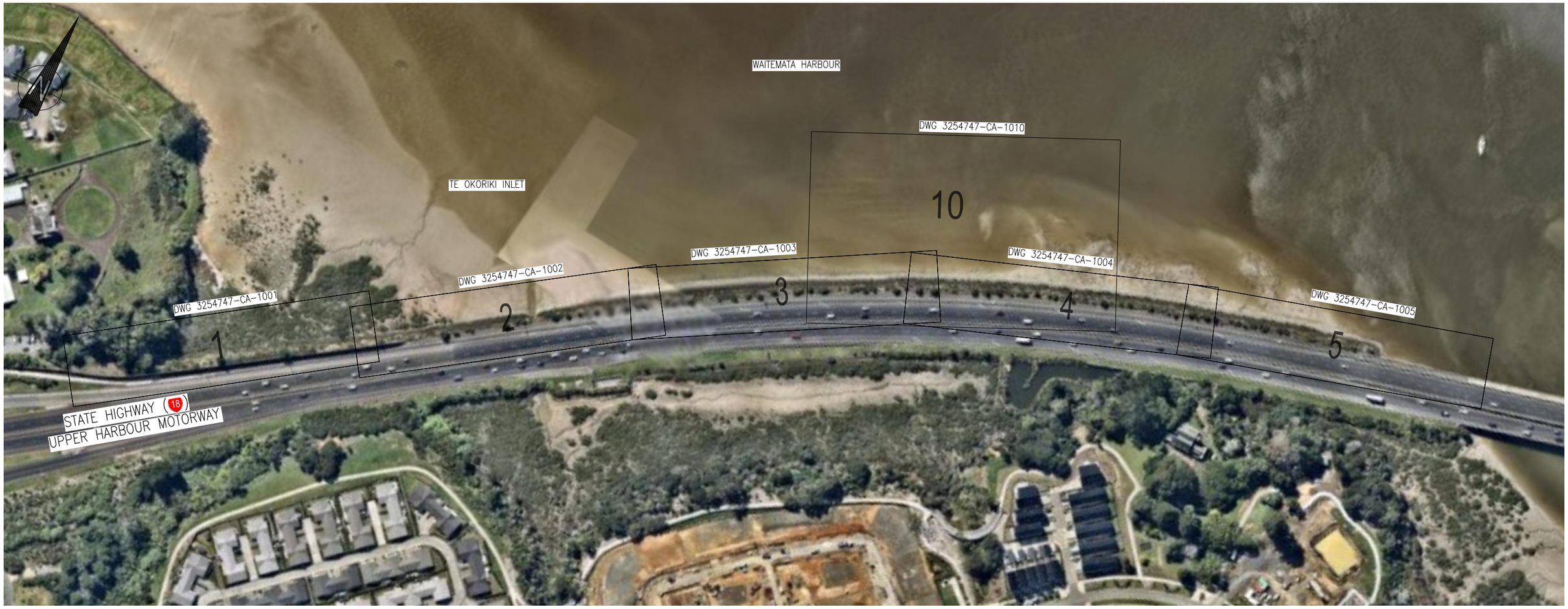

SURVEY LEGEND

- SURVEY CONTROL POINT
- BUILDING EAVE
- BUILDING FOOTPRINT
- BUILDING ROOF
- BUILDING WALL
- COMMS BOX
- COMMS LID
- COMMS MANHOLE
- COMMS PLINTH
- ELECTRICAL POWER POLE
- ELECTRICAL TRANSFORMER
- ELECTRICAL LIGHT POLE
- ELECTRICAL PLINTH
- ELECTRICAL POWER BOX
- FEATURE CONCRETE
- FEATURE FENCE
- FEATURE GATE
- FEATURE PED CROSS PAD
- FEATURE POST
- FEATURE RETAIN WALL TOP
- FEATURE SIGN
- FEATURE WALL BOTTOM
- FEATURE WALL TOP
- FEATURE BOREHOLE
- GAS VALVE
- ROAD BACK OF KERB
- ROAD CENTRELINE
- ROAD EDGE OF METAL
- ROAD EDGE OF SEAL
- ROAD FOOTPATH
- ROAD GUTTER FLOW
- ROAD TOP OF KERB
- ROAD WHITE LINE
- ROAD WHITE LINE DASHED
- ROAD YELLOW LINE
- ROAD YELLOW LINE DASHED
- ROAD TRAFFIC LIGHT
- STORMWATER CESSPIT SINGLE
- STORMWATER CHANNEL
- STORMWATER CULVERT
- STORMWATER GRATE
- STORMWATER PIPE TOP
- STORMWATER MANHOLE
- TOPO BOTTOM OF BANK
- TOPO TOP OF BANK
- UNKNOWN MANHOLE
- UNKNOWN BOX
- UNKNOWN PLINTH
- UNKNOWN VALVE
- VEG EDGE
- VEG BUSH
- VEG TREE
- VEG TREE TRUNK
- WASTEWATER MANHOLE
- WATER VALVE
- WATER FIRE HYDRANT
- WATER MARKER
- WATER METER
- WATER PLINTH

NOTES:

1. COORDINATES ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR.
BECA CONTROL NETWORK COORDINATES;

RMII SO 68408 (BCXX)	1751627.67 mE	5931852.44 mN
RM C DP 110848 (BCXY)	1749865.50 mE	5928875.21 mN
RM 7401 SO 66155 (CDW1)	1749404.26 mE	5928866.64 mN
BUCKLEY ROAD No2 (EM3U)	1747739.49 mE	5926883.74 mN
NI02	1751163.59 mE	5931716.89 mN
NI03	1750605.04 mE	5931626.45 mN
NI04	1750311.50 mE	5931109.44 mN
NI05	1749955.20 mE	5930850.76 mN
NI06	1749619.48 mE	5929953.77 mN
NI07	1749824.61 mE	5929477.31 mN
NI08	1748721.61 mE	5928456.66 mN
NI09	1748215.63 mE	5927483.48 mN
NI10	1747868.52 mE	5927233.80 mN

2. LEVELS ARE IN TERMS OF AUCKLAND VERTICAL DATUM 1946.
BECA CONTROL NETWORK HEIGHTS:

RMII SO 68408 (BCXX)	29.20 m
RM C DP 110848 (BCXY)	49.66 m
RM 7401 SO 66155 (CDW1)	20.00 m
BUCKLEY ROAD No2 (EM3U)	18.78 m
NI02	46.12 m
NI03	33.29 m
NI04	31.44 m
NI05	18.27 m
NI06	5.65 m
NI07	23.84 m
NI08	2.31 m
NI09	5.11 m
NI10	5.86 m

HOLD
FOR CONFIRMATION
OF DATA

3. THE ORIGIN OF SURVEY HAS BEEN ESTABLISHED USING GNSS AND TOTAL STATION COORDINATES AND HEIGHTS RELATIVE TO THE LINZ GEODETIC NETWORK.

4. FEATURES HAVE BEEN SURVEYED USING A TOTAL STATION, WITH ROAD CENTRELINE MEASUREMENTS TAKEN BY REFLECTORLESS OBSERVATION.

5. CONTOURS ARE AT 0.2m INTERVALS. CONTOURS SHOWN ON THIS PLAN HAVE BEEN ELECTRONICALLY COMPUTED FROM SPOT HEIGHT DETERMINATIONS AND MAY NOT REPRESENT THE TRUE GROUND LEVELS, ANY CRITICAL HEIGHTS SHOULD BE CHECKED ON SITE PRIOR TO DESIGN AND CONSTRUCTION COMMENCING.

6. THIS PLAN HAS BEEN CARRIED OUT TO TOPOGRAPHICAL STANDARDS. ALL LEVELS SHOWN ARE CORRECT AT TIME OF SURVEY. CRITICAL DIMENSIONS AND LEVELS SHOULD BE VERIFIED.

7. THE POSITION OF BOUNDARIES SHOWN WERE OBTAINED FROM A DIGITAL DOWNLOAD FROM THE LINZ WEBSITE. THESE BOUNDARIES HAVE NOT BEEN CONFIRMED ON SITE.

8. POLYETHYLENE (PE) PIPE BENDS TO BE FABRICATED IN ACCORDANCE WITH THE PIPA STANDARD AND BE MITRED AT 15° SECTIONS OR LESS

9. CONCRETE LINED STEEL PIPE (CLS) TO BE FABRICATED IN ACCORDANCE WITH THE LATEST REVISION OF THE FOLLOWING WATERCARE STANDARD DRAWINGS
- BENDS: 201979.060
- WELDING BANDS: 2002979.019
- SPHERICAL JOINTS: 201979.018

10. THESE NOTES ARE AN INTEGRAL PART OF THIS PLAN.

FOR CONSTRUCTION

www.beca.com

P:\3253254747\CAD\ 3254747-CA-1000.dwg

Plot Date: Mar 20, 2019 - 5:12pm

ISSUE	DATE	AMENDMENT	BY	APPD.
–	20.03.19	ISSUED FOR CONSTRUCTION	SC	DH

DESIGNED	S Crundwell	21.12.18
DES. CHECKED	D Heiler	21.12.18
DRAWN	R Simpson	21.12.18
DWG. CHECK	D Heiler	21.12.18
PROJECT LEADER		
INFRASTR APP'D		

OPERATIONS

INFRASTRUCTURE

Watercare

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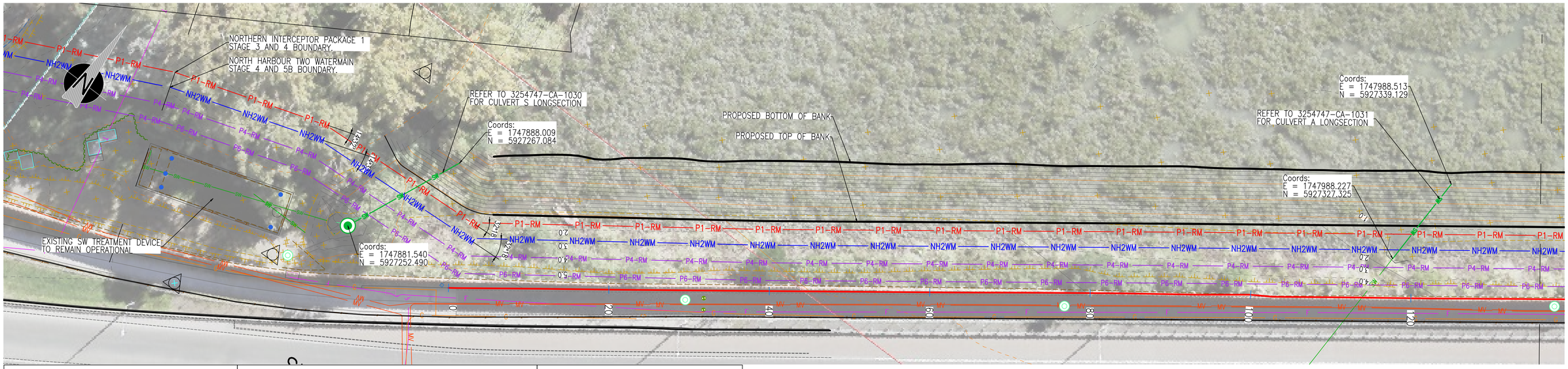
Beca
Fletcher CONSTRUCTION

GBWD (NH2 AND NI) – STAGE 5A CAUSEWAY EARTHWORKS

SHEET LAYOUT & NOTES

CAD FILE 3254747–CA–1000	DATE 20.03.19
ORIGINAL SCALE A3 1:2500	CONTRACT No.
REF No. 3254747–CA–1000	ISSUE
DWG No. 2010674.025	–



EXISTING SERVICES LEGEND

- P — POWER – OVERHEAD
- LV — POWER – LOW VOLTAGE
- MV — POWER – MEDIUM VOLTAGE POWER
- HV — POWER – HIGH VOLTAGE
- F — COMMUNICATIONS – FIBRE OPTIC
- T — COMMUNICATIONS – CHORUS
- V — COMMUNICATIONS – VODAFONE
- G — GAS
- WW — WASTEWATER
- W — WATER SUPPLY
- AW-RM — P1 ADVANCED WORKS AS BUILT
- WATERCOURSE
- SW — STORMWATER
- STORMWATER MANHOLE
- STORMWATER SUMP
- WASTEWATER MANHOLE

PROPOSED SERVICES LEGEND

- P1-RM — PHASE 1 WASTEWATER MAIN
- AV — AIR VALVE CHAMBER (REFER TO 2012750.083)
- SV — SCOUR VALVE CHAMBER (REFER TO 2012750.084)
- IV — ISOLATION VALVE CHAMBER (DETAILS TBC)
- FC — FIBRE CHAMBER (DETAILS TBC)
- AIR VENT (REFER TO 2001979.116)
- AIR VENT PIPE (DN100 PVC SN16)
- AV — AIR VALVE CHAMBER (REFER TO 2001979.143)
- SV — SCOUR VALVE CHAMBER (REFER TO 2010676.010)
- P4-RM — PHASE 4 PROVISIONAL ROUTE
- P6-RM — PHASE 6 PROVISIONAL ROUTE
- NH2PR — NH2 PROVISIONAL ROUTE
- SW — STORMWATER
- STORMWATER MANHOLE

LONGSECTION LEGEND

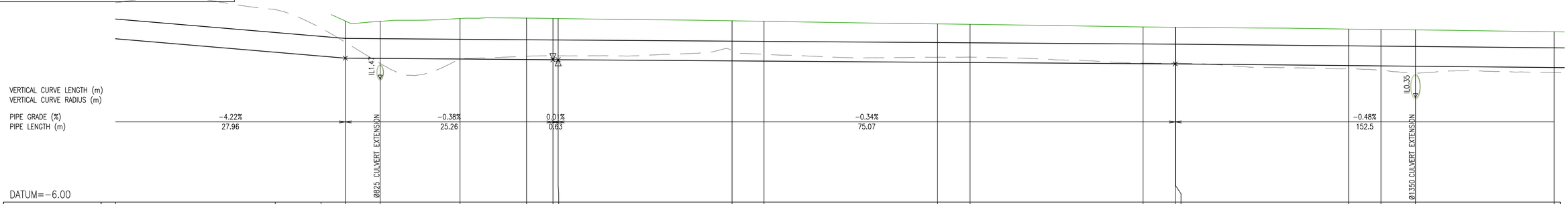
- EXISTING GL.
- PROPOSED GL. (ABOVE NH2)

PLAN VIEW

SCALE 1:500 @ A3

NOTES:

1. LONGSECTION INTENDED TO SHOW GENERAL PROFILE OF PIPE WITHIN WIDENED CAUSEWAY. REFER NI AND NH2 LONGSECTIONS FOR PIPELINE LEVELS AND DETAILS.
2. LONGSECTION GROUND LEVEL PRESENTS LEVEL ABOVE NH2.
3. STORMWATER CULVERT LEVELS SHOWN IN LONGSECTION TAKEN FROM TENDER DESIGN.



DESIGN SURFACE LEVEL				5.01	4.99	5.16	5.18	5.16 5.16		5.02	4.99		4.83	4.81		4.65	4.63 4.63		4.52	4.49	4.47		4.35
CAUSEWAY DISTANCE							10.31	13.52 13.76		35.31	39.20		60.40	64.36		85.41	88.32 88.36		110.40	114.34	118.54		135.40
EXISTING SURFACE LEVEL	6.12		5.71	4.57	3.72	2.43	2.72	2.87	2.89 2.89		3.23	2.98		2.81	2.81		2.45 2.45		2.09	2.02	1.85		1.88
DEPTH TO INVERT					2.26	2.26	2.46	2.52	2.51 2.50		2.44	2.42		2.33	2.32		2.23 2.23		2.22	2.21	2.21		2.17
DESIGN INVERT LEVEL	3.929		3.109	2.875	2.750	2.734	2.698	2.667	2.655 2.655		2.583	2.570		2.498	2.485		2.400 2.400		2.299	2.280	2.260		2.179
INDICATIVE NH2WM DISTANCE	2000.00		2019.43	2025.00	2027.96	2032.20	2041.91	2050.00	2053.22 2053.85		2075.00	2078.89		2100.00	2103.95		2128.92 2128.96		2150.00	2153.94	2158.14		2175.00

LONGITUDINAL SECTION

HORIZONTAL SCALE @ A1 = 1 : 250 VERTICAL SCALE @ A1 = 1 : 125

0 1 2 3 4 5 7.5 10 15 20 25m
1:250 SCALE AT A1

0 1 2 3 4 5 7.5 10 15 20 25m
1:500 SCALE AT A3

FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.
–	20.03.19	ISSUED FOR CONSTRUCTION	SC	DH

DESIGNED	S. Crundwell	20.03.19
DES. CHECKED	D. Heiler	20.03.19
DRAWN	S. Crundwell	20.03.19
DWG. CHECKED	D. Heiler	20.03.19
PROJECT LEADER	D. Heiler	20.03.19
INFRAST'R APP'D		

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INFRASTRUCTURE

Watercare

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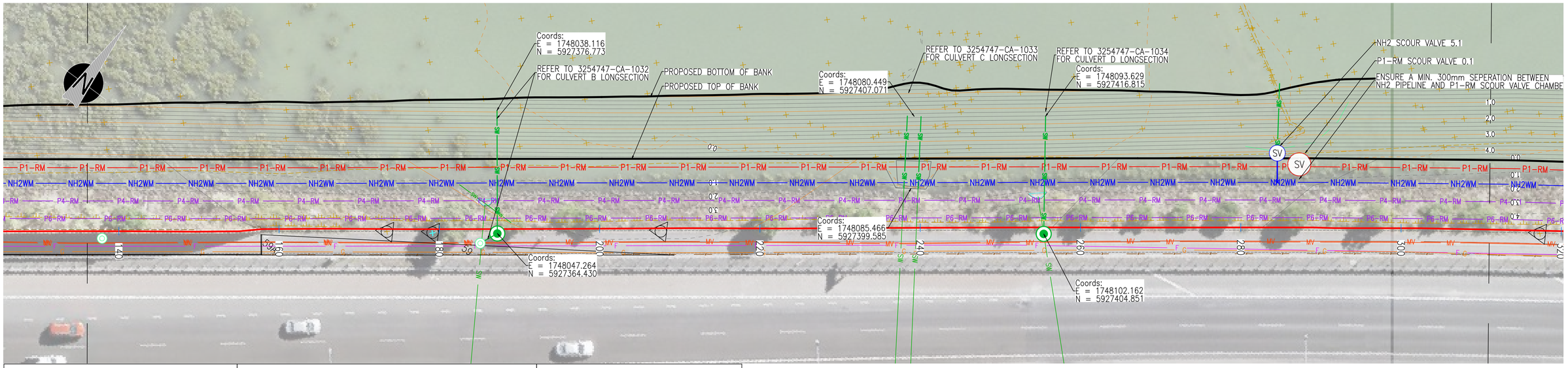
Fletcher CONSTRUCTION

GBWD (NH2) AND NI – STAGE 5A CAUSEWAY EARTHWORKS

PLAN AND LONG SECTION SHEET 1 OF 5

CAD FILE 2010674.026	DATE 20.03.19
ORIGINAL SCALE A1 1:250	CONTRACT No. 6549
REF No. 3254747-CA-1001	ISSUE
DWG No. 2010674.026	–



EXISTING SERVICES LEGEND

- P — POWER – OVERHEAD
- LV — POWER – LOW VOLTAGE
- MV — POWER – MEDIUM VOLTAGE POWER
- HV — POWER – HIGH VOLTAGE
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- T — COMMUNICATIONS – CHORUS
- V — COMMUNICATIONS – VODAFONE
- G — GAS
- WW — WASTEWATER
- W — WATER SUPPLY
- AW-RM — P1 ADVANCED WORKS AS BUILT
- WATERCOURSE
- SW — STORMWATER
- STORMWATER MANHOLE
- STORMWATER SUMP
- WASTEWATER MANHOLE

PROPOSED SERVICES LEGEND

- P1-RM — PHASE 1 WASTEWATER MAIN
- AV — AIR VALVE CHAMBER (REFER TO 2012750.083)
- SV — SCOUR VALVE CHAMBER (REFER TO 2012750.084)
- IV — ISOLATION VALVE CHAMBER (DETAILS TBC)
- FC — FIBRE CHAMBER (DETAILS TBC)
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- AIR VENT PIPE (DN100 PVC SN16)
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- SV — SCOUR VALVE CHAMBER (REFER TO 2010676.010)
- P4-RM — PHASE 4 PROVISIONAL ROUTE
- P6-RM — PHASE 6 PROVISIONAL ROUTE
- NH2PR — NH2 PROVISIONAL ROUTE
- SW — STORMWATER
- STORMWATER MANHOLE

LONGSECTION LEGEND

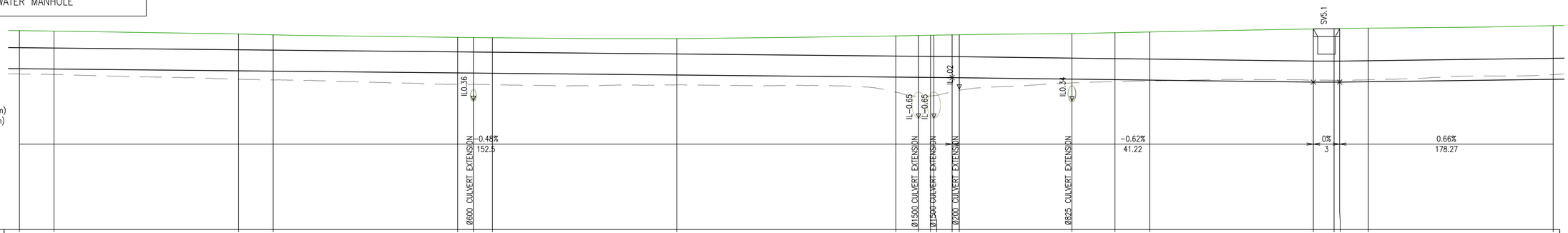
- EXISTING GL.
- PROPOSED GL. (ABOVE NH2)

PLAN VIEW

SCALE 1:500 @ A3

NOTES:

1. LONGSECTION INTENDED TO SHOW GENERAL PROFILE OF PIPE WITHIN WIDENED CAUSEWAY. REFER NI AND NH2 LONGSECTIONS FOR PIPELINE LEVELS AND DETAILS.
2. LONGSECTION GROUND LEVEL PRESENTS LEVEL ABOVE NH2.
3. STORMWATER CULVERT LEVELS SHOWN IN LONGSECTION TAKEN FROM TENDER DESIGN.



VERTICAL CURVE LENGTH (m)
VERTICAL CURVE RADIUS (m)
PIPE GRADE (%)
PIPE LENGTH (m)

DATUM=-7.00

DESIGN SURFACE LEVEL	4.35	4.33	4.16	4.11	3.97	3.96	3.95	3.90	4.05	4.08	4.09 4.09	4.11 4.12	4.19	4.23	4.28	4.45	4.47 4.47	4.50	4.64
CAUSEWAY DISTANCE	135.40	139.35	160.42	164.39	185.44	187.24	189.40	210.43	235.43	238.01	239.39 239.77	241.85 242.67	255.52	260.43	264.39	283.06	285.42 286.06	289.27	310.37
EXISTING SURFACE LEVEL	1.88	1.84	1.57	1.54	1.29	1.29	1.27	1.26	0.84	0.60	0.62 0.64	0.86 0.94	1.37	1.44	1.48	1.54	1.52 1.51	1.54	1.84
DEPTH TO INVERT	2.17	2.17	2.10	2.07	2.03	2.03	2.03	2.08	2.35	2.39	2.41 2.41	2.44 2.45	2.60	2.68	2.75	3.03	3.05 3.06	3.06	3.06
DESIGN INVERT LEVEL	2.179	2.161	2.060	2.041	1.940	1.931	1.921	1.820	1.701	1.688	1.682 1.680	1.670 1.665	1.585	1.554	1.530	1.414	1.414 1.414	1.435	1.574
INDICATIVE NH2WM DISTANCE	2175.00	2178.95	2200.00	2203.96	2225.00	2226.80	2228.97	2250.00	2275.00	2277.59	2278.96 2279.34	2281.42 2282.24	2295.09	2300.00	2303.96	2322.64	2325.00 2325.64	2328.90	2350.00

LONGITUDINAL SECTION

HORIZONTAL SCALE @ A1 = 1 : 250 VERTICAL SCALE @ A1 = 1 : 125

0 1 2 3 4 5 7.5 10 15 20 25m
1:250 SCALE AT A1

0 1 2 3 4 5 7.5 10 15 20 25m
1:500 SCALE AT A3

FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.
–	20.03.19	ISSUED FOR CONSTRUCTION	SC	DH

DESIGNED	S. Crundwell	20.03.19
DES. CHECKED	D. Heiler	20.03.19
DRAWN	S. Crundwell	20.03.19
DWG. CHECKED	D. Heiler	20.03.19
PROJECT LEADER	D. Heiler	20.03.19
INFRAST'R APP'D		

OPERATIONS

INFRASTRUCTURE

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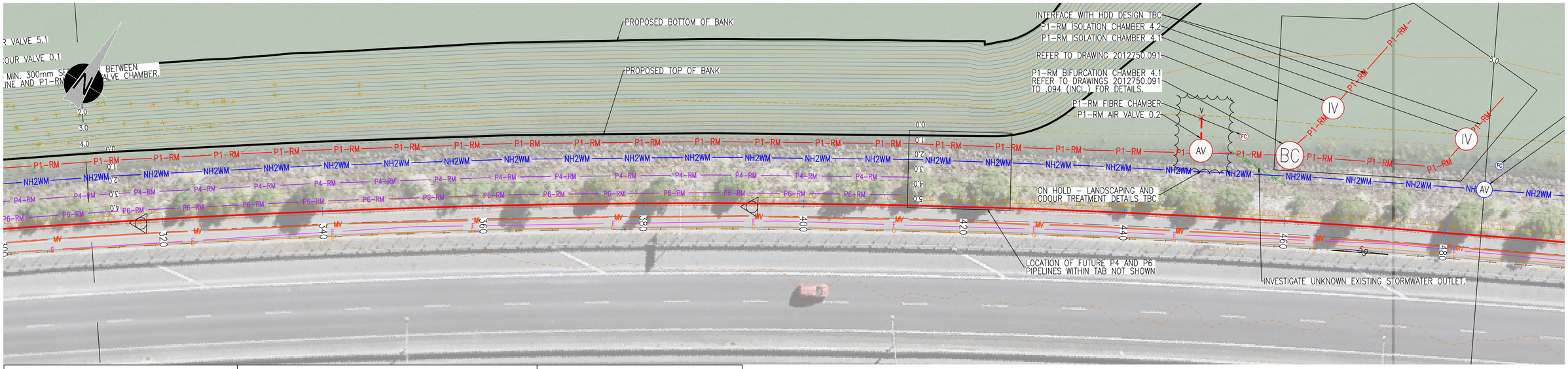
Fletcher CONSTRUCTION

GBWD (NH2) AND NI – STAGE 5A CAUSEWAY EARTHWORKS

PLAN AND LONG SECTION SHEET 2 OF 5

CAD FILE 2010674.027	DATE 20.03.19
ORIGINAL SCALE A1 1:250	CONTRACT No. 6549
REF No. 3254747-CA-1002	ISSUE
DWG No. 2010674.027	–



EXISTING SERVICES LEGEND

- P — POWER – OVERHEAD
- LV — POWER – LOW VOLTAGE
- MV — POWER – MEDIUM VOLTAGE POWER
- HV — POWER – HIGH VOLTAGE
- F — COMMUNICATIONS – FIBRE OPTIC
- T — COMMUNICATIONS – CHORUS
- V — COMMUNICATIONS – VODAFONE
- G — GAS
- WW — WASTEWATER
- W — WATER SUPPLY
- AW-RM — P1 ADVANCED WORKS AS BUILT
- WATERCOURSE
- SW — STORMWATER
- STORMWATER MANHOLE
- STORMWATER SUMP
- WASTEWATER MANHOLE

PROPOSED SERVICES LEGEND

- P1-RM — PHASE 1 WASTEWATER MAIN
- AV — AIR VALVE CHAMBER (REFER TO 2012750.083)
- SV — SCOUR VALVE CHAMBER (REFER TO 2012750.084)
- IV — ISOLATION VALVE CHAMBER (DETAILS TBC)
- FC — FIBRE CHAMBER (DETAILS TBC)
- V — AIR VENT (REFER TO 2001979.116)
- AIR VENT PIPE (DN100 PVC SN16)
- AV — AIR VALVE CHAMBER (REFER TO 2001979.143)
- SV — SCOUR VALVE CHAMBER (REFER TO 2010676.010)
- P4-RM — PHASE 4 PROVISIONAL ROUTE
- P6-RM — PHASE 6 PROVISIONAL ROUTE
- NH2PR — NH2 PROVISIONAL ROUTE
- SW — STORMWATER
- STORMWATER MANHOLE

LONGSECTION LEGEND

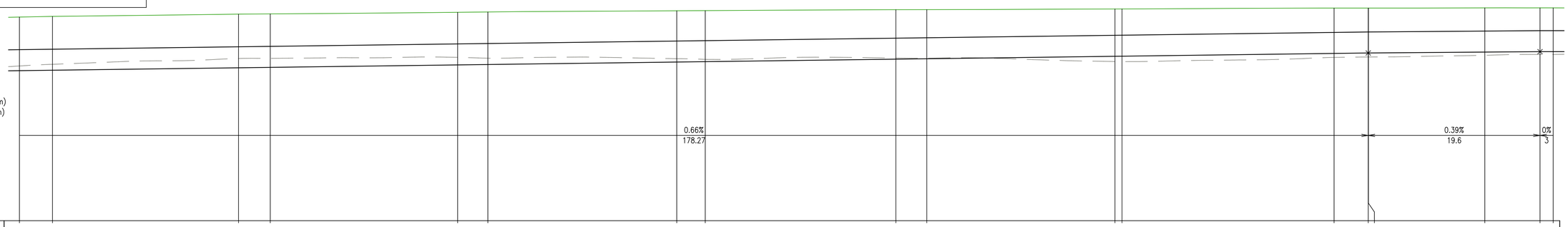
- EXISTING GL.
- PROPOSED GL. (ABOVE NH2)

PLAN VIEW

SCALE 1:500 @ A3

NOTES:

1. LONGSECTION INTENDED TO SHOW GENERAL PROFILE OF PIPE WITHIN WIDENED CAUSEWAY. REFER NI AND NH2 LONGSECTIONS FOR PIPELINE LEVELS AND DETAILS.
2. LONGSECTION GROUND LEVEL PRESENTS LEVEL ABOVE NH2.
3. STORMWATER CULVERT LEVELS SHOWN IN LONGSECTION TAKEN FROM TENDER DESIGN.



DATUM=–7.00

DESIGN SURFACE LEVEL	4.64	4.68	4.80	4.82	4.91	4.93	5.00	5.01	5.06	5.06	5.10	5.10	5.15	5.15	5.15	5.16	5.16	5.16
CAUSEWAY DISTANCE	310.37	314.14	335.25	338.78	360.16	363.61	385.02	388.16	409.91	413.44	434.76	435.48	459.67	463.57	463.59	476.74	483.04	484.54
EXISTING SURFACE LEVEL	1.84	1.94	2.27	2.27	2.33	2.28	2.26	2.22	2.30	2.28	2.10	2.09	2.33	2.35	2.35	2.45	2.50	2.50
DEPTH TO INVERT	3.06	3.08	3.07	3.06	3.01	3.00	2.93	2.92	2.83	2.81	2.70	2.70	2.59	2.57	2.57	2.53	2.50	2.50
DESIGN INVERT LEVEL	1.574	1.598	1.738	1.762	1.902	1.925	2.066	2.088	2.230	2.254	2.395	2.400	2.559	2.585	2.585	2.636	2.660	2.660
INDICATIVE NH2WM DISTANCE	2350.00	2353.77	2375.00	2378.62	2400.00	2403.45	2425.00	2428.25	2450.00	2453.53	2475.00	2475.81	2500.00	2503.90	2503.92	2517.20	2523.50	2525.00

LONGITUDINAL SECTION

HORIZONTAL SCALE @ A1 = 1 : 250 VERTICAL SCALE @ A1 = 1 : 125

0 1 2 3 4 5 7.5 10 15 20 25m
1:250 SCALE AT A1

0 1 2 3 4 5 7.5 10 15 20 25m
1:500 SCALE AT A3

FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APP'D.
–	20.03.19	ISSUED FOR CONSTRUCTION	SC	DH

DESIGNED	S. Crundwell	20.03.19
DES. CHECKED	D. Heiler	20.03.19
DRAWN	S. Crundwell	20.03.19
DWG. CHECKED	D. Heiler	20.03.19
PROJECT LEADER	D. Heiler	20.03.19
INFRAST'R APP'D		

OPERATIONS

INFRASTRUCTURE

Watercare

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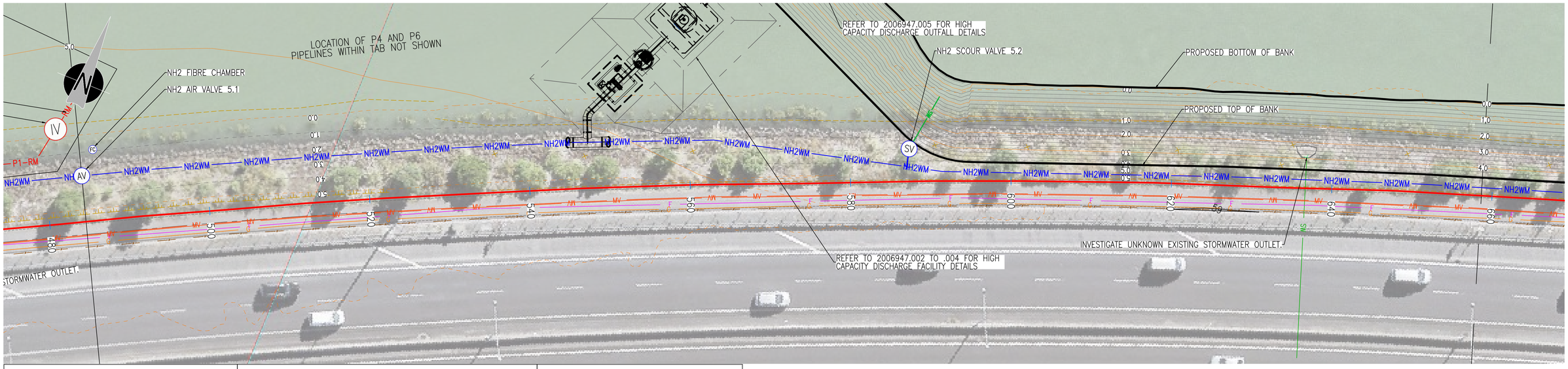
Fletcher CONSTRUCTION

GBWD (NH2) AND NI – STAGE 5A CAUSEWAY EARTHWORKS

PLAN AND LONG SECTION SHEET 3 OF 5

CAD FILE 2010674.028	DATE 20.03.19
ORIGINAL SCALE A1 1:250	CONTRACT No. 6549
REF No. 3254747–CA–1003	ISSUE
DWG No. 2010674.028	–



EXISTING SERVICES LEGEND

- P — POWER – OVERHEAD
- LV — POWER – LOW VOLTAGE
- MV — POWER – MEDIUM VOLTAGE POWER
- HV — POWER – HIGH VOLTAGE
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- AW-RM — P1 ADVANCED WORKS AS BUILT
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- SW — STORMWATER
- STORMWATER MANHOLE
- STORMWATER SUMP
- WASTEWATER MANHOLE

PROPOSED SERVICES LEGEND

- P1-RM — PHASE 1 WASTEWATER MAIN
- AV — AIR VALVE CHAMBER (REFER TO 2012750.083)
- SV — SCOUR VALVE CHAMBER (REFER TO 2012750.084)
- IV — ISOLATION VALVE CHAMBER (DETAILS TBC)
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- AIR VENT PIPE (DN100 PVC SN16)
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- P4-RM — PHASE 4 PROVISIONAL ROUTE
- P6-RM — PHASE 6 PROVISIONAL ROUTE
- NH2PR — NH2 PROVISIONAL ROUTE
- SW — STORMWATER
- STORMWATER MANHOLE

LONGSECTION LEGEND

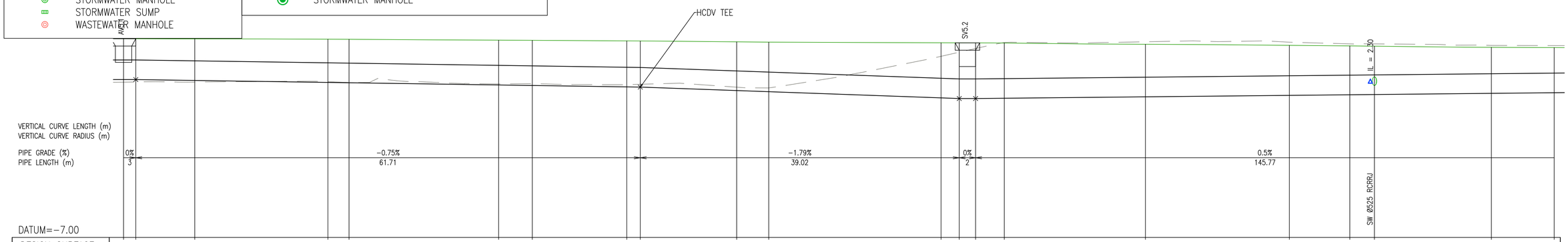
- EXISTING GL.
- PROPOSED GL. (ABOVE NH2)

PLAN VIEW

SCALE 1:500 @ A3

NOTES:

1. LONGSECTION INTENDED TO SHOW GENERAL PROFILE OF PIPE WITHIN WIDENED CAUSEWAY. REFER NI AND NH2 LONGSECTIONS FOR PIPELINE LEVELS AND DETAILS.
2. LONGSECTION GROUND LEVEL PRESENTS LEVEL ABOVE NH2.
3. STORMWATER CULVERT LEVELS SHOWN IN LONGSECTION TAKEN FROM TENDER DESIGN.



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DESIGN SURFACE LEVEL	5.16	5.16	5.15	5.13	5.12	5.07	5.06	5.03	5.02	4.97	4.95	4.91	4.91	4.91	4.90	4.82	4.75	4.72	4.70	4.63	4.62
CAUSEWAY DISTANCE	484.54	486.04	493.25	509.43	511.95	530.25	534.25	545.65	547.30	559.09	563.02	583.48	585.73	587.76	591.45	608.71	626.32	633.69	636.71	650.99	658.67
EXISTING SURFACE LEVEL	2.50	2.51	2.51	2.53	2.48	2.39	2.41	2.35	2.37	2.19	2.15	4.08	4.33	4.56	4.93	4.97	4.95	4.84	4.84	4.75	4.74
DEPTH TO INVERT	2.50	2.50	2.54	2.64	2.66	2.74	2.76	2.81	2.82	2.98	3.03	3.37	3.41	3.41	3.38	3.22	3.06	2.99	2.96	2.82	2.76
DESIGN INVERT LEVEL	2.660	2.660	2.606	2.485	2.466	2.329	2.298	2.212	2.200	1.988	1.918	1.540	1.500	1.500	1.518	1.604	1.693	1.730	1.745	1.817	1.855
INDICATIVE NH2WM DISTANCE	2525.00	2526.50	2533.71	2550.00	2552.58	2570.88	2575.00	2586.56	2588.21	2600.00	2603.92	2625.00	2627.23	2629.23	2632.74	2650.00	2667.61	2675.00	2678.01	2692.32	2700.00

LONGITUDINAL SECTION

HORIZONTAL SCALE @ A1 = 1 : 250 VERTICAL SCALE @ A1 = 1 : 125

0 1 2 3 4 5 7.5 10 15 20 25m
1:250 SCALE AT A1

0 1 2 3 4 5 7.5 10 15 20 25m
1:500 SCALE AT A3

FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.
–	20.03.19	ISSUED FOR CONSTRUCTION	SC	DH

DESIGNED	S. Crundwell	20.03.19
DES. CHECKED	D. Heiler	20.03.19
DRAWN	S. Crundwell	20.03.19
DWG. CHECKED	D. Heiler	20.03.19
PROJECT LEADER	D. Heiler	20.03.19
INFRAST'R APP'D		

OPERATIONS

INFRASTRUCTURE

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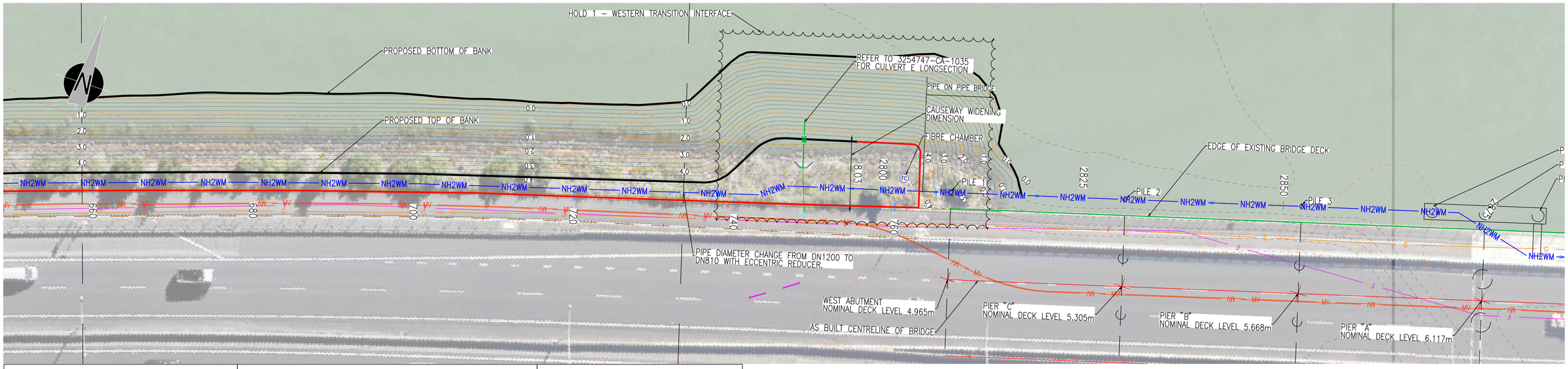
GBWD (NH2) AND NI – STAGE 5A CAUSEWAY EARTHWORKS

PLAN AND LONG SECTION SHEET 4 OF 5

CAD FILE 2010674.029	DATE 20.03.19
ORIGINAL SCALE A1 1:250	CONTRACT No. 6549
REF No. 3254747–CA–1004	ISSUE
DWG No. 2010674.029	–



EXISTING SERVICES LEGEND

- P — POWER – OVERHEAD
- LV — POWER – LOW VOLTAGE
- MV — POWER – MEDIUM VOLTAGE POWER
- HV — POWER – HIGH VOLTAGE
- F — COMMUNICATIONS – FIBRE OPTIC
- T — COMMUNICATIONS – CHORUS
- V — COMMUNICATIONS – VODAFONE
- G — GAS
- WW — WASTEWATER
- W — WATER SUPPLY
- AW-RM — P1 ADVANCED WORKS AS BUILT
- WATERCOURSE
- SW — STORMWATER
- STORMWATER MANHOLE
- STORMWATER SUMP
- WASTEWATER MANHOLE

PROPOSED SERVICES LEGEND

- P1-RM — PHASE 1 WASTEWATER MAIN
- AV — AIR VALVE CHAMBER (REFER TO 2012750.083)
- SV — SCOUR VALVE CHAMBER (REFER TO 2012750.084)
- IV — ISOLATION VALVE CHAMBER (DETAILS TBC)
- FC — FIBRE CHAMBER (DETAILS TBC)
- AIR VENT (REFER TO 2001979.116)
- AIR VENT PIPE (DN100 PVC SN16)
- AV — AIR VALVE CHAMBER (REFER TO 2001979.143)
- SV — SCOUR VALVE CHAMBER (REFER TO 2010676.010)
- P4-RM — PHASE 4 PROVISIONAL ROUTE
- P6-RM — PHASE 6 PROVISIONAL ROUTE
- NH2PR — NH2 PROVISIONAL ROUTE
- SW — STORMWATER
- STORMWATER MANHOLE

LONGSECTION LEGEND

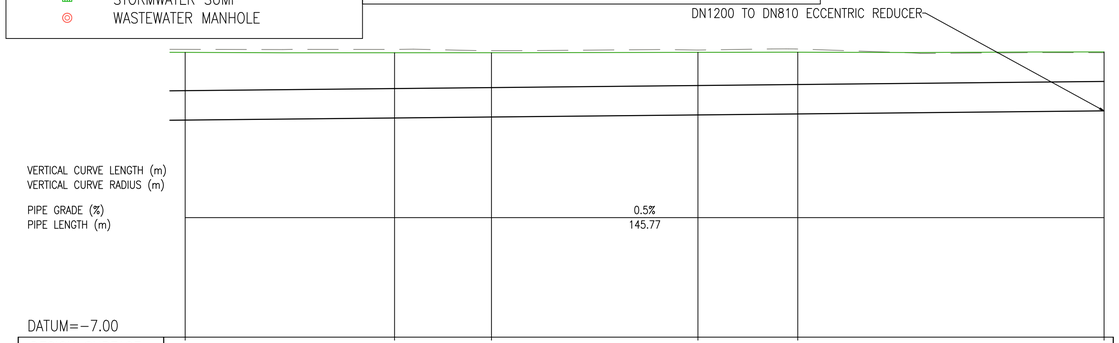
- EXISTING GL.
- PROPOSED GL. (ABOVE NH2)

PLAN VIEW

SCALE 1:500 @ A3

NOTES:

1. LONGSECTION INTENDED TO SHOW GENERAL PROFILE OF PIPE WITHIN WIDENED CAUSEWAY. REFER NI AND NH2 LONGSECTIONS FOR PIPELINE LEVELS AND DETAILS.
2. LONGSECTION GROUND LEVEL PRESENTS LEVEL ABOVE NH2.
3. STORMWATER CULVERT LEVELS SHOWN IN LONGSECTION TAKEN FROM TENDER DESIGN.



DESIGN SURFACE LEVEL	4.62	4.60	4.60	4.62	4.63	4.64
CAUSEWAY DISTANCE	658.67	675.76	683.66	700.49	708.64	733.64
EXISTING SURFACE LEVEL	4.74	4.74	4.69	4.71	4.75	4.60
DEPTH TO INVERT	2.76	2.66	2.62	2.55	2.52	2.40
DESIGN INVERT LEVEL	1.855	1.941	1.981	2.065	2.106	2.232
INDICATIVE NH2WM DISTANCE	2700.00	2717.09	2725.00	2741.85	2750.00	2775.00

LONGITUDINAL SECTION

HORIZONTAL SCALE @ A1 = 1 : 250 VERTICAL SCALE @ A1 = 1 : 125

0 1 2 3 4 5 7.5 10 15 20 25m
1:250 SCALE AT A1

0 1 2 3 4 5 7.5 10 15 20 25m
1:500 SCALE AT A3

FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APP'D.
–	20.03.19	ISSUED FOR CONSTRUCTION	SC	DH

DESIGNED	S. Crundwell	20.03.19
DES. CHECKED	D. Heiler	20.03.19
DRAWN	S. Crundwell	20.03.19
DWG. CHECKED	D. Heiler	20.03.19
PROJECT LEADER	D. Heiler	20.03.19
INFRAST'R APP'D		

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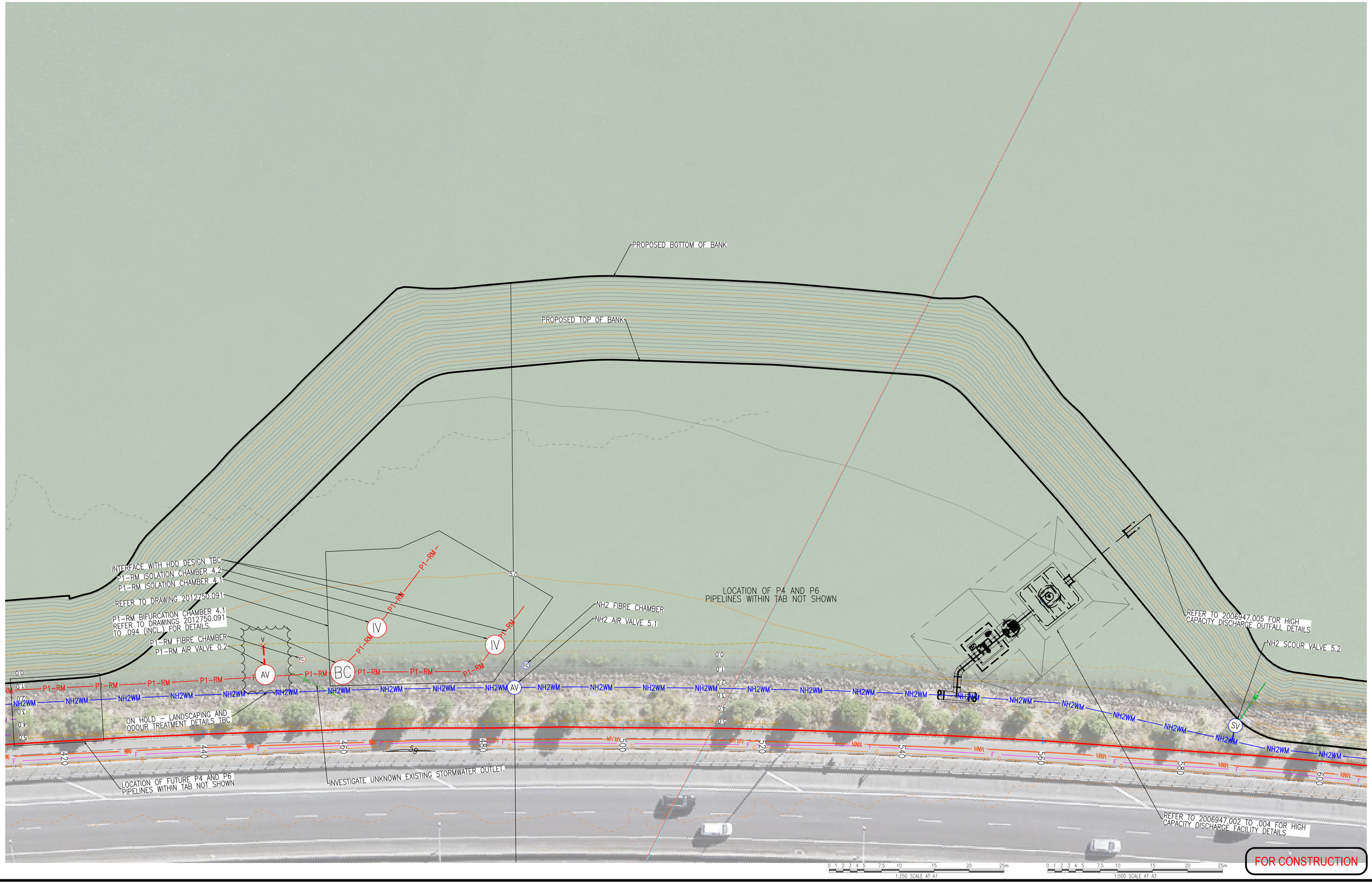
GBWD (NH2) AND NI – STAGE 5A CAUSEWAY EARTHWORKS

PLAN AND LONG SECTION SHEET 5 OF 5

CAD FILE 2010674.030	DATE 20.03.19
ORIGINAL SCALE A1 1:250	CONTRACT No. 6549
REF No. 3254747-CA-1005	ISSUE
DWG No. 2010674.030	–



ISSUE	DATE	AMENDMENT	BY	APPD.
–	20.03.19	ISSUED FOR CONSTRUCTION	SC	DH

DESIGNED	S. Crundwell	20.03.19
DES. CHECKED	D. Heiler	20.03.19
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GBWD (NH2) AND NI – STAGE 5A CAUSEWAY EARTHWORKS

TAB PLAN

CAD FILE 2010674.031	DATE 20.03.19
ORIGINAL SCALE A1 1:250	CONTRACT No. 6549
REF No. 3254747–CA–1010	ISSUE
DWG No. 2010674.031	–