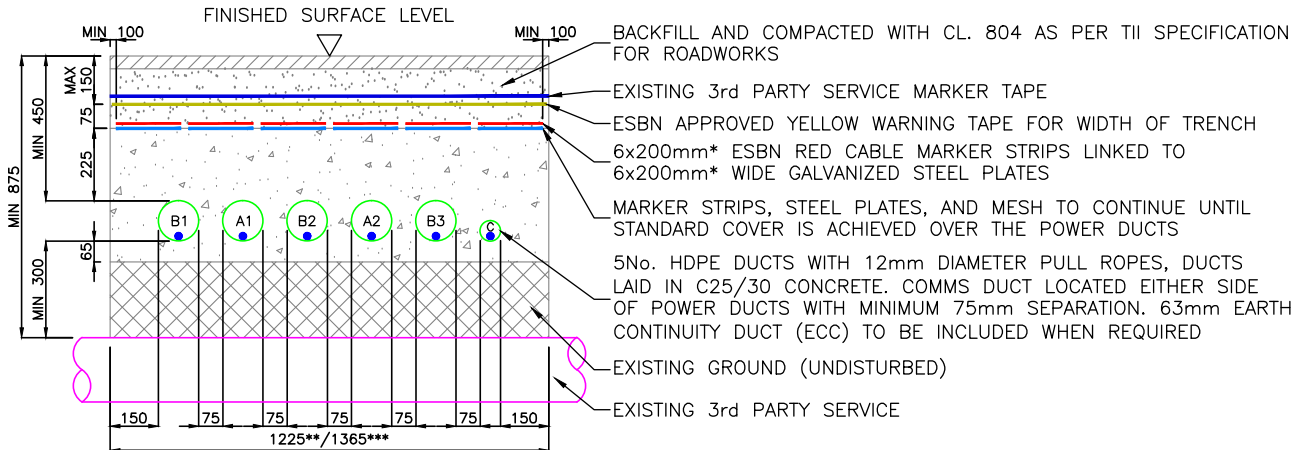


NOTES:

- ALL PRODUCTS AND MATERIALS TO BE UTILISED DURING CONSTRUCTION TO COMPLY WITH EIRGRID FUNCTIONAL SPECIFICATION, ESBN STANDARDS, TII SPECIFICATION FOR ROAD WORKS AND ALL RELEVANT IRISH (EUROPEAN) AND BRITISH STANDARDS.
- 300mm MINIMUM VERTICAL AND HORIZONTAL CLEARANCES TO BE OBSERVED BETWEEN CABLE DUCTS AND THIRD PARTY SERVICES (e.g. GAS PIPES, WATER MAINS, CULVERTS, etc.) IN THE CASE OF HIGH RISK 3rd PARTY SERVICES, GREATER CLEARANCES MAY BE REQUIRED. DESIGNER TO CONSULT EIRGRID AND 3rd PARTY SERVICE OWNERS FOR GUIDANCE.
- STEEL PLATES MUST COVER DUCTS. NO OVERLAP IS REQUIRED HOWEVER STANDARD DIMENSIONS MAY RESULT IN AN OVERLAP. SPACING OF 25mm TO BE MAINTAINED BETWEEN STEEL PLATES TO PREVENT THE TRANSFER OF STRAY CURRENT.
- THE MINIMUM CLEARANCE BETWEEN ALL HV AND COMMUNICATION DUCTS IS **75mm**, BUT INCREASED SPACING MAY BE REQUIRED IN ORDER TO ACHIEVE THE CABLE RATING (TO BE CONFIRMED BY DESIGNER CABLE RATING CALCULATIONS).
- DRAWING IS INDICATIVE ONLY, TO BE USED TO AID IN THE DESIGN OF THE RELEVANT INFRASTRUCTURE.
- TEMPLATES ARE TO BE USED AT 5m INTERVALS DURING DUCT INSTALLATION IN CBGM. PRE-MADE 75mm WIDE CONCRETE SPACERS TO BE USED DURING DUCT INSTALLATION IN WET CONCRETE.
- MINIMUM BURIAL DEPTH IS **450mm**.
- HAND DIG WITHIN 500mm OF EXISTING SERVICE.
- WHERE AN EARTH CONTINUITY CONDUCTOR (ECC) IS REQUIRED, A MIN 63mm DUCT TO BE INSTALLED OUTSIDE OF PHASE DUCT.

- RED MARKER STRIP
- YELLOW MARKER WARNING TAPE
- EXISTING SERVICE MARKER STRIP
- 6mm GALVANISED STEEL PLATE
- RAPID HARDENING WET CONCRETE C25/30
- CBGM B (CL. 822), COMPACTED TO CL. 813.10
- BACKFILL, COMPACTED (CL. 804)
- EXISTING GROUND

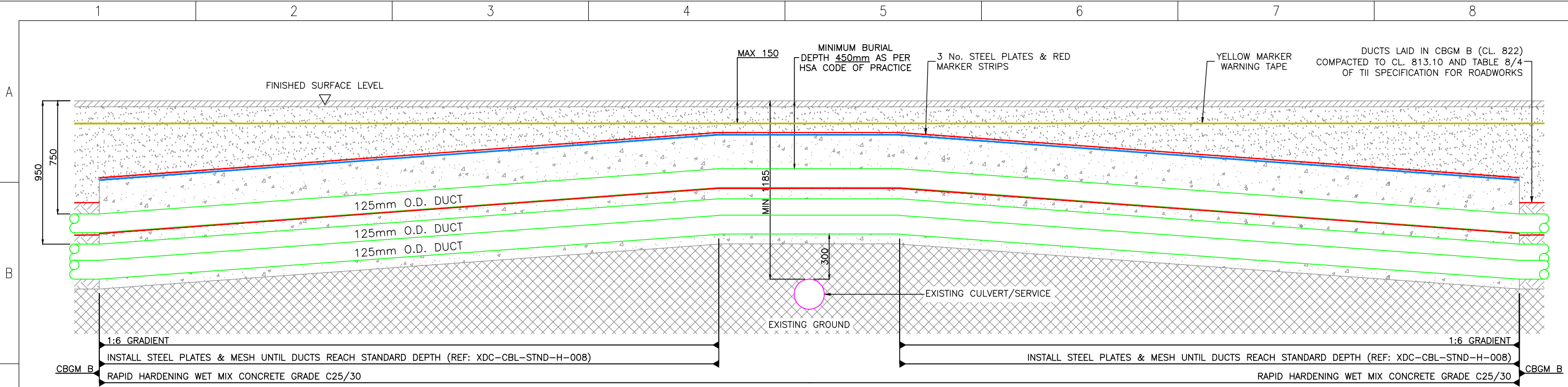
FULL FLAT FORMATION – REDUCED DEPTH FOR CROSSING OVER 3RD PARTY SERVICE



- A= 125mm O.D. HDPE DUCT FOR COMMUNICATIONS
B= 125mm O.D. HDPE DUCT FOR HV CABLE
C= 63mm O.D. HDPE DUCT FOR EARTH CONTINUITY CONDUCTOR
- * 5x200mm STEEL PLATES AND RE MARKERS AND WHERE ECC IS NOT REQUIRED
** MIN 1225mm WHERE ECC NOT REQUIRED
*** SEE NOTE 9

| | | | | | |
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| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |

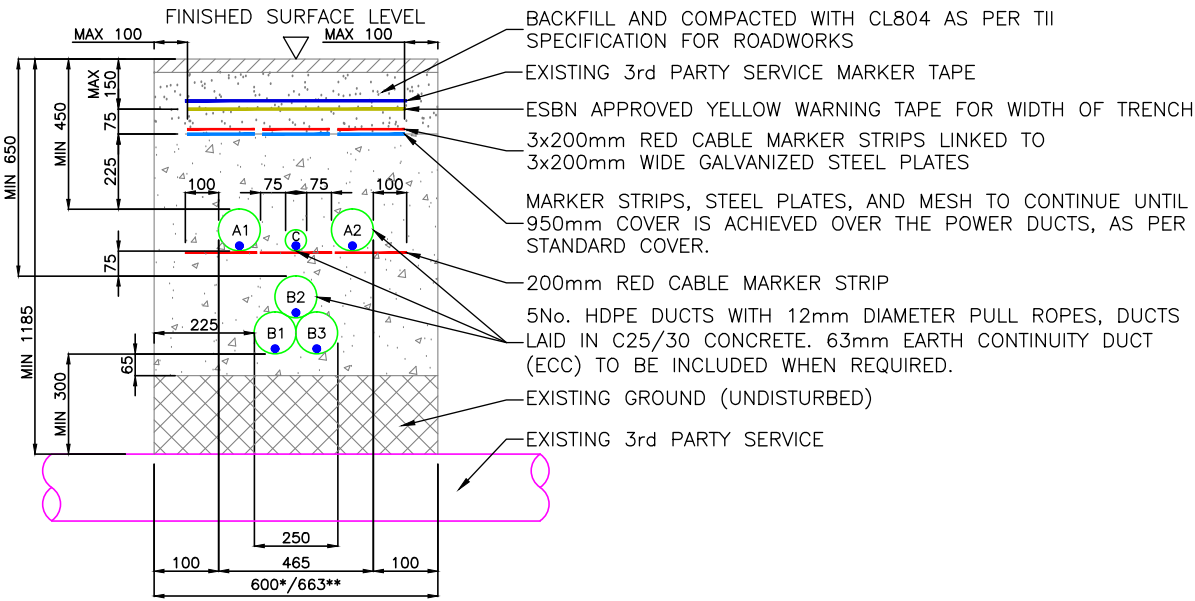
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|---|--|---|------|----|-------|-----|
| <div><div><div><div><div><div></div></div></div><div><div><div></div><div><div>EIRGRID</div></div></div><div><div>The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland</div></div></div><div><div>Telephone: +353 1 677 1700</div><div>Fax: +353 1 661 5375</div><div>Email: info@eirgrid.com</div><div>Web: www.eirgrid.com</div></div></div></div><div><div><div>COPYRIGHT © EirGrid plc</div><div>All rights reserved. No part of this work may be modified or reproduced or copied in any form or by any means – graphic, electronic or mechanical, including photocopying, recording, taping or information and retrieval system, or used for any purpose other than its designated purpose, without the written permission of EirGrid plc</div></div></div></div> | | STANDARD 110kV CABLE DRAWINGS | | | | |
| | | DRAWING TITLE | | | | |
| | | STANDARD 3rd PARTY CROSSING ABOVE IN FULL FLAT FORMATION 125mm HV DUCTS | | | | |
| No of Shts | | 3 | SIZE | A3 | SCALE | N/A |
| DRAWING NUMBER | | | | | SHEET | REV |
| XDC-CBL-STND-H-001 | | | | | 002 | 00 |



- NOTES:
1. ALL PRODUCTS AND MATERIALS TO BE UTILISED DURING CONSTRUCTION TO COMPLY WITH EIRGRID FUNCTIONAL SPECIFICATION, ESBN STANDARDS, TII SPECIFICATION FOR ROAD WORKS AND ALL RELEVANT IRISH (EUROPEAN) AND BRITISH STANDARDS.
 2. 300mm MINIMUM VERTICAL AND HORIZONTAL CLEARANCES TO BE OBSERVED BETWEEN CABLE DUCTS AND THIRD PARTY SERVICES (e.g. GAS PIPES, WATER MAINS, CULVERTS, etc.) IN THE CASE OF HIGH RISK 3rd PARTY SERVICES, GREATER CLEARANCES MAY BE REQUIRED. DESIGNER TO CONSULT EIRGRID AND 3rd PARTY SERVICE OWNERS FOR GUIDANCE.
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 4. THE MINIMUM CLEARANCE BETWEEN ALL HV AND COMMUNICATION DUCTS IS **75mm**, BUT INCREASED SPACING MAY BE REQUIRED IN ORDER TO ACHIEVE THE CABLE RATING (TO BE CONFIRMED BY DESIGNER CABLE RATING CALCULATIONS).
 5. DRAWING IS INDICATIVE ONLY, TO BE USED TO AID IN THE DESIGN OF THE RELEVANT INFRASTRUCTURE.
 6. TEMPLATES ARE TO BE USED AT 5m INTERVALS DURING DUCT INSTALLATION IN CBGM. PRE-MADE 75mm WIDE CONCRETE SPACERS TO BE USED DURING DUCT INSTALLATION IN WET CONCRETE.
 7. MINIMUM BURIAL DEPTH IS **450mm**.
 8. HAND DIG WITHIN 500mm OF EXISTING SERVICE.
 9. WHERE AN EARTH CONTINUITY CONDUCTOR (ECC) IS REQUIRED, A MIN 63mm DUCT TO BE INSTALLED OUTSIDE OF PHASE DUCT.

- RED MARKER STRIP
- YELLOW MARKER WARNING TAPE
- EXISTING SERVICE MARKER STRIP
- 6mm GALVANISED STEEL PLATE
- RAPID HARDENING WET CONCRETE C25/30
- CBGM B (CL. 822), COMPACTED TO CL. 813.10
- BACKFILL, COMPACTED (CL. 804)
- EXISTING GROUND


TREFOIL FORMATION – REDUCED DEPTH FOR CROSSING OVER 3RD PARTY SERVICE




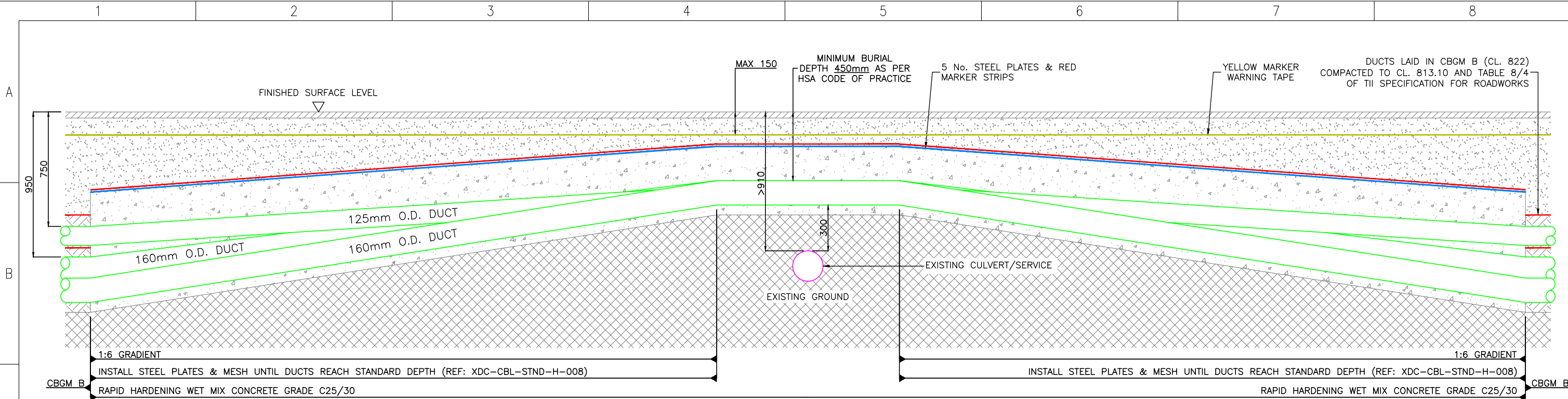
A= 125mm O.D. HDPE DUCT FOR COMMUNICATIONS
B= 125mm O.D. HDPE DUCT FOR HV CABLE
C= 63mm O.D. HDPE DUCT FOR EARTH CONTINUITY CONDUCTOR

* MIN 600mm WHERE ECC NOT REQUIRED
** SEE NOTE 9

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |

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|---|------------|--|-----------|
|  EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com | | STANDARD 110kV CABLE DRAWINGS | |
| COPYRIGHT © EirGrid plc All rights reserved. No part of this work may be modified or reproduced or copied in any form or by any means – graphic, electronic or mechanical, including photocopying, recording, taping or information and retrieval system, or used for any purpose other than its designated purpose, without the written permission of EirGrid plc | | DRAWING TITLE STANDARD 3rd PARTY CROSSING ABOVE IN TREFOIL FORMATION 125mm HV DUCTS | |
| No of Shts 3 | SIZE A3 | SCALE N/A | |
| DRAWING NUMBER XDC-CBL-STND-H-001 | | SHEET 003 | REV 00 |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|--------------|---------|----------|------|------------|---|-------------|-----------|-------------|--------------|--------------------|-----|---|------------|--------------------|------|---|-------|--------------------|----------|---|----|-------------------------------|--|--|--|---------------|--|--|--|---|--|--|--|------------|---|------|----|-------|-----|--|--|----------------|--|--------------------|--|-------|-----|-----|----|
| A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | <div>STANDARD 110kV CABLE DRAWINGS STANDARD CROSSING ABOVE 3rd PARTY SERVICE FOR 160mm DUCTS</div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | <table><tr><th>DRAWING No.</th><th>SHEET No.</th><th>DESCRIPTION</th><th>REVISION No.</th></tr><tr><td>XDC-CBL-STND-H-002</td><td>001</td><td>STANDARD 3rd PARTY CROSSING 160mm INDEX SHEET</td><td>00</td></tr><tr><td>XDC-CBL-STND-H-002</td><td>002</td><td>STANDARD 3rd PARTY CROSSING ABOVE IN FULL FLAT FORMATION 160mm HV DUCTS</td><td>00</td></tr><tr><td>XDC-CBL-STND-H-002</td><td>003</td><td>STANDARD 3rd PARTY CROSSING ABOVE IN TREFOIL FORMATION 160mm HV DUCTS</td><td>00</td></tr></table> | | | | | | | | DRAWING No. | SHEET No. | DESCRIPTION | REVISION No. | XDC-CBL-STND-H-002 | 001 | STANDARD 3rd PARTY CROSSING 160mm INDEX SHEET | 00 | XDC-CBL-STND-H-002 | 002 | STANDARD 3rd PARTY CROSSING ABOVE IN FULL FLAT FORMATION 160mm HV DUCTS | 00 | XDC-CBL-STND-H-002 | 003 | STANDARD 3rd PARTY CROSSING ABOVE IN TREFOIL FORMATION 160mm HV DUCTS | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWING No. | SHEET No. | DESCRIPTION | REVISION No. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| XDC-CBL-STND-H-002 | 001 | STANDARD 3rd PARTY CROSSING 160mm INDEX SHEET | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| XDC-CBL-STND-H-002 | 002 | STANDARD 3rd PARTY CROSSING ABOVE IN FULL FLAT FORMATION 160mm HV DUCTS | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| XDC-CBL-STND-H-002 | 003 | STANDARD 3rd PARTY CROSSING ABOVE IN TREFOIL FORMATION 160mm HV DUCTS | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | <table><tr><td colspan="2">00</td><td colspan="2">FIRST ISSUE</td><td>DA</td><td>DG</td><td>CF</td><td>09/03/2020</td></tr><tr><td>REV</td><td colspan="2">DESC</td><td>DRAWN</td><td>CHECKED</td><td>APPROVED</td><td colspan="2">DATE</td></tr></table> <div><div><div></div><div><div>EirGrid plc</div><div>The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland</div><div>Telephone: +353 1 677 1700</div><div>Fax: +353 1 661 5375</div><div>Email: info@eirgrid.com</div><div>Web: www.eirgrid.com</div></div><div><div>COPYRIGHT © EirGrid plc</div><div>All rights reserved. No part of this work may be modified or reproduced or copied in any form or by any means – graphic, electronic or mechanical, including photocopying, recording, taping or information and retrieval system, or used for any purpose other than its designated purpose, without the written permission of EirGrid plc</div></div></div><table><tr><td colspan="4">STANDARD 110kV CABLE DRAWINGS</td></tr><tr><td colspan="4">DRAWING TITLE</td></tr><tr><td colspan="4">STANDARD 3rd PARTY CROSSING 160mm INDEX SHEET</td></tr><tr><td>No of Shts</td><td>3</td><td>SIZE</td><td>A3</td></tr><tr><td>SCALE</td><td colspan="3">N/A</td></tr><tr><td colspan="2">DRAWING NUMBER</td><td>XDC-CBL-STND-H-002</td><td></td></tr><tr><td>SHEET</td><td>001</td><td>REV</td><td>00</td></tr></table></div> | | | | | | | | 00 | | FIRST ISSUE | | DA | DG | CF | 09/03/2020 | REV | DESC | | DRAWN | CHECKED | APPROVED | DATE | | STANDARD 110kV CABLE DRAWINGS | | | | DRAWING TITLE | | | | STANDARD 3rd PARTY CROSSING 160mm INDEX SHEET | | | | No of Shts | 3 | SIZE | A3 | SCALE | N/A | | | DRAWING NUMBER | | XDC-CBL-STND-H-002 | | SHEET | 001 | REV | 00 |
| 00 | | FIRST ISSUE | | DA | DG | CF | 09/03/2020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| REV | DESC | | DRAWN | CHECKED | APPROVED | DATE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| STANDARD 110kV CABLE DRAWINGS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWING TITLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| STANDARD 3rd PARTY CROSSING 160mm INDEX SHEET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No of Shts | 3 | SIZE | A3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SCALE | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWING NUMBER | | XDC-CBL-STND-H-002 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SHEET | 001 | REV | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

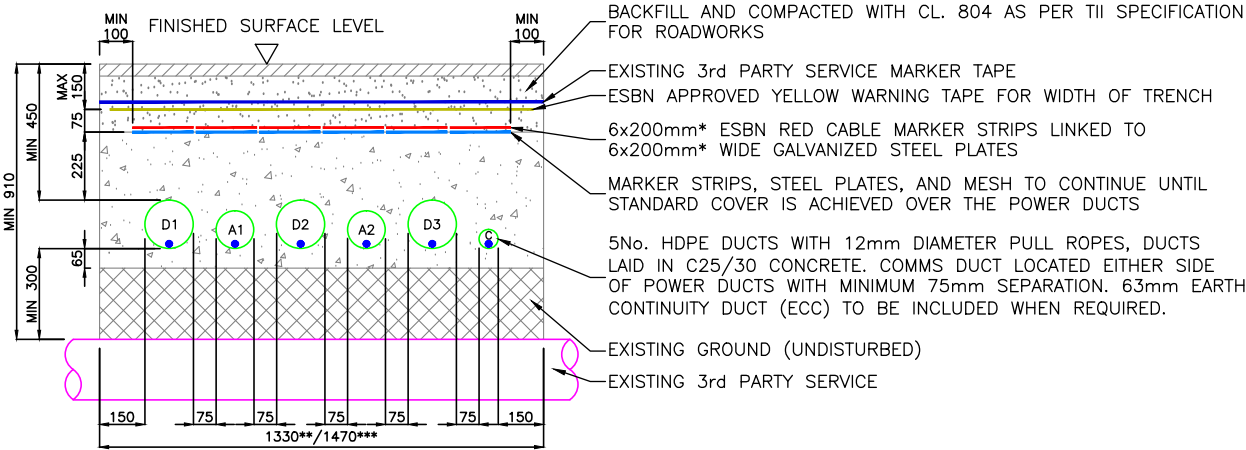


NOTES:

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FULL FLAT FORMATION – REDUCED DEPTH FOR CROSSING OVER 3RD PARTY SERVICE



A= 125mm O.D. HDPE DUCT FOR COMMUNICATIONS
D= 160mm O.D. HDPE DUCT FOR HV CABLE
C= 63mm O.D. HDPE DUCT FOR EARTH CONTINUITY CONDUCTOR

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** MIN 1225mm WHERE ECC NOT REQUIRED
*** SEE NOTE 9

| | | | | | |
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EirGrid plc

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STANDARD 110kV CABLE DRAWINGS

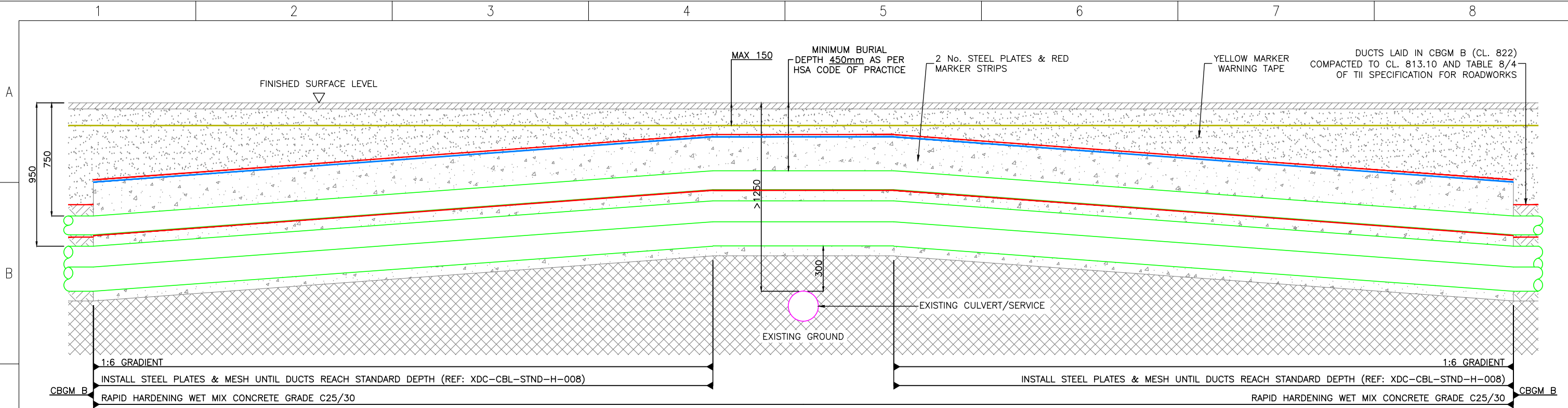
DRAWING TITLE

STANDARD 3rd PARTY CROSSING
ABOVE IN FULL FLAT FORMATION
160mm HV DUCTS

| | | | | | |
|----------------|--------------------|------|----|-------|-----|
| No of Shts | 3 | SIZE | A3 | SCALE | N/A |
| DRAWING NUMBER | XDC-CBL-STND-H-002 | | | SHEET | REV |
| | | | | 002 | 00 |

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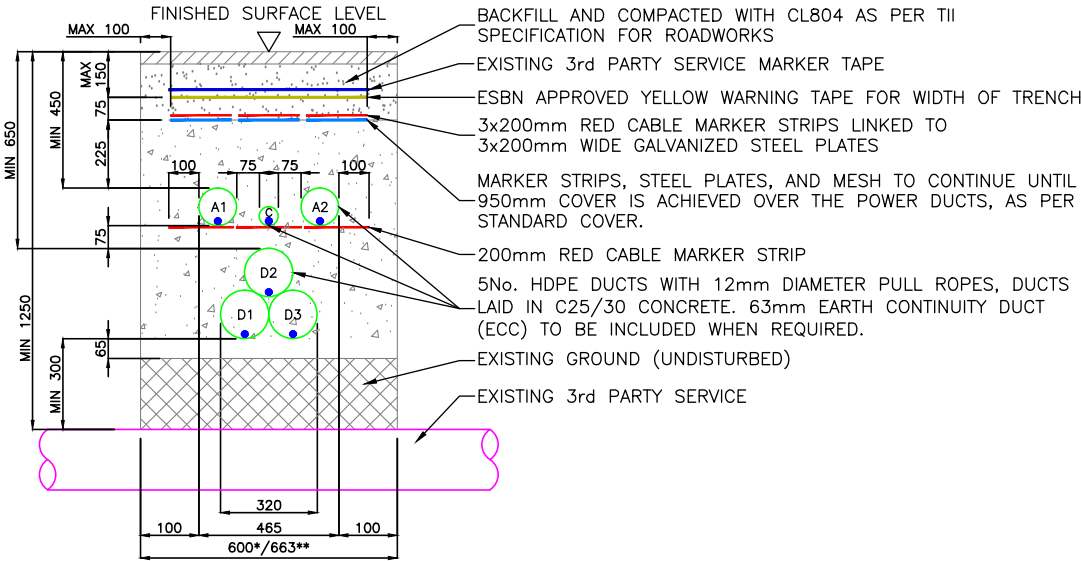


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TREFOIL FORMATION – REDUCED DEPTH FOR CROSSING OVER 3RD PARTY SERVICE






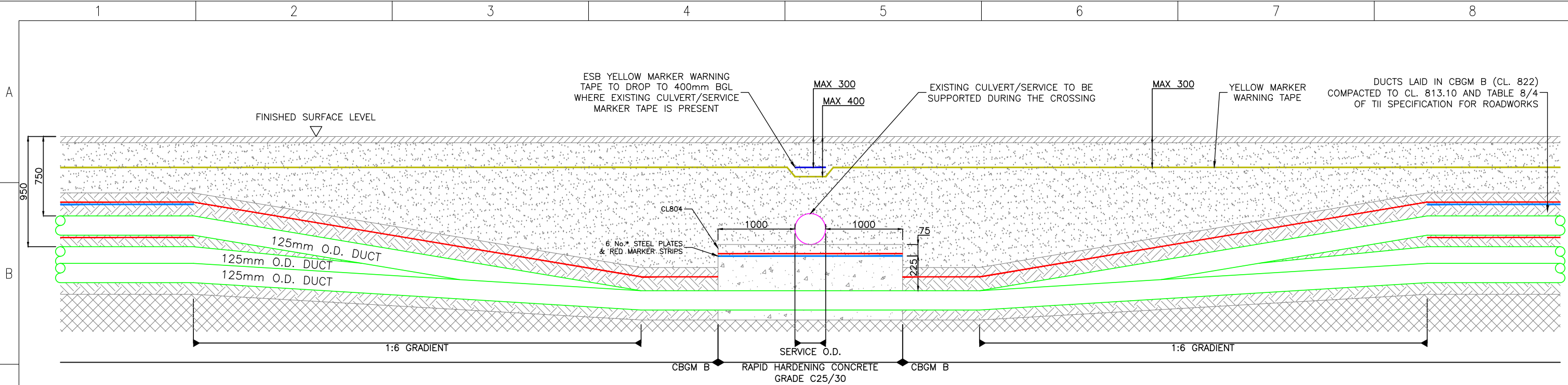
A= 125mm O.D. HDPE DUCT FOR COMMUNICATIONS
D= 160mm O.D. HDPE DUCT FOR HV CABLE
C= 63mm O.D. PVC DUCT FOR EARTH CONTINUITY CONDUCTOR

* MIN 600mm WHERE ECC NOT REQUIRED
** SEE NOTE 9

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| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
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|---|-------------------------------|---|---|--------------------|----|-------|-----|-----|----|
| <div><div></div><div><div>EirGrid plc</div><div>The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland</div><div>Telephone: +353 1 677 1700</div><div>Fax: +353 1 661 5375</div><div>Email: info@eirgrid.com</div><div>Web: www.eirgrid.com</div></div></div> | STANDARD 110kV CABLE DRAWINGS | | | | | | | | |
| | DRAWING TITLE | | | | | | | | |
| COPYRIGHT © EirGrid plc | | STANDARD 3rd PARTY CROSSING ABOVE IN TREFOIL FORMATION 160mm HV DUCTS | | | | | | | |
| All rights reserved. No part of this work may be modified or reproduced or copied in any form or by any means – graphic, electronic or mechanical, including photocopying, recording, taping or information and retrieval system, or used for any purpose other than its designated purpose, without the written permission of EirGrid plc | | No of Shts | 3 | SIZE | A3 | SCALE | N/A | | |
| | | DRAWING NUMBER | | XDC-CBL-STND-H-002 | | SHEET | 003 | REV | 00 |

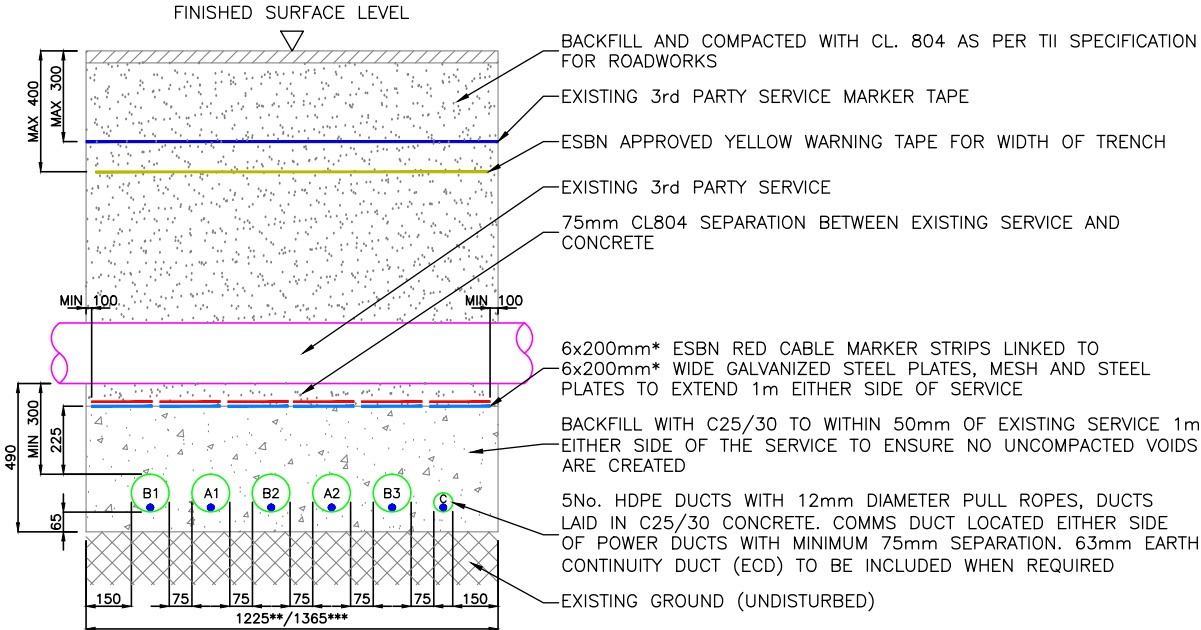
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--------------|----------|------------|----|------------|-----|-------------|-----------|-------------|--------------|--------------------|-----|---|---|--------------------|---|--|------------|--------------------|------|--|--------|------------------|------|-----------------|-------------------------|--|--|--|---|--|--|--|-------------------------------|--|--|---------------|--|--|---|--|--|------------|---|---------|----------------|--|-----------|--------------------|--|-----------|--|--|--------|
| A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | STANDARD 110kV CABLE DRAWINGS STANDARD CROSSING BELOW 3rd PARTY SERVICE FOR 125mm DUCTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | <table><tr><th>DRAWING No.</th><th>SHEET No.</th><th>DESCRIPTION</th><th>REVISION No.</th></tr><tr><td>XDC-CBL-STND-H-003</td><td>001</td><td>STANDARD 3rd PARTY CROSSING 125mm INDEX SHEET</td><td>00</td></tr><tr><td>XDC-CBL-STND-H-003</td><td>002</td><td>STANDARD 3rd PARTY CROSSING 125mm BELOW IN FULL FLAT FORMATION</td><td>00</td></tr><tr><td>XDC-CBL-STND-H-003</td><td>003</td><td>STANDARD 3rd PARTY CROSSING 125mm BELOW IN TREFOIL FORMATION</td><td>00</td></tr></table> | | | | | | | | DRAWING No. | SHEET No. | DESCRIPTION | REVISION No. | XDC-CBL-STND-H-003 | 001 | STANDARD 3rd PARTY CROSSING 125mm INDEX SHEET | 00 | XDC-CBL-STND-H-003 | 002 | STANDARD 3rd PARTY CROSSING 125mm BELOW IN FULL FLAT FORMATION | 00 | XDC-CBL-STND-H-003 | 003 | STANDARD 3rd PARTY CROSSING 125mm BELOW IN TREFOIL FORMATION | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWING No. | SHEET No. | DESCRIPTION | REVISION No. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| XDC-CBL-STND-H-003 | 001 | STANDARD 3rd PARTY CROSSING 125mm INDEX SHEET | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| XDC-CBL-STND-H-003 | 002 | STANDARD 3rd PARTY CROSSING 125mm BELOW IN FULL FLAT FORMATION | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| XDC-CBL-STND-H-003 | 003 | STANDARD 3rd PARTY CROSSING 125mm BELOW IN TREFOIL FORMATION | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | <table><tr><td>00</td><td>FIRST ISSUE</td><td>DA</td><td>DG</td><td>CF</td><td>09/03/2020</td></tr><tr><td>REV</td><td>DESC</td><td>DRAWN</td><td>CHECKED</td><td>APPROVED</td><td>DATE</td></tr></table> | 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 | REV | DESC | DRAWN | CHECKED | APPROVED | DATE | | | <table><tr><td></td><td>EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland</td></tr><tr><td>Telephone:</td><td>+353 1 677 1700</td></tr><tr><td>Fax:</td><td>+353 1 661 5375</td></tr><tr><td>Email:</td><td>info@eirgrid.com</td></tr><tr><td>Web:</td><td>www.eirgrid.com</td></tr><tr><td colspan="2">COPYRIGHT © EirGrid plc</td></tr><tr><td colspan="2">All rights reserved. No part of this work may be modified or reproduced or copied in any form or by any means – graphic, electronic or mechanical, including photocopying, recording, taping or information and retrieval system, or used for any purpose other than its designated purpose, without the written permission of EirGrid plc</td></tr></table> | |  | EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland | Telephone: | +353 1 677 1700 | Fax: | +353 1 661 5375 | Email: | info@eirgrid.com | Web: | www.eirgrid.com | COPYRIGHT © EirGrid plc | | All rights reserved. No part of this work may be modified or reproduced or copied in any form or by any means – graphic, electronic or mechanical, including photocopying, recording, taping or information and retrieval system, or used for any purpose other than its designated purpose, without the written permission of EirGrid plc | | <table><tr><td colspan="3">STANDARD 110kV CABLE DRAWINGS</td></tr><tr><td colspan="3">DRAWING TITLE</td></tr><tr><td colspan="3">STANDARD 3rd PARTY CROSSING 125mm INDEX SHEET</td></tr><tr><td>No of Shts</td><td>3</td><td>SIZE A3</td></tr><tr><td colspan="2">DRAWING NUMBER</td><td>SCALE N/A</td></tr><tr><td colspan="2">XDC-CBL-STND-H-003</td><td>SHEET 001</td></tr><tr><td colspan="2"></td><td>REV 00</td></tr></table> | | | | STANDARD 110kV CABLE DRAWINGS | | | DRAWING TITLE | | | STANDARD 3rd PARTY CROSSING 125mm INDEX SHEET | | | No of Shts | 3 | SIZE A3 | DRAWING NUMBER | | SCALE N/A | XDC-CBL-STND-H-003 | | SHEET 001 | | | REV 00 |
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Telephone: | +353 1 677 1700 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fax: | +353 1 661 5375 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Email: | info@eirgrid.com | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Web: | www.eirgrid.com | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| STANDARD 110kV CABLE DRAWINGS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWING TITLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| STANDARD 3rd PARTY CROSSING 125mm INDEX SHEET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No of Shts | 3 | SIZE A3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWING NUMBER | | SCALE N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| XDC-CBL-STND-H-003 | | SHEET 001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | REV 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



- NOTES:
1. ALL PRODUCTS AND MATERIALS TO BE UTILISED DURING CONSTRUCTION TO COMPLY WITH EIRGRID FUNCTIONAL SPECIFICATION, ESNB STANDARDS, TII SPECIFICATION FOR ROAD WORKS AND ALL RELEVANT IRISH (EUROPEAN) AND BRITISH STANDARDS.
 2. 300mm MINIMUM VERTICAL AND HORIZONTAL CLEARANCES TO BE OBSERVED BETWEEN CABLE DUCTS AND THIRD PARTY SERVICES (e.g. GAS PIPES, WATER MAINS, CULVERTS, etc.) IN THE CASE OF HIGH RISK 3rd PARTY SERVICES, GREATER CLEARANCES MAY BE REQUIRED. DESIGNER TO CONSULT EIRGRID AND 3rd PARTY SERVICE OWNERS FOR GUIDANCE.
 3. STEEL PLATES MUST COVER DUCTS. NO OVERLAP IS REQUIRED HOWEVER STANDARD DIMENSIONS MAY RESULT IN AN OVERLAP. SPACING OF 25mm TO BE MAINTAINED BETWEEN STEEL PLATES TO PREVENT THE TRANSFER OF STRAY CURRENT.
 4. THE MINIMUM CLEARANCE BETWEEN ALL HV AND COMMUNICATION DUCTS IS **75mm**, BUT INCREASED SPACING MAY BE REQUIRED IN ORDER TO ACHIEVE THE CABLE RATING (TO BE CONFIRMED BY DESIGNER CABLE RATING CALCULATIONS).
 5. DRAWING IS INDICATIVE ONLY, TO BE USED TO AID IN THE DESIGN OF THE RELEVANT INFRASTRUCTURE.
 6. TEMPLATES ARE TO BE USED AT 5m INTERVALS DURING DUCT INSTALLATION IN CBGM. PRE-MADE 75mm WIDE CONCRETE SPACERS TO BE USED DURING DUCT INSTALLATION IN WET CONCRETE.
 7. HAND DIG WITHIN 500mm OF EXISTING SERVICE.
 8. WHERE AN EARTH CONTINUITY CONDUCTOR (ECC) IS REQUIRED, A MIN 63mm DUCT TO BE INSTALLED OUTSIDE OF PHASE DUCT.
 9. IF EXISTING SERVICE MARKER TAPE IS NOT PRESENT, THE ESNB YELLOW MARKER TAPE SHOULD BE INSTALLED AT MAXIMUM 300mm BELOW FINISHED SURFACE LEVEL.

- RED MARKER STRIP
- YELLOW MARKER WARNING TAPE
- EXISTING SERVICE MARKER STRIP
- 6mm GALVANISED STEEL PLATE
- RAPID HARDENING WET CONCRETE C25/30
- CBGM B (CL. 822), COMPACTED TO CL. 813.10
- BACKFILL, COMPACTED (CL. 804)
- EXISTING GROUND


FULL FLAT FORMATION FOR CROSSING
BELOW 3RD PARTY SERVICE



A= 125mm O.D. HDPE DUCT FOR COMMUNICATIONS
B= 125mm O.D. HDPE DUCT FOR HV CABLE
C= 63mm O.D. HDPE DUCT FOR EARTH CONTINUITY CONDUCTOR

* 5x200mm STEEL PLATES AND RED MARKER WHERE ECC IS NOT REQUIRED
** MIN 1225mm WHERE ECC NOT REQUIRED
*** SEE NOTE 8

| | | | | | |
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STANDARD 110kV CABLE DRAWINGS

DRAWING TITLE

STANDARD 3rd PARTY CROSSING
125mm BELOW IN FULL FLAT
FORMATION

No of Shts3

SIZEA3

SCALEN/A

DRAWING NUMBER

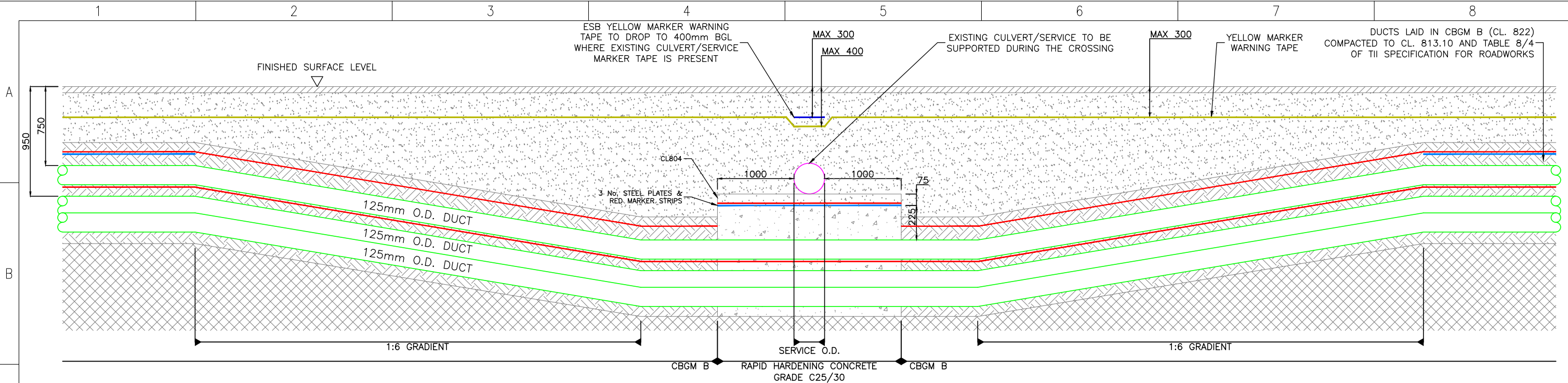
XDC-CBL-STND-H-003

SHEET

002

REV

00

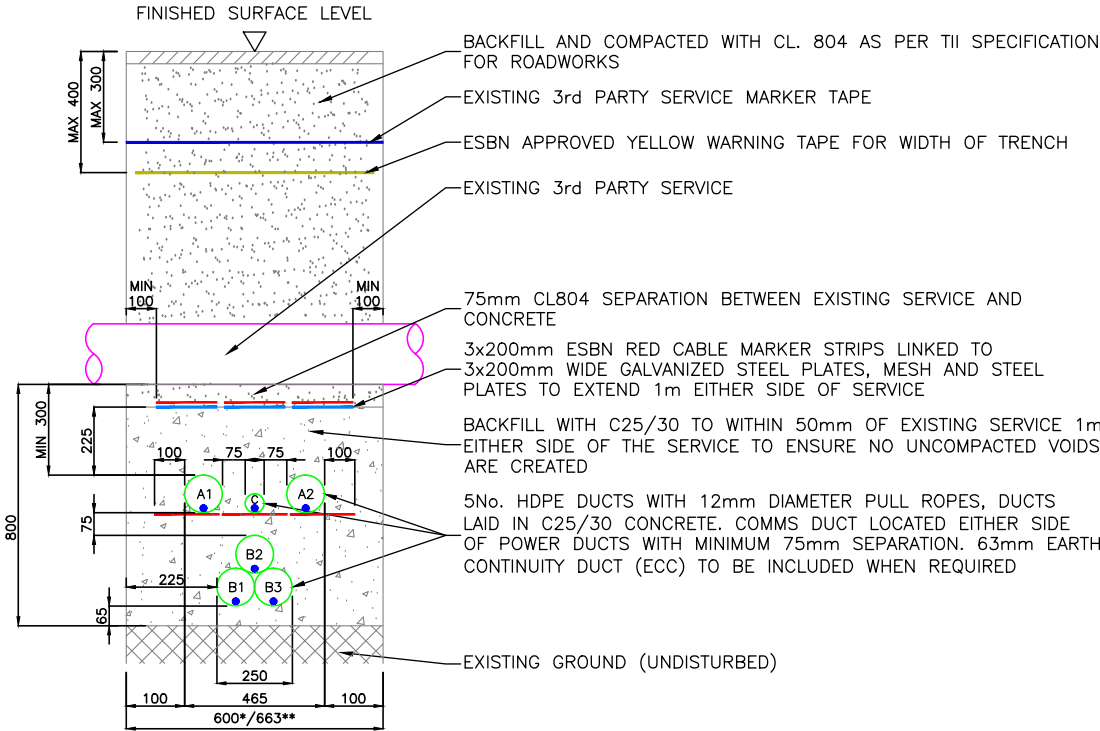


NOTES:

1. ALL PRODUCTS AND MATERIALS TO BE UTILISED DURING CONSTRUCTION TO COMPLY WITH EIRGRID FUNCTIONAL SPECIFICATION, ESNB STANDARDS, TII SPECIFICATION FOR ROAD WORKS AND ALL RELEVANT IRISH (EUROPEAN) AND BRITISH STANDARDS.
2. 300mm MINIMUM VERTICAL AND HORIZONTAL CLEARANCES TO BE OBSERVED BETWEEN CABLE DUCTS AND THIRD PARTY SERVICES (e.g. GAS PIPES, WATER MAINS, CULVERTS, etc.) IN THE CASE OF HIGH RISK 3rd PARTY SERVICES, GREATER CLEARANCES MAY BE REQUIRED. DESIGNER TO CONSULT EIRGRID AND 3rd PARTY SERVICE OWNERS FOR GUIDANCE.
3. STEEL PLATES MUST COVER DUCTS. NO OVERLAP IS REQUIRED HOWEVER STANDARD DIMENSIONS MAY RESULT IN AN OVERLAP. SPACING OF 25mm TO BE MAINTAINED BETWEEN STEEL PLATES TO PREVENT THE TRANSFER OF STRAY CURRENT.
4. THE MINIMUM CLEARANCE BETWEEN ALL HV AND COMMUNICATION DUCTS IS **75mm**, (CABLE RATING CALCULATIONS TO BE REQUIRED FOR ACCEPTANCE).
5. DRAWING IS INDICATIVE ONLY, TO BE USED TO AID IN THE DESIGN OF THE RELEVANT INFRASTRUCTURE.
6. TEMPLATES ARE TO BE USED AT 5m INTERVALS DURING DUCT INSTALLATION IN CBGM. PRE-MADE 75mm WIDE CONCRETE SPACERS TO BE USED DURING DUCT INSTALLATION IN WET CONCRETE.
7. HAND DIG WITHIN 500mm OF EXISTING SERVICE.
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9. IF EXISTING SERVICE MARKER TAPE IS NOT PRESENT, THE ESNB YELLOW MARKER TAPE SHOULD BE INSTALLED AT MAXIMUM 300mm BELOW FINISHED SURFACE LEVEL.

- RED MARKER STRIP
- YELLOW MARKER WARNING TAPE
- EXISTING SERVICE MARKER STRIP
- 6mm GALVANISED STEEL PLATE
- RAPID HARDENING WET CONCRETE C25/30
- CBGM B (CL. 822), COMPACTED TO CL. 813.10
- BACKFILL, COMPACTED (CL. 804)
- EXISTING GROUND


TREFOIL FORMATION FOR CROSSING
BELOW 3RD PARTY SERVICE



A= 125mm O.D. HDPE DUCT FOR COMMUNICATIONS
B= 125mm O.D. HDPE DUCT FOR HV CABLE
C= 63mm O.D. HDPE DUCT FOR EARTH CONTINUITY CONDUCTOR

* MIN 600mm WHERE ECC NOT REQUIRED
** SEE NOTE 8

| | | | | | |
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|  EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com | | STANDARD 110kV CABLE DRAWINGS | |
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| No of Shts 3 | SIZE A3 | SCALE N/A | |
| DRAWING NUMBER XDC-CBL-STND-H-003 | | SHEET 003 | REV 00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| A | | | | | | | | |
| B | | | | | | | | |
| C | | | | | | | | |
| D | | | | | | | | |
| E | | | | | | | | |
| F | | | | | | | | |

STANDARD 110kV CABLE DRAWINGS
STANDARD CROSSING BELOW
3rd PARTY SERVICE FOR 160mm DUCTS

| DRAWING No. | SHEET No. | DESCRIPTION | REVISION No. |
|--------------------|-----------|--|--------------|
| XDC-CBL-STND-H-004 | 001 | STANDARD 3rd PARTY CROSSING 160mm INDEX SHEET | 00 |
| XDC-CBL-STND-H-004 | 002 | STANDARD 3rd PARTY CROSSING 160mm BELOW IN FULL FLAT FORMATION | 00 |
| XDC-CBL-STND-H-004 | 003 | STANDARD 3rd PARTY CROSSING 160mm BELOW IN TREFOIL FORMATION | 00 |

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
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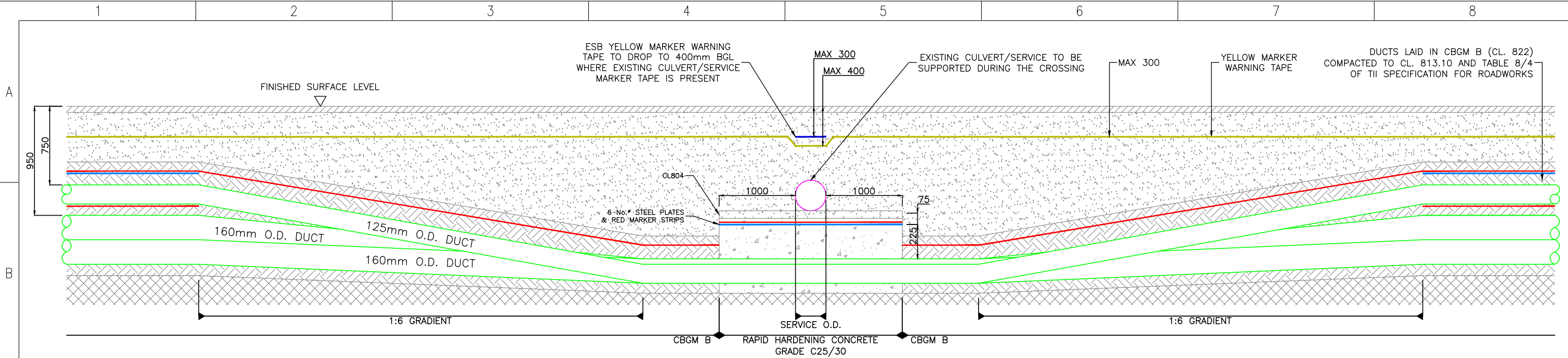
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Web: www.eirgrid.com

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| | | |
|---|------------|--------------|
| STANDARD 110kV CABLE DRAWINGS | | |
| DRAWING TITLE | | |
| STANDARD 3rd PARTY CROSSING 160mm INDEX SHEET | | |
| No of Shts 3 | SIZE A3 | SCALE N/A |
| DRAWING NUMBER XDC-CBL-STND-H-004 | | SHEET 001 |
| | | REV 00 |

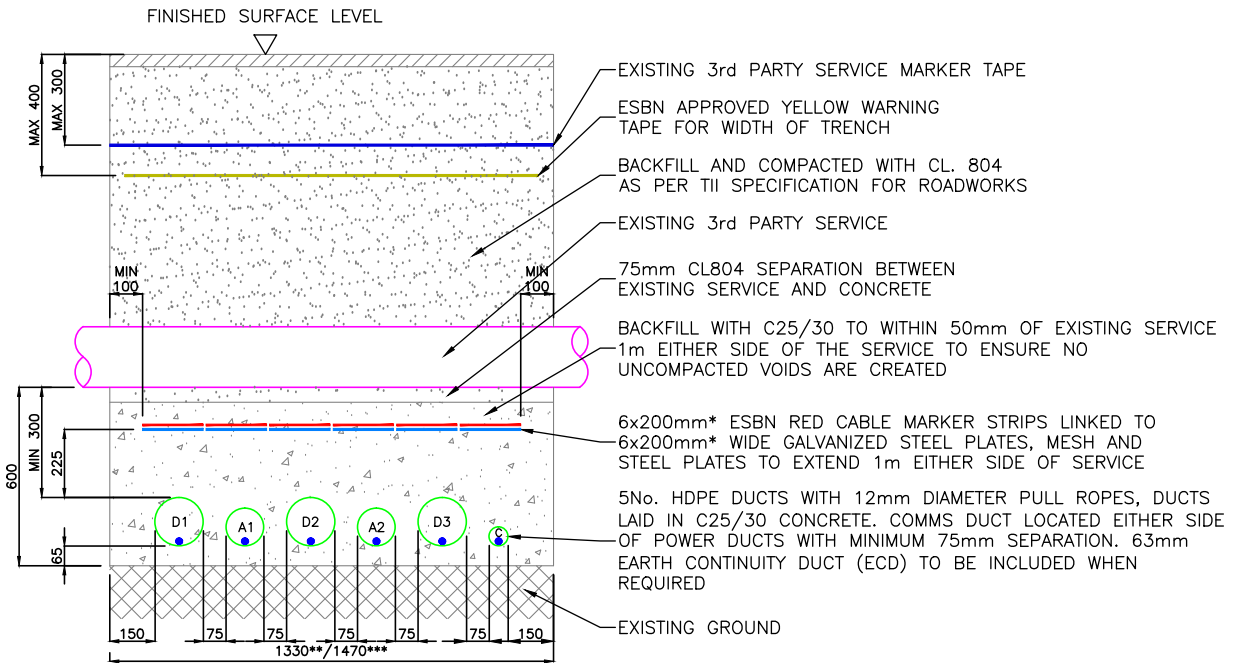


NOTES:

1. ALL PRODUCTS AND MATERIALS TO BE UTILISED DURING CONSTRUCTION TO COMPLY WITH EIRGRID FUNCTIONAL SPECIFICATION, ESBN STANDARDS, TII SPECIFICATION FOR ROAD WORKS AND ALL RELEVANT IRISH (EUROPEAN) AND BRITISH STANDARDS.
2. 300mm MINIMUM VERTICAL AND HORIZONTAL CLEARANCES TO BE OBSERVED BETWEEN CABLE DUCTS AND THIRD PARTY SERVICES (e.g. GAS PIPES, WATER MAINS, CULVERTS, etc.) IN THE CASE OF HIGH RISK 3rd PARTY SERVICES, GREATER CLEARANCES MAY BE REQUIRED. DESIGNER TO CONSULT EIRGRID AND 3rd PARTY SERVICE OWNERS FOR GUIDANCE.
3. STEEL PLATES MUST COVER DUCTS. NO OVERLAP IS REQUIRED HOWEVER STANDARD DIMENSIONS MAY RESULT IN AN OVERLAP. SPACING OF 10mm TO BE MAINTAINED BETWEEN STEEL PLATES TO PREVENT THE TRANSFER OF STRAY CURRENT.
4. THE MINIMUM CLEARANCE BETWEEN ALL HV AND COMMUNICATION DUCTS IS **75mm**, (CABLE RATING CALCULATIONS TO BE PROVIDED FOR ACCEPTANCE).
5. DRAWING IS INDICATIVE ONLY, TO BE USED TO AID IN THE DESIGN OF THE RELEVANT INFRASTRUCTURE.
6. TEMPLATES ARE TO BE USED AT 5m INTERVALS DURING DUCT INSTALLATION IN CBGM. PRE-MADE 75mm WIDE CONCRETE SPACERS TO BE USED DURING DUCT INSTALLATION IN WET CONCRETE.
7. MINIMUM SPACING BETWEEN POWER DUCTS TO BE CONFIRMED WITH RATING CALCULATION.
8. HAND DIG WITHIN 500mm OF EXISTING SERVICE.
9. WHERE AN EARTH CONTINUITY CONDUCTOR (ECC) IS REQUIRED, A MIN 63mm DUCT TO BE INSTALLED OUTSIDE OF PHASE DUCT.
10. IF EXISTING SERVICE MARKER TAPE IS NOT PRESENT, THE ESBN YELLOW MARKER TAPE SHOULD BE INSTALLED AT MAXIMUM 300mm BELOW FINISHED SURFACE LEVEL.

- RED MARKER STRIP
- YELLOW MARKER WARNING TAPE
- EXISTING SERVICE MARKER STRIP
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- RAPID HARDENING WET CONCRETE C25/30
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- BACKFILL, COMPACTED (CL. 804)
- EXISTING GROUND


FULL FLAT FORMATION FOR CROSSING
BELOW 3RD PARTY SERVICE

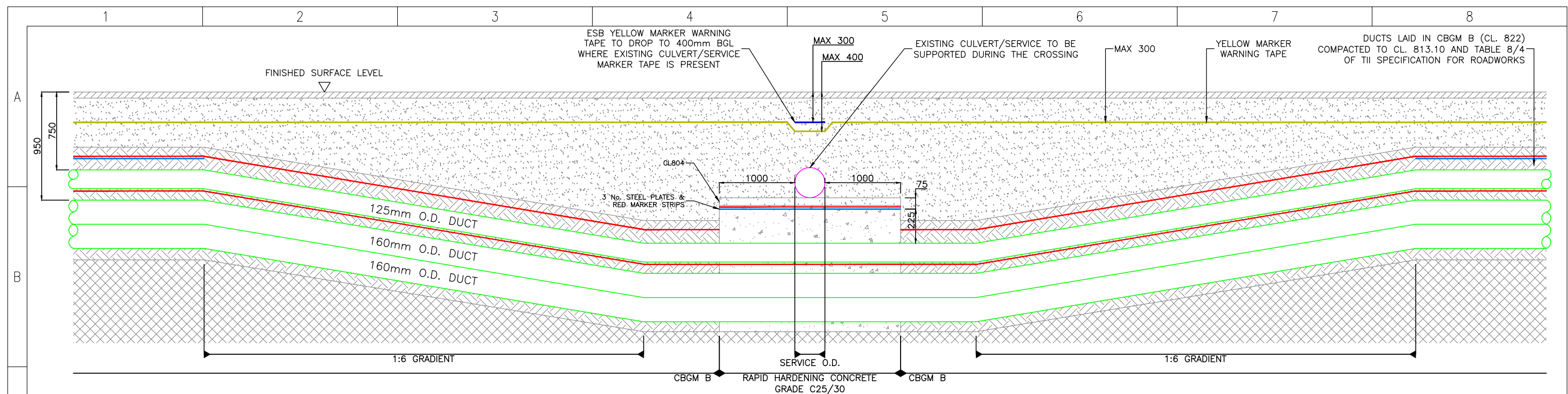


A= 125mm O.D. HDPE DUCT FOR COMMUNICATIONS
D= 160mm O.D. HDPE DUCT FOR HV CABLE
C= 63mm O.D. HDPE DUCT FOR EARTH CONTINUITY CONDUCTOR

* 5x200mm STEEL PLATE AND RED MARKER WHERE ECC IS NOT REQUIRED
** MIN 1330mm WHERE ECC NOT REQUIRED
*** SEE NOTE 9

| | | | | | |
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| No of Shts 3 | SIZE A3 | SCALE N/A | |
| DRAWING NUMBER XDC-CBL-STND-H-004 | | SHEET 002 | REV 00 |

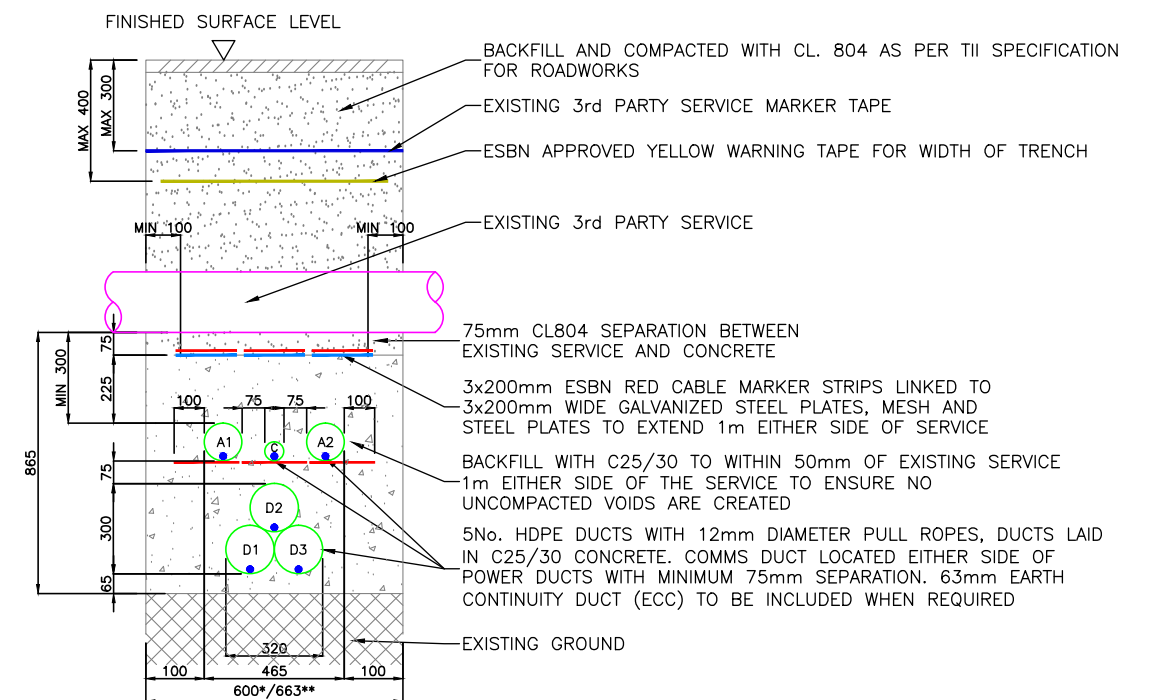


- NOTES:

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4. THE MINIMUM CLEARANCE BETWEEN ALL HV AND COMMUNICATION DUCTS IS 75mm, (CABLE RATING CALCULATIONS TO BE PROVIDED FOR ACCEPTANCE).
5. DRAWING IS INDICATIVE ONLY, TO BE USED TO AID IN THE DESIGN OF THE RELEVANT INFRASTRUCTURE.
6. TEMPLATES ARE TO BE USED AT 5m INTERVALS DURING DUCT INSTALLATION IN CBGM. PRE-MADE 75mm WIDE CONCRETE SPACERS TO BE USED DURING DUCT INSTALLATION IN WET CONCRETE.
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- | | |
|---|---|
|  | RED MARKER STRIP |
|  | YELLOW MARKER WARNING TAPE |
|  | EXISTING SERVICE MARKER STRIP |
|  | 6mm GALVANISED STEEL PLATE |
|  | RAPID HARDENING WET CONCRETE C25/30 |
|  | CBGM B (CL. 822), COMPACTED TO CL. 813.10 |
|  | BACKFILL, COMPACTED (CL. 804) |
|  | EXISTING GROUND |


TREFOIL FORMATION FOR CROSSING
BELOW 3RD PARTY SERVICE



A= 125mm O.D. HDPE DUCT FOR COMMUNICATIONS
D= 160mm O.D. HDPE DUCT FOR HV CABLE
C= 63mm O.D. HDPE DUCT FOR EARTH CONTINUITY CONDUCTOR

* MIN 600mm WHERE ECC NOT REQUIRED
** SEE NOTE 9


| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |

| | | | | | | |
|---|---|---|------|----|-------|-----|
|  EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland | STANDARD 110kV CABLE DRAWINGS | | | | | |
| | DRAWING TITLE | | | | | |
| Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com | STANDARD 3rd PARTY CROSSING 160mm BELOW IN TREFOIL FORMATION | | | | | |
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| | DRAWING NUMBER | | | | SHEET | REV |
| | XDC-CBL-STND-H-004 | | | | 003 | 00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| A | | | | | | | | |
| B | | | | | | | | |
| C | | | | | | | | |
| D | | | | | | | | |
| E | | | | | | | | |
| F | | | | | | | | |

STANDARD 110kV CABLE DRAWINGS
STANDARD CROSSING BELOW
RIVERBED FOR 125mm & 160mm DUCTS

| DRAWING No. | SHEET No. | DESCRIPTION | REVISION No. |
|--------------------|-----------|--|--------------|
| XDC-CBL-STND-H-005 | 001 | STANDARD RIVERBED CROSSING INDEX SHEET | 00 |
| XDC-CBL-STND-H-005 | 002 | STANDARD RIVERBED CROSSING 125mm RIVERBED CROSSING | 00 |
| XDC-CBL-STND-H-005 | 003 | STANDARD RIVERBED CROSSING 160mm RIVERBED CROSSING | 00 |

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STANDARD 110kV CABLE DRAWINGS

DRAWING TITLE
STANDARD RIVERBED CROSSING
INDEX SHEET

No of Shts3

SIZEA3

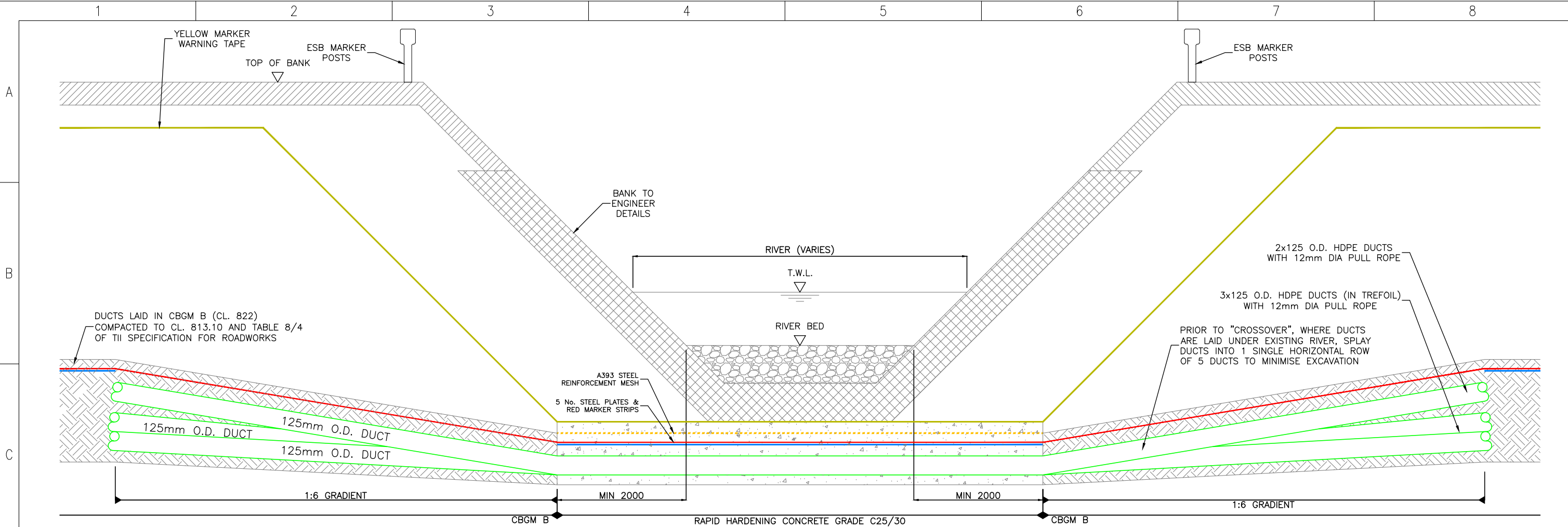
SCALEN/A

DRAWING NUMBER
XDC-CBL-STND-H-005

SHEET
001

REV
00

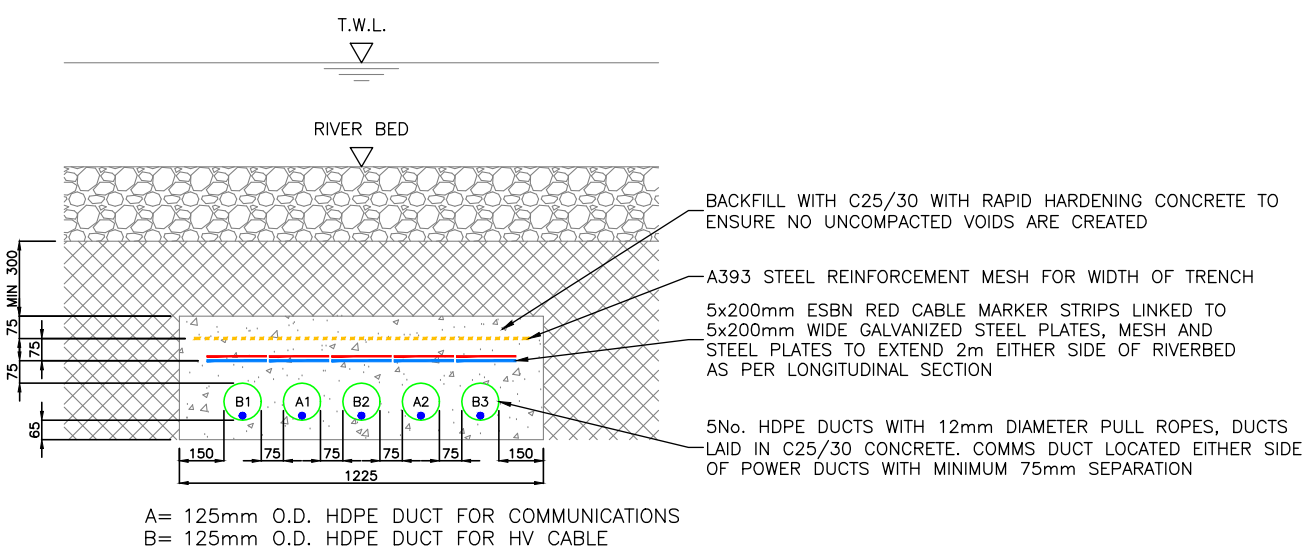
| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |




NOTES:

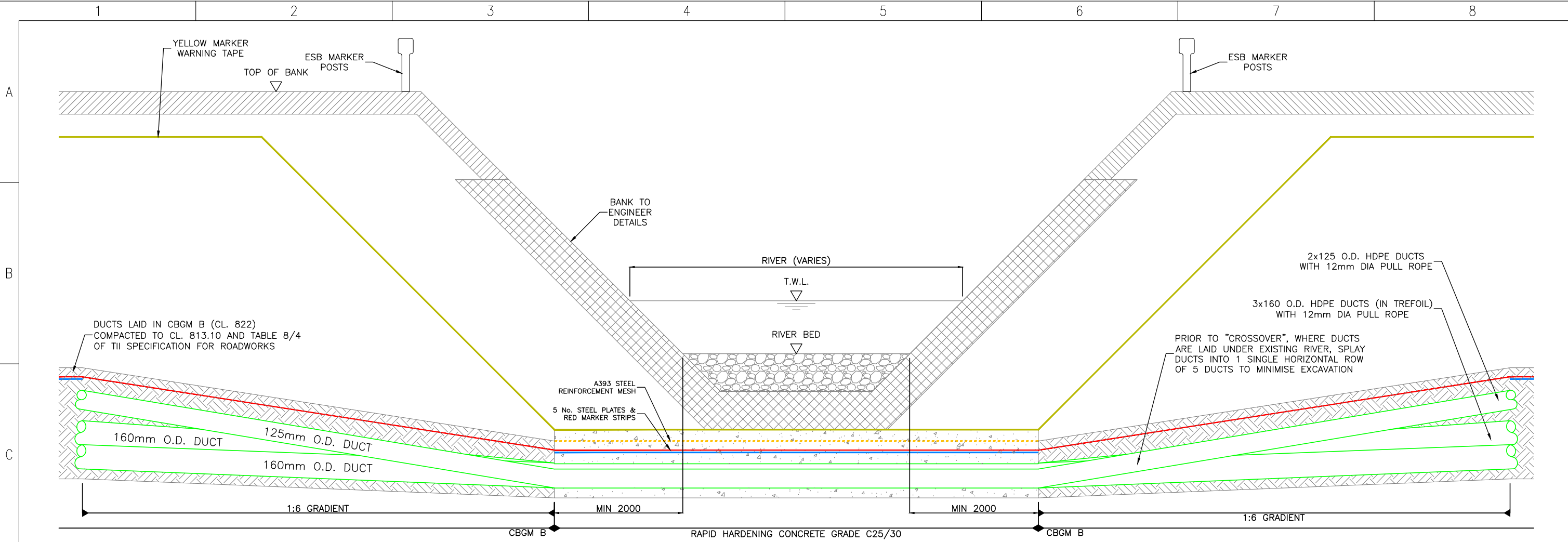
- ALL PRODUCTS AND MATERIALS TO BE UTILISED DURING CONSTRUCTION TO COMPLY WITH EIRGRID FUNCTIONAL SPECIFICATION, ESBN STANDARDS, TII SPECIFICATION FOR ROAD WORKS AND ALL RELEVANT IRISH (EUROPEAN) AND BRITISH STANDARDS.
- 300mm MINIMUM VERTICAL AND HORIZONTAL CLEARANCES TO BE OBSERVED BETWEEN CABLE DUCTS AND THIRD PARTY SERVICES (e.g. GAS PIPES, WATER MAINS, CULVERTS, etc.) IN THE CASE OF HIGH RISK 3rd PARTY SERVICES, GREATER CLEARANCES MAY BE REQUIRED. DESIGNER TO CONSULT EIRGRID AND 3rd PARTY SERVICE OWNERS FOR GUIDANCE.
- STEEL PLATES MUST COVER DUCTS. NO OVERLAP IS REQUIRED HOWEVER STANDARD DIMENSIONS MAY RESULT IN AN OVERLAP. SPACING OF 10mm TO BE MAINTAINED BETWEEN STEEL PLATES TO PREVENT THE TRANSFER OF STRAY CURRENT.
- THE MINIMUM CLEARANCE BETWEEN ALL HV AND COMMUNICATION DUCTS IS 75mm, BUT INCREASED SPACING MAY BE REQUIRED IN ORDER TO ACHIEVE THE CABLE RATING (CABLE RATING CALCULATIONS TO BE PROVIDED FOR ACCEPTANCE).
- DRAWING IS INDICATIVE ONLY, TO BE USED TO AID IN THE DESIGN OF THE RELEVANT INFRASTRUCTURE.
- TEMPLATES ARE TO BE USED AT 5m INTERVALS DURING DUCT INSTALLATION IN CBGM. PRE-MADE 75mm WIDE CONCRETE SPACERS TO BE USED DURING DUCT INSTALLATION IN WET CONCRETE.
- MINIMUM SPACING BETWEEN POWER DUCTS TO BE CONFIRMED WITH RATING CALCULATION.
- MINIMUM CLEARANCE BETWEEN CABLE TRENCH CONCRETE AND RIVER BED TO BE AGREED WITH RELEVANT AUTHORITY. IN ANY CASE, NO LESS THAN 300mm.
- STANDARD ESB MARKER POSTS TO BE INSTALLED AT EITHER SIDE OF RIVER CROSSING.

- RED MARKER STRIP
- YELLOW MARKER WARNING TAPE
- A393 STEEL REINFORCEMENT MESH
- 6mm GALVANISED STEEL PLATE
- RAPID HARDENING WET CONCRETE C25/30
- CBGM B (CL. 822), COMPACTED TO CL. 813.10
- EXISTING GROUND
- REINSTATED RIVERBED



| | | | |
|---|------------|--|-----------|
|  EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com | | STANDARD 110kV CABLE DRAWINGS | |
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| No of Shts 3 | SIZE A3 | SCALE N/A | |
| DRAWING NUMBER XDC-CBL-STND-H-005 | | SHEET 002 | REV 00 |

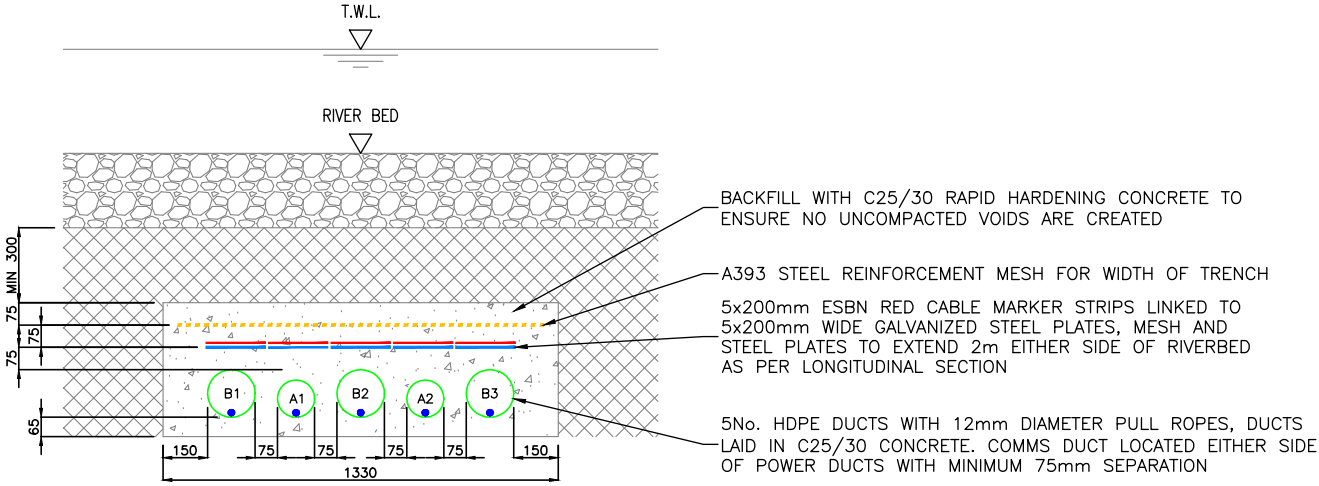
| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |



NOTES:


1. ALL PRODUCTS AND MATERIALS TO BE UTILISED DURING CONSTRUCTION TO COMPLY WITH EIRGRID FUNCTIONAL SPECIFICATION, ESNB STANDARDS, TII SPECIFICATION FOR ROAD WORKS AND ALL RELEVANT IRISH (EUROPEAN) AND BRITISH STANDARDS.
2. 300mm MINIMUM VERTICAL AND HORIZONTAL CLEARANCES TO BE OBSERVED BETWEEN CABLE DUCTS AND THIRD PARTY SERVICES (e.g. GAS PIPES, WATER MAINS, CULVERTS, etc.) IN THE CASE OF HIGH RISK 3rd PARTY SERVICES, GREATER CLEARANCES MAY BE REQUIRED. DESIGNER TO CONSULT EIRGRID AND 3rd PARTY SERVICE OWNERS FOR GUIDANCE.
3. STEEL PLATES MUST COVER DUCTS. NO OVERLAP IS REQUIRED HOWEVER STANDARD DIMENSIONS MAY RESULT IN AN OVERLAP. SPACING OF 10mm TO BE MAINTAINED BETWEEN STEEL PLATES TO PREVENT THE TRANSFER OF STRAY CURRENT.
4. THE MINIMUM CLEARANCE BETWEEN ALL HV AND COMMUNICATION DUCTS IS **75mm**, BUT INCREASED SPACING MAY BE REQUIRED IN ORDER TO ACHIEVE THE CABLE RATING (CABLE RATING CALCULATIONS TO BE PROVIDED FOR ACCEPTANCE).
5. DRAWING IS INDICATIVE ONLY, TO BE USED TO AID IN THE DESIGN OF THE RELEVANT INFRASTRUCTURE.
6. TEMPLATES ARE TO BE USED AT 5m INTERVALS DURING DUCT INSTALLATION IN CBGM. PRE-MADE 75mm WIDE CONCRETE SPACERS TO BE USED DURING DUCT INSTALLATION IN WET CONCRETE.
7. MINIMUM SPACING BETWEEN POWER DUCTS TO BE CONFIRMED WITH RATING CALCULATION.
8. MINIMUM CLEARANCE BETWEEN CABLE TRENCH CONCRETE AND RIVER BED TO BE AGREED WITH RELEVANT AUTHORITY.
9. STANDARD ESB MARKER POSTS TO BE INSTALLED AT EITHER SIDE OF RIVER CROSSING.

- RED MARKER STRIP
- YELLOW MARKER WARNING TAPE
- A393 STEEL REINFORCEMENT MESH
- 6mm GALVANISED STEEL PLATE
- RAPID HARDENING WET CONCRETE C25/30
- CBGM B (CL. 822), COMPACTED TO CL. 813.10
- EXISTING GROUND
- REINSTATED RIVERBED



A= 125mm O.D. HDPE DUCT FOR COMMUNICATIONS
B= 160mm O.D. HDPE DUCT FOR HV CABLE

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
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STANDARD 110kV CABLE DRAWINGS

DRAWING TITLE
STANDARD RIVERBED CROSSING
160mm RIVERBED CROSSING

No of Shts3

SIZEA3

SCALEN/A

DRAWING NUMBER
XDC-CBL-STND-H-005

SHEET003

REV00

1

2

3

4

5

6

7

8

A

B

C

D


E

F

STANDARD 110kV CABLE DRAWINGS
STANDARD BRIDGE CROSSING

| DRAWING No. | SHEET No. | DESCRIPTION | REVISION No. |
|--------------------|-----------|--|--------------|
| XDC-CBL-STND-H-006 | 001 | BRIDGE CROSSING INDEX SHEET | 00 |
| XDC-CBL-STND-H-006 | 002 | BRIDGE CARRIAGEWAY STANDARD 110kV CABLE TRENCH | 00 |

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|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |



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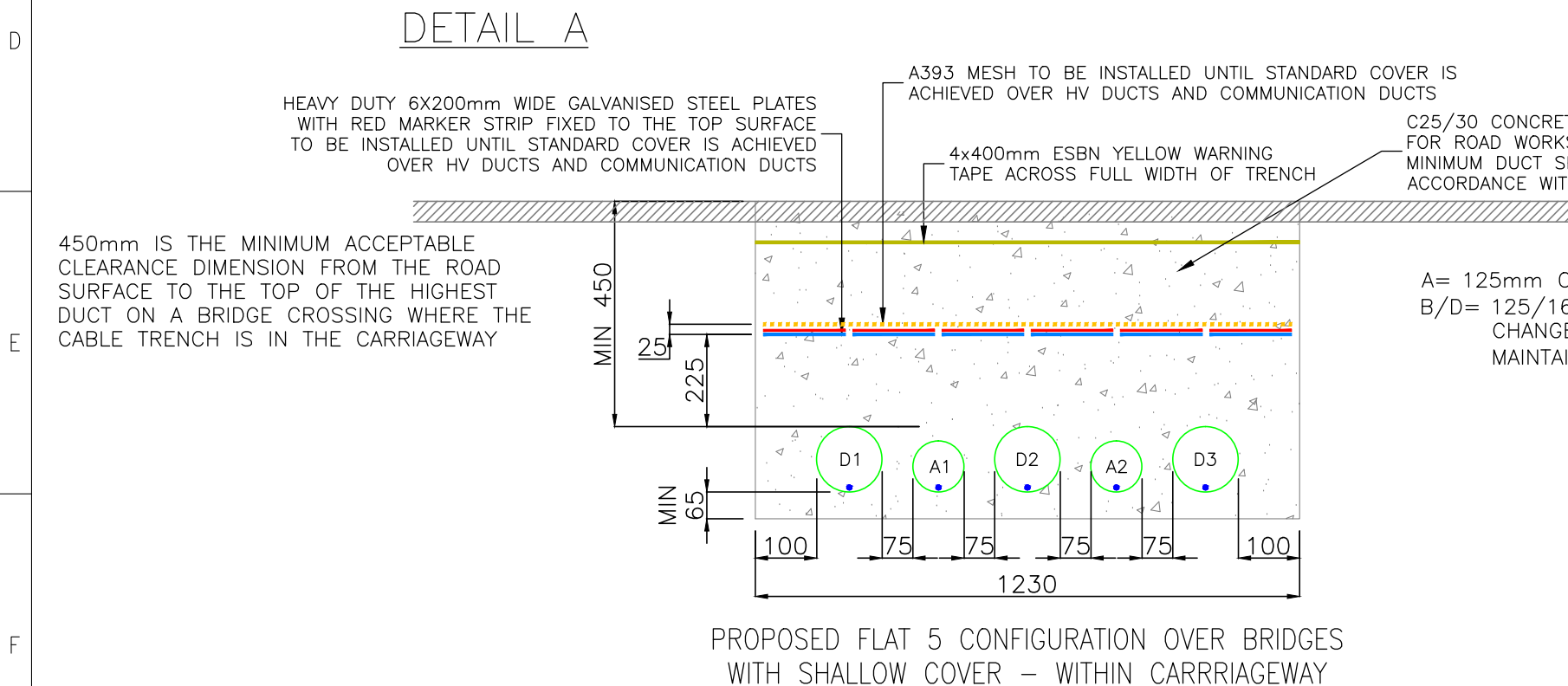
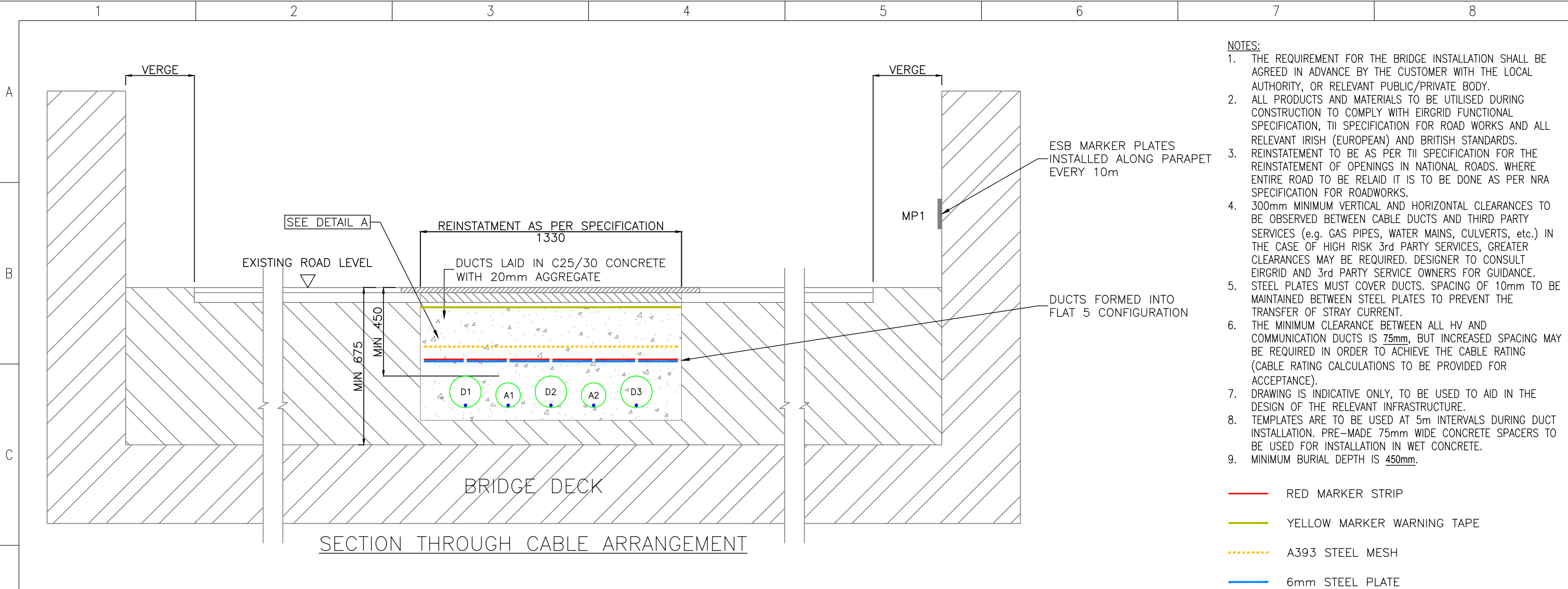
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| | |
|--------------------------------------|--------------|
| STANDARD 110kV CABLE DRAWINGS | |
| DRAWING TITLE | |
| BRIDGE CROSSING INDEX SHEET | |
| No of Shts 2 | SIZE A3 |
| SCALE N/A | |
| DRAWING NUMBER XDC-CBL-STND-H-006 | SHEET 001 |
| REV 00 | |



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|-----|-------------|-------|---------|----------|------------|
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STANDARD 110kV CABLE DRAWINGS

DRAWING TITLE
BRIDGE CARRIAGEWAY
STANDARD 110kV CABLE TRENCH

| | | | | | |
|----------------|--------------------|------|----|-------|-----|
| No of Shts | 2 | SIZE | A3 | SCALE | N/A |
| DRAWING NUMBER | XDC-CBL-STND-H-006 | | | SHEET | REV |
| | | | | 002 | 00 |

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| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| A | | | | | | | | |
| B | | | | | | | | |
| C | | | | | | | | |
| D | | | | | | | | |
| E | | | | | | | | |
| F | | | | | | | | |

STANDARD 110kV CABLE DRAWINGS

STANDARD CABLE TRENCH THROUGH PEAT

| DRAWING No. | SHEET No. | DESCRIPTION | REVISION No. |
|--------------------|-----------|---|--------------|
| XDC-CBL-STND-H-007 | 001 | STANDARD CABLE TRENCH THROUGH PEAT INDEX SHEET | 00 |
| XDC-CBL-STND-H-007 | 002 | SECTION THROUGH SOLID CABLE TRENCH (FLOATING ROAD) PEAT DEPTH <2.5m | 00 |
| XDC-CBL-STND-H-007 | 003 | SECTION THROUGH FLOATING ROAD UPGRADED TO SOLID PEAT DEPTH <2.5m | 00 |
| XDC-CBL-STND-H-007 | 004 | SECTION THROUGH FLOATING ROAD PEAT DEPTH >2.5m | 00 |

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| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |



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STANDARD 110kV CABLE DRAWINGS

DRAWING TITLE

STANDARD CABLE TRENCH THROUGH PEAT INDEX SHEET

| | | | | | |
|----------------|--------------------|------|----|-------|-----|
| No of Shts | 4 | SIZE | A3 | SCALE | N/A |
| DRAWING NUMBER | XDC-CBL-STND-H-007 | | | SHEET | REV |
| | | | | 001 | 00 |

A

B

C

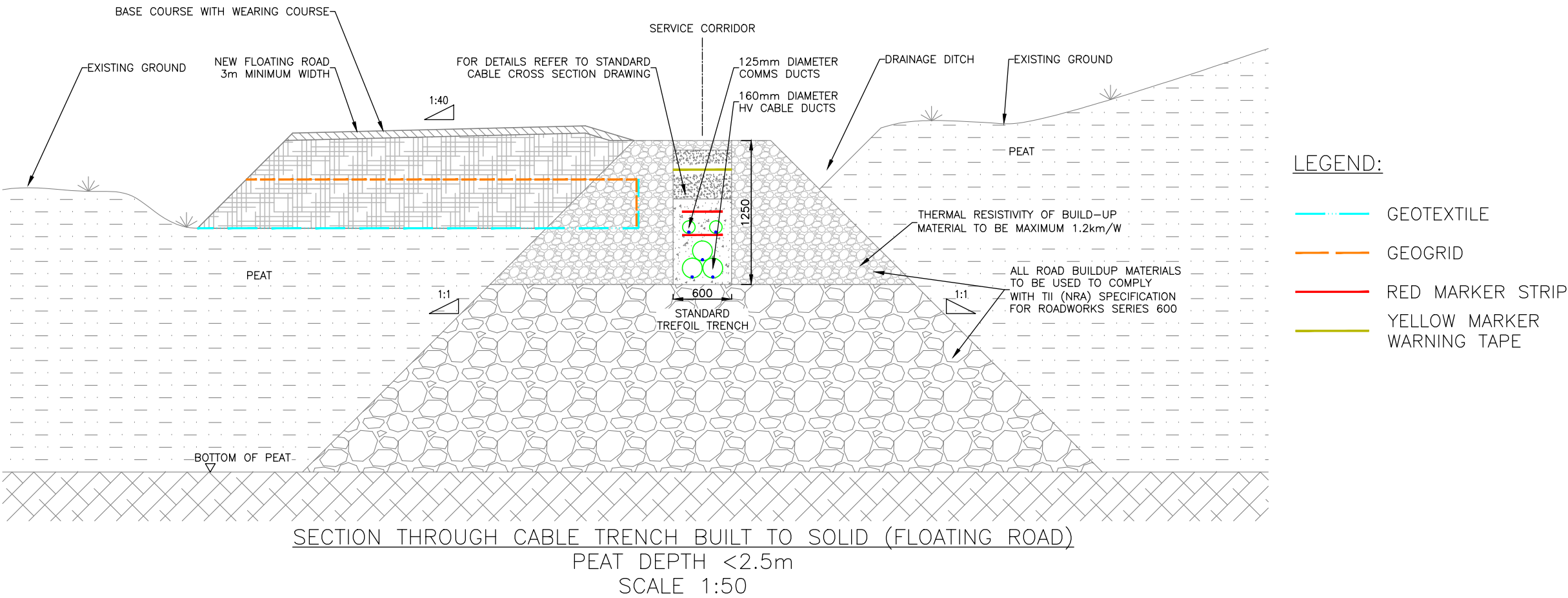
D

E


F

NOTES:

1. BASE COURSE AND WEARING COURSE TO BE IN ACCORDANCE WITH TII (NRA) SPECIFICATION FOR ROADWORKS SERIES 900.
2. ALL PRODUCTS AND MATERIALS TO BE UTILISED DURING CONSTRUCTION TO COMPLY WITH EIRGRID FUNCTIONAL SPECIFICATION, TII SPECIFICATION FOR ROAD WORKS AND ALL RELEVANT IRISH (EUROPEAN) AND BRITISH STANDARDS.
3. DRAWING IS INDICATIVE ONLY, TO BE USED TO AID IN THE DESIGN OF THE RELEVANT INFRASTRUCTURE.
4. FOR DETAILS OF CABLE TRENCH LAYOUT, REFER TO XDC-CBL-STND-H-008.
5. THIS IS A TYPICAL CROSS SECTION DETAIL FOR SHALLOW PEAT INSTALLATION. SPECIFIC CONSTRUCTION DESIGN SHALL COMPLY WITH CDS-HFS-01-001.



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|-----|-------------|-------|---------|----------|------------|
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STANDARD 110kV CABLE DRAWINGS

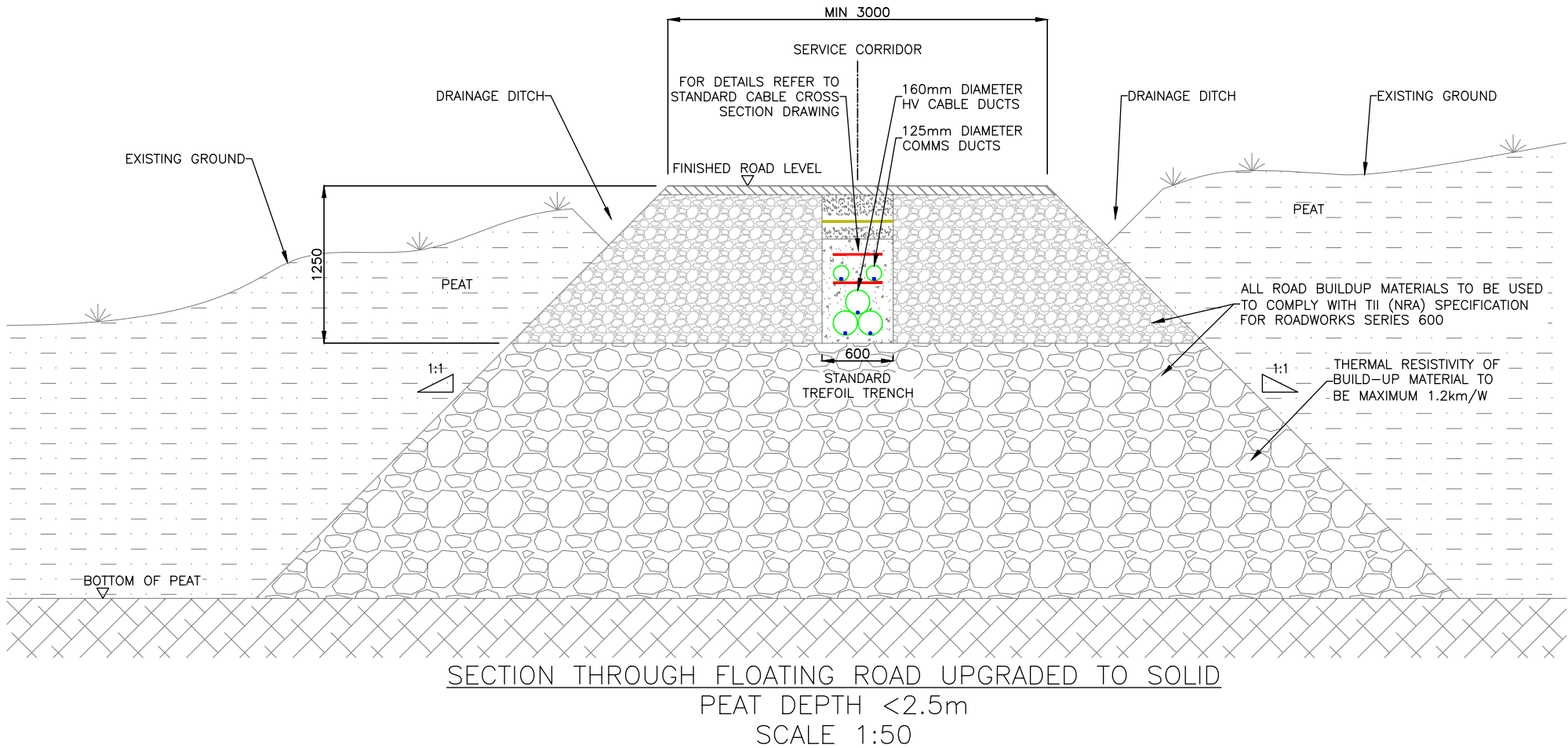
DRAWING TITLE

TYPICAL SECTION THROUGH SOLID CABLE TRENCH (FLOATING ROAD) PEAT DEPTH <2.5m


| | | | | | |
|----------------|--------------------|------|----|-------|-----|
| No of Shts | 4 | SIZE | A3 | SCALE | N/A |
| DRAWING NUMBER | XDC-CBL-STND-H-007 | | | SHEET | 002 |
| | | | | REV | 00 |

NOTES:

1. BASE COURSE AND WEARING COURSE TO BE IN ACCORDANCE WITH TII (NRA) SPECIFICATION FOR ROADWORKS SERIES 900.
2. ALL PRODUCTS AND MATERIALS TO BE UTILISED DURING CONSTRUCTION TO COMPLY WITH EIRGRID FUNCTIONAL SPECIFICATION, TII SPECIFICATION FOR ROAD WORKS AND ALL RELEVANT IRISH (EUROPEAN) AND BRITISH STANDARDS.
3. DRAWING IS INDICATIVE ONLY, TO BE USED TO AID IN THE DESIGN OF THE RELEVANT INFRASTRUCTURE.
4. FOR DETAILS OF CABLE TRENCH LAYOUT, REFER TO XDC-CBL-STND-H-008.
5. THIS IS A TYPICAL CROSS SECTION DETAIL FOR SHALLOW PEAT INSTALLATION. SPECIFIC CONSTRUCTION DESIGN SHALL COMPLY WITH CDS-HFS-01-001.



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STANDARD 110kV CABLE DRAWINGS

DRAWING TITLE

TYPICAL SECTION THROUGH FLOATING ROAD UPGRADED TO SOLID PEAT DEPTH <2.5m

No of Shts4

SIZEA3

SCALEN/A

DRAWING NUMBER

XDC-CBL-STND-H-007

SHEET003

REV00

A


- B



D

E


F

| | | | | | | |
|---|--|---|------|----|-------|-----|
|  EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com | STANDARD 110kV CABLE DRAWINGS | | | | | |
| | DRAWING TITLE TYPICAL SECTION THROUGH FLOATING ROAD PEAT DEPTH >2.5m | | | | | |
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| | DRAWING NUMBER XDC-CBL-STND-H-007 | | | | SHEET | REV |
| | | | | | 004 | 00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| A | | | | | | | | |
| B | | | | | | | | |
| C | | | | | | | | |
| D | | | | | | | | |
| E | | | | | | | | |
| F | | | | | | | | |

STANDARD 110kV CABLE DRAWINGS
STANDARD CROSS SECTIONS
125mm AND 160mm DUCTS

| DRAWING No. | SHEET No. | DESCRIPTION | REVISION No. |
|--------------------|-----------|---|--------------|
| XDC-CBL-STND-H-008 | 001 | STANDARD CROSS SECTIONS INDEX SHEET | 00 |
| XDC-CBL-STND-H-008 | 002 | TRENCH CROSS SECTION FOR 125mm POWER DUCTS IN TREFOIL FORMATION | 00 |
| XDC-CBL-STND-H-008 | 003 | TRENCH CROSS SECTION FOR 160mm POWER DUCTS IN TREFOIL FORMATION | 00 |
| XDC-CBL-STND-H-008 | 004 | TRENCH CROSS SECTION FOR 125mm POWER DUCTS IN FLAT FORMATION | 00 |
| XDC-CBL-STND-H-008 | 005 | TRENCH CROSS SECTION FOR 160mm POWER DUCTS IN FLAT FORMATION | 00 |
| XDC-CBL-STND-H-008 | 006 | TRENCH CROSS SECTION FOR 125mm POWER DUCTS WITH EARTH CONTINUITY DUCT – TREFOIL FORMATION | 00 |
| XDC-CBL-STND-H-008 | 007 | TRENCH CROSS SECTION FOR 160mm POWER DUCTS WITH EARTH CONTINUITY DUCT – TREFOIL FORMATION | 00 |
| XDC-CBL-STND-H-008 | 008 | TRENCH CROSS SECTION FOR 125mm POWER DUCTS WITH EARTH CONTINUITY DUCT – FLAT FORMATION | 00 |
| XDC-CBL-STND-H-008 | 009 | TRENCH CROSS SECTION FOR 160mm POWER DUCTS WITH EARTH CONTINUITY DUCT – FLAT FORMATION | 00 |



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STANDARD 110kV CABLE DRAWINGS

DRAWING TITLE
STANDARD CROSS SECTIONS
INDEX SHEET

No of Shts9

SIZEA3

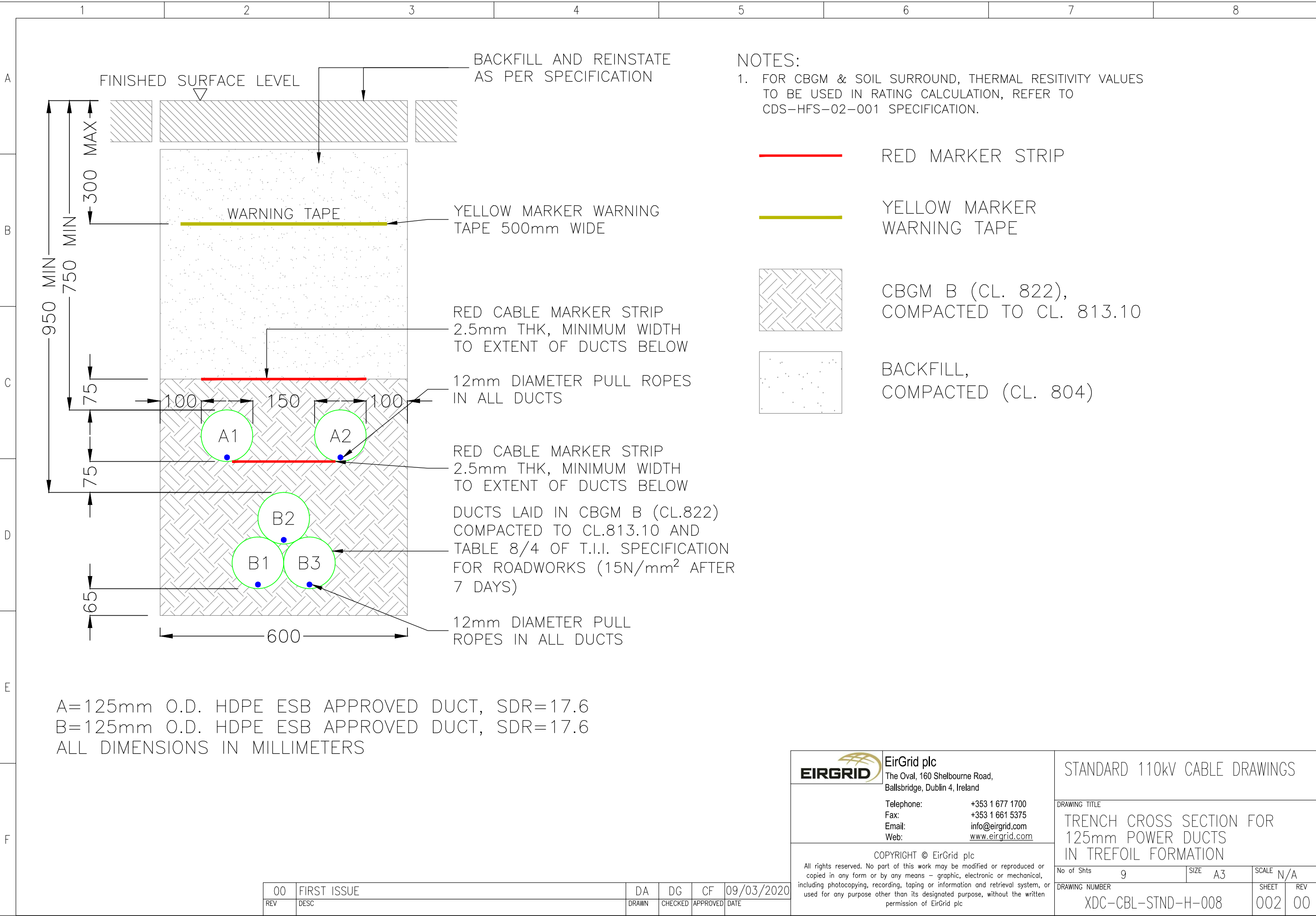
SCALEN/A

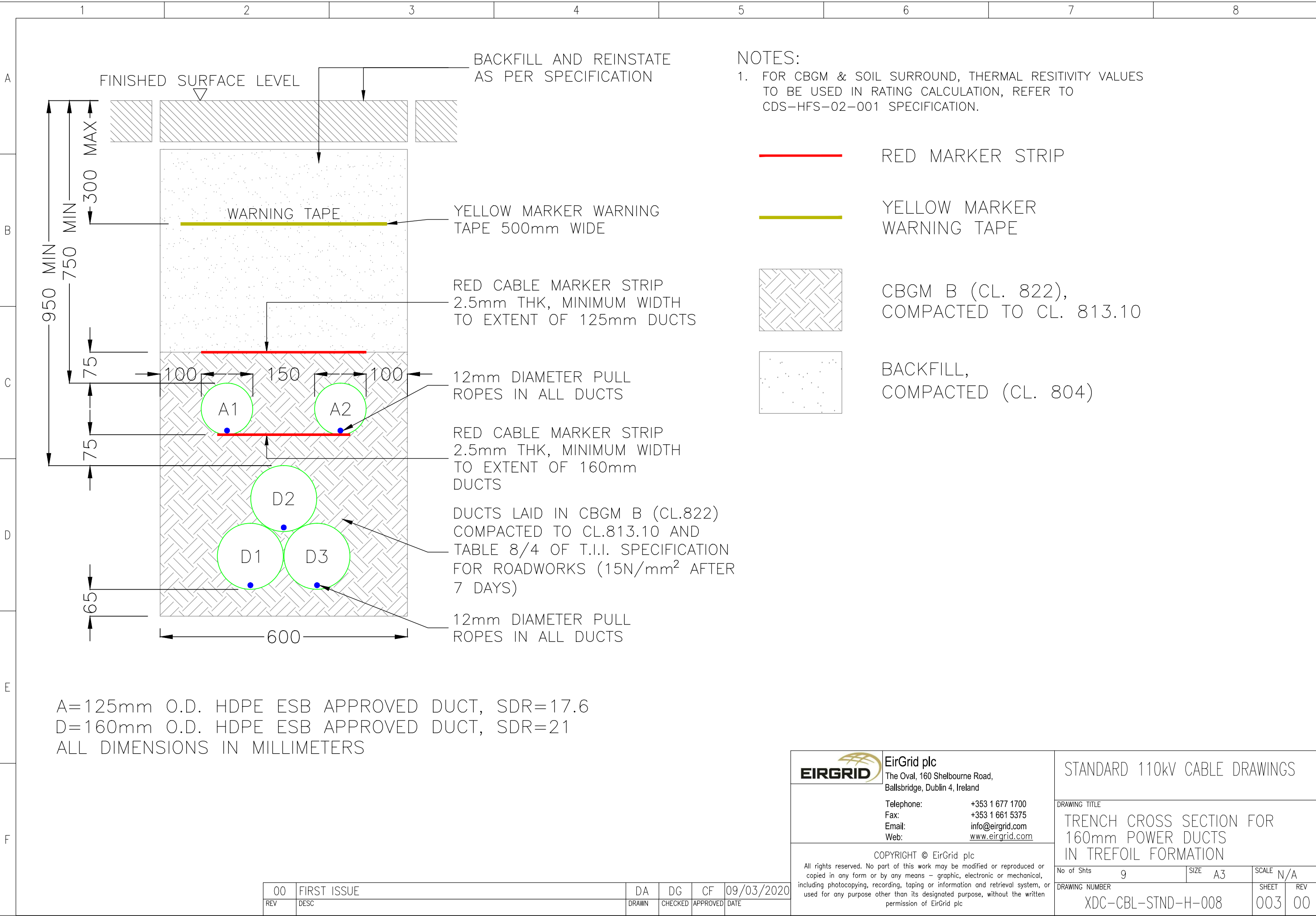
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XDC-CBL-STND-H-008

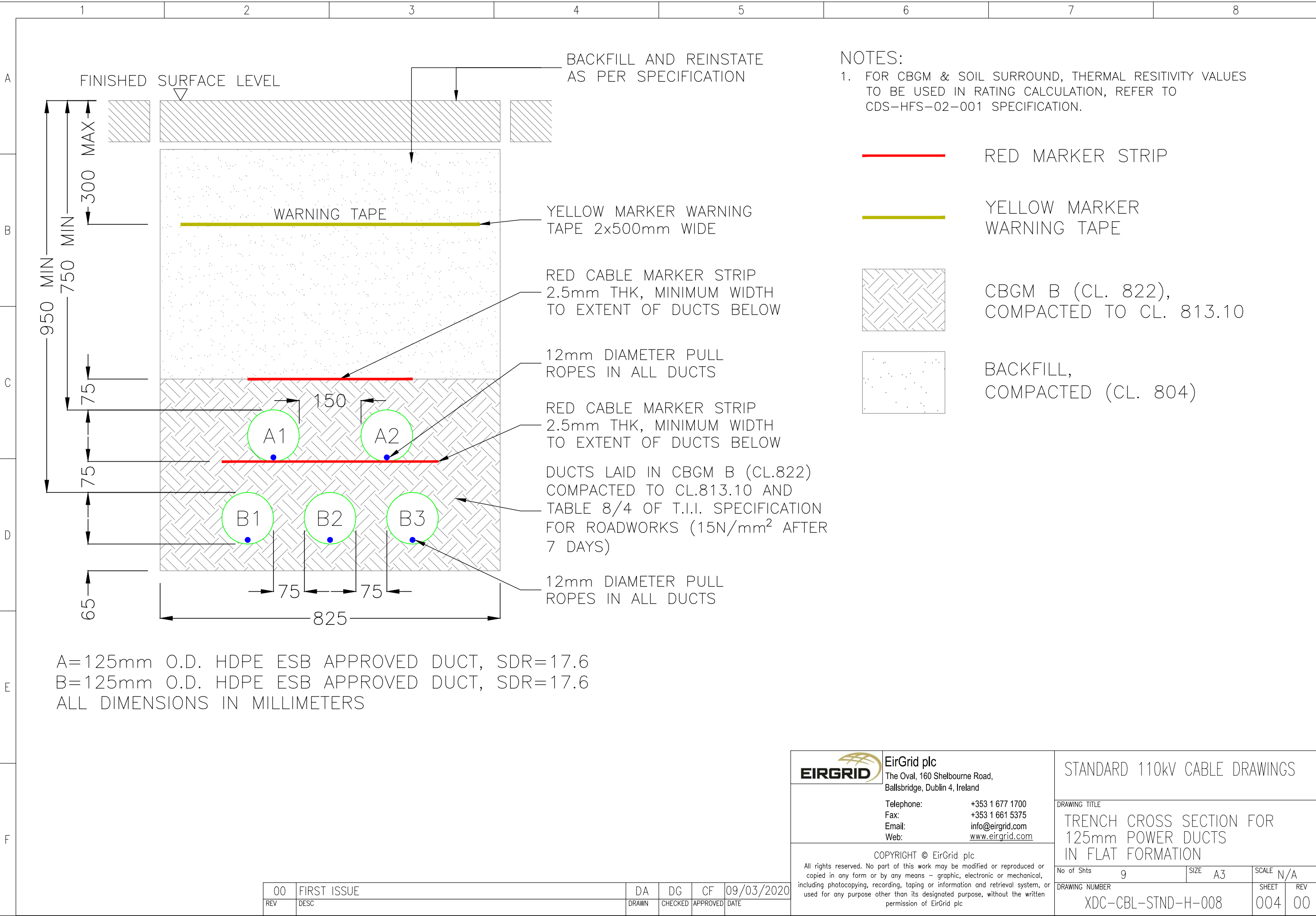
SHEET
001

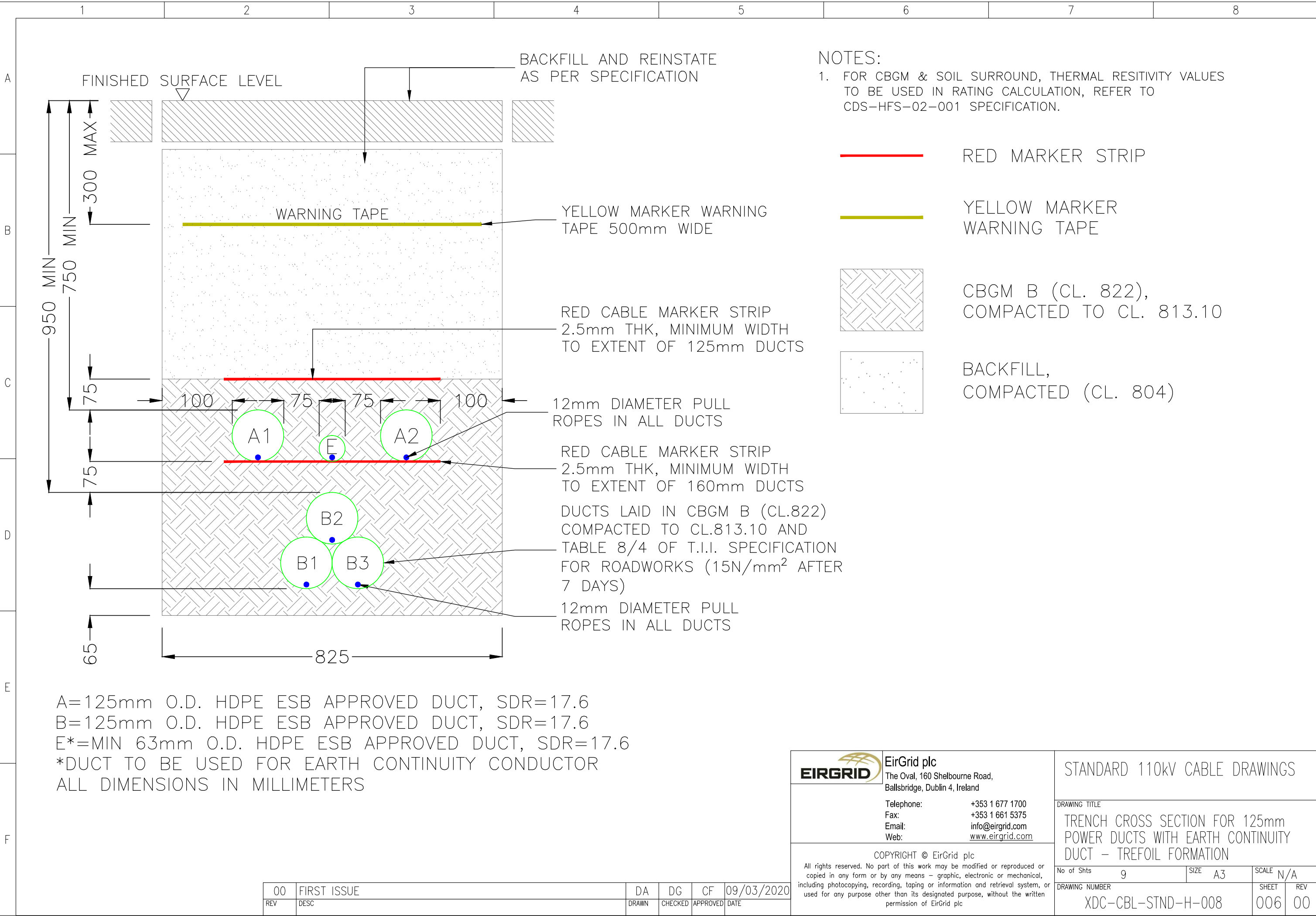
REV
00

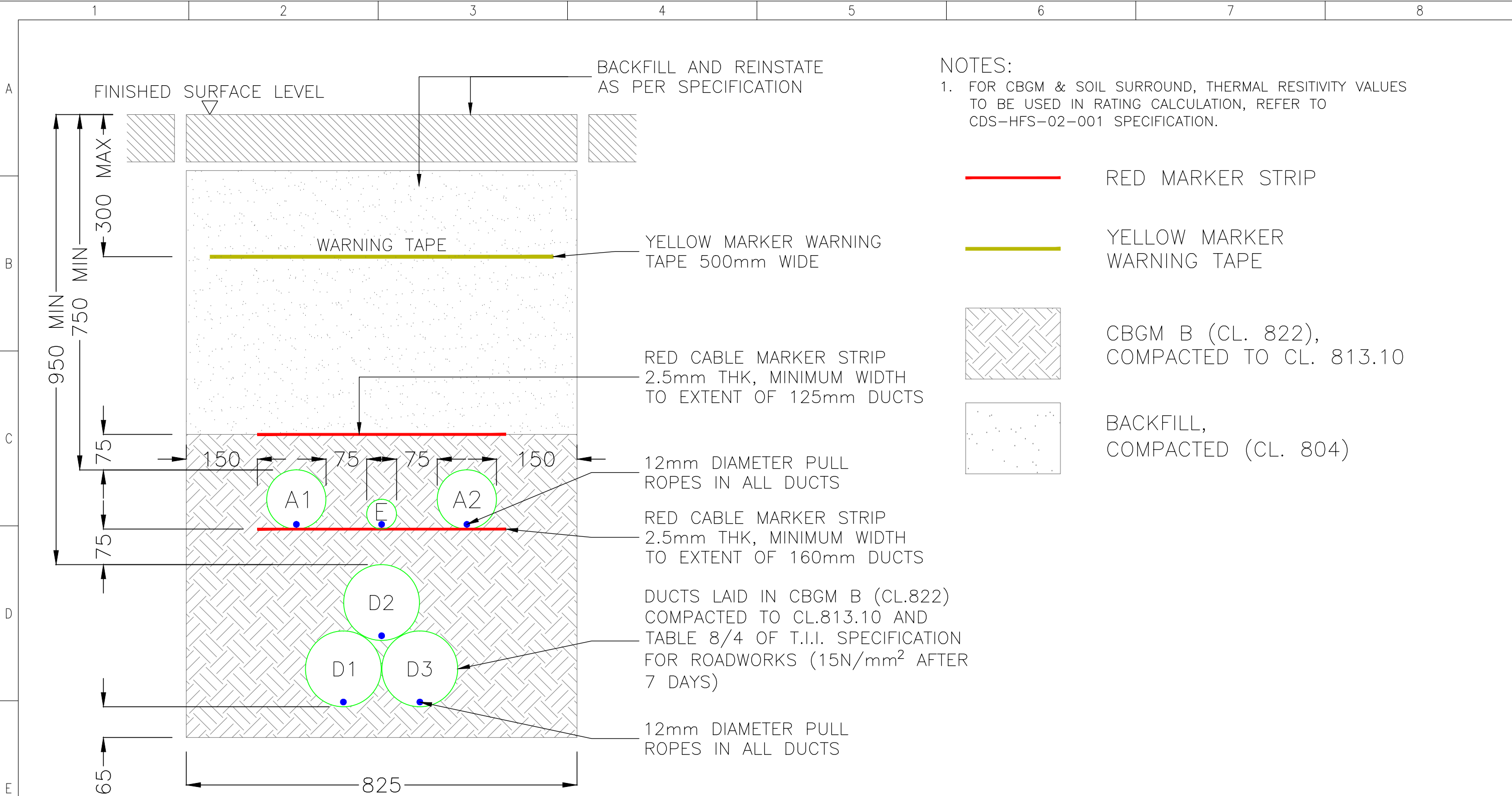
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|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |











NOTES:
1. FOR CBGM & SOIL SURROUND, THERMAL RESITIVITY VALUES TO BE USED IN RATING CALCULATION, REFER TO CDS-HFS-02-001 SPECIFICATION.

- RED MARKER STRIP
- YELLOW MARKER WARNING TAPE 500mm WIDE
- CBGM B (CL. 822), COMPACTED TO CL. 813.10
- BACKFILL, COMPACTED (CL. 804)

A=125mm O.D. HDPE ESB APPROVED DUCT, SDR=17.6
D=160mm O.D. HDPE ESB APPROVED DUCT, SDR=21
E*=MIN 63mm O.D. HDPE ESB APPROVED DUCT, SDR=17.6
*DUCT TO BE USED FOR EARTH CONTINUITY CONDUCTOR
ALL DIMENSIONS IN MILLIMETERS

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |

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Ballsbridge, Dublin 4, Ireland

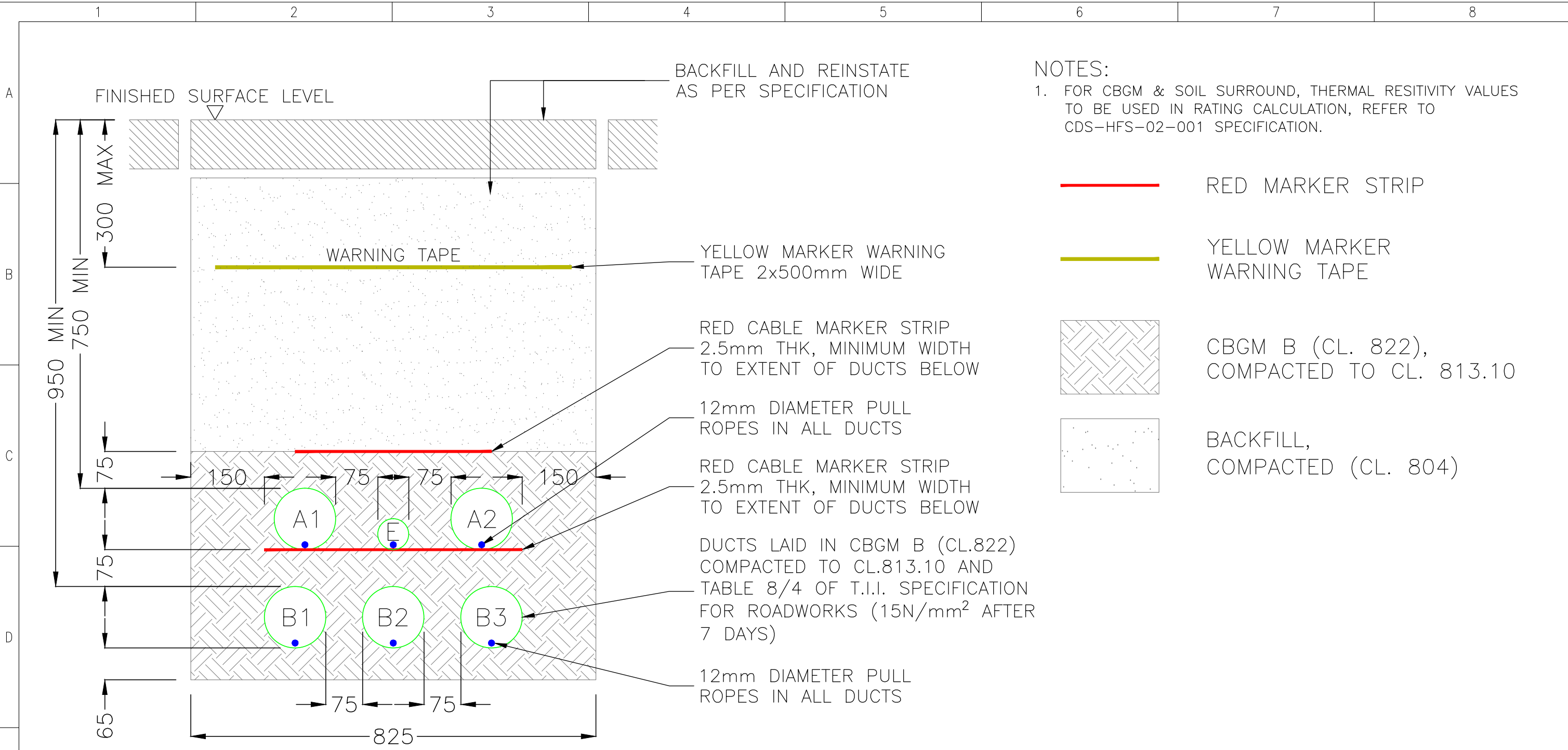
Telephone: +353 1 677 1700
Fax: +353 1 661 5375
Email: info@eirgrid.com
Web: www.eirgrid.com

STANDARD 110kV CABLE DRAWINGS

DRAWING TITLE
TRENCH CROSS SECTION FOR 160mm
POWER DUCTS WITH EARTH CONTINUITY
DUCT – TREFOIL FORMATION


| | | | | | |
|----------------|--------------------|------|----|-------|-----|
| No of Shts | 9 | SIZE | A3 | SCALE | N/A |
| DRAWING NUMBER | XDC-CBL-STND-H-008 | | | SHEET | 007 |
| | | | | REV | 00 |

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A=125mm O.D. HDPE ESB APPROVED DUCT, SDR=17.6
B=125mm O.D. HDPE ESB APPROVED DUCT, SDR=17.6
*E=MIN 63mm O.D. HDPE ESB APPROVED DUCT, SDR=17.6
*DUCT TO BE USED FOR EARTH CONTINUITY CONDUCTOR
ALL DIMENSIONS IN MILLIMETERS

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
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STANDARD 110kV CABLE DRAWINGS

DRAWING TITLE

TRENCH CROSS SECTION FOR 125mm
POWER DUCTS WITH EARTH CONTINUITY
DUCT – FLAT FORMATION

No of Shts9

SIZEA3

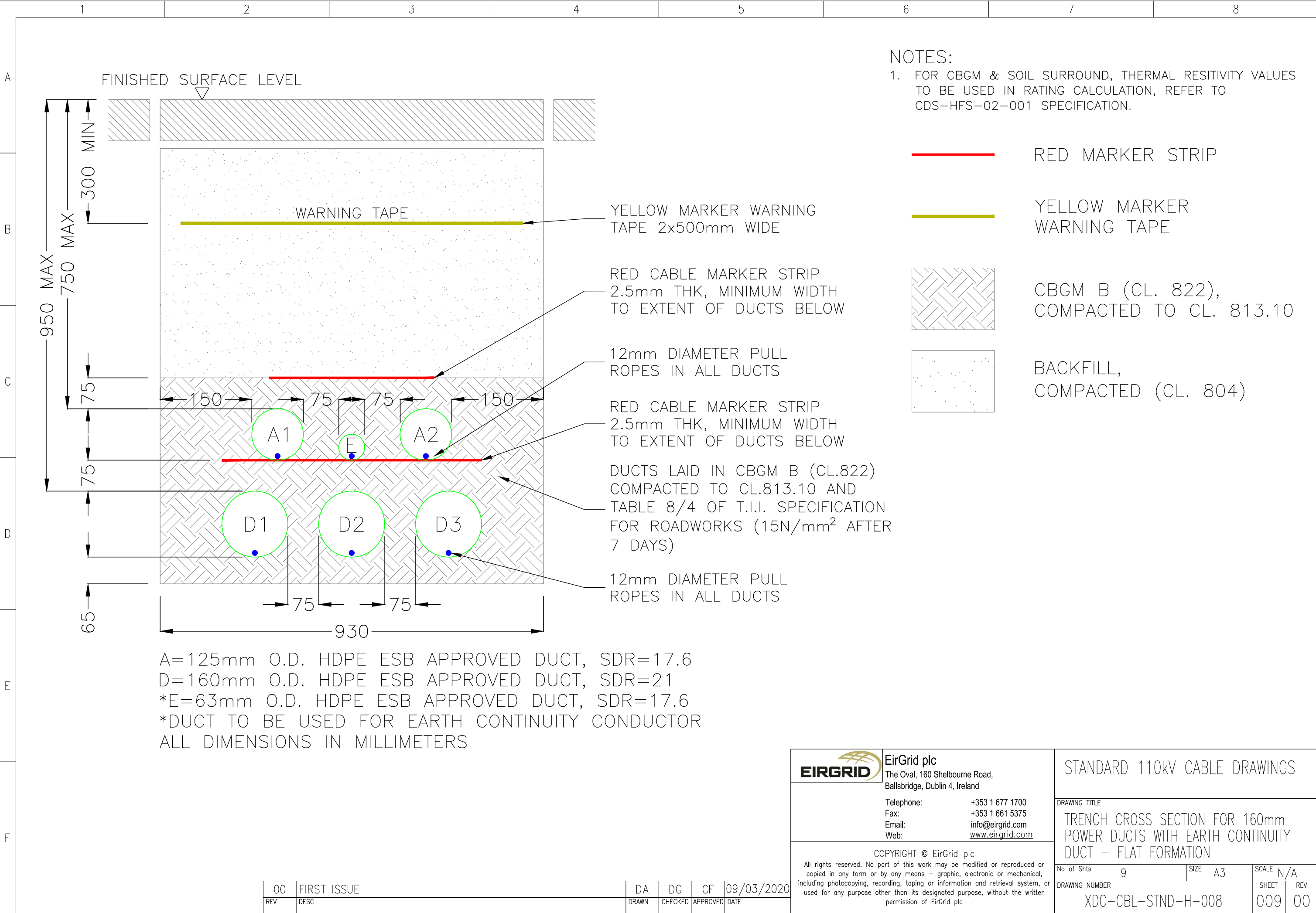
SCALEN/A

DRAWING NUMBER

XDC-CBL-STND-H-008

SHEET008


REV00



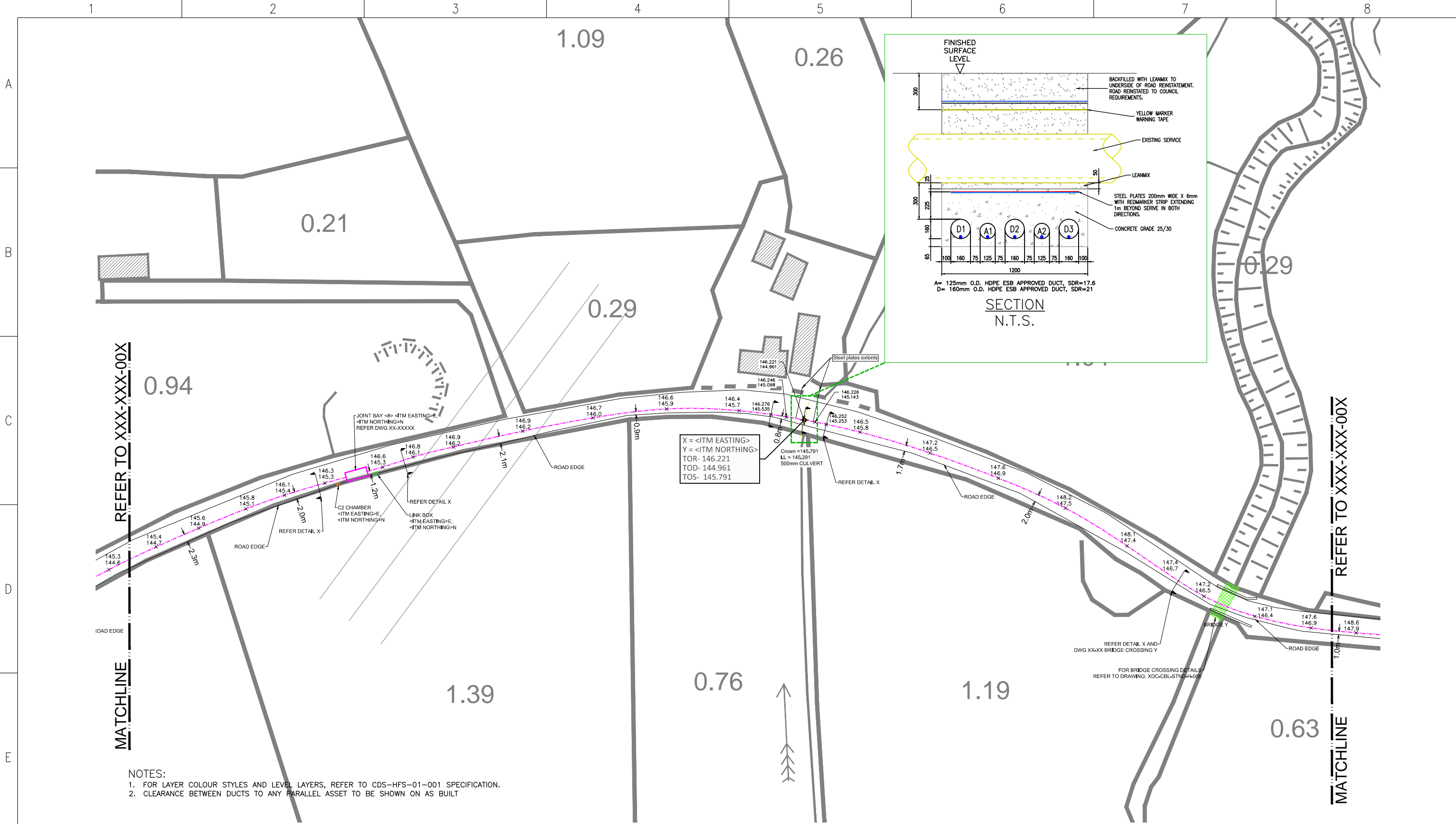
NOTES:
1. FOR CBGM & SOIL SURROUND, THERMAL RESITIVITY VALUES TO BE USED IN RATING CALCULATION, REFER TO CDS-HFS-02-001 SPECIFICATION.

- RED MARKER STRIP
- YELLOW MARKER WARNING TAPE
- CBGM B (CL. 822), COMPACTED TO CL. 813.10
- BACKFILL, COMPACTED (CL. 804)

A=125mm O.D. HDPE ESB APPROVED DUCT, SDR=17.6
D=160mm O.D. HDPE ESB APPROVED DUCT, SDR=21
*E=63mm O.D. HDPE ESB APPROVED DUCT, SDR=17.6
*DUCT TO BE USED FOR EARTH CONTINUITY CONDUCTOR
ALL DIMENSIONS IN MILLIMETERS


| | | | |
|---|--|---|------------|
|  EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland | | STANDARD 110kV CABLE DRAWINGS | |
| Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com | | DRAWING TITLE TRENCH CROSS SECTION FOR 160mm POWER DUCTS WITH EARTH CONTINUITY DUCT – FLAT FORMATION | |
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| | | SCALE N/A | |
| DRAWING NUMBER XDC-CBL-STND-H-008 | | SHEET 009 | REV 00 |

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |



NOTES:
1. FOR LAYER COLOUR STYLES AND LEVEL LAYERS, REFER TO CDS-HFS-01-001 SPECIFICATION.
2. CLEARANCE BETWEEN DUCTS TO ANY PARALLEL ASSET TO BE SHOWN ON AS BUILT

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |



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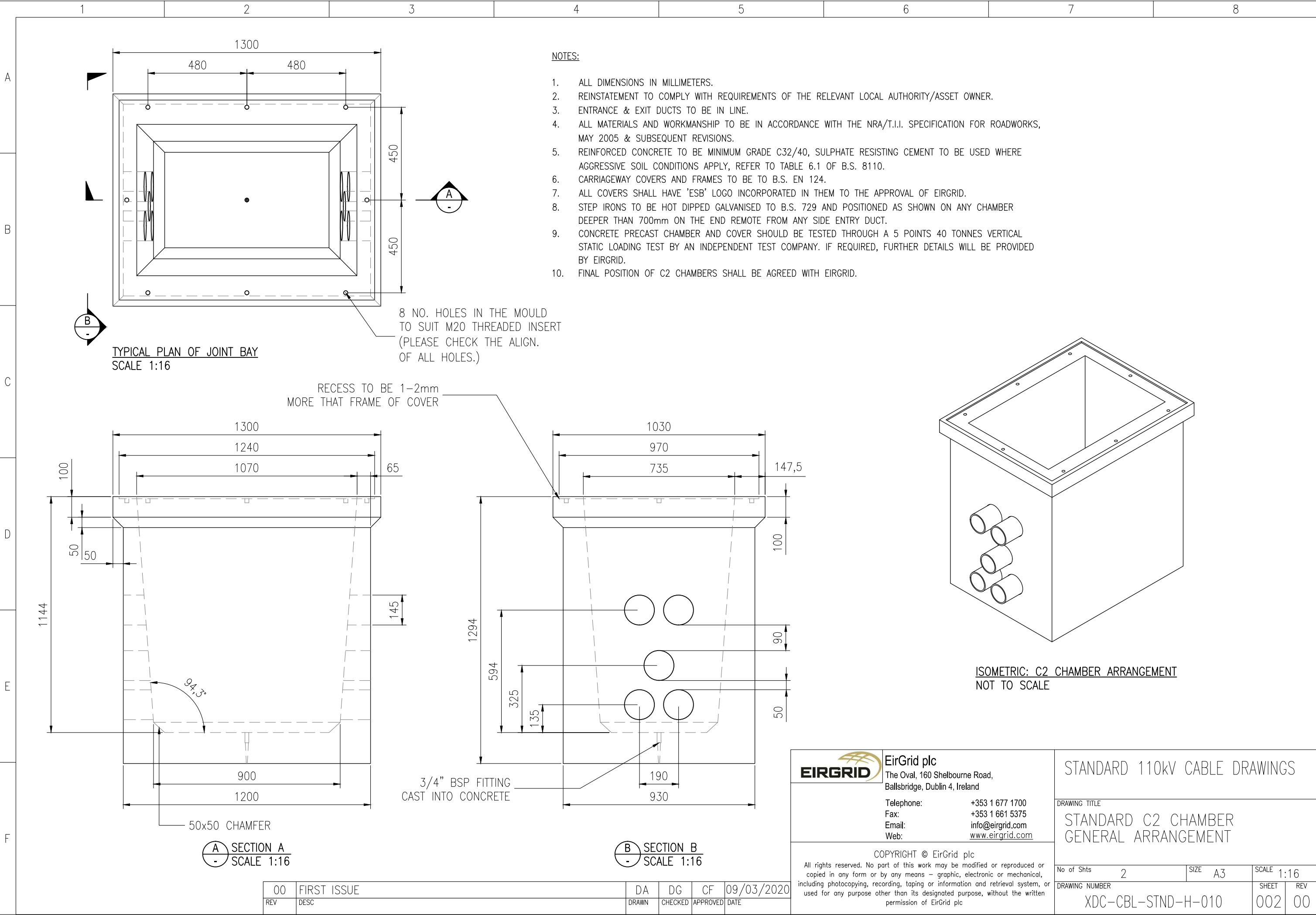
STANDARD 110kV CABLE DRAWINGS

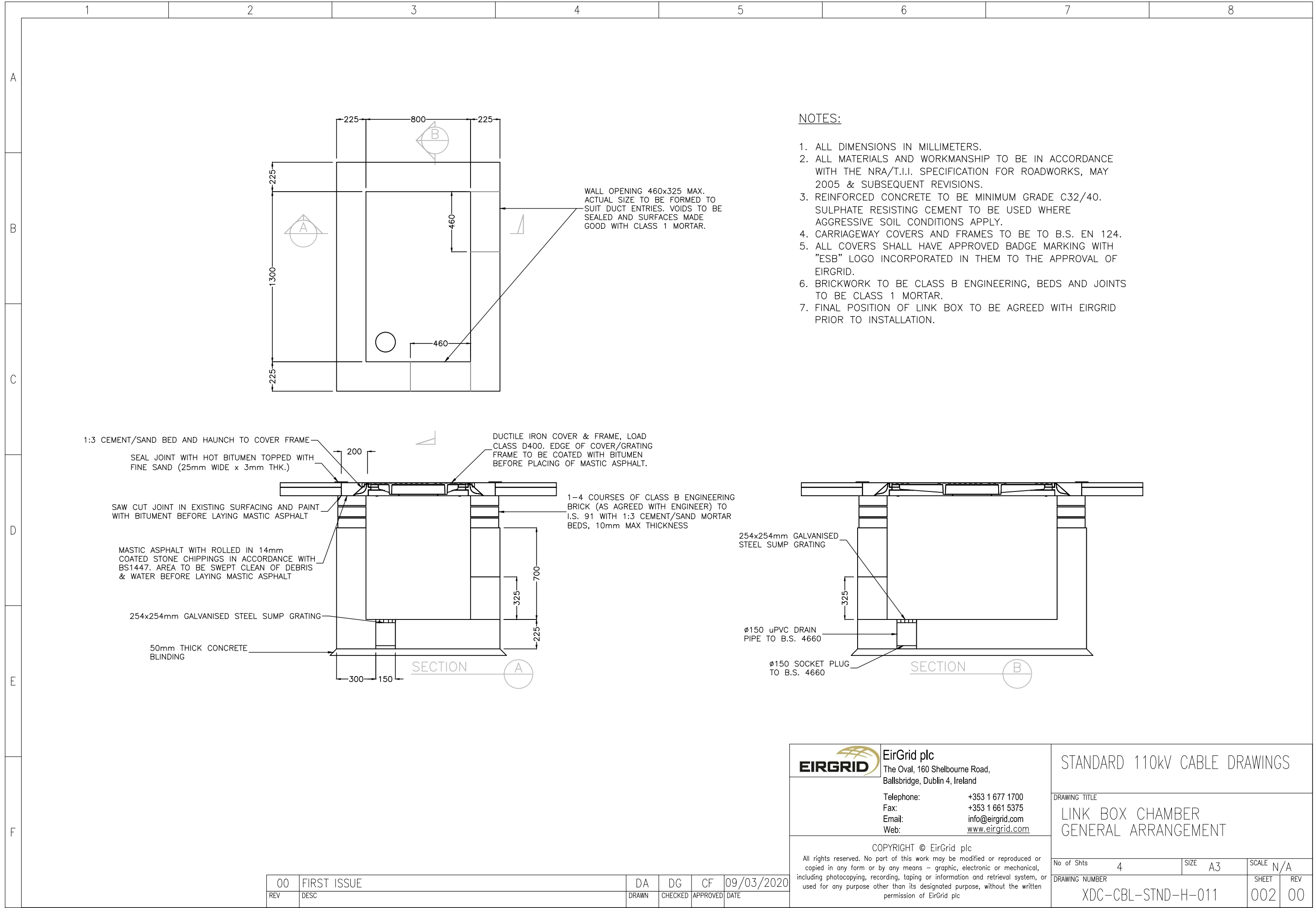
DRAWING TITLE

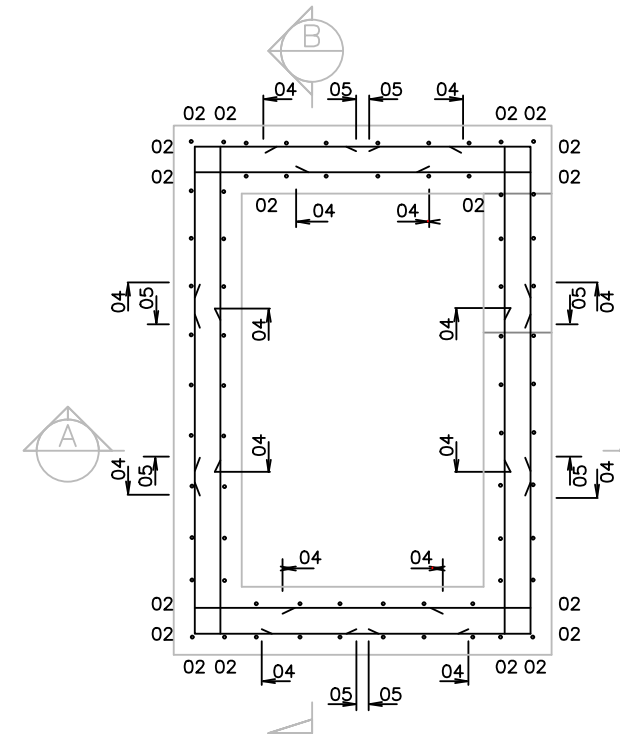
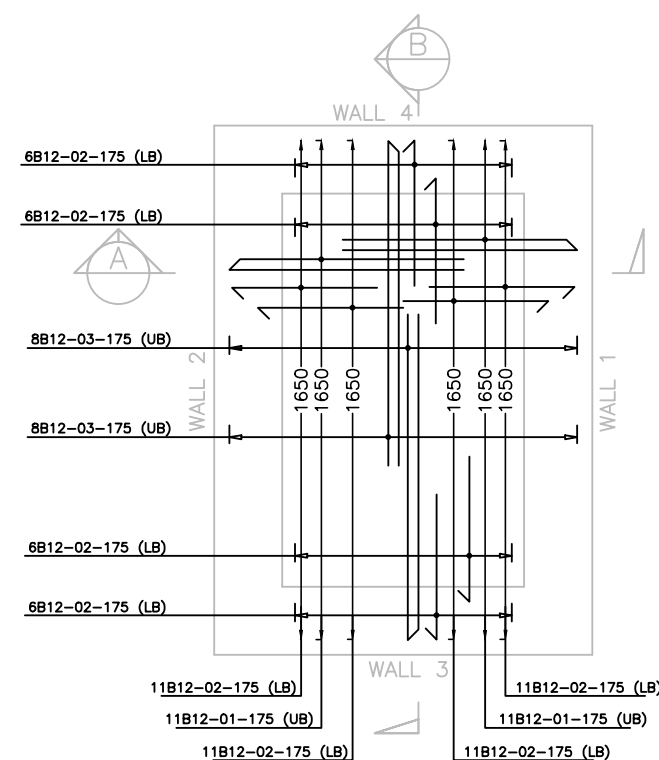
SAMPLE AS-BUILT CABLE ROUTE REQUIREMENTS

| | | | | | |
|----------------|--------------------|------|----|-------|--------|
| No of Shts | 1 | SIZE | A3 | SCALE | 1:1000 |
| DRAWING NUMBER | XDC-CBL-STND-H-009 | | | SHEET | 001 |
| | | | | REV | 00 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|---|---|--------------|----------|------|----|------------|-------------|-----------|-------------|--------------|--------------------|-----|---------------------------------|------------|--------------------|------|---|---------|----------|------|--|--|-------------------------------|--|--|--|---------------|--|--|--|---------------------------------|--|--|--|------------|---|------|----|-------|-----|--|--|----------------|--|--------------------|--|-------|-----|-----|----|
| A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | <div>STANDARD 110kV CABLE DRAWINGS</div> <div>STANDARD C2 COMMUNICATIONS CHAMBER</div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | <table><thead><tr><th>DRAWING No.</th><th>SHEET No.</th><th>DESCRIPTION</th><th>REVISION No.</th></tr></thead><tbody><tr><td>XDC-CBL-STND-H-010</td><td>001</td><td>STANDARD C2 CHAMBER INDEX SHEET</td><td>00</td></tr><tr><td>XDC-CBL-STND-H-010</td><td>002</td><td>STANDARD C2 CHAMBER GENERAL ARRANGEMENT</td><td>00</td></tr></tbody></table> | | | | | | | DRAWING No. | SHEET No. | DESCRIPTION | REVISION No. | XDC-CBL-STND-H-010 | 001 | STANDARD C2 CHAMBER INDEX SHEET | 00 | XDC-CBL-STND-H-010 | 002 | STANDARD C2 CHAMBER GENERAL ARRANGEMENT | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWING No. | SHEET No. | DESCRIPTION | REVISION No. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| XDC-CBL-STND-H-010 | 001 | STANDARD C2 CHAMBER INDEX SHEET | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| XDC-CBL-STND-H-010 | 002 | STANDARD C2 CHAMBER GENERAL ARRANGEMENT | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | <table><tr><td colspan="2">00</td><td colspan="2">FIRST ISSUE</td><td>DA</td><td>DG</td><td>CF</td><td>09/03/2020</td></tr><tr><td>REV</td><td>DESC</td><td>DRAWN</td><td>CHECKED</td><td>APPROVED</td><td>DATE</td><td colspan="2"></td></tr></table> <div><div><div></div><div>EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland</div></div><div>Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com</div><div>COPYRIGHT © EirGrid plc All rights reserved. No part of this work may be modified or reproduced or copied in any form or by any means – graphic, electronic or mechanical, including photocopying, recording, taping or information and retrieval system, or used for any purpose other than its designated purpose, without the written permission of EirGrid plc</div></div> <table><tr><td colspan="4">STANDARD 110kV CABLE DRAWINGS</td></tr><tr><td colspan="4">DRAWING TITLE</td></tr><tr><td colspan="4">STANDARD C2 CHAMBER INDEX SHEET</td></tr><tr><td>No of Shts</td><td>2</td><td>SIZE</td><td>A3</td></tr><tr><td>SCALE</td><td colspan="3">N/A</td></tr><tr><td colspan="2">DRAWING NUMBER</td><td>XDC-CBL-STND-H-010</td><td></td></tr><tr><td>SHEET</td><td>001</td><td>REV</td><td>00</td></tr></table> | | | | | | | 00 | | FIRST ISSUE | | DA | DG | CF | 09/03/2020 | REV | DESC | DRAWN | CHECKED | APPROVED | DATE | | | STANDARD 110kV CABLE DRAWINGS | | | | DRAWING TITLE | | | | STANDARD C2 CHAMBER INDEX SHEET | | | | No of Shts | 2 | SIZE | A3 | SCALE | N/A | | | DRAWING NUMBER | | XDC-CBL-STND-H-010 | | SHEET | 001 | REV | 00 |
| 00 | | FIRST ISSUE | | DA | DG | CF | 09/03/2020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| STANDARD 110kV CABLE DRAWINGS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWING TITLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| STANDARD C2 CHAMBER INDEX SHEET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No of Shts | 2 | SIZE | A3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SCALE | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWING NUMBER | | XDC-CBL-STND-H-010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SHEET | 001 | REV | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

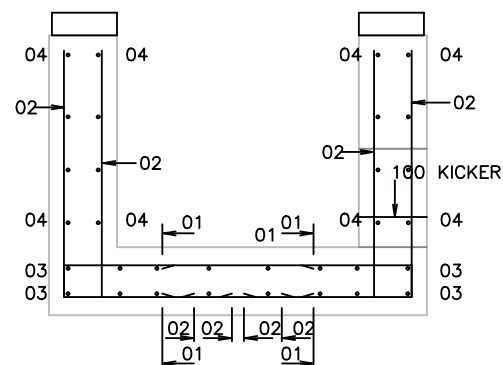
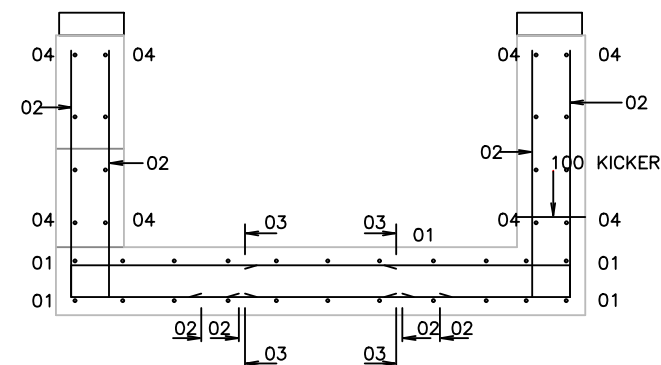
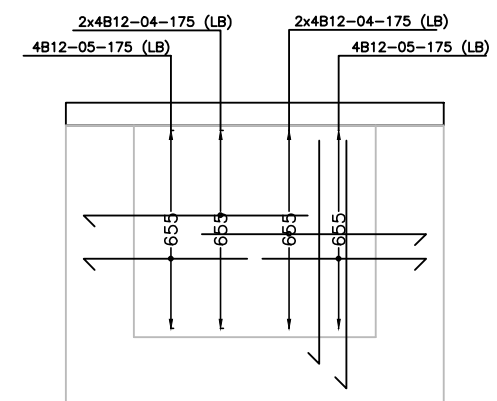
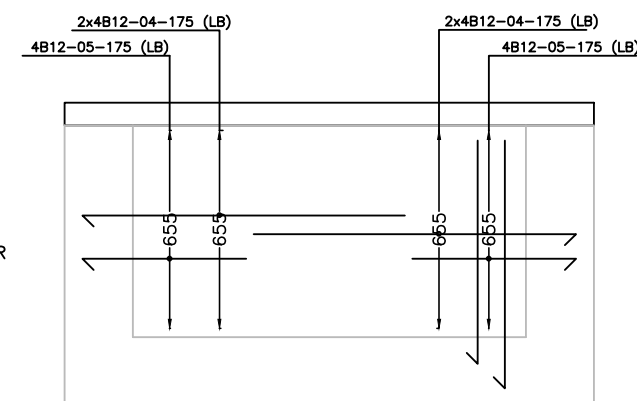










- NOTES:

1. ALL DIMENSIONS IN MILLIMETERS.
2. COVER TO REINFORCEMENT TO BE A MINIMUM OF 50mm. LAP LENGTHS TO BE 40x Dia. ALL REINFORCEMENT TO BE CUT AND BENT IN ACCORDANCE WITH B.S. 8666:2005.
3. REINSTATEMENT TO COMPLY WITH REQUIREMENTS OF THE RELEVANT LOCAL AUTHORITY/ASSET OWNER.
4. DUCTS TO BE CAST OR BUILT IN.
5. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE NRA/T.I.I. SPECIFICATION FOR ROADWORKS, MARCH 2000 & SUBSEQUENT REVISIONS.
6. REINFORCED CONCRETE TO BE MINIMUM GRADE C32/40. SULPHATE RESISTING CEMENT TO BE USED WHERE AGGRESSIVE SOIL CONDITIONS APPLY, REFER TO TABLE 6.1 OF B.S. 8110.
7. BOXOUTS MAY BE PERMISSIBLE AT THE DISCRETION AND TO THE APPROVAL OF EIRGRID. WHERE THE DUCTS HAVE TO BE FITTED THE CONTRACTOR SHALL COMPLY WITH THE SPECIFICATIONS.

SECTION A SECTION B

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |

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|  | EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland | | STANDARD 110kV CABLE DRAWINGS | |
| | Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com | DRAWING TITLE LINK BOX CHAMBER REINFORCEMENT | | |
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| | | DRAWING NUMBER XDC-CBL-STND-H-011 | SHEET 003 | REV 00 |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---------------------------|--------------|-------------------|----------------|--------------|------------------------------|---------------|--------|-------------|---------|--------------|-------------------|---|---|---|---|--------|---|-------------------------------|--------|-------------|---|----|---|-----------------|------------|--------------|--------------------------------------|------|---------------------------|-----|-----|--|--|--|--|----|---|----|---|----|----|------|----|-----|--|--|--|--|--|----|---|----|---|----|----|------|----|------|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-------|----|---|----|---|----|----|------|----|-----|--|--|--|--|--|----|---|----|---|----|----|------|----|-----|--|--|--|--|
| A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | <div><div>*SPECIFIED TO NEAREST 25mm **SPECIFIED TO NEAREST 5mm</div><div>ALL BENDING DIMENSIONS ARE IN ACCORDANCE WITH B.S. 8666:2005</div><table><tr><th>MEMBER</th><th>BAR MARK</th><th>TYPE</th><th>SIZE (mm)</th><th>No. of MEMBERS</th><th>No. in EACH</th><th>TOTAL No.</th><th>LENGTH of EACH BAR mm*</th><th>SHAPE CODE</th><th>A mm**</th><th>B mm**</th><th>C mm**</th><th>D mm**</th><th>E/r mm**</th></tr><tr><td>BASE</td><td>01</td><td>T</td><td>12</td><td>1</td><td>22</td><td>22</td><td>1725</td><td>21</td><td>825</td><td>125</td><td></td><td></td><td></td></tr><tr><td></td><td>02</td><td>T</td><td>12</td><td>1</td><td>68</td><td>68</td><td>1275</td><td>11</td><td>800</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>03</td><td>T</td><td>12</td><td>1</td><td>16</td><td>16</td><td>2200</td><td>13</td><td>1075</td><td>110</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>WALLS</td><td>04</td><td>T</td><td>12</td><td>1</td><td>32</td><td>32</td><td>1875</td><td>11</td><td>825</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>05</td><td>T</td><td>12</td><td>1</td><td>16</td><td>16</td><td>1125</td><td>37</td><td>575</td><td></td><td></td><td></td><td></td></tr></table></div> | | | | | | | | MEMBER | BAR MARK | TYPE | SIZE (mm) | No. of MEMBERS | No. in EACH | TOTAL No. | LENGTH of EACH BAR mm* | SHAPE CODE | A mm** | B mm** | C mm** | D mm** | E/r mm** | BASE | 01 | T | 12 | 1 | 22 | 22 | 1725 | 21 | 825 | 125 | | | | | 02 | T | 12 | 1 | 68 | 68 | 1275 | 11 | 800 | | | | | | 03 | T | 12 | 1 | 16 | 16 | 2200 | 13 | 1075 | 110 | | | | | | | | | | | | | | | | | | WALLS | 04 | T | 12 | 1 | 32 | 32 | 1875 | 11 | 825 | | | | | | 05 | T | 12 | 1 | 16 | 16 | 1125 | 37 | 575 | | | | |
| MEMBER | BAR MARK | TYPE | SIZE (mm) | No. of MEMBERS | No. in EACH | TOTAL No. | LENGTH of EACH BAR mm* | SHAPE CODE | A mm** | B mm** | C mm** | D mm** | E/r mm** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BASE | 01 | T | 12 | 1 | 22 | 22 | 1725 | 21 | 825 | 125 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 02 | T | 12 | 1 | 68 | 68 | 1275 | 11 | 800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 03 | T | 12 | 1 | 16 | 16 | 2200 | 13 | 1075 | 110 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WALLS | 04 | T | 12 | 1 | 32 | 32 | 1875 | 11 | 825 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 05 | T | 12 | 1 | 16 | 16 | 1125 | 37 | 575 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | <table><tr><td>00</td><td>FIRST ISSUE</td><td>DA</td><td>DG</td><td>CF</td><td>09/03/2020</td></tr><tr><td>REV</td><td>DESC</td><td>DRAWN</td><td>CHECKED</td><td>APPROVED</td><td>DATE</td></tr></table> | 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 | REV | DESC | DRAWN | CHECKED | APPROVED | DATE | <table><tr><td></td><td>EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com</td></tr><tr><td colspan="2">COPYRIGHT © EirGrid plc All rights reserved. No part of this work may be modified or reproduced or copied in any form or by any means – graphic, electronic or mechanical, including photocopying, recording, taping or information and retrieval system, or used for any purpose other than its designated purpose, without the written permission of EirGrid plc</td></tr></table> |  | EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com | COPYRIGHT © EirGrid plc All rights reserved. No part of this work may be modified or reproduced or copied in any form or by any means – graphic, electronic or mechanical, including photocopying, recording, taping or information and retrieval system, or used for any purpose other than its designated purpose, without the written permission of EirGrid plc | | <table><tr><td colspan="3">STANDARD 110kV CABLE DRAWINGS</td></tr><tr><td colspan="3">DRAWING TITLE LINK BOX CHAMBER STEEL REINFORCEMENT SCHEDULE</td></tr><tr><td>No of Shts 4</td><td>SIZE A3</td><td>SCALE N/A</td></tr><tr><td colspan="2">DRAWING NUMBER XDC-CBL-STND-H-011</td><td>SHEET 004 REV 00</td></tr></table> | STANDARD 110kV CABLE DRAWINGS | | | DRAWING TITLE LINK BOX CHAMBER STEEL REINFORCEMENT SCHEDULE | | | No of Shts 4 | SIZE A3 | SCALE N/A | DRAWING NUMBER XDC-CBL-STND-H-011 | | SHEET 004 REV 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| STANDARD 110kV CABLE DRAWINGS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWING TITLE LINK BOX CHAMBER STEEL REINFORCEMENT SCHEDULE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No of Shts 4 | SIZE A3 | SCALE N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWING NUMBER XDC-CBL-STND-H-011 | | SHEET 004 REV 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

1

2

3

4

5

6

7

8

A

B

C

D


E

F

STANDARD 110kV CABLE DRAWINGS
6mx2.5m JOINT BAY

| DRAWING No. | SHEET No. | DESCRIPTION | REVISION No. |
|--------------------|-----------|-------------------------------------|--------------|
| XDC-CBL-STND-H-012 | 001 | JOINT BAY INDEX SHEET | 00 |
| XDC-CBL-STND-H-012 | 002 | JOINT BAY GENERAL ARRANGEMENT | 00 |
| XDC-CBL-STND-H-012 | 003 | PRECAST JOINT BAY DETAILS SECTION 1 | 00 |
| XDC-CBL-STND-H-012 | 004 | PRECAST JOINT BAY DETAILS SECTION 2 | 00 |
| XDC-CBL-STND-H-012 | 005 | PRECAST JOINT BAY DETAILS SECTION 3 | 00 |
| XDC-CBL-STND-H-012 | 006 | JOINT BAY REBAR SCHEDULE | 00 |
| XDC-CBL-STND-H-012 | 007 | JOINT BAY REINSTATEMENT | 00 |
| XDC-CBL-STND-H-012 | 008 | JOINT BAY EARTHING ARRANGEMENT | 00 |

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |



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PROJECT

STANDARD 110kV CABLE DRAWINGS

DRAWING TITLE

JOINT BAY INDEX SHEET

No of Shts8

SIZEA3

SCALEN/A

DRAWING NUMBER

XDC-CBL-STND-H-012

SHEET

001

REV

00



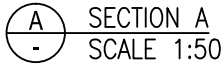
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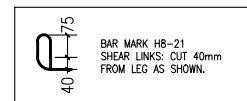
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| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |



B SECTION B
- SCALE 1:50



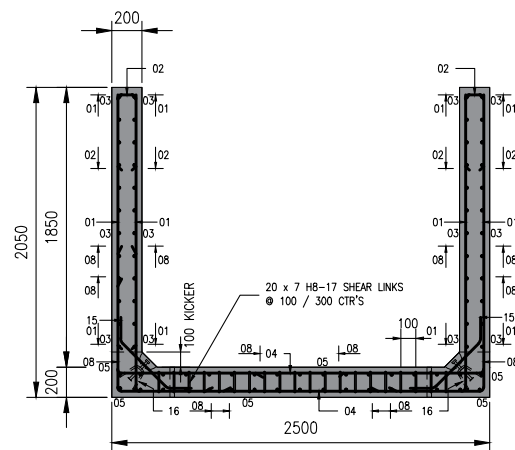
| | | | | | |
|---|--|--|---|---------------------|------------------|
|  | EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland | | PROJECT STANDARD 110kV CABLE DRAWINGS | | |
| | Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com | | DRAWING TITLE JOINT BAY REINFORCEMENT DETAILS JOINT BAY SECTION 1 | | |
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| | | | DRAWING NUMBER XDC-CBL-STND-H-012 | SHEET 003 | REV 00 |

-

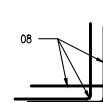
| CONCRETE SPECIFICATION TO I.S. EN 206-1 | | |
|--|---|---------------------|
| | BLINDING & MASS CONCRETE, DRAINAGE PIPE & MANHOLE SURROUNDINGS | FOUNDATIONS & WALLS |
| EXPOSURE CLASS | X0 | XC2, XA2 |
| MIN. CEMENT CONTENT (kg/m ³) | 240 | 340 |
| MAX. WATER/CEMENT RATIO | – | 0.50 |
| CEMENT TYPE TO I.S. EN 197-1 | CEM 1 N | CEM 1 N |
| CHLORIDE CONTENT CLASS | Cl. 1.0 | Cl. 0.40 |
| MAX. AGGREGATE | 10 | 20 |
| MIN. COVER (C _{Min}) (mm) | – | 40 |
| *COMPRESSIVE STRENGTH CLASS | C16/20 | C30/37 |

NOTES

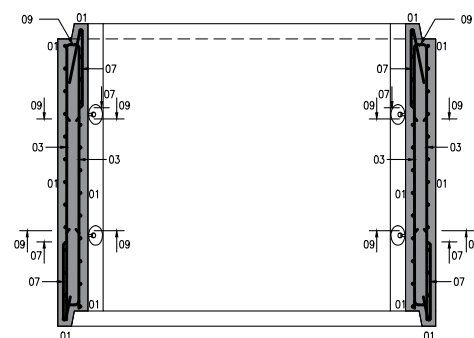
- *C16/20 TO BE READ AS FOLLOWS: 16 – REFERS TO MIN. CHARACTERISTIC CYLINDER STRENGTH (N/mm²/). 20 – REFERS TO MIN. CHARACTERISTIC CUBE STRENGTH (N/mm²/).
- DESIGN WORKING LIFE TO BE 50 YEARS MINIMUM.



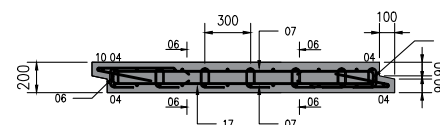
SECTION A
SCALE 1:50



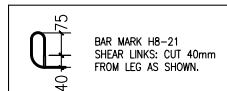
SECTION ARR. 08 BARS
SCALE 1:50



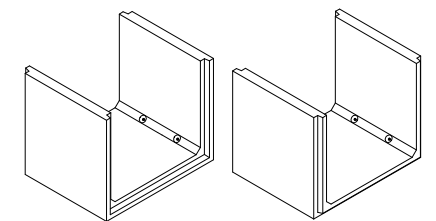
PLAN: WALL STEEL
SCALE 1:50



SECTION B
SCALE 1:50



1. ALL DRAWINGS TO BE READ IN CONJUNCTION WITH THE RELEVANT EIRGD FUNCTIONAL SPECIFICATIONS. ANY DISCREPANCIES ARE TO BE NOTED IN WRITING TO EIRGRID IMMEDIATELY AND PRIOR TO COMMENCING THE WORK.
2. ALL DIMENSIONS ARE IN mm. NO DIMENSIONS SHALL BE SCALED FROM THE STRUCTURAL DRAWINGS. ALL DIMENSIONS SHALL BE CHECKED ON SITE.
3. ANY TEMPORARY WORKS SHALL BE THE SOLE RESPONSIBILITY OF THE CUSTOMER.
4. ALL WORK IS TO COMPLY WITH ALL CURRENT IRISH STANDARDS, BRITISH STANDARDS, BUILDING REGULATIONS, SPECIFICATIONS.
5. ALL REINFORCEMENT SHALL BE IN ACCORDANCE WITH B.S. 4449 AND SCHEDULED IN ACCORDANCE WITH B.S. 8666:2005.
6. COVER TO REINFORCEMENT TO BE 40mm.
7. CONCRETE TO BE GRADE C30/37 AS SPECIFIED IN TABLE 1.
8. ALL CONCRETE TO BE IN ACCORDANCE WITH I.S. EN 206-1:2013 WITH THE MIX DESIGNS SHOWN IN TABLE 1.
9. CONCRETE FINISH TO BE F2 FOR BELOW GROUND STRUCTURES AS PER T.I.I. PUBLICATION CC-SPW-01700.



ISOMETRIC VIEW
SECTION 2

| CONCRETE SPECIFICATION TO I.S. EN 206-1 | | |
|--|---|---------------------|
| | BLINDING & MASS CONCRETE, DRAINAGE PIPE & MANHOLE SURROUNDINGS | FOUNDATIONS & WALLS |
| EXPOSURE CLASS | X0 | XC2, XA2 |
| MIN. CEMENT CONTENT (kg/m ³) | 240 | 340 |
| MAX. WATER/CEMENT RATIO | – | 0.50 |
| CEMENT TYPE TO I.S. EN 197-1 | CEM 1 N | CEM 1 N |
| CHLORIDE CONTENT CLASS | CL 1.0 | CL 0.40 |
| MAX. AGGREGATE | 10 | 20 |
| MIN. COVER (C _{min}) (mm) | – | 40 |
| *COMPRESSIVE STRENGTH CLASS | C16/20 | C30/37 |

NOTES

- *C16/20 TO BE READ AS FOLLOWS: 16 – REFERS TO MIN. CHARACTERISTIC CYLINDER STRENGTH (N/mm²)/20 – REFERS TO MIN. CHARACTERISTIC CUBE STRENGTH (N/mm²).
- DESIGN WORKING LIFE TO BE 50 YEARS MINIMUM.

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
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STANDARD 110kV CABLE DRAWINGS

JOINT BAY
REINFORCEMENT DETAILS
JOINT BAY SECTION 2

| | | | | | |
|----------------|--------------------|------|----|-------|-----|
| No of Shts | 8 | SIZE | A3 | SCALE | N/A |
| DRAWING NUMBER | XDC-CBL-STND-H-012 | | | SHEET | REV |
| | | | | 004 | 00 |

A

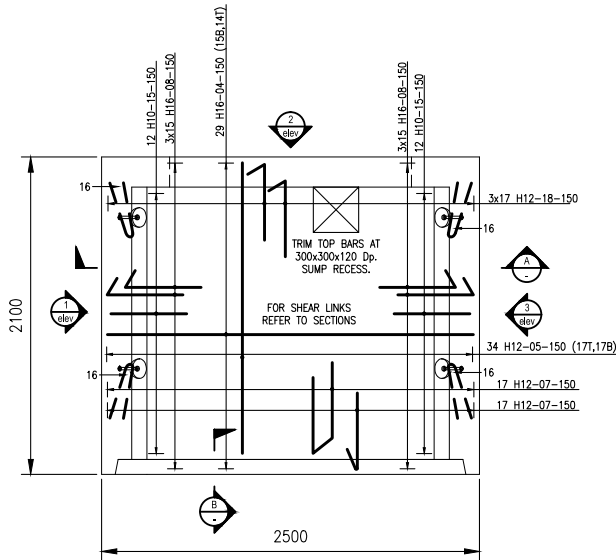
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C

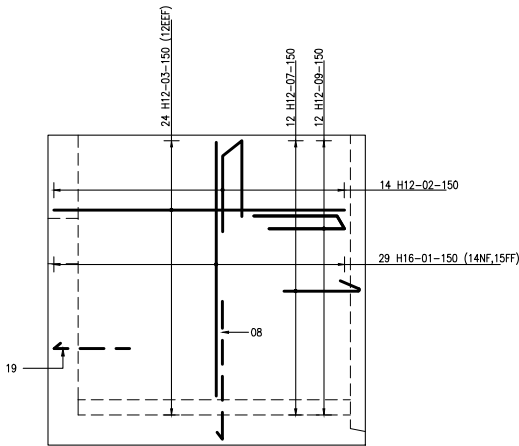
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E

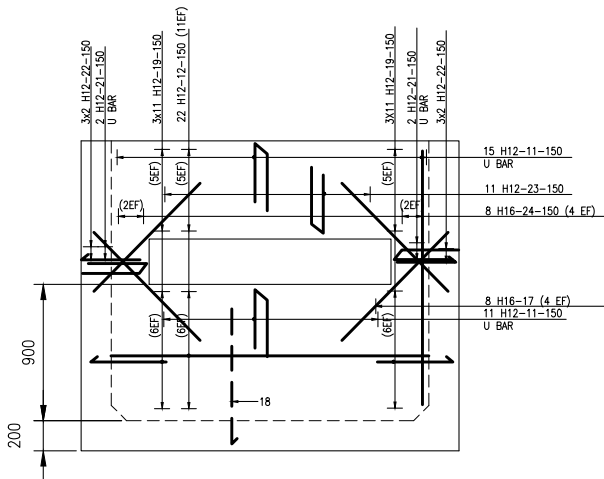
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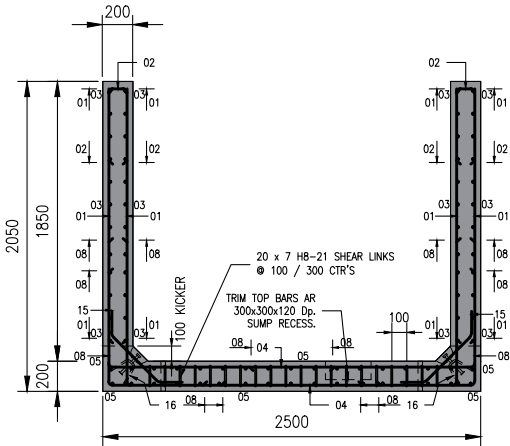
PLAN: BASE STEEL
SCALE 1:50



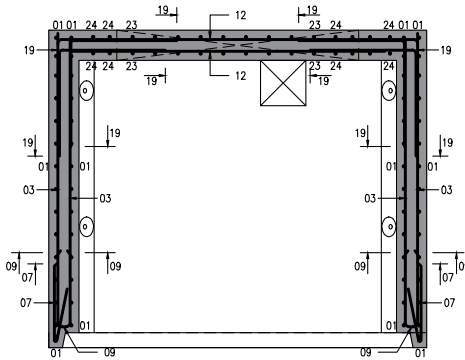
WALL ELEVATION 1
SCALE 1:50



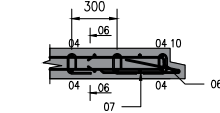
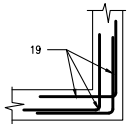
WALL ELEVATION 2
SCALE 1:50



SECTION A
SCALE 1:50

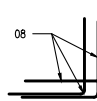
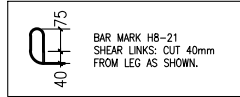


WALL ELEVATION 1
SCALE 1:50



PLAN ARR. 19 BARS
SCALE 1:50

SECTION B
SCALE 1:50



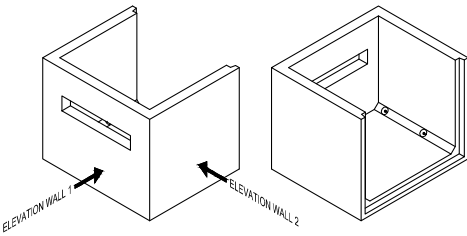
SECTION ARR. 08 BARS
SCALE 1:50

GENERAL NOTES

- ALL DRAWINGS TO BE READ IN CONJUNCTION WITH THE RELEVANT EIRGRID FUNCTIONAL SPECIFICATIONS. ANY DISCREPANCIES ARE TO BE NOTED IN WRITING TO EIRGRID IMMEDIATELY AND PRIOR TO COMMENCING THE WORK.
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- COVER TO REINFORCEMENT TO BE 40mm.
- CONCRETE TO BE GRADE C30/37 AS SPECIFIED IN TABLE 1.
- ALL CONCRETE TO BE IN ACCORDANCE WITH I.S. EN 206-1:2013 WITH THE MIX DESIGNS SHOWN IN TABLE 1.
- CONCRETE FINISH TO BE F2 FOR BELOW GROUND STRUCTURES AS PER T.I.I. PUBLICATION CC-SPW-01700.

THE NOTATION FOR THE LAYERING OF REINFORCEMENT SHALL BE AS FOLLOWS:

FF – FAR FACE
NF – NEAR FACE
B – BOTTOM
T – TOP
EF – EACH FACE



ISOMETRIC VIEW
SECTION 1

| CONCRETE SPECIFICATION TO I.S. EN 206-1 | | |
|---|--|---------------------|
| | BLINDING & MASS CONCRETE, DRAINAGE PIPE & MANHOLE SURROUNDINGS | FOUNDATIONS & WALLS |
| EXPOSURE CLASS | X0 | XC2, XA2 |
| MIN. CEMENT CONTENT (kg/m³) | 240 | 340 |
| MAX. WATER/CEMENT RATIO | – | 0.50 |
| CEMENT TYPE TO I.S. EN 197-1 | CEM 1 N | CEM 1 N |
| CHLORIDE CONTENT CLASS | Cl 1,0 | Cl 0,40 |
| MAX. AGGREGATE | 10 | 20 |
| MIN. COVER (C _{min}) (mm) | – | 40 |
| *COMPRESSIVE STRENGTH CLASS | C16/20 | C30/37 |
| NOTES | | |
| 1. *C16/20 TO BE READ AS FOLLOWS: 16 – REFERS TO MIN. CHARACTERISTIC CYLINDER STRENGTH (N/mm²). 20 – REFERS TO MIN. CHARACTERISTIC CUBE STRENGTH (N/mm²). | | |
| 2. DESIGN WORKING LIFE TO BE 50 YEARS MINIMUM. | | |



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PROJECT
STANDARD 110kV CABLE DRAWINGS

DRAWING TITLE
JOINT BAY
REINFORCEMENT DETAILS
JOINT BAY SECTION 3

| | | | | | |
|----------------|--------------------|-------|-----|-------|-----|
| No of Shts | 8 | SIZE | A3 | SCALE | N/A |
| DRAWING NUMBER | XDC-CBL-STND-H-012 | SHEET | 005 | REV | 00 |

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| A | | | | | | | | |
| B | | | | | | | | |
| C | | | | | | | | |
| D | | | | | | | | |
| E | | | | | | | | |
| F | | | | | | | | |

TABLE 1: JOINT BAY R.C. DETAIL – SECTION 1

| * – SPECIFIED TO NEAREST 5mm + – SPECIFIED TO NEAREST 25mm | | | | | | | ALL BENDING DIMENSIONS ARE IN ACCORDANCE WITH B.S. 8666:2005 | | | | | | |
|---|----------|------|-----------|-------------|-------------|-----------|--|------------|--------------|-------|-------|-------|---------|
| MEMBER | BAR MARK | TYPE | SIZE (mm) | No. OF MBRS | No. IN EACH | TOTAL No. | LENGTH OF EACH BAR (mm) | SHAPE CODE | A* mm | B* mm | C* mm | D* mm | E/r* mm |
| SIDE WALLS | 01 | H | 16 | 2 | 29 | 58 | 1675 | 00 | | | | | |
| | 02 | H | 12 | 2 | 14 | 28 | 1075 | 21 | 500 | 120 | | | |
| | 03 | H | 12 | 2 | 24 | 48 | 1900 | 00 | | | | | |
| | 07 | H | 12 | 2 | 12 | 24 | 930 | 14 | 350 | 85 | 560 | | |
| | 09 | H | 12 | 2 | 12 | 24 | 1000 | 13 | 480 | 80 | | | |
| | | | | | | | | | | | | | |
| BASE | 04 | H | 16 | 1 | 30 | 30 | 2400 | 00 | | | | | |
| | 05 | H | 12 | 1 | 34 | 34 | 1900 | 00 | | | | | |
| | 06 | H | 12 | 1 | 17 | 17 | 1025 | 13 | 500 | 80 | | | |
| | 07 | H | 12 | 1 | 15 | 15 | 930 | 14 | 350 | 85 | 560 | | |
| | 08 | H | 16 | 1 | 90 | 90 | 1600 | 11 | 960 | | | | |
| | 10 | H | 16 | 1 | 1 | 1 | 2200 | 00 | | | | | |
| | 14 | H | 12 | 1 | 51 | 51 | 1250 | 11 | 950 | 300 | | | |
| | 15 | H | 10 | 1 | 24 | 24 | 800 | 24 | 200 | 400 | 200 | 285 | |
| | 16 | H | 12 | 1 | 4 | 4 | 800 | 00 | BEND ON SITE | | | | |
| Shear Links | 21 | H | 8 | 1 | 140 | 140 | 350 | 22 | 115 | 120 | 50 | 115 | |
| | | | | | | | | | | | | | |
| END WALL | 01 | H | 16 | 1 | 8 | 8 | 1675 | 00 | | | | | |
| | 11 | H | 12 | 1 | 26 | 26 | 1050 | 21 | 475 | 120 | | | |
| | 12 | H | 12 | 1 | 22 | 22 | 2075 | 00 | | | | | |
| | 13 | H | 12 | 1 | 66 | 66 | 1375 | 11 | 700 | | | | |
| | 17 | H | 12 | 1 | 8 | 8 | 1000 | 00 | | | | | |
| | 18 | H | 12 | 1 | 4 | 4 | 775 | 13 | 375 | 75 | | | |
| | 19 | H | 12 | 1 | 12 | 12 | 675 | 11 | 350 | | | | |
| | 20 | H | 12 | 1 | 11 | 11 | 1175 | 21 | 550 | 120 | | | |

TABLE 2: JOINT BAY R.C. DETAIL – SECTION 2

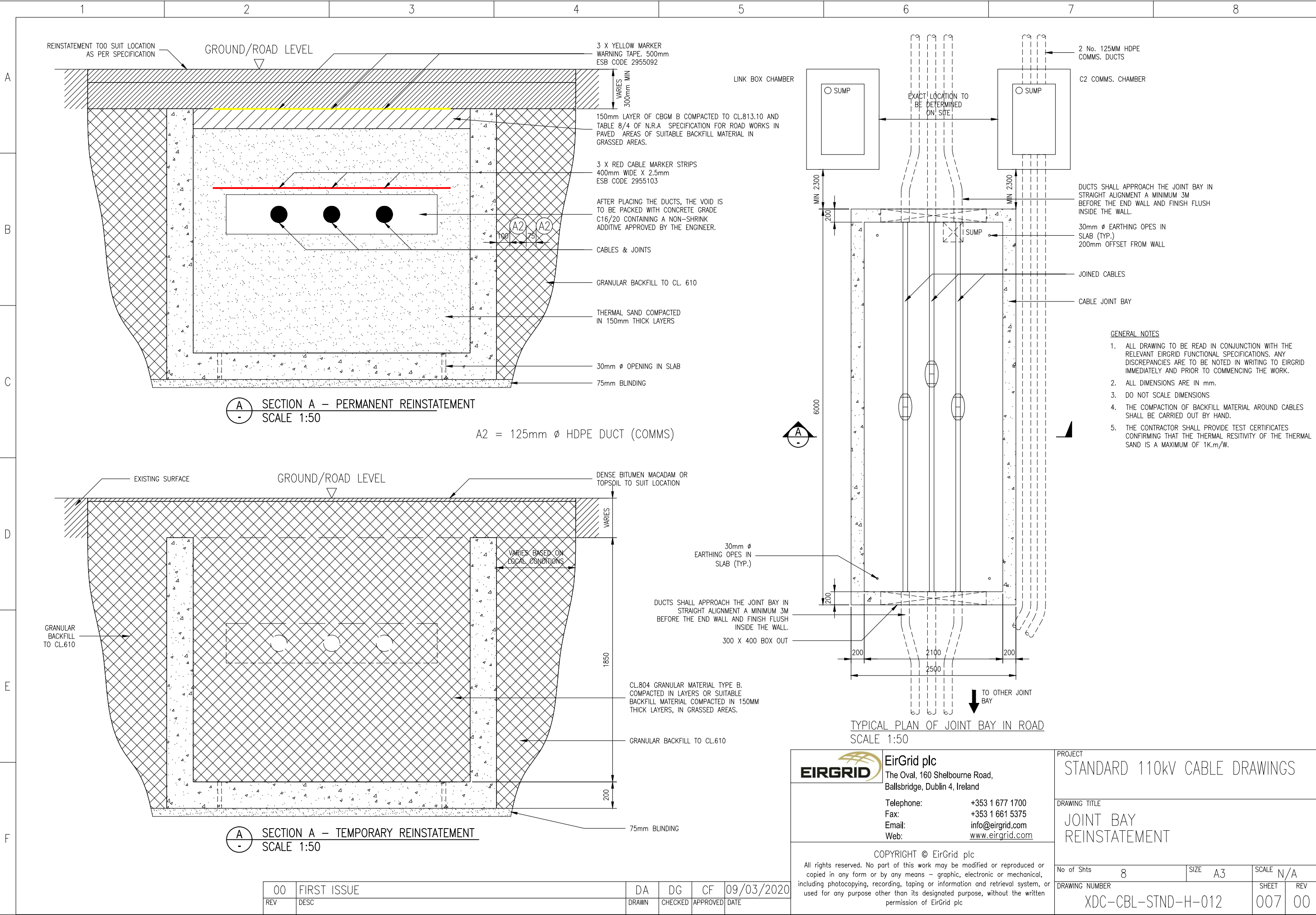
| * – SPECIFIED TO NEAREST 5mm + – SPECIFIED TO NEAREST 25mm | | | | | | | ALL BENDING DIMENSIONS ARE IN ACCORDANCE WITH B.S. 8666:2005 | | | | | | |
|---|----------|------|-----------|-------------|-------------|-----------|--|------------|--------------|-------|-------|-------|---------|
| MEMBER | BAR MARK | TYPE | SIZE (mm) | No. OF MBRS | No. IN EACH | TOTAL No. | LENGTH OF EACH BAR (mm) | SHAPE CODE | A* mm | B* mm | C* mm | D* mm | E/r* mm |
| SIDE WALLS | 01 | H | 16 | 2 | 28 | 56 | 1675 | 00 | | | | | |
| | 02 | H | 12 | 2 | 14 | 28 | 1075 | 21 | 500 | 110 | | | |
| | 03 | H | 12 | 2 | 24 | 48 | 1900 | 00 | | | | | |
| | 07 | H | 12 | 2 | 24 | 48 | 930 | 14 | 350 | 85 | 560 | | |
| | 09 | H | 12 | 2 | 24 | 48 | 1000 | 21 | 480 | 80 | | | |
| | | | | | | | | | | | | | |
| BASE | 04 | H | 16 | 1 | 27 | 27 | 2400 | 00 | | | | | |
| | 05 | H | 12 | 1 | 34 | 34 | 1900 | 00 | | | | | |
| | 06 | H | 12 | 1 | 34 | 34 | 1025 | 21 | 500 | 110 | | | |
| | 07 | H | 12 | 1 | 32 | 32 | 930 | 14 | 350 | 85 | 560 | | |
| | 08 | H | 16 | 1 | 84 | 84 | 1600 | 11 | 960 | | | | |
| | 10 | H | 16 | 1 | 1 | 1 | 2200 | 00 | | | | | |
| | 15 | H | 10 | 1 | 24 | 24 | 800 | 24 | 200 | 400 | 200 | 285 | |
| | 16 | H | 12 | 1 | 4 | 4 | 800 | 00 | BEND ON SITE | | | | |
| Shear Links | 17 | H | 8 | 1 | 140 | 140 | 350 | 22 | 115 | 120 | 50 | 115 | |

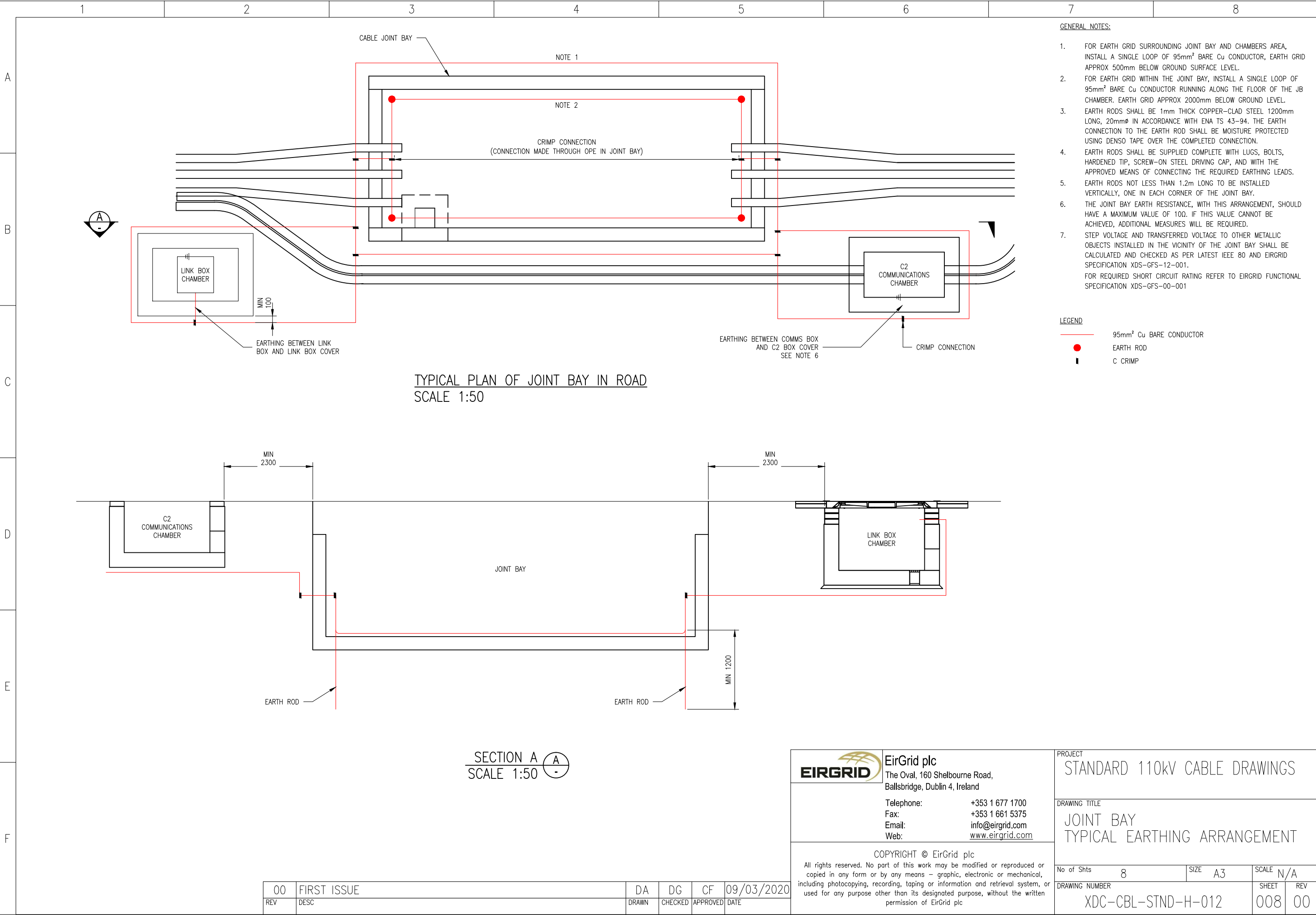
TABLE 3: JOINT BAY R.C. DETAIL – SECTION 3

| * – SPECIFIED TO NEAREST 5mm + – SPECIFIED TO NEAREST 25mm | | | | | | | ALL BENDING DIMENSIONS ARE IN ACCORDANCE WITH B.S. 8666:2005 | | | | | | |
|---|----------|------|-----------|-------------|-------------|-----------|--|------------|--------------|-------|-------|-------|---------|
| MEMBER | BAR MARK | TYPE | SIZE (mm) | No. OF MBRS | No. IN EACH | TOTAL No. | LENGTH OF EACH BAR (mm) | SHAPE CODE | A* mm | B* mm | C* mm | D* mm | E/r* mm |
| SIDE WALLS | 01 | H | 16 | 2 | 29 | 58 | 1675 | 00 | | | | | |
| | 02 | H | 12 | 2 | 14 | 28 | 1075 | 21 | 500 | 120 | | | |
| | 03 | H | 12 | 2 | 24 | 48 | 1900 | 00 | | | | | |
| | 07 | H | 12 | 2 | 12 | 24 | 930 | 14 | 350 | 85 | 560 | | |
| | 09 | H | 12 | 2 | 12 | 24 | 1000 | 13 | 480 | 80 | | | |
| | | | | | | | | | | | | | |
| BASE | 25 | H | 8 | 1 | 140 | 140 | 350 | 22 | 115 | 120 | 50 | 115 | |
| | 04 | H | 16 | 1 | 29 | 29 | 2400 | 00 | | | | | |
| | 05 | H | 12 | 1 | 34 | 34 | 1900 | 00 | | | | | |
| | 06 | H | 12 | 1 | 17 | 17 | 1025 | 13 | 500 | 80 | | | |
| | 07 | H | 12 | 1 | 17 | 17 | 930 | 14 | 350 | 85 | 560 | | |
| | 08 | H | 16 | 1 | 90 | 90 | 1600 | 11 | 960 | | | | |
| | 15 | H | 10 | 1 | 24 | 24 | 800 | 42 | 200 | 400 | 200 | 285 | |
| | 16 | H | 12 | 1 | 4 | 4 | 800 | 00 | BEND ON SITE | | | | |
| | 18 | H | 12 | 1 | 51 | 51 | 1375 | 11 | 900 | | | | |
| | | | | | | | | | | | | | |
| END WALL | 11 | H | 12 | 1 | 26 | 26 | 1050 | 21 | 475 | 120 | | | |
| | 12 | H | 12 | 1 | 22 | 22 | 2075 | 00 | 475 | 120 | | | |
| | 19 | H | 12 | 1 | 66 | 66 | 1375 | 11 | 700 | | | | |
| | 17 | H | 12 | 1 | 8 | 8 | 1000 | 00 | 700 | | | | |
| | 21 | H | 12 | 1 | 4 | 4 | 775 | 13 | 375 | 75 | | | |
| | 22 | H | 12 | 1 | 12 | 12 | 675 | 11 | 350 | 75 | | | |
| | 23 | H | 12 | 1 | 11 | 11 | 1175 | 21 | 550 | 120 | | | |
| | 24 | H | 16 | 1 | 8 | 8 | 1675 | 00 | | | | | |

| | | |
|---|--|--|
|  | EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com | PROJECT STANDARD 110kV CABLE DRAWINGS |
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| No of Shts 8 | | SIZE A3 |
| DRAWING NUMBER XDC-CBL-STND-H-012 | | SCALE N/A |
| SHEET 006 | | REV 00 |

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |





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F

STANDARD 110kV CABLE DRAWINGS
TRANSITION CHAMBER

| DRAWING No. | SHEET No. | DESCRIPTION | REVISION No. |
|--------------------|-----------|--|--------------|
| XDC-CBL-STND-H-013 | 001 | TRANSITION CHAMBER INDEX SHEET | 00 |
| XDC-CBL-STND-H-013 | 002 | TRANSITION CHAMBER GENERAL ARRANGEMENT | 00 |
| XDC-CBL-STND-H-013 | 003 | TRANSITION CHAMBER SECTION DETAILS | 00 |
| XDC-CBL-STND-H-013 | 004 | TRANSITION CHAMBER REINSTATEMENT | 00 |
| XDC-CBL-STND-H-013 | 005 | TRANSITION CHAMBER NOTES | 00 |

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
| 00 | FIRST ISSUE | DA | DG | CF | 09/03/2020 |
| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |



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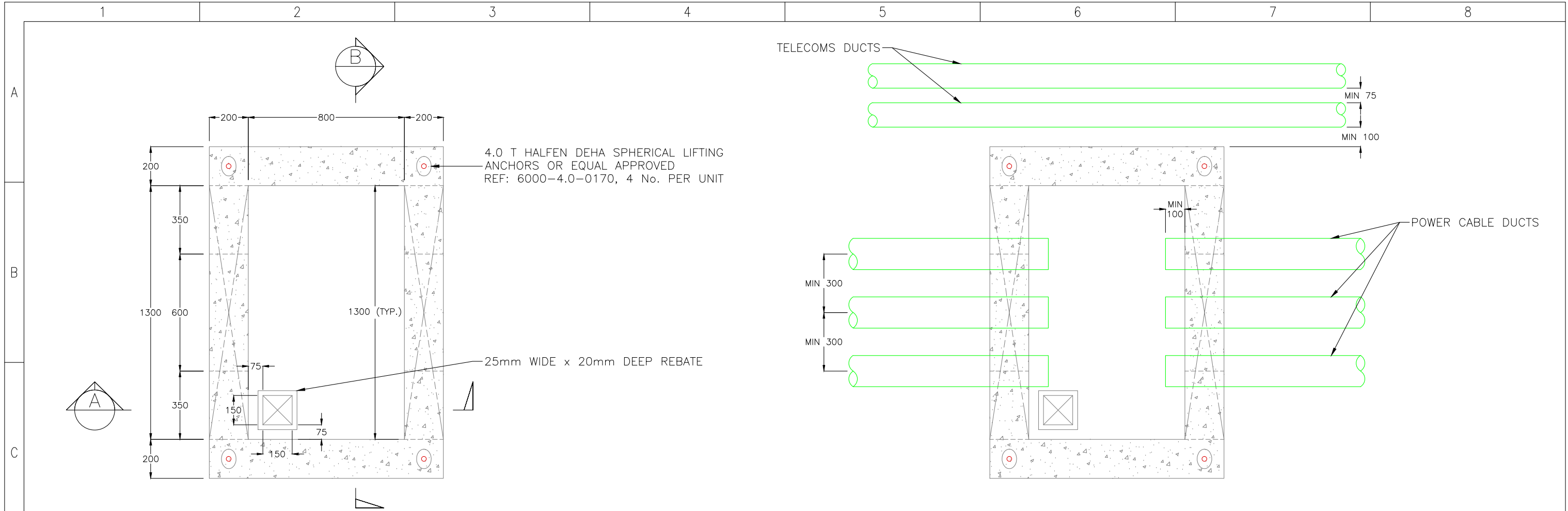
PROJECT

STANDARD 110kV CABLE DRAWINGS

DRAWING TITLE

TRANSITION CHAMBER
INDEX SHEET

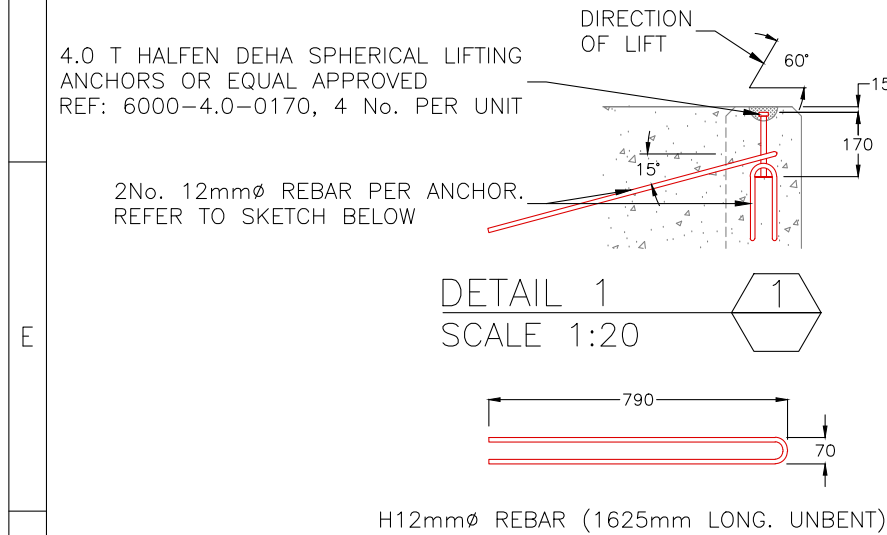
| | | | | | |
|----------------|--------------------|------|----|-------|-----|
| No of Shts | 5 | SIZE | A3 | SCALE | N/A |
| DRAWING NUMBER | XDC-CBL-STND-H-013 | | | SHEET | REV |
| | | | | 001 | 00 |



PLAN – TRANSITION CHAMBER
SCALE 1:20 (COVER, FRAME & DUCTS OMITTED FOR CLARITY)


PLAN – TRANSITION CHAMBER
SCALE 1:20 (DUCT SETTING OUT)

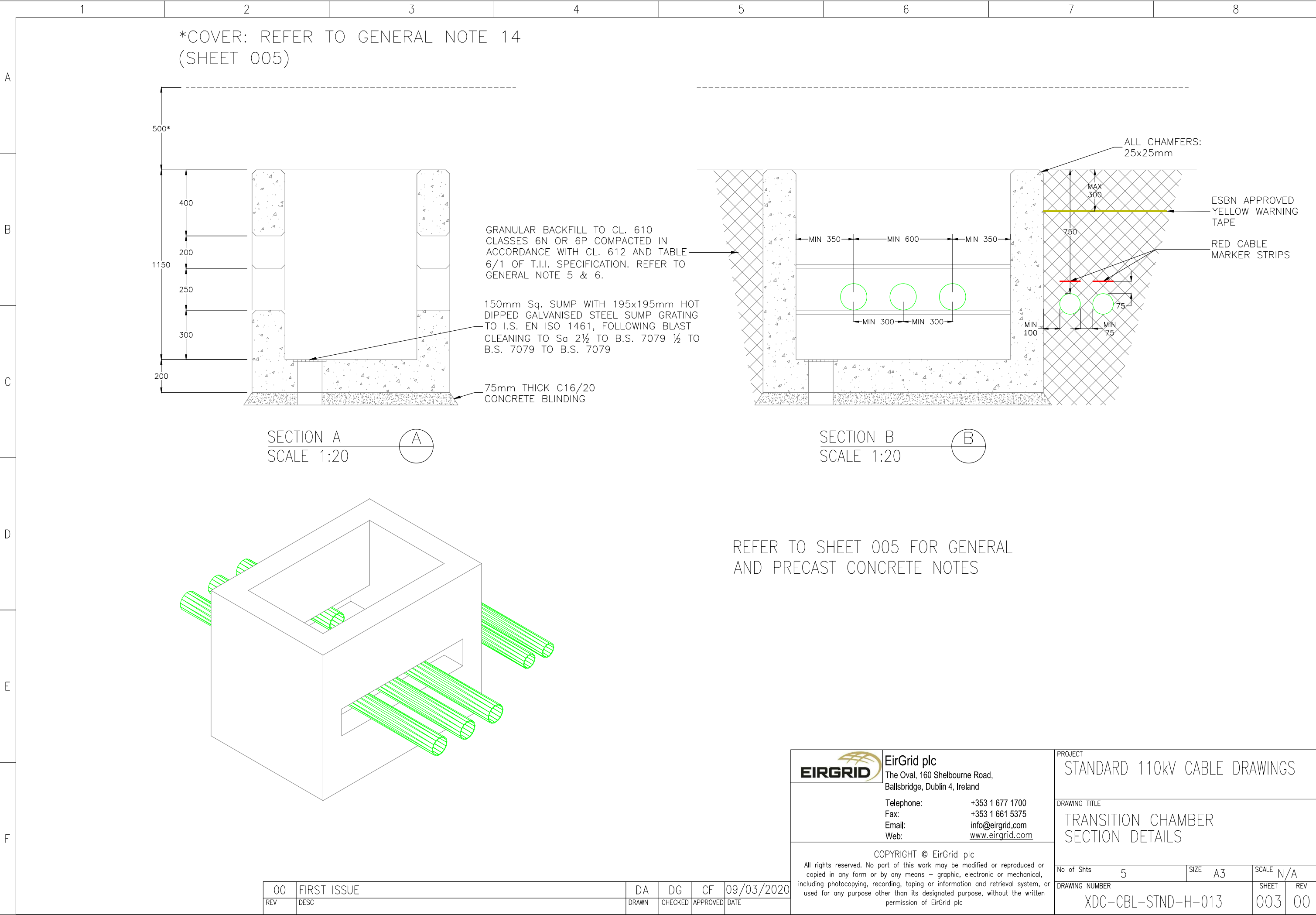
REFER TO SHEET 005 FOR GENERAL
AND PRECAST CONCRETE NOTES

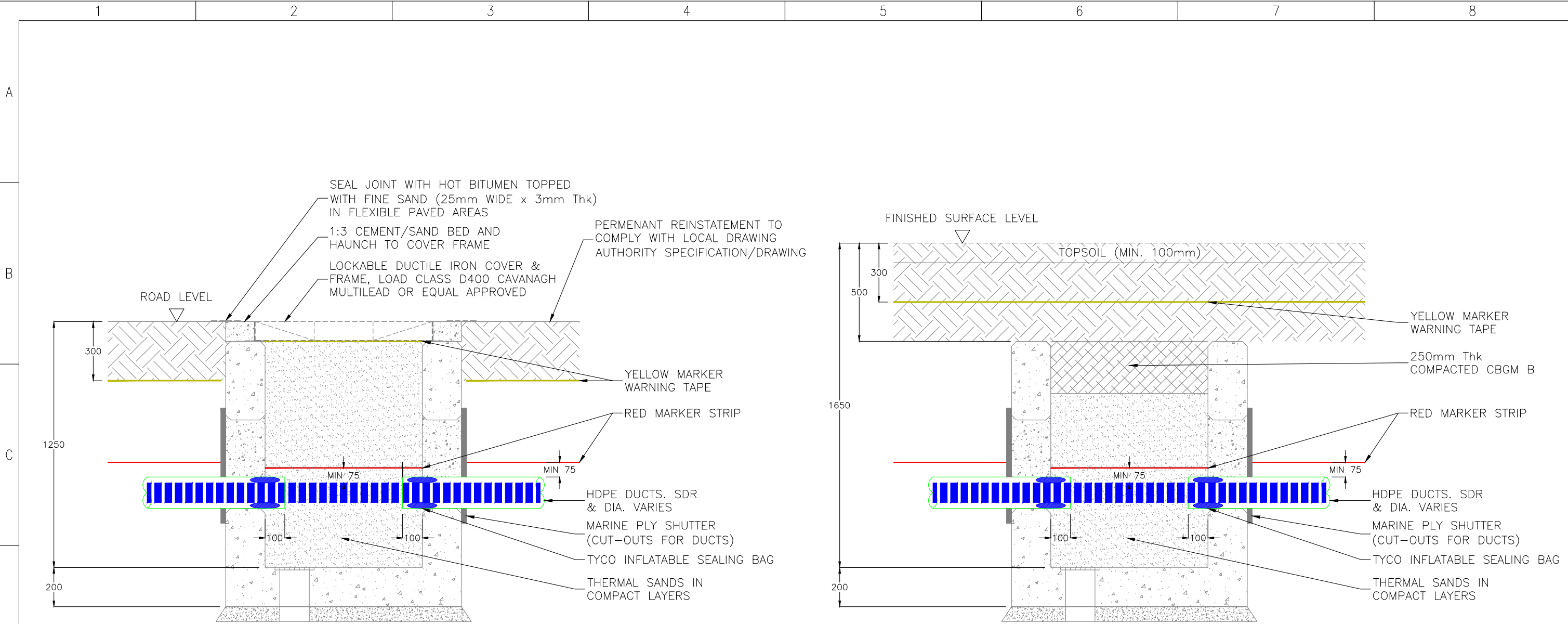


- GENERAL NOTES FOR TELECOMS DUCTS:
1. TELECOMMUNICATION DUCTS NOT TO BE ROUTED THROUGH TRANSITION CHAMBER.
 2. IF TRANSITION CHAMBER IS USED TO INTERFACE WITH AN HDD SECTION, THEN THE TELECOMS DUCT SDR 17.6 SHOULD BE CHAMFERED WHEN COUPLED WITH SDR 11 DUCTS.

| | | | | | |
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|  EirGrid plc The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland Telephone: +353 1 677 1700 Fax: +353 1 661 5375 Email: info@eirgrid.com Web: www.eirgrid.com | | PROJECT STANDARD 110kV CABLE DRAWINGS | |
| COPYRIGHT © EirGrid plc All rights reserved. No part of this work may be modified or reproduced or copied in any form or by any means – graphic, electronic or mechanical, including photocopying, recording, taping or information and retrieval system, or used for any purpose other than its designated purpose, without the written permission of EirGrid plc | | DRAWING TITLE TRANSITION CHAMBER GENERAL ARRANGEMENT | |
| No of Shts 5 | SIZE A3 | SCALE N/A | |
| DRAWING NUMBER XDC-CBL-STND-H-013 | | SHEET 002 | REV 00 |





SECTION A
SCALE 1:20 (CHAMBER BACKFILL IN ROAD) (A)

SECTION A
SCALE 1:20 (CHAMBER BACKFILL IN FIELD) (A)

REFER TO SHEET 005 FOR
GENERAL AND PRECAST
CONCRETE NOTES

| | | | | | |
|-----|-------------|-------|---------|----------|------------|
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| REV | DESC | DRAWN | CHECKED | APPROVED | DATE |

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| <div><div></div><div><div>EirGrid plc</div><div>The Oval, 160 Shelbourne Road, Ballsbridge, Dublin 4, Ireland</div><div>Telephone: +353 1 677 1700</div><div>Fax: +353 1 661 5375</div><div>Email: info@eirgrid.com</div><div>Web: www.eirgrid.com</div></div></div> | PROJECT STANDARD 110kV CABLE DRAWINGS | |
| | DRAWING TITLE TRANSITION BAY REINSTATEMENT | |
| No of Shts 5 | SIZE A3 | SCALE N/A |
| DRAWING NUMBER XDC-CBL-STND-H-013 | SHEET 004 | REV 00 |

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|---|--|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| A | | | | | | | | |
| | GENERAL NOTES: | | | PRECAST CONCRETE NOTES: | | | TABLE 1 – CONCRETE SPECIFICATION TO I.S. EN 206–1 | |
| B | 1. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEER’S, ARCHITECT’S AND ESB NETWORKS DRAWINGS & SPECIFICATIONS. | | | 1. ALL PRECAST CONCRETE ELEMENTS TO BE MANUFACTURED TO B.S. EN 13369:2013 ”COMMON RULES FOR PRECAST CONCRETE PRODUCTS”. | | | ELEMENT | |
| | 2. ALL DIMENSIONS ARE IN mm. | | | 2. LIFTING INSERTS TO BE DESIGNED & INSTALLED TO PD CEN/TR 15728:2008 ”DESIGN AND USE OF INSERTS FOR LIFTING AND HANDLING OF PRECAST CONCRETE ELEMENTS”. | | | BLINDING & MASS CONCRETE, DRAINAGE PIPE & MANHOLE SURROUNDS | |
| | 3. DO NOT SCALE DIMENSIONS. | | | 3. WEIGHT OF PRECAST CONCRETE UNIT (1.382 m³) = 3.31 T. SPECIFIED LIFTING INSERTS HAVE A S.W.L. OF 4 T. ACCOUNTING FOR DYNAMIC LOADING. | | | GROUND BEAMS, FOUNDATIONS & PITS/CHAMBERS | |
| | 4. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS PRIOR TO CONSTRUCTION, ANY DISCREPANCIES TO BE NOTIFIED TO THIS OFFICE IN WRITING IMMEDIATELY. | | | 4. LOCATION & SPECIFICATION OF LIFTING INSERTS ARE ASSUMED TO FACILITATE DEMOULDING AND HANDLING IN PRECAST MANUFACTURING FACTORY. IT IS THE RESPONSIBILITY OF THE PRECAST MANUFACTURER TO NOTIFY THE ESBI ENGINEER IF THESE ARE UNSUITABLE FOR HIS MANUFACTURING METHODOLOGY. ESBI ENGINEER TO BE INFORMED OF ANY ALTERNATIVE LIFTING LOCATIONS FOR FACTORY HANDLING & DEMOULDING. | | | EXPOSURE CLASS | |
| | 5. TEMPORARY SUPPORTS TO THE SIDES OF THE EXCAVATION MAY BE REQUIRED DEPENDENT ON SUBSOIL, METHOD OF WORK AND SITE CONSTRAINTS, AND ARE TO BE AGREED WITH THE ESBI ENGINEER PRIOR TO COMMENCEMENT OF EXCAVATION. SIDE SLOPES OF AN UNSUPPORTED EXCAVATION DEPENDENT UPON SUBSOIL AND SHALL BE AGREED WITH ESBI ENGINEER. | | | 5. CONCRETE TO HAVE A MINIMUM STRENGTH OF 30 N/mm² PRIOR TO HANDLING OR DEMOULDING. | | | MIN. BINDER (CEMENT+GGBS) CONTENT (kg/m³) | |
| C | 6. MAIN CONTRACTOR TO PROVIDE A METHOD STATEMENT AND RISK ASSESSMENT FOR THE EXCAVATION WORKS FOR THE ESBI ENGINEER TO REVIEW. | | | 6. MAIN CONTRACTOR TO ENSURE THAT A METHOD STATEMENT AND RISK ASSESSMENT INCLUDING A LIFTING PLAN, ARE PRODUCED FOR INSTALLATION AND ARE AVAILABLE TO ESBI ENGINEER FOR REVIEW IF REQUESTED. LIFTING PLAN TO INCORPORATE REQUIREMENTS OF LIFTING INSERTS AND LIFTING LOOP EYES. | | | GGBS TO EN 15167–1 (kg/m³) | |
| | 7. THE CONSTRUCTION, AS SHOWN, IS APPLICABLE ONLY WHERE THE SUBSOIL AT FORMATION LEVEL EXCEEDS 100 kN/m² BEARING CAPACITY. | | | 7. A MINIMUM LIFTING SLING ANGLE OF 60° TO THE HORIZONTAL IS REQUIRED. | | | 0 | |
| | 8. SUITABILITY OF THE COVER AND CHAMBER TO BE ASSESSED BY THE PROJECT ENGINEER IN CIRCUMSTANCES OF HIGH TRAFFIC LOADING IN ACCORDANCE WITH THE RECOMMENDATIONS OF T.I.I. DESIGN MANUAL FOR ROADS AND BRIDGES ADDENDUM TO HA 104/09. | | | 8. A LIFTING SYSTEM WHICH ENSURES ALL LIFTING POINTS TAKE ON AN EQUAL LOAD IS REQUIRED. | | | CEM II/A–L TO I.S. EN 197–1 (kg/m³) | |
| | 9. COVER AND FRAME TO B.S. EN 124. | | | 9. TRANSPORT THE CHAMBER BY TRAILER WHEN TRAVELING OVER ROUGH TERRAIN TO AVOID DAMAGE TO LIFTING ANCHORS. | | | 220 | |
| D | 10. COVER SHALL HAVE APPROVED BADGED MARKING INCORPORATED TO THE APPROVAL OF THE ESBI ENGINEER. | | | 10. HALFEN DEHA SPHERICAL LIFTING ANCHORS TO BE USED AS SPECIFIED. ANY DEVIATION FROM THIS MUST BE NOTIFIED TO ESBI ENGINEER BY PRECAST MANUFACTURER. | | | MAX. WATER/CEMENT RATIO | |
| | 11. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE T.I.I. SPECIFICATION FOR ROADWORKS. | | | 11. FORMWORK FOR PRECASTING TO BE OF A MINIMUM STANDARD OF VARNISHED WOODEN MOULD WITH PLANED BOARDS. | | | -- | |
| | 12. THE CENTER LINE OF THE DUCTS ENTERING THE CHAMBER SHALL BE ALIGNED WITH THE DUCTS ON THE OPPOSITE SIDE, SO THAT THE CABLE IS PULLED IN A STRAIGHT LINE. | | | 12. CONCRETE TO BE GRADE C32/40, AS SPECIFIED IN TABLE 1. | | | CHLORIDE CONTENT CLASS | |
| | 13. DUCTS SHALL APPROACH THE CHAMBER IN STRAIGHT ALIGNMENT (HORIZONTAL & VERTICAL) FOR A MINIMUM OF 3 METERS BEFORE THE WALL OPENING. | | | | | | Cl. 1.0 | |
| E | 14. * THE DEPTH FROM GROUND LEVEL TO TOP OF CONCRETE WALL SHALL BE 500 mm IN CULTIVATED FIELDS & GRASSED LANDS. | | | | | | MAX. AGGREGATE (mm) | |
| | | | | | | | 10 | |
| | | | | | | | MIN. COVER (CMin) (mm) | |
| | | | | | | | -- | |
| | | | | | | | *COMPRESSIVE STRENGTH CLASS @ 28 DAYS | |
| | | | | | | | C16/20 | |
| | | | | | | | C32/40 | |
| | | | | | | | NOTES: | |
| | | | | | | | 1. *C16/20 TO BE READ AS FOLLOWS: | |
| | | | | | | | 16 = MIN. CYLINDER STRENGTH (N/mm²) | |
| | | | | | | | 20 = MIN. CUBE STRENGTH (N/mm²) | |
| | | | | | | | 2. DESIGN WORKING LIFE TO BE 50 YEARS MINIMUM | |
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