavations Should Be Carried Out By Hand Where Existing Services Are Suspected.
- If Voids Are Over Excavated, Ensure Material Used To Backfill Around Base Is Mass Concrete.
- The Excavation Shall Be Kept Dry At All Times.

Concrete
- For The Volume Of Concrete, If Fitted As Shown: **See Value [CU] On Concrete Pad Detail Sheet.**
- All Material And Workmanship To Be In Accordance With Recommendations Of BS8110.
- All Concrete To Be In Accordance With BS8500.
- Reinforced Concrete - C35 Or C50: C35 With 28 Day Cure Or C50 With 7 Day Cure.
- Concrete Shall Be Conveyed From The Mixer To Final Deposit By Methods That Will Prevent Separation Or Loss Of Material.

Reinforcement
- All Additional Reinforcement (Where Required) To Be In Accordance With BS8666.

Scope
- Site Contractor Shall Verify All Dimensions At The Job Site.
- Site Contractor Shall Be Responsible For The Protection Of All Adjacent Areas Against Damage.

Procedure
- **See Installation Procedure Page**

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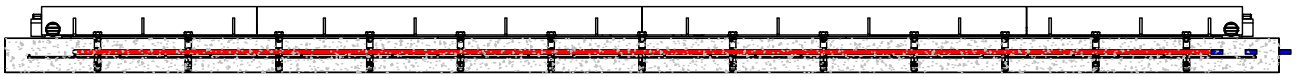
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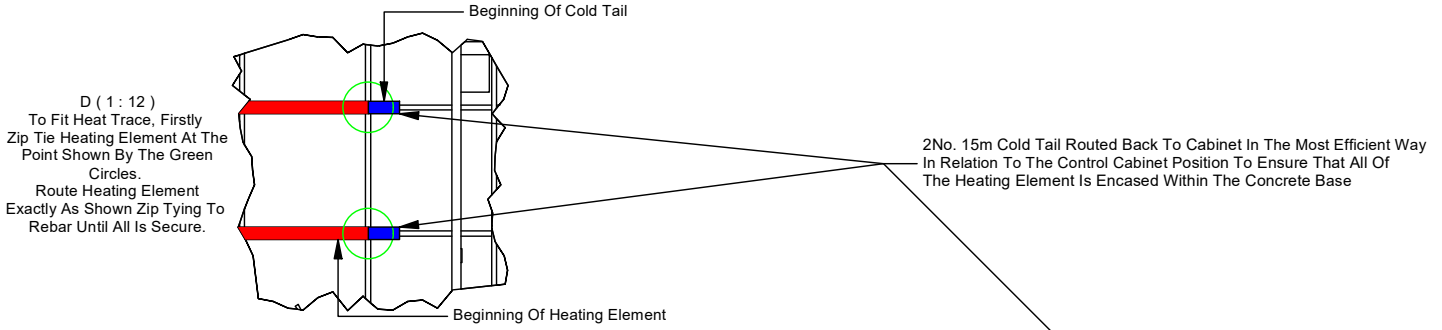
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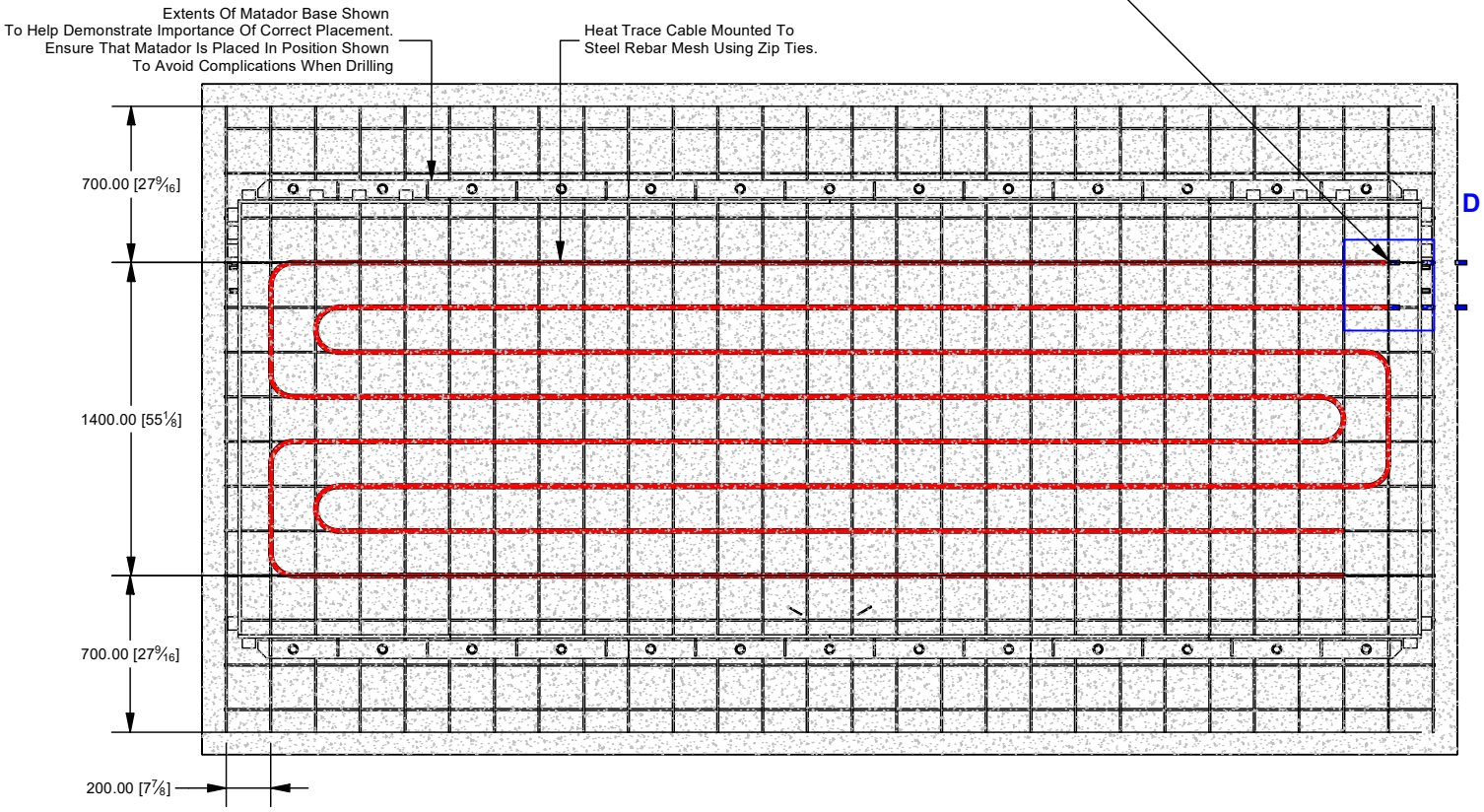
Drawing Title	HT2-Mat-EM-4-155-110APS Install
Drawn: C.Daniels	Drawn Date: 30/10/2020
Projection	Scale: NTS
	Assembly Number Used: 138839
Project: N/A	Job No.: N/A
Drawing No.: 139010	Sheet No.: 3 of 6

Sheet Name

Heat Trace Detail







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Notes:

- 2No. 21m Heating Cables Are Used To Ensure Correct Coverage And Placement.
- To Ensure That The Cables Will Not Be Damaged By The Product Mounting Bolts, Correct Positioning And Securing Of The Heating Cable, As Shown, Is Essential.
- Ensure That The Final Position Of The Heat Trace Cable Is Marked Out Prior To Concrete Pouring To Enable Accurate Placing Of The Product And To Avoid Cable Damage.
- Cold Tails Should Be Routed Back To The Cabinet Through Appropriate Ducting.

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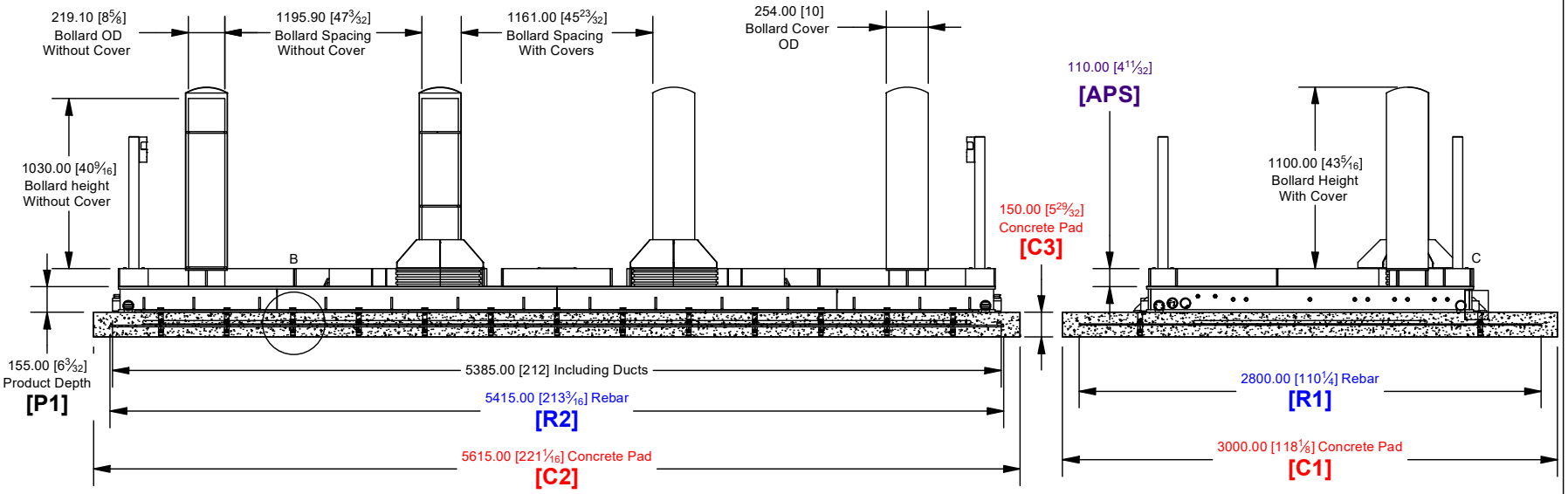
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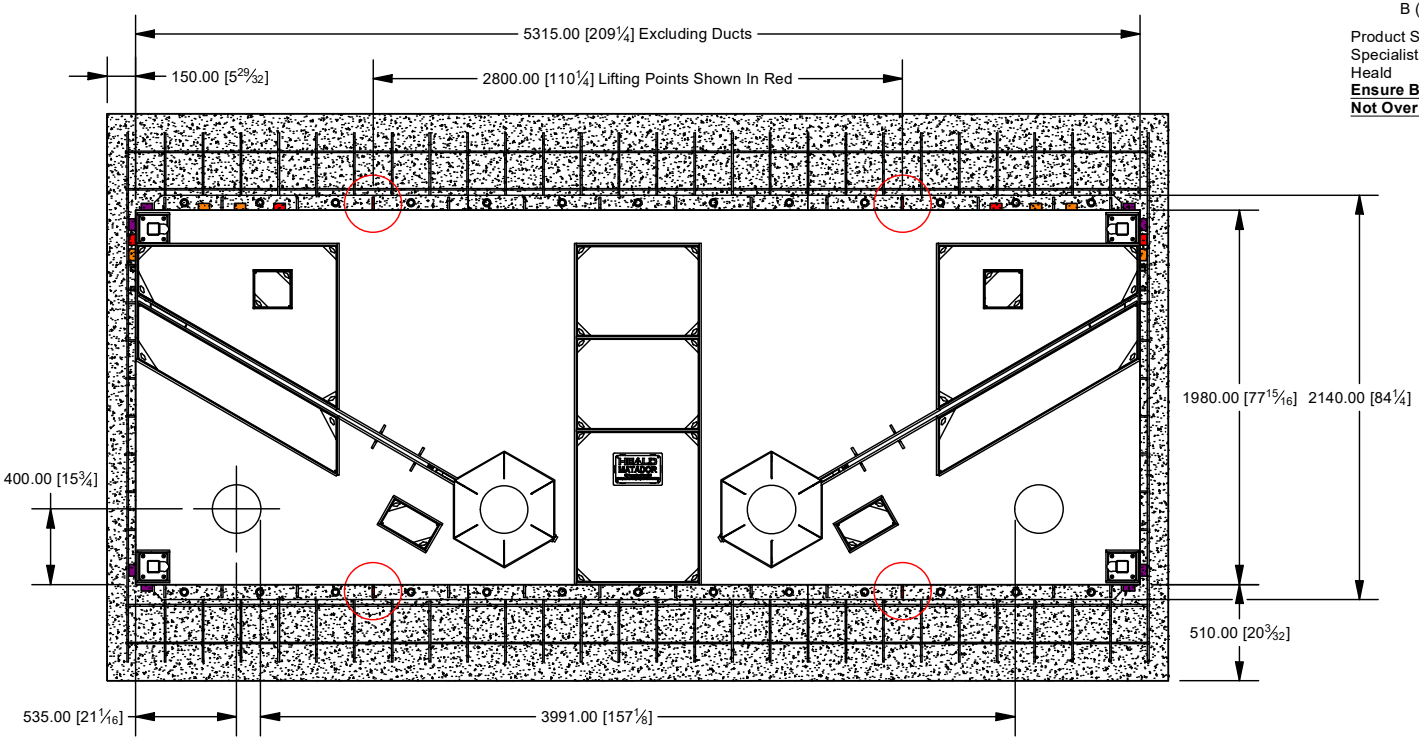
Drawing Title	HT2-Mat-EM-4-155-110APS Install
Drawn: C.Daniels	Drawn Date: 30/10/2020
Projection	Scale: NTS
Assembly Number Used: 138839	
Project: N/A	Job No.: N/A
Drawing No.: 139010	Sheet No.: 4 of 6

Sheet Name

Dimensions & Depths

Weight Of Product:
5350 kg Approx.

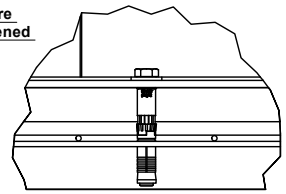




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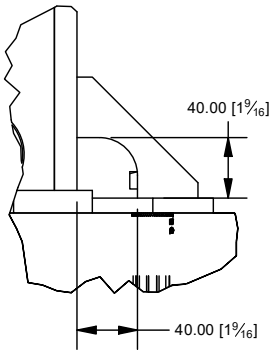
Product Secured Using 26No. Specialist Bolts Provided By Heald

Ensure Bolts Are Not Over Tightened



C (0.2)

Lifting Gussets



HEALD MATADOR EU Patent No: EP2776631 US Patent No: US9,315,956 US14/977989

Notes:

1. Level The Matador And Drill Holes For Specialist Bolts Provided By Heald.
2. Bolt Down The Matador Using The Specialist Bolts Provided By Heald.
3. Cap Off Any Unused Ducts To Ensure No Materials Enter The Matador Internals.

Key

- Water Drainage Duct
- Signal Cable Duct (Loop, Limit, Control etc.)
- Motor Cable Duct
- Solid/Filled Colour Represent Suggested Ducting Route
- Empty/Dashed Lines Represent Alternative Ducting Route

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Drawing Title	HT2-Mat-EM-4-155-110APS Install
Drawn: C.Daniels	Drawn Date: 30/10/2020
Projection	Scale: NTS
	Assembly Number Used: 138839
Project: N/A	Job No.: N/A
Drawing No.: 139010	Sheet No.: 5 of 6

Matador with Architectural Paving System (APS) Installation Procedure:

This procedure will explain how to install the product shown. For products without an Architectural Paving System (APS), please contact Heald for the relevant Installation Drawing.

Referenced Dimensions (in order of appearance in document):

Reference	Description	Measurement / Information
AC1 and AC2	Concrete Base for Access Control	400mm x 400mm x 400mm (Subject to change depending on products ordered)
TL1 and TL2	Concrete Base for Traffic Light Poles	250mm x 250mm x 250mm (Subject to change depending on products ordered)
ED1	Full Excavation Depth	Please see instructions below relating to your install (Surface Mounted or Recessed)
C1, C2 & C3	Concrete Pad for Product	Please use the measurements shown on the Concrete Pad Detail sheet
R1 & R2	Rebar Sheet Size	For specification and installation details see Concrete Pad Details sheet
P1	Product Depth	Please use the measurements shown on the Dimensions and Depths sheet
APS	Architectural Paving System	Either 80mm or 110mm depending on the product ordered

To Install the Matador with an Architectural Paving System (APS):

Preparation:

- Ensure site is clear of hazards and safe for work.
- Gather all relevant information, including regulations relating to the job specific site e.g. ducting required, materials required, electrical drawings, site surveys, etc. to ensure a smooth installation procedure.
- Ensure you have the correct installation drawing for the depth of Architectural Paving System (APS) on your product:
  - -80APS = 80mm Depth
  - -110APS = 110mm Depth

Excavation:

- Mark out the excavation areas necessary for your system:
  - Matador Foundation [**C1** x **C2**]
  - Cabinet Base [Size specified when Operation Details are confirmed]
  - Access Control Bases [**AC1** & **AC2** - See Referenced Dimensions above]
  - Traffic Light Bases [**TL1** & **TL2** - See Referenced Dimensions above]
- Once the excavation has been marked out and checked begin to excavate each area to the correct depth:
  - Matador with an **ARCHITECTURAL PAVING SYSTEM** Foundation [**Full Excavation Depth: ED1 = C3 + P1 + APS**]
  - Cabinet Base [Typically 300mm - Could vary based on size of cabinet]
  - Access Control Bases [**AC1** & **AC2** - See Referenced Dimensions above]
  - Traffic Light Bases [**TL1** & **TL2** - See Referenced Dimensions above]

N.B. All foundations must take account of local ground conditions.

Concrete Pad and Rebar Fitting Procedure:

- Place 75mm concrete spacers onto the floor of the Matador excavation.
- Place A252 Steel Mesh Sheet onto Spacers and affix heat trace in exact position as shown - **See Heat Trace Details Sheet.**
- Mark out position of rebar and heat trace cable around the excavation to avoid damage when drilling and fixing Matador.
- Infill concrete to depth [**C3** = 150mm] and allow concrete mix appropriate time to cure - **See Concrete Pad Detail Sheet.**

Matador Fitting Procedure:

- Once concrete has cured, place Matador onto concrete pad ensuring correct position. Drill and bolt down using the Specialist Bolts provided by Heald.
- Run appropriate ducting from the Matador, Traffic Lights, Access Control, Heat Trace, etc. to the Cabinet area, creating a stub-up to the rear of the Cabinet.
- Cap off ALL unused duct tubes and apertures to avoid unwanted ingress of concrete.
- Complete concrete pour to create bases for Cabinet, Traffic Lights, Access Control, etc.
- Complete concrete pour to in-fill around Matador and create gradient running away from the product surface.
- Stonemasons cut and lay paving blocks to suit pattern around the Matador and to in-fill the access panel trays.

Finishing:

- The finish of the Matador is dependent on site and product supplied. Identify project specification and proceed accordingly.

HEALD MATADOR EU Patent No: EP2776631 US Patent No: US9,315,956 US14/977989

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Drawn	C.Daniels
Drawn Date	30/10/2020
Projection	
Scale	NTS
Assembly Number Used	138839
Project	N/A
Job No.	N/A
Drawing No.	139010
Sheet No.	6 of 6