
[illegible]

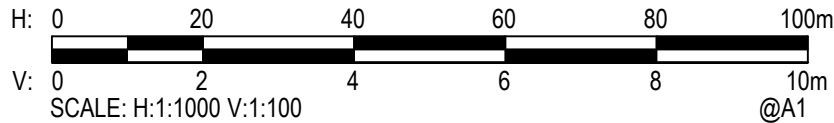
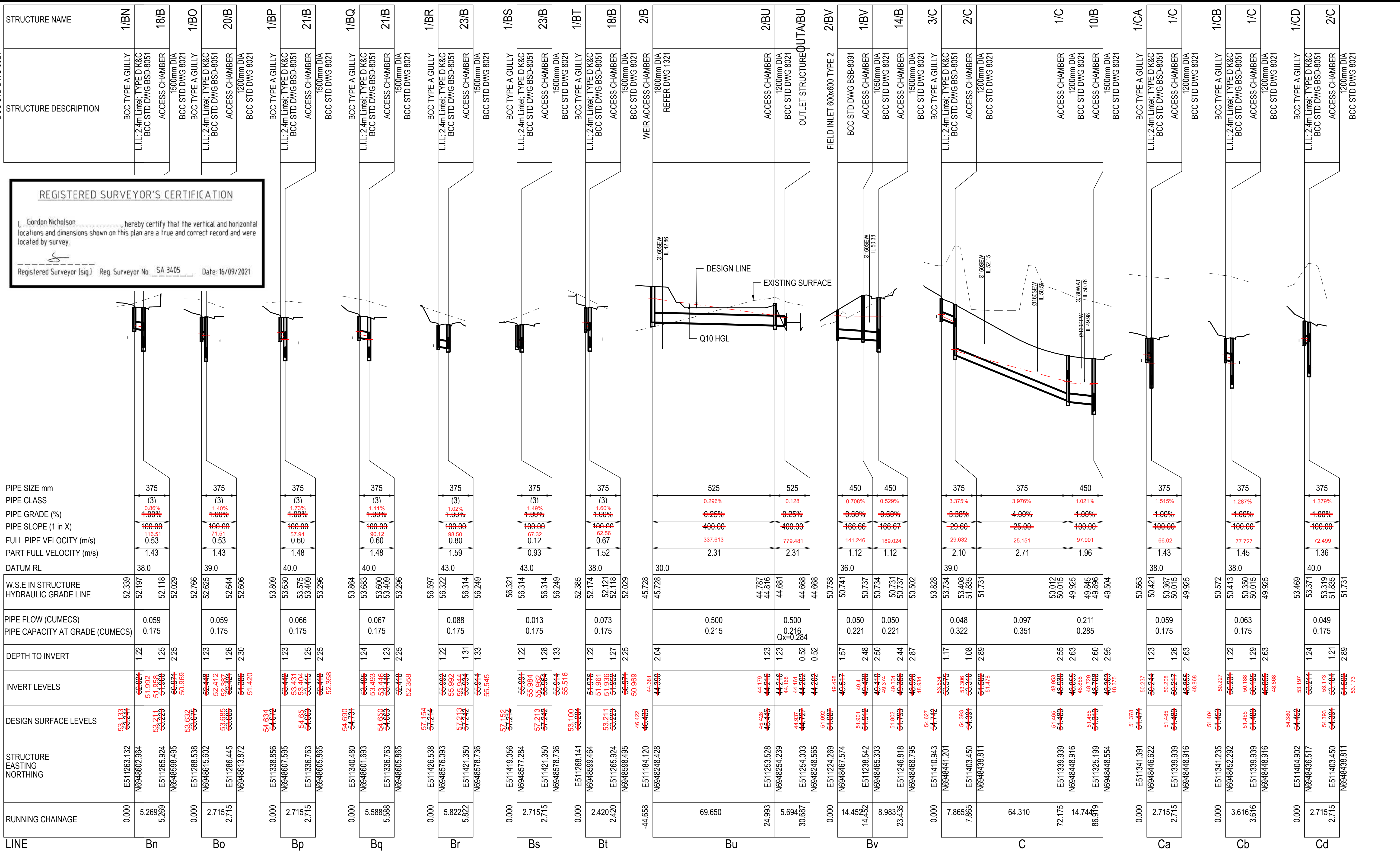
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| | | | | | | | |
|---|--------------------|---------------------------------------|--|-------|--------------------|----------------|----------|
| Drawn D.MCKENZIE | Date 18.12.2018 | Client R&F GOLDEN PROPERTY PTY LTD | | | | | |
| Checked C.KEMPE | Date 27.03.2020 | Project | 309 PRIESTDALE ROAD, ROCHEDALE PRIESTDALE ROAD STAGE 1 CIVIL WORKS | | Status | AS CONSTRUCTED | |
| Designed L.KUSTERS | Date 18.12.2018 | Title | STORMWATER DRAINAGE | | Datum | AHD | |
| Verified L.GARSIDE | Date 18.12.2018 | | GRID | Scale | AS SHOWN | Size | A1 |
| Approved  | RPEQ: 19/06 | | Drawing Number | | 790468-001-CI-1312 | | Revision |
| J.O'SULLIVAN | Date 4/12/2020 | LONGITUDINAL SECTION - SHEET 2 | | | | | |

DATE PLOTTED: 10 December 2020 8:29 AM BY: J.O'SULLIVAN



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|------|------------|----------------------------------|------|--------|-------|
| | | | | | |
| B | 16/09/2021 | AS CONSTRUCTED | | | |
| A | 4/12/2020 | ISSUED FOR CONSTRUCTION | CK | JO'S | JO'S |
| 4 | 08.07.2020 | STORMWATER LONGSECTIONS UPDATED | BH | JO'S | JO'S |
| 3 | 13.05.2020 | OPERATIONAL WORKS APPROVAL ISSUE | CK | BW | JO |
| 2 | 17.04.2020 | UPDATED LAYOUT FOR APPROVAL | CK | BW | JO |
| 1 | 18.12.2018 | ISSUE FOR APPROVAL | DPM | LG | RB |
| Rev. | Date | Description | Des. | Verif. | Appd. |



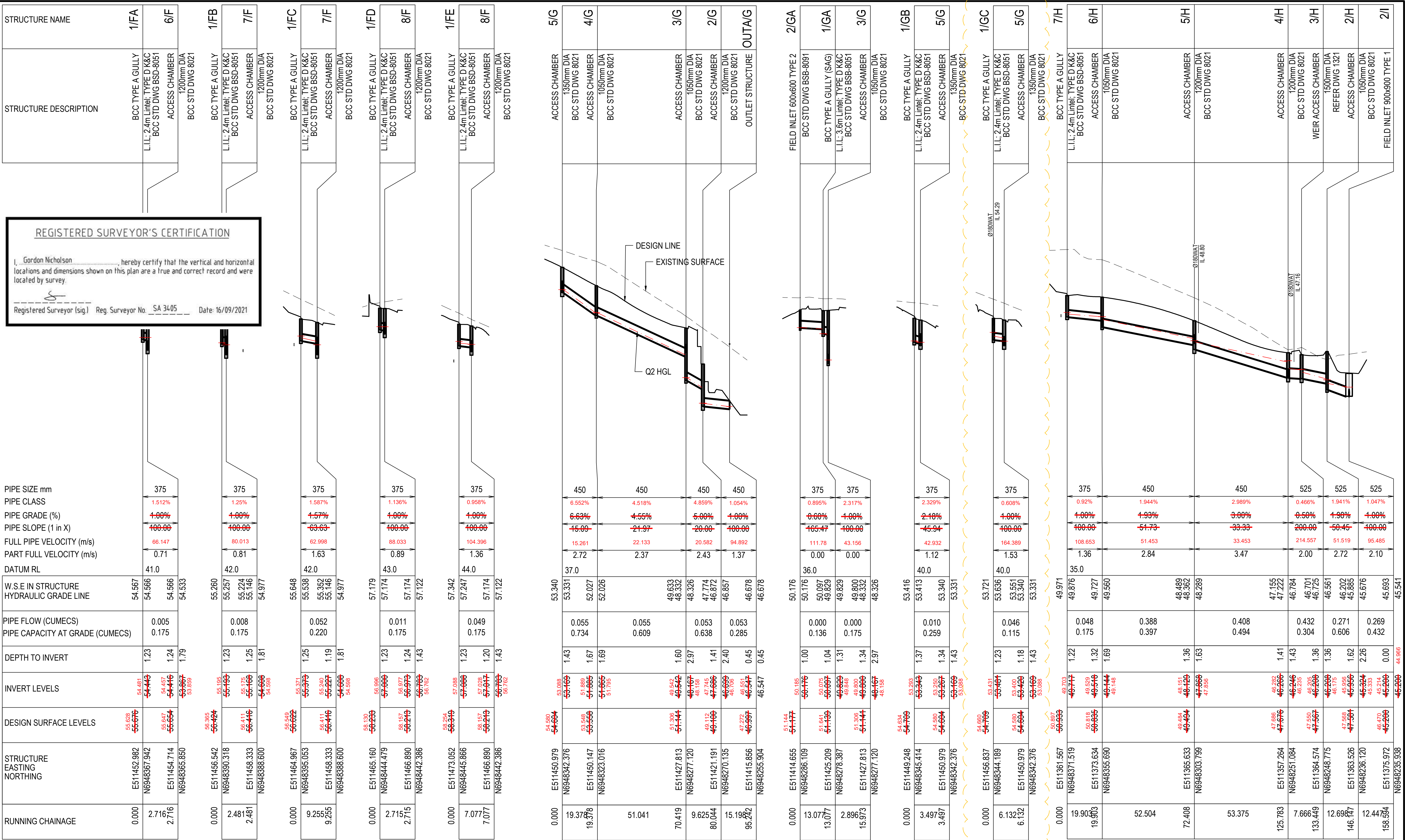
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| | | | |
|----------|--------------|------|------------|
| Drawn | D.MCKENZIE | Date | 18.12.2018 |
| Checked | C.KEMPE | Date | 27.03.2020 |
| Designed | L.KUSTERS | Date | 18.12.2018 |
| Verified | L.GARSDIE | Date | 18.12.2018 |
| Approved | J.O'SULLIVAN | Date | 4/12/2020 |

| | |
|---------|---------------------------------|
| Client | R&F GOLDEN PROPERTY PTY LTD |
| Project | 309 PRIESTDALE ROAD, ROCHE DALE |
| | PRIESTDALE ROAD STAGE 1 |
| | CIVIL WORKS |
| Title | STORMWATER DRAINAGE |
| | LONGITUDINAL SECTION - SHEET 3 |

| | | | | | | |
|--------------------|-----|----------------|-------|----------|----------|-----|
| Status | | AS CONSTRUCTED | | | | |
| Datum | AHD | GRID | Scale | AS SHOWN | Size | A1 |
| Drawing Number | | | | | Revision | B A |
| 790468-001-CI-1313 | | | | | | |



| | | | | | |
|------|------------|----------------------------------|------|--------|-------|
| C | 16/09/2021 | AS CONSTRUCTED | | | |
| B | 2/03/2021 | LINE Gc ADDED | CK | JO'S | JO'S |
| A | 4/12/2020 | ISSUED FOR CONSTRUCTION | CK | JO'S | JO'S |
| 6 | 17.09.2020 | STORMWATER LINES AMENDED | BJF | JO'S | JO'S |
| 5 | 09.09.2020 | STORMWATER LINES AMENDED | BJF | JO'S | JO'S |
| 4 | 08.07.2020 | STORMWATER LONGSECTIONS UPDATED | BH | JO'S | JO'S |
| 3 | 13.05.2020 | OPERATIONAL WORKS APPROVAL ISSUE | CK | BW | JO |
| 2 | 17.04.2020 | UPDATED LAYOUT FOR APPROVAL | CK | BW | JO |
| 1 | 18.12.2018 | ISSUE FOR APPROVAL | DPM | LG | RB |
| Rev. | Date | Description | Des. | Verif. | Appd. |



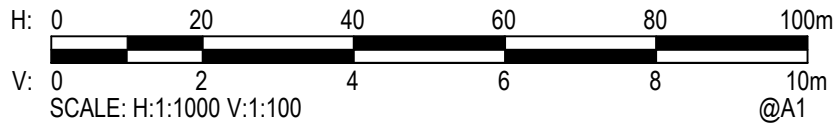
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| | | |
|--------------------------|--------------------|---|
| Drawn D.MCKENZIE | Date 18.12.2018 | Client R&F GOLDEN PROPERTY PTY LTD |
| Checked C.KEMPE | Date 27.03.2020 | Project 309 PRIESTDALE ROAD, ROCHEDALE |
| Designed L.KUSTERS | Date 18.12.2018 | PRIESTDALE ROAD STAGE 1 |
| Verified L.GARSDIE | Date 18.12.2018 | CIVIL WORKS |
| Approved J.O'SULLIVAN | Date 4/12/2020 | STORMWATER DRAINAGE |
| | | Title LONGITUDINAL SECTION - SHEET 5 |
| | | Status AS CONSTRUCTED |
| | | Datum AHD |
| | | Grid AS SHOWN |
| | | Scale AS SHOWN |
| | | Size A1 |
| | | Drawing Number 790468-001-CI-1315 |
| | | Revision C |

| STRUCTURE NAME | 2/HA | 1/HA | 4/H | 1/HAA | 1/HA | 3/H | 2/HC | 1/HC | 5/H | 1/HD | 5/H | 2/I | OUTA/I | 3/J | 2/J | OUTA/J | 1/K | 2/J | 9/P | 8/P | 7/P | 6/P | 5/P | 4/P | 3/P | 2/P | OUTA/P | |
|--|---|--|--|--|--|---|-----------------------------|--|--|--|--|-----------------------------|-----------------------------|-----------------------------|---|-----------------------------|--|---|--|--|--|---|--|--|--|--|------------------|--|
| STRUCTURE DESCRIPTION | BCC TYPE A GULLY (SAG) L.I.L.: 2.4m Linel; TYPE D K&C BCC STD DWG BSB-8051 | ACCESS CHAMBER 1200mm DIA BCC STD DWG 8021 | ACCESS CHAMBER 1200mm DIA BCC STD DWG 8021 | BCC TYPE A GULLY (SAG) L.I.L.: 2.4m Linel; TYPE D K&C BCC STD DWG BSB-8051 | ACCESS CHAMBER 1200mm DIA BCC STD DWG 8021 | WEIR ACCESS CHAMBER 1500mm DIA REFER DWG 1321 | FIELD INLET 600x600 TYPE 2 | BCC STD DWG BSB-8091 BCC TYPE A GULLY L.I.L.: 2.4m Linel; TYPE D K&C BCC STD DWG BSD-8051 | ACCESS CHAMBER 1200mm DIA BCC STD DWG 8021 | BCC TYPE A GULLY L.I.L.: 2.4m Linel; TYPE D K&C BCC STD DWG BSD-8051 | ACCESS CHAMBER 1200mm DIA BCC STD DWG 8021 | FIELD INLET 900x900 TYPE 1 | OUTLET STRUCTURE | FIELD INLET 900x900 TYPE 1 | BCC STD DWG BSB-8091 CUSTOM CHAMBER 2250x3000mm REFER DWG 1321 | OUTLET STRUCTURE | FIELD INLET 900x900 TYPE 1 1200mm DIA BCC STD DWG BSB-8091 | CUSTOM CHAMBER 2250x3000mm REFER DWG 1321 | BCC TYPE A GULLY (SAG) L.I.L.: 3.6m Linel; TYPE D K&C BCC STD DWG BSB-8051 | BCC TYPE A GULLY L.I.L.: 2.4m Linel; TYPE D K&C BCC STD DWG BSD-8051 | ACCESS CHAMBER 1200mm DIA BCC STD DWG 8021 | FIELD INLET 900x900 TYPE 1 OVER 1200mm DIA | ACCESS CHAMBER 1050mm DIA BCC STD DWG 8021 | ACCESS CHAMBER 1050mm DIA BCC STD DWG 8021 | ACCESS CHAMBER 1200mm DIA BCC STD DWG 8021 | ACCESS CHAMBER 1200mm DIA BCC STD DWG 8021 | OUTLET STRUCTURE | |
| REGISTERED SURVEYOR'S CERTIFICATION | <div><div>I, <u>Gordon Nicholson</u>, hereby certify that the vertical and horizontal locations and dimensions shown on this plan are a true and correct record and were located by survey.</div><div><div></div><div>Registered Surveyor (sig.)</div><div>Reg. Surveyor No. <u>SA 3405</u></div><div>Date: <u>16/09/2021</u></div></div></div> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PIPE SIZE mm | 375 | 375 | | 375 | | 375 | 375 | 375 | 375 | 375 | 375 | 375 | 375 | 450 | (2x)375 | | (2x)450 | 525 | 525 | 450 | 450 | 450 | 450 | 525 | 525 | 525 | | |
| PIPE CLASS | 0.996% | 0.948% | | 1.048% | | 0.521% | 0.595% | 1.892% | 0.964% | 0.591% | 0.591% | 0.591% | 0.591% | 0.310% | 0.728% | | 0.607% | (3) | (3) | 4.77% | 7.092% | 0.533% | 7.210% | 0.518% | 0.422% | | | |
| PIPE GRADE (%) | 1.00% | 1.00% | | 1.00% | | 0.50% | 0.89% | 1.59% | 0.89% | 0.58% | 0.58% | 0.58% | 0.58% | 0.30% | 0.40% | | 0.50% | 2.00% | 2.50% | 4.75% | 7.00% | 7.00% | 0.50% | 0.50% | 0.51% | | | |
| PIPE SLOPE (1 in X) | 100.00 | 100.00 | | 100.00 | | 200.00 | 111.75 | 62.80 | 100.00 | 171.04 | 169.336 | 171.04 | 171.04 | 333.33 | 208.51 | | 200.00 | 50.00 | 40.00 | 21.05 | 14.29 | 14.29 | 200.00 | 200.00 | 194.30 | | | |
| FULL PIPE VELOCITY (m/s) | 100.431 | 105.485 | | 95.396 | | 191.937 | 167.965 | 52.851 | 103.698 | 169.336 | 169.336 | 169.336 | 169.336 | 322.807 | 137.323 | | 164.772 | 0.93 | 0.97 | 20.964 | 14.100 | 13.870 | 13.870 | 192.916 | 237.208 | | | |
| PART FULL VELOCITY (m/s) | 1.03 | 1.26 | | 1.04 | | 1.45 | 0.00 | 1.09 | 1.06 | 2.42 | 0.00 | 2.42 | 2.42 | 0.00 | 5.73 | | 1.88 | 2.52 | 2.77 | 3.52 | 4.05 | 4.04 | 1.51 | 1.51 | 1.52 | | | |
| DATUM RL | 33.0 | | | 33.0 | | 33.0 | 35.0 | 32.0 | 35.0 | 32.0 | 32.0 | 32.0 | 32.0 | 29.0 | 42.974 | | 30.0 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 | | | |
| W.S.E IN STRUCTURE HYDRAULIC GRADE LINE | 47.014 | 47.000 | 47.000 | 47.015 | 47.000 | 46.531 | 48.606 | 45.541 | 48.462 | 45.484 | 45.484 | 45.693 | 45.541 | 44.189 | 43.679 | 42.974 | 44.786 | 44.374 | 52.389 | 52.317 | 52.216 | 48.758 | 47.840 | 45.638 | 45.512 | 45.426 | | |
| PIPE FLOW (CUMECS) | | 0.019 | 0.038 | 0.019 | | 0.160 | 0.000 | 0.267 | 0.020 | 0.267 | 0.135 | 0.000 | 0.135 | 0.000 | 1.265 | 0.243 | 0.597 | 0.201 | 0.210 | 0.209 | 0.207 | 0.207 | 0.206 | 0.205 | 0.204 | | | |
| PIPE CAPACITY AT GRADE (CUMECS) | 0.175 | 0.175 | | 0.175 | | 0.124 | 0.166 | 0.135 | 0.175 | 0.135 | 0.135 | 0.166 | 0.135 | 0.156 | 0.243 | 0.309 | 0.403 | 0.608 | 0.680 | 0.622 | 0.755 | 0.755 | 0.304 | 0.304 | 0.309 | | | |
| DEPTH TO INVERT | 1.11 | 1.20 | 1.26 | 1.14 | 1.24 | 1.26 | 1.11 | 1.35 | 1.23 | 0.63 | 0.63 | 1.42 | 1.42 | 1.50 | 1.52 | 1.34 | 2.76 | 1.50 | 1.44 | 1.61 | 1.63 | 1.76 | 2.41 | 2.25 | 2.84 | 0.60 | | |
| INVERT LEVELS | 46.470 46.470 | 46.445 46.446 | 46.399 46.399 | 46.452 46.445 | 46.409 46.409 | 46.388 46.388 | 48.546 48.546 | 44.956 44.956 | 48.323 48.323 | 44.880 44.880 | 47.894 47.894 | 45.693 45.693 | 44.956 44.956 | 42.705 42.705 | 42.683 42.683 | 42.974 42.974 | 42.786 42.786 | 42.705 42.705 | 52.088 51.927 | 51.907 51.907 | 51.682 51.649 | 46.607 46.607 | 46.558 46.558 | 45.512 45.512 | 45.426 45.426 | 45.365 45.365 | | |
| DESIGN SURFACE LEVELS | 47.544 47.504 | 47.653 47.646 | 47.696 47.676 | 47.545 47.599 | 47.653 47.646 | 47.775 47.764 | 49.714 49.714 | 45.480 45.506 | 47.856 47.856 | 44.880 44.880 | 46.470 46.470 | 46.300 46.300 | 44.956 44.956 | 44.200 44.200 | 43.995 43.995 | 42.974 42.974 | 42.545 42.545 | 44.906 44.906 | 53.530 53.534 | 53.089 53.089 | 51.254 51.254 | 47.643 47.643 | 48.114 48.114 | 48.092 48.092 | 45.814 45.814 | 45.660 45.660 | | |
| STRUCTURE EASTING NORTHING | E511358.418 N6948244.402 | E511356.646 N6948247.193 | E511357.264 N6948251.084 | E511352.764 N6948245.300 | E511356.646 N6948247.193 | E511364.580 N6948248.626 | E511373.246 N6948305.748 | E511363.196 N6948305.985 | E511365.633 N6948303.799 | E511375.972 N6948235.938 | E511375.631 N6948223.971 | E511375.972 N6948235.938 | E511375.631 N6948223.971 | E511259.673 N6948239.546 | E511232.376 N6948238.457 | E511233.801 N6948221.210 | E511227.919 N6948254.783 | E511232.376 N6948238.457 | E511459.810 N6948316.525 | E511450.994 N6948318.453 | E511430.756 N6948276.865 | E511424.797 N6948267.805 | E511421.810 N6948260.615 | E511418.590 N6948239.161 | E511397.727 N6948237.149 | E511397.438 N6948226.771 | | |
| RUNNING CHAINAGE | 0.000 | 3.306 | 3.940 | 0.000 | 4.320 | 1.602 | -5.056 | 0.000 | 4.744 | 0.000 | 11.973 | 0.000 | 11.973 | 0.000 | 27.319 | 44.625 | 0.000 | 16.923 | 8.027 | 9.025 | 17.052 | 46.250 | 10.844 | 21.696 | 20.960 | 10.388 | | |
| LINE | Ha | | | Haa | | Hb | Hc | | Hd | I | J | | | K | | | | | | P | | | | | | | | |



| | | | | | |
|------|------------|----------------------------------|------|--------|-------|
| B | 16/09/2021 | AS CONSTRUCTED | | | |
| A | 4/12/2020 | ISSUED FOR CONSTRUCTION | CK | JO'S | JO'S |
| 4 | 09.09.2020 | STORMWATER LINES AMENDED | BJF | JO'S | JO'S |
| 3 | 08.07.2020 | STORMWATER LONGSECTIONS UPDATED | BH | JO'S | JO'S |
| 2 | 13.05.2020 | OPERATIONAL WORKS APPROVAL ISSUE | CK | BW | JO |
| 1 | 17.04.2020 | ISSUE FOR APPROVAL | CK | BW | JO |
| Rev. | Date | Description | Des. | Verif. | Appd. |



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|----------|--------------|------|------------|
| Drawn | D.MCKENZIE | Date | 18.12.2018 |
| Checked | C.KEMPE | Date | 27.03.2020 |
| Designed | L.KUSTERS | Date | 18.12.2018 |
| Verified | L.GARSDIE | Date | 18.12.2018 |
| Approved | J.O'SULLIVAN | Date | 4/12/2020 |

| | |
|---------|---------------------------------|
| Client | R&F GOLDEN PROPERTY PTY LTD |
| Project | 309 PRIESTDALE ROAD, ROCHE DALE |
| | PRIESTDALE ROAD STAGE 1 |
| | CIVIL WORKS |
| Title | STORMWATER DRAINAGE |
| | LONGITUDINAL SECTION - SHEET 6 |

| | | | | | |
|--------------------|----------------|-------|----------|----------|--|
| Status | AS CONSTRUCTED | | | | |
| Datum | GRID | Scale | Size | A1 | |
| AHD | | | AS SHOWN | | |
| Drawing Number | | | | Revision | |
| 790468-001-CI-1316 | | | | B A | |