



MARCH 2015

CIVIL ENGINEERING CAPSTONE

DESIGN PROJECT

REPORT No. CECDP – 2015/01 – 01

VOLUME III – DRAWINGS

CLEARBROOK INTERCHANGE IMPROVEMENT PROJECT

ABBOTSFORD BC

BY: ALLOY CONSULTING LTD.

DEPARTMENT OF CIVIL ENGINEERING

SCHOOL OF CONSTRUCTION AND THE ENVIRONMENT

BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

BURNABY, BC, CANADA V5G 3H2

Disclaimer

The work represented in this Client Report is the result of a student project at the British Columbia Institute of Technology. Any analysis or solution presented in this report must be reviewed by a professional engineer before implementation. While the students' performance in the completion of this report may have been reviewed by a faculty advisor, such review and any advice obtained therefrom does not constitute professional certification of the work. This report is made available without any representation as to its use in any particular situation and on the strict understanding that each reader accepts full liability for the application of its contents.



Ministry of
Transportation
and Infrastructure

PROJECT No. 12345

HIGHWAY No. 1 & CLEARBROOK INTERCHANGE PROJECT

MARCH 16, 2015

DRAWING INDEX

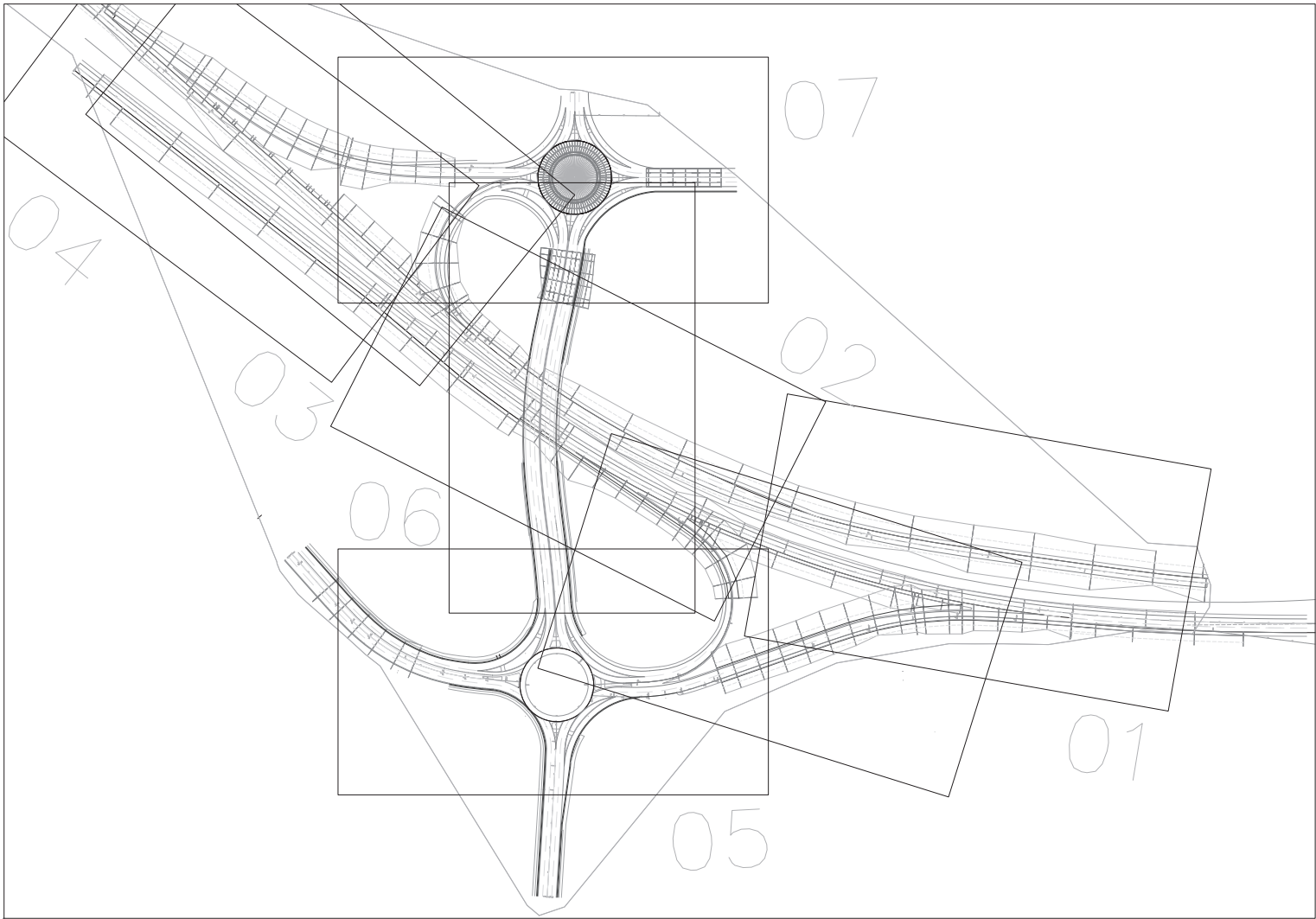
R1-730-201 - 212
R1-730-401 - 407
R1-730-601 - 605
R1-730-701 - 705
R1-730-1101 - 1112

PROFILES
GEOMETRICS AND LANING
SIGNING & PAVEMENT MARKINGS
DRAINAGE
CONSTRUCTION PHASING

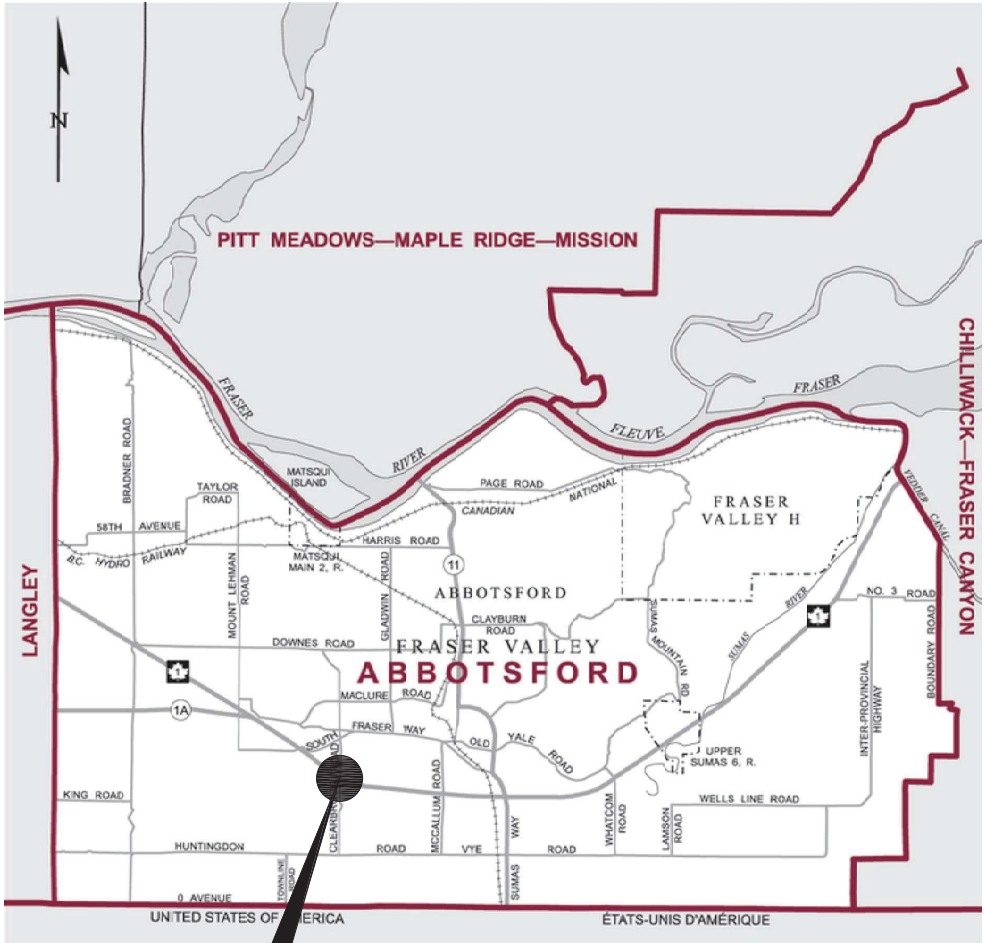
PROJECT No. 12345
**HIGHWAY No. 1 & CLEARBROOK
INTERCHANGE PROJECT**

STA. P.O.T. 100+260.000 - STA. P.O.T. 101+530
1.270 km

LANDMARK KILOMETRE INVENTORY
SEGMENT 0.533
km 5.28 TO km 13.34



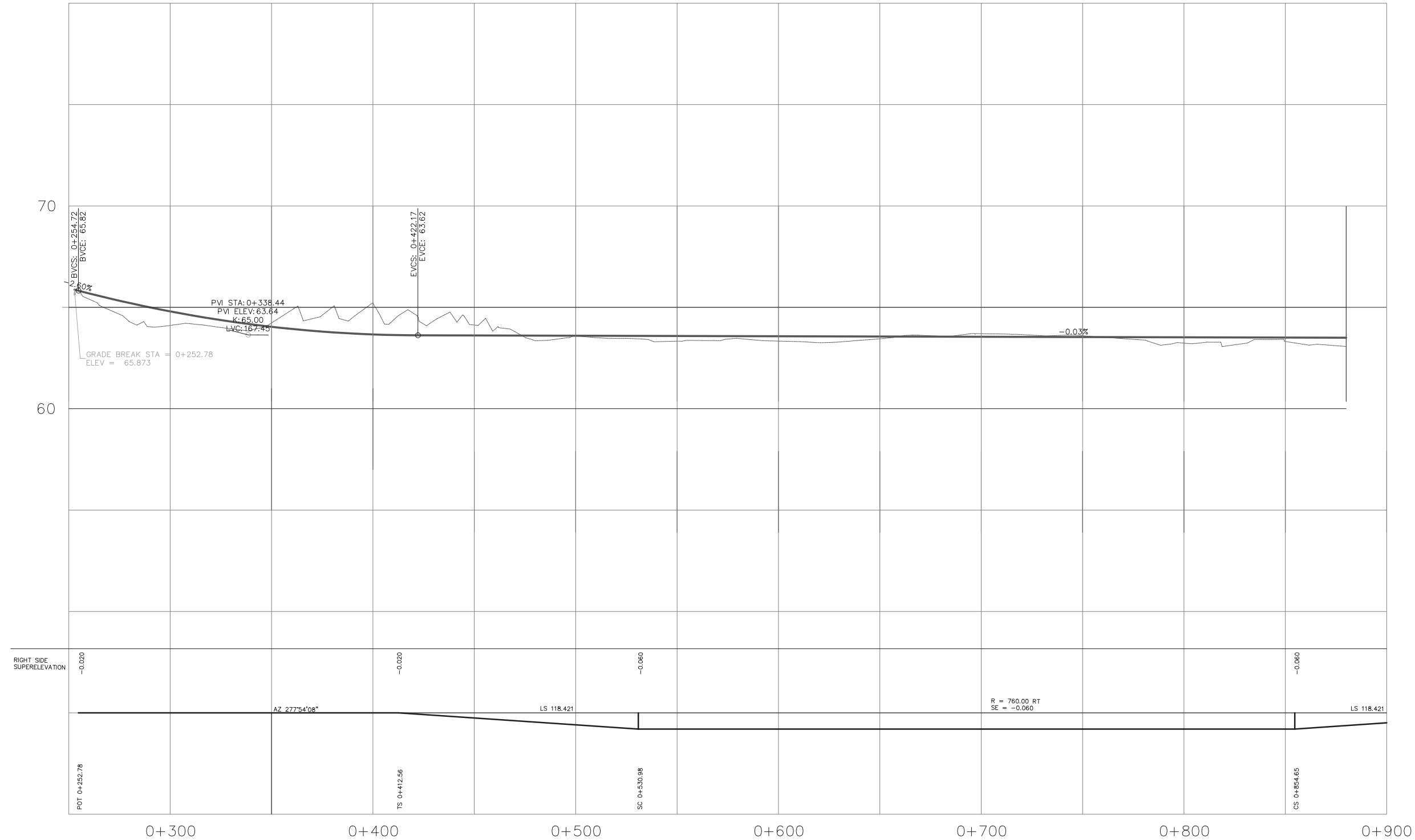
NOTE: SUPERELEVATION VALUES IN DRAWING 200 SERIES ONLY SHOWN FOR RIGHT SIDE FOR PLANAR ROADS



PROJECT LOCATION

LOCATION MAP
N.T.S.

		MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE SOUTH COAST REGION HIGHWAY ENGINEERING			
KEY PLAN & TITLE					
HIGHWAY No. 1 CLEARBROOK INTERCHANGE					
REGIONAL MANAGER, ENGINEERING			REGIONAL DIRECTOR		
DATE	2015-03-16	PROJECT NUMBER	12345	REG	1
FILE NUMBER	98765			DRAWING NUMBER	R1-730-001
					-



DESIGN SPEED = 110 km/h

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



Alloy Consulting
Doing it Right

0100

Horiz. 1:1000

0100

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Vert. 1:100

010

REV.	DATE	REVISION	DRAWN
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SEND R DESIGNER

DATE 2018-09-02

FILE NUMBER
987654

PROJECT NUMBER
12345

REV
1

DRAWING NUMBER
R1-730-201



MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



PROFILE - WB TCH

HIGHWAY No. 1 - CLEARBROOK INTERCHANGE

CLEARBROOK INTERCHANGE

STA. 0+252.78 TO STA. 0+830.00

DESIGNED
MATT HACKETT
DATE 2018-09-02

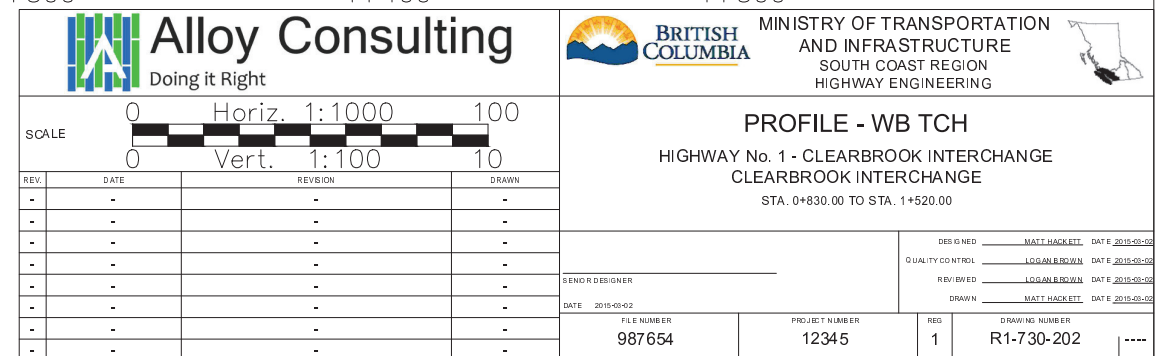
QUALITY CONTROL
LOGAN BROWN
DATE 2018-09-02

REVISED
LOGAN BROWN
DATE 2018-09-02

DRAWN
MATT HACKETT
DATE 2018-09-02

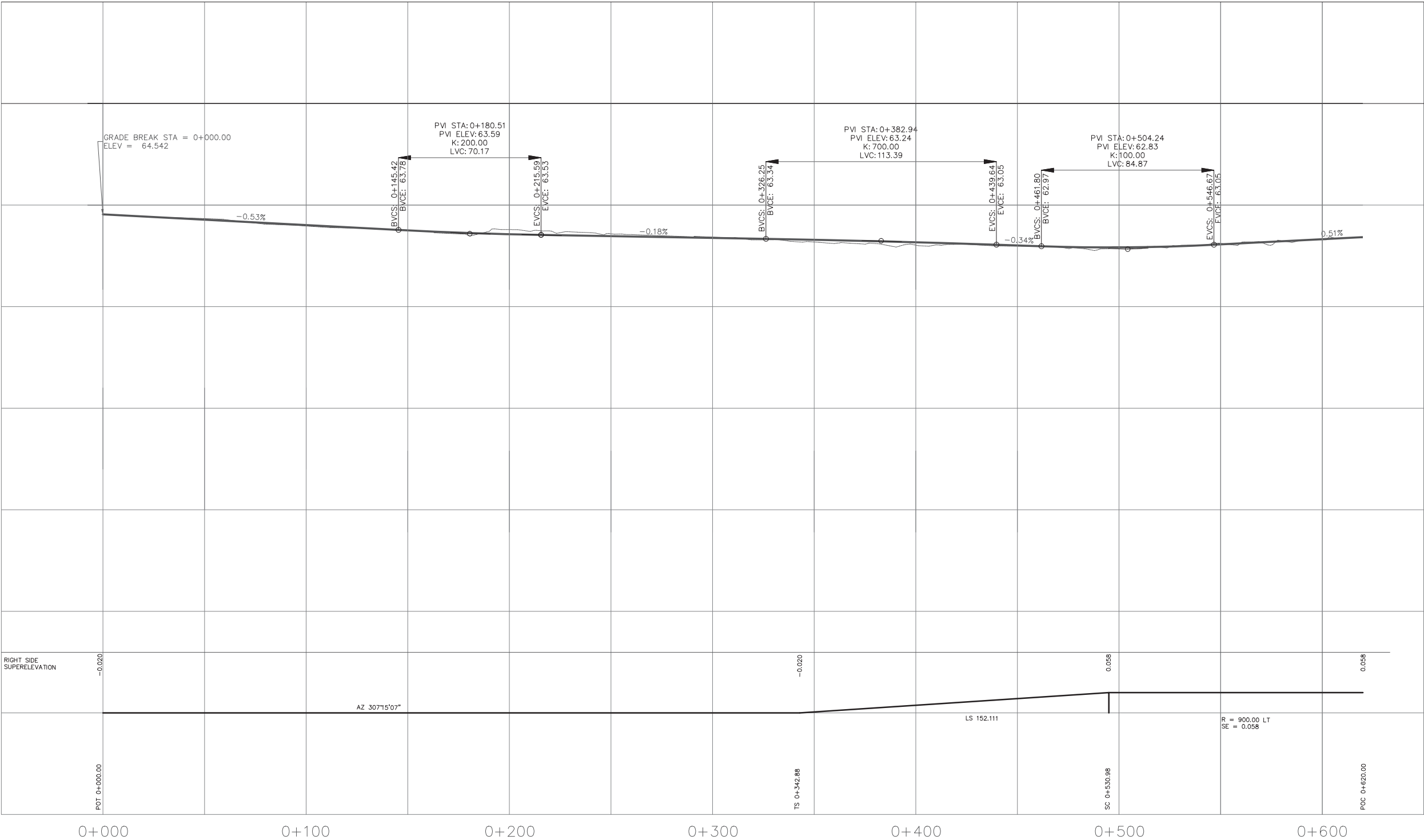


FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



70

60



DESIGN SPEED = 110 km/h

FOR DRAINAGE
SEE DWG 700 SERIES

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



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MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

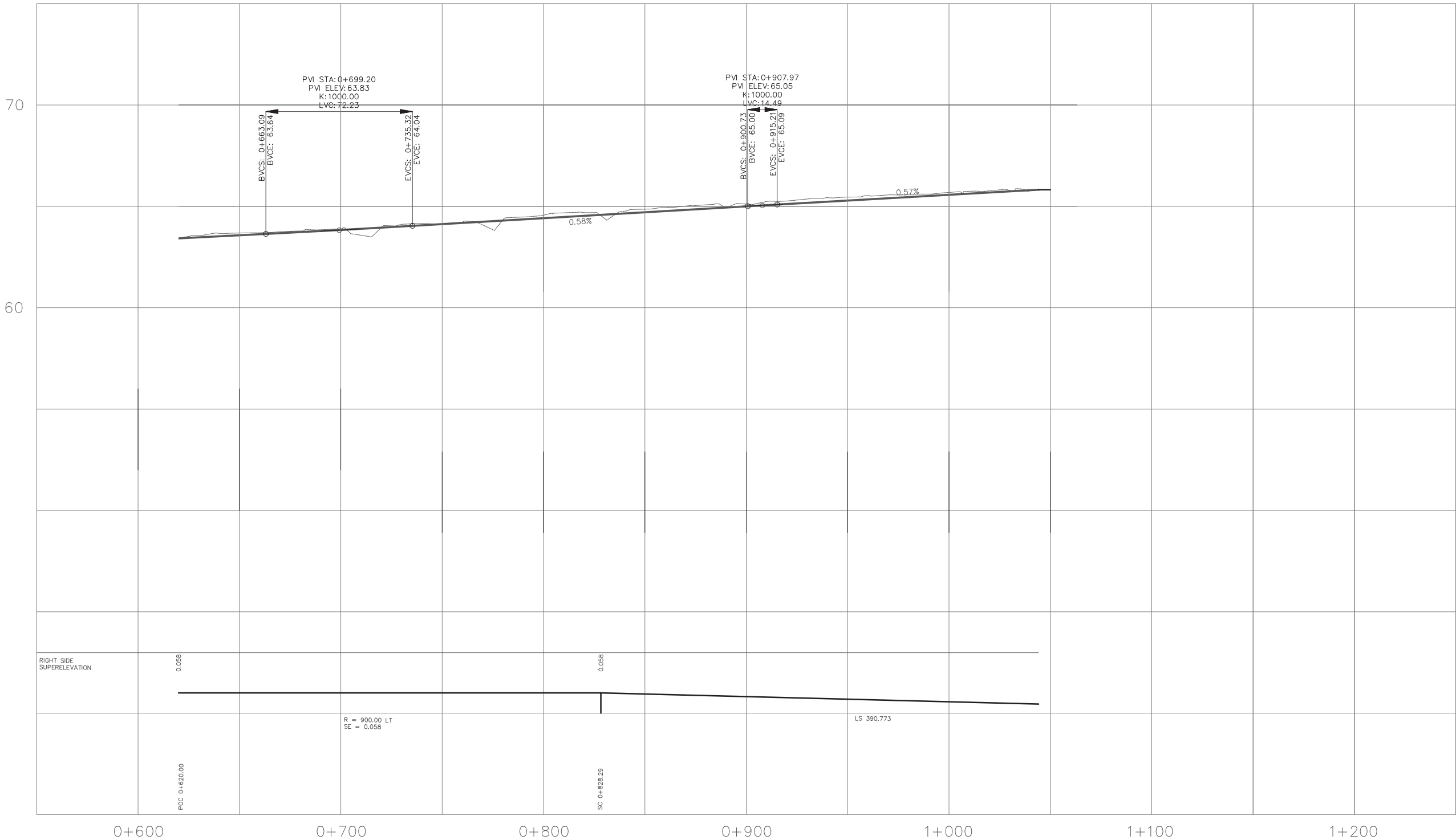


SCALE
0 1000 100
0 100 10
Horiz. 1:1000
Vert. 1:100

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PROFILE - EB TCH
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
STA. 0+000.00 TO STA. 0+620.00

DESIGNED	LOGAN BROWN	DATE	2018-03-02
QUALITY CONTROL	MATT HACKETT	DATE	2018-03-02
REVISED	MATT HACKETT	DATE	2018-03-02
DRAWN	LOGAN BROWN	DATE	2018-03-02
FILE NUMBER	987654	PROJECT NUMBER	12345
REV	1	DRAWING NUMBER	R1-730-203



DESIGN SPEED = 110 km/h

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



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Horiz. 1:1000

0100

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Vert. 1:100

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SEND TO DESIGNER

DATE 2015-03-02

FILE NUMBER
987654

PROJECT NUMBER
12345

REV
1

DRAWING NUMBER
R1-730-204



MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

PROFILE - EB TCH

HIGHWAY No. 1 - CLEARBROOK INTERCHANGE

CLEARBROOK INTERCHANGE

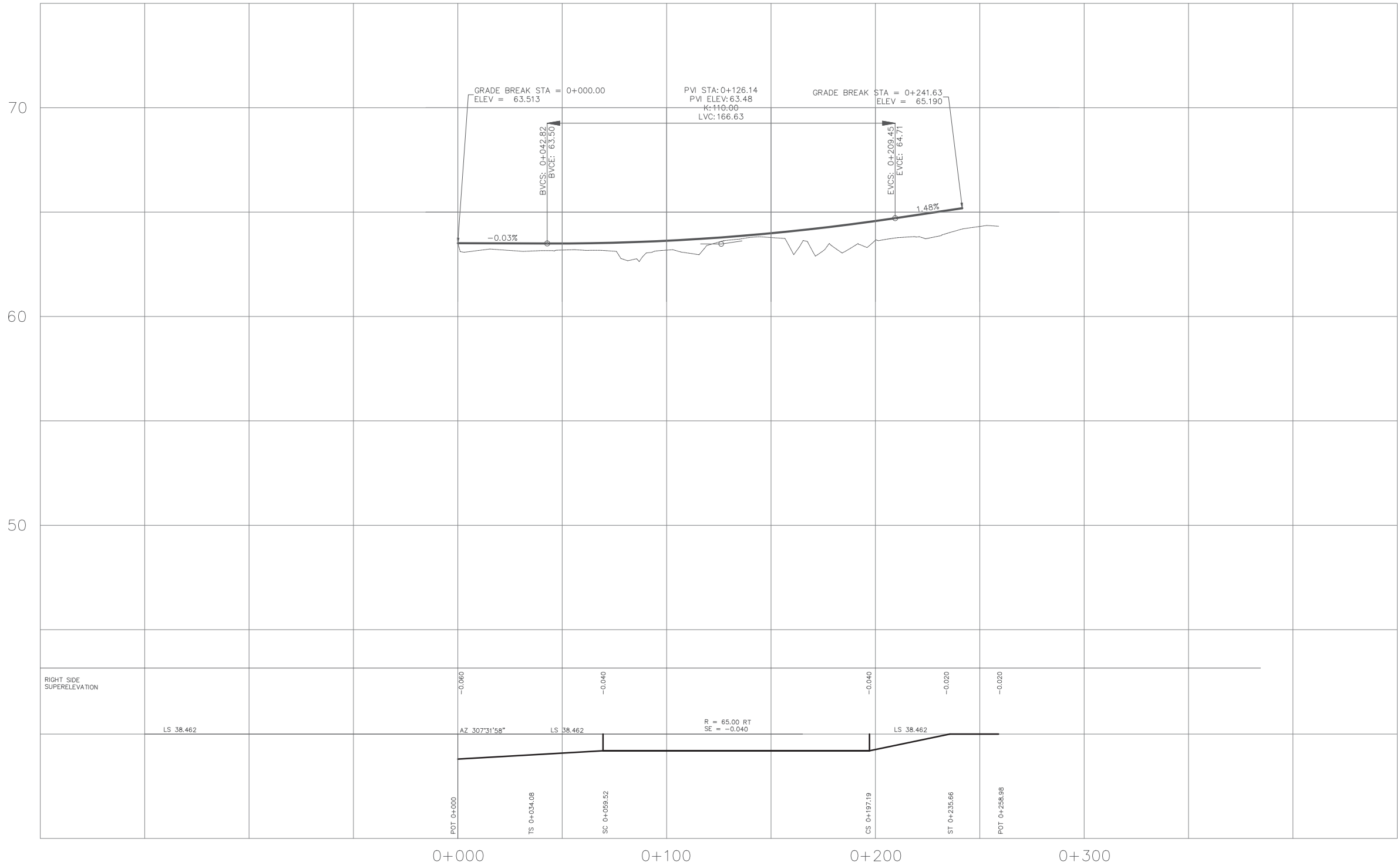
STA. 0+620.00 TO STA. 1+044.18

DESIGNED LOGAN BROWN DATE 2015-03-02

QUALITY CONTROL MATT HACKETT DATE 2015-03-02

REVISED MATT HACKETT DATE 2015-03-02

DRAWN LOGAN BROWN DATE 2015-03-02



DESIGN SPEED = 40 km/h

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES

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BRITISH COLUMBIA

MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

SCALE: 0 100
Horiz. 1:1000
0 10
Vert. 1:100

REV.	DATE	REVISION	DRAWN
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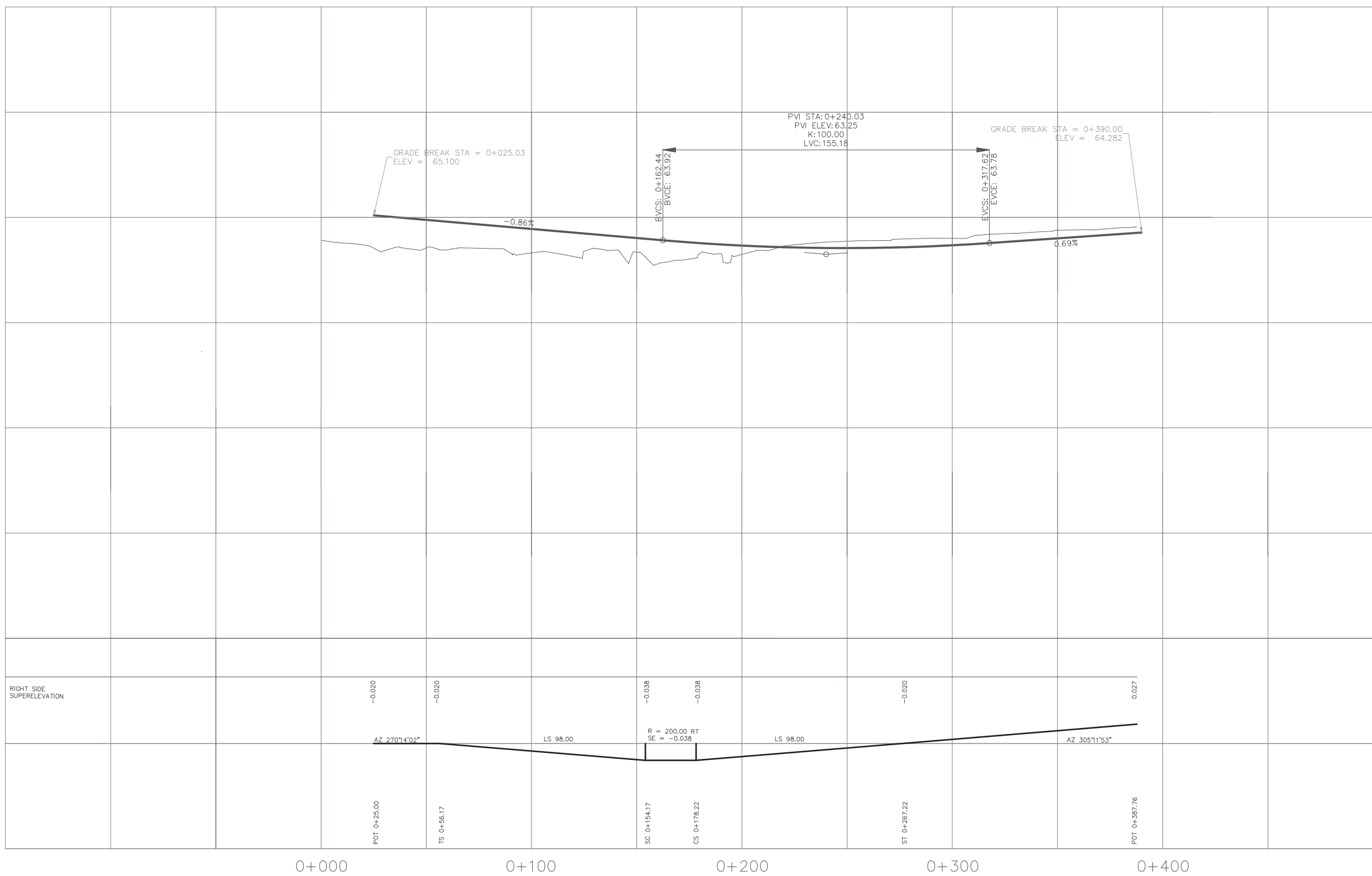
PROFILE - WB OFF-RAMP
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
STA. 0+000.00 TO STA. 0+241.63

DESIGNED	MATT HACKETT	DATE	2015-03-02
QUALITY CONTROL	LOGAN ERLWIN	DATE	2015-03-02
REVISED	LOGAN ERLWIN	DATE	2015-03-02
DRAWN	MATT HACKETT	DATE	2015-03-02

FILE NUMBER	PROJECT NUMBER	REV	DRAWING NUMBER
987654	12345	1	R1-730-205

70

60



DESIGN SPEED = 50 km/h – 90 km/hr

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



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MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



SCALE

0 100

Horiz. 1:1000

0 10

Vert. 1:100

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SEND R DESIGNER

DATE 2018-02-02

FILE NUMBER 987654

PROJECT NUMBER 12345

REV 1

DRAWING NUMBER R1-730-206

DESIGNED MATT HACKETT DATE 2018-03-02

QUALITY CONTROL LOGAN ERLWIN DATE 2018-03-02

REV/BY ED LOGAN ERLWIN DATE 2018-03-02

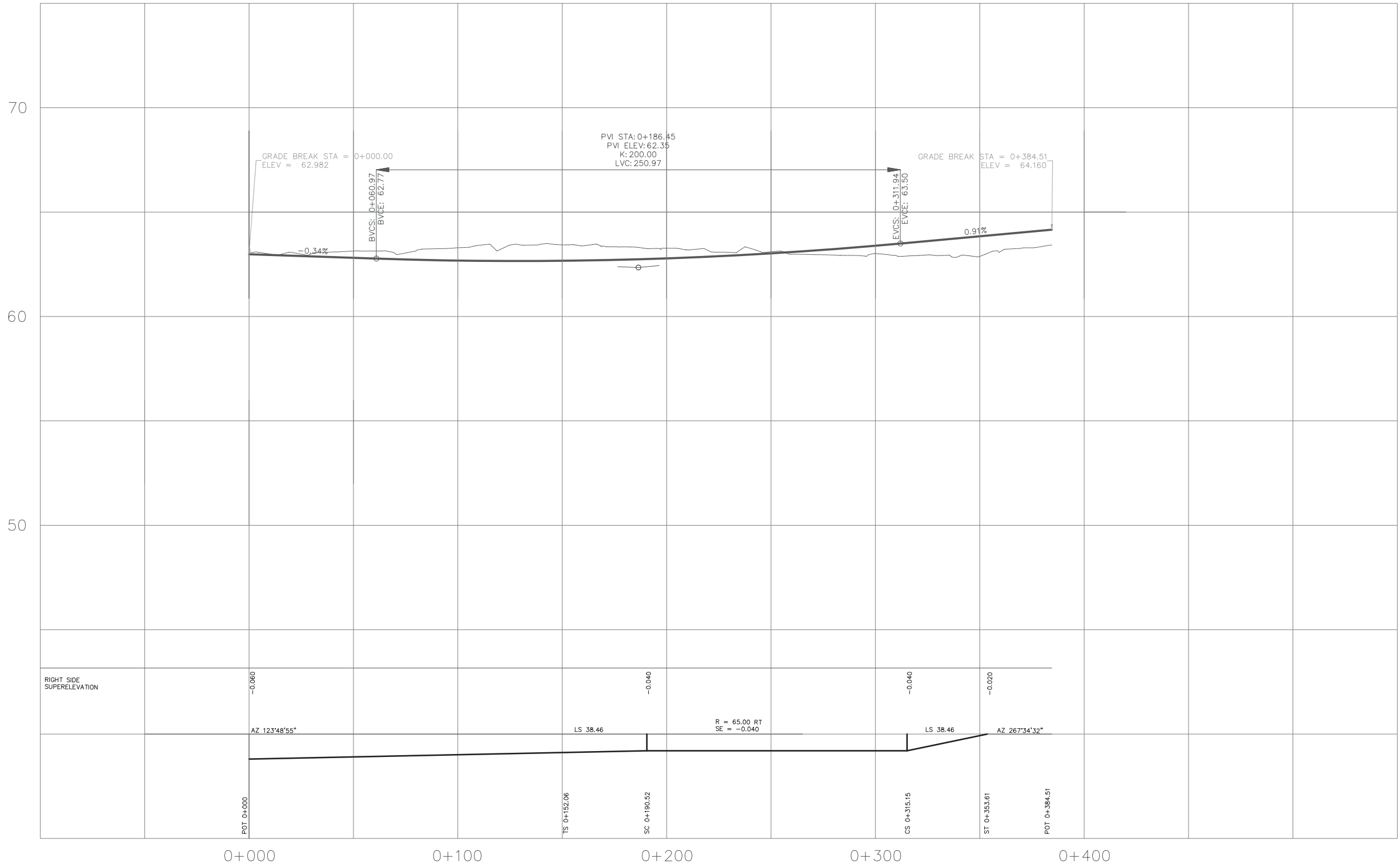
DRAWN MATT HACKETT DATE 2018-03-02

PROFILE - WB ON-RAMP

HIGHWAY No. 1 - CLEARBROOK INTERCHANGE

CLEARBROOK INTERCHANGE

STA. 0+025.00 TO STA. 0+387.78



DESIGN SPEED = 40 km/h

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



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Horiz. 1:1000

0100200300400

Vert. 1:100

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SEND R DESIGNER

DATE 2018-03-02

FILE NUMBER 987654

PROJECT NUMBER 12345

REV 1

DRAWING NUMBER R1-730-207



MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

PROFILE - EB OFF-RAMP
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
STA. 0+000.00 TO STA. 0+384.51

DESIGNED LOGAN BROWN DATE 2018-03-02

QUALITY CONTROL MATT HACKETT DATE 2018-03-02

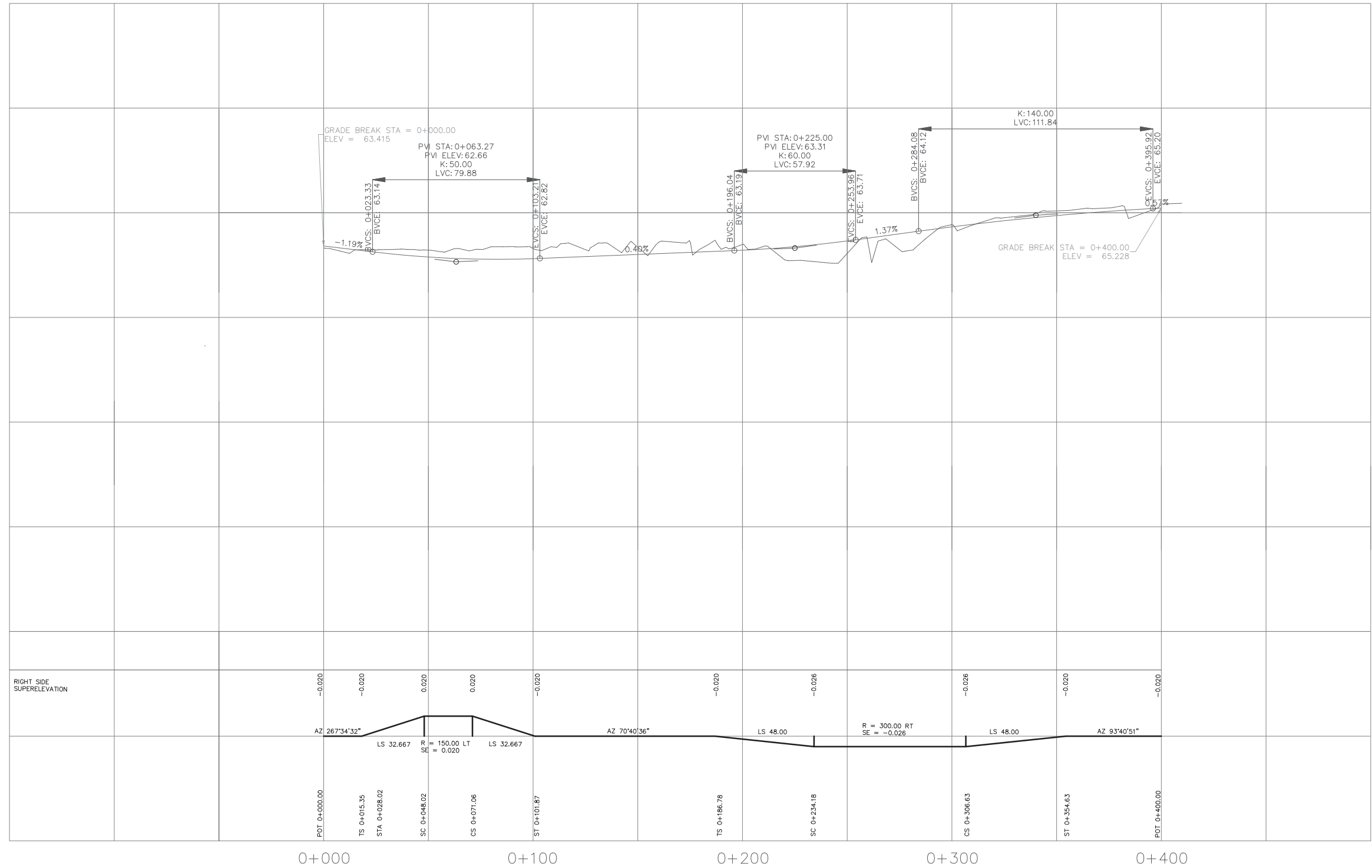
REV/BY MATT HACKETT DATE 2018-03-02

DRAWN LOGAN BROWN DATE 2018-03-02



70

60



DESIGN SPEED = 50 km/h - 90km/h

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES

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**BRITISH COLUMBIA**
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



PROFILE - EB ON-RAMP
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
STA. 0+000.00 TO STA. 0+400.00

REV.	DATE	REVISION	DRAWN
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FILE NUMBER	PROJECT NUMBER	REV	DRAWING NUMBER
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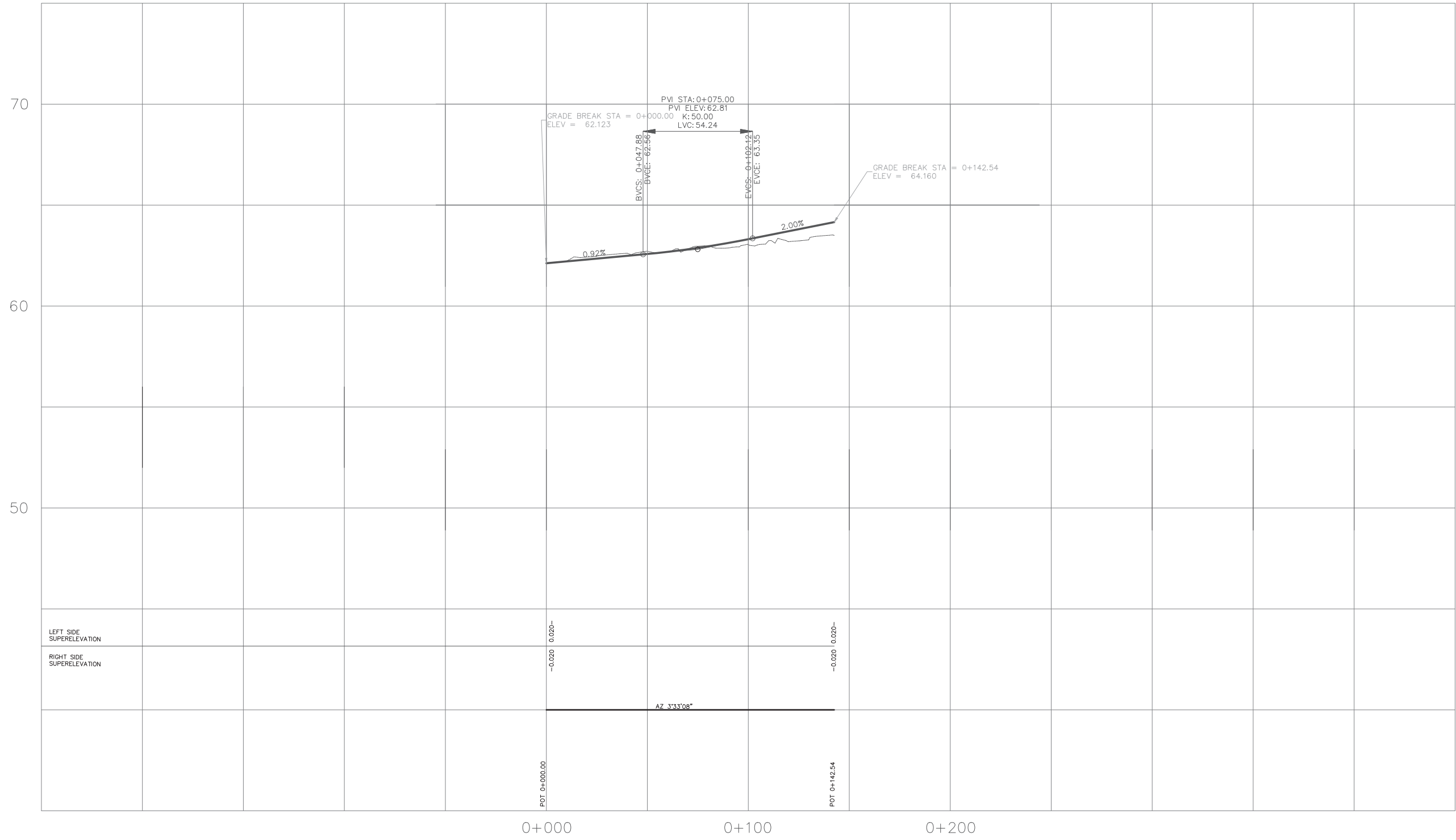
DESIGNED	DATE
LOGAN BROWN	2018-03-02

QUALITY CONTROL	DATE
MATT HACKETT	2018-03-02

REVISED	DATE
MATT HACKETT	2018-03-02

DRAWN	DATE
LOGAN BROWN	2018-03-02

	Alloy Consulting Doing it Right	 BRITISH COLUMBIA MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE SOUTH COAST REGION HIGHWAY ENGINEERING																																											
																																													
PROFILE - MARSHALL ROAD WEST HIGHWAY No. 1 - CLEARBROOK INTERCHANGE CLEARBROOK INTERCHANGE STA. 0+000.00 TO STA. 0+242.13																																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">REV.</th> <th style="width: 20%;">DATE</th> <th style="width: 30%;">REVISION</th> <th style="width: 40%;">DRAWN</th> </tr> </thead> <tbody> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>		REV.	DATE	REVISION	DRAWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"> DESIGNED: <u>LOGAN BROWN</u> DATE: <u>2015-03-02</u> QUALITY CONTROL: <u>MATT HACKETT</u> DATE: <u>2015-03-02</u> REVIEWED: <u>MATT HACKETT</u> DATE: <u>2015-03-02</u> DRAWN: <u>LOGAN BROWN</u> DATE: <u>2015-03-02</u> </td> <td style="width: 40%; text-align: center;"> SEND REVISION DATE: <u>2015-03-02</u> </td> </tr> </table>		DESIGNED: <u>LOGAN BROWN</u> DATE: <u>2015-03-02</u> QUALITY CONTROL: <u>MATT HACKETT</u> DATE: <u>2015-03-02</u> REVIEWED: <u>MATT HACKETT</u> DATE: <u>2015-03-02</u> DRAWN: <u>LOGAN BROWN</u> DATE: <u>2015-03-02</u>	SEND REVISION DATE: <u>2015-03-02</u>
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">FILE NUMBER 987654</td> <td style="width: 50%;">PROJECT NUMBER 12345</td> </tr> </table>		FILE NUMBER 987654	PROJECT NUMBER 12345	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">REV. 1</td> <td style="width: 75%;">DRAWING NUMBER R1-730-209</td> </tr> </table>		REV. 1	DRAWING NUMBER R1-730-209																																						
FILE NUMBER 987654	PROJECT NUMBER 12345																																												
REV. 1	DRAWING NUMBER R1-730-209																																												



DESIGN SPEED = 50 km/h

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



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BRITISH COLUMBIA

MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



PROFILE - CLEARBROOK SOUTH
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
STA. 0+000.00 TO STA. 0+142.54

DESIGNED: LOGAN BROWN DATE: 2018-09-05

QUALITY CONTROL: MATT HACKETT DATE: 2018-09-05

REVISED: MATT HACKETT DATE: 2018-09-05

DRAWN: LOGAN BROWN DATE: 2018-09-05

SEND TO DESIGNER

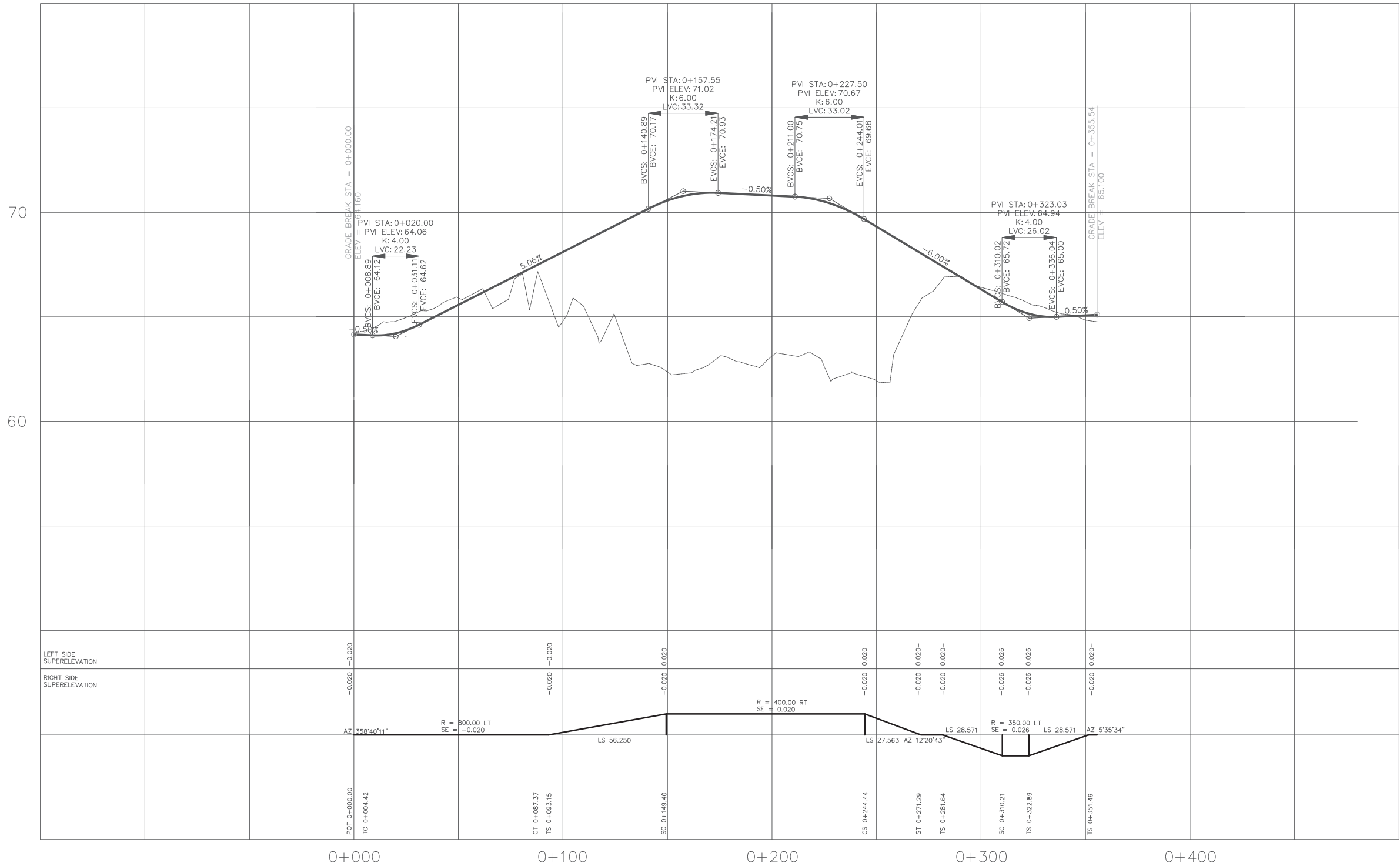
DATE: 2018-09-05

FILE NUMBER: 987654

PROJECT NUMBER: 12345

REV: 1

DRAWING NUMBER: R1-730-210



DESIGN SPEED = 50 km/h

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

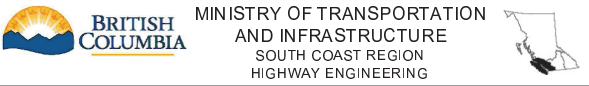
FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

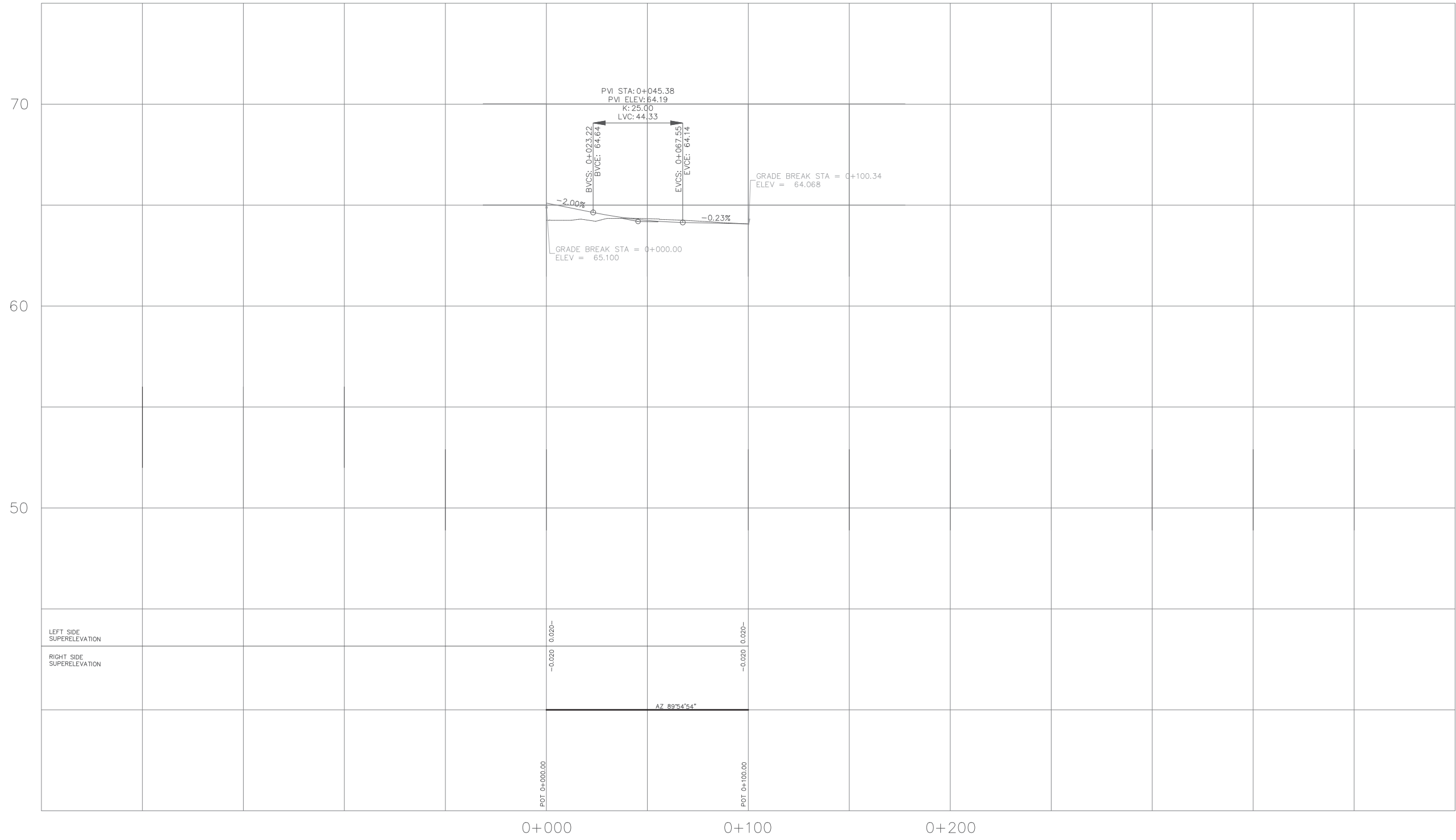
FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



SCALE			
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PROFILE - CLEARBROOK OVERPASS			
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE			
CLEARBROOK INTERCHANGE			
STA. 0+000.00 TO STA. 0+355.54			
DESIGNED BY		MATT HACKETT	
DATE		2015-03-02	
QUALITY CONTROL		LOGAN BROWN	
DATE		2015-03-02	
REVISED BY		MATT HACKETT	
DATE		2015-03-02	
DRAWN BY		LOGAN BROWN	
DATE		2015-03-02	
FILE NUMBER	PROJECT NUMBER	REV	DRAWING NUMBER
987654	12345	1	R1-730-211



DESIGN SPEED = 50 km/h

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



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MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



PROFILE - MARSHALL ROAD EAST
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
STA. 0+000.00 TO STA. 0+100.00

DESIGNED: LOGAN BROWN DATE: 2018-09-02

QUALITY CONTROL: MATT HACKETT DATE: 2018-09-02

REVIEWED: MATT HACKETT DATE: 2018-09-02

DRAWN: LOGAN BROWN DATE: 2018-09-02

SEND TO DESIGNER

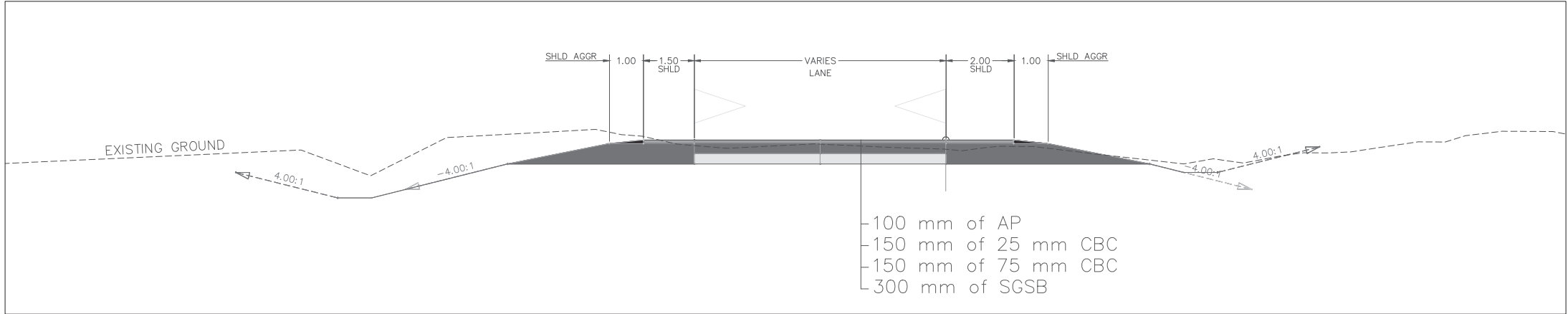
DATE: 2018-09-02

FILE NUMBER: 987654

PROJECT NUMBER: 12345

REV: 1

DRAWING NUMBER: R1-730-212



TYPICAL TCH SECTION

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



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MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



SCALE 0 1 1:75 3.5

REV.	DATE	REVISION	DRAWN
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TYPICAL SECTIONS AND DETIALS
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
HIGHWAY No. 1

DESIGNED LOGAN BROWN DATE 2018-03-02

QUALITY CONTROL MATT HACKETT DATE 2018-03-02

REVIEWED MATT HACKETT DATE 2018-03-02

DRAWN LOGAN BROWN DATE 2018-03-02

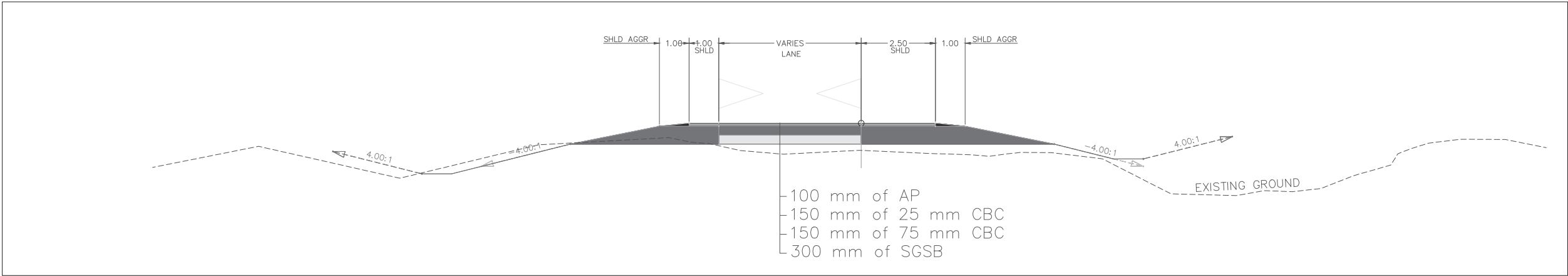
DATE 2018-03-02

FILE NUMBER 987654

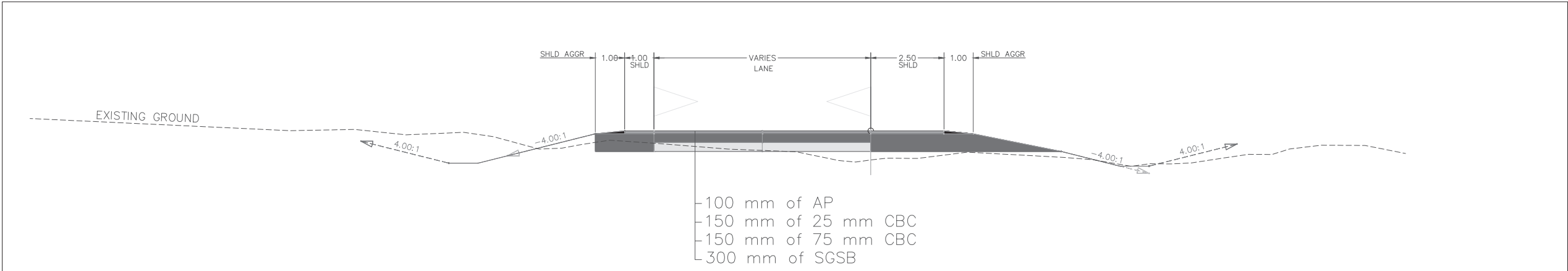
PROJECT NUMBER 12345

REV 1

DRAWING NUMBER R1-730-301



TYPICAL ON-RAMP & OFF-RAMP SECTION



TYPICAL CLIPPED SHOULDER ON-RAMP & OFF-RAMP SECTION
WB 0+935+00 to 0+967.00, 1+100.00 to 1+208.00
EB 0+600.00 to 0+680.00, 0+770.00 to 0+850.00

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



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Doing it Right



MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

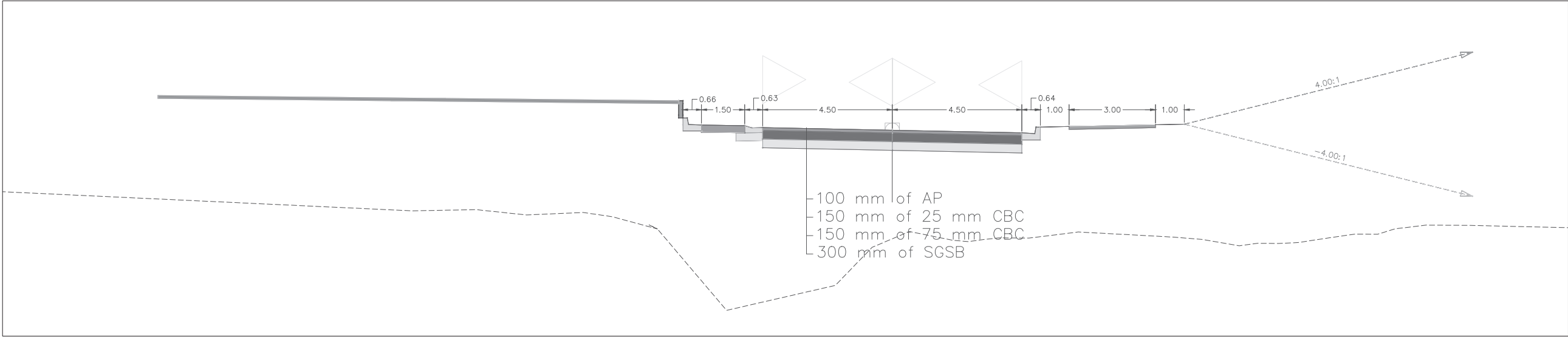


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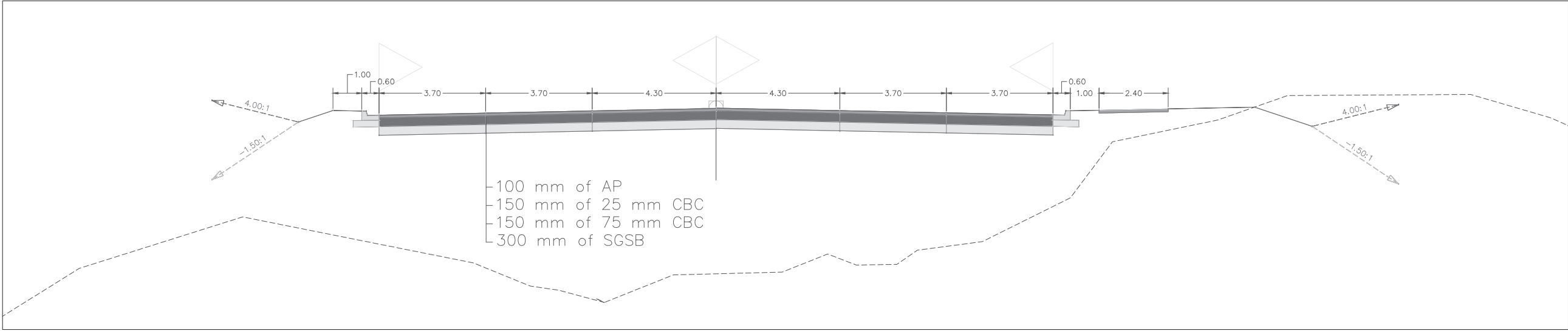
TYPICAL SECTIONS AND DETAILS
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
TCH ON-RAMP & OFF RAMP

REV.	DATE	REVISION	DRAWN
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DESIGNED	LOGAN BROWN	DATE	2018-03-02
QUALITY CONTROL	MATT HACKETT	DATE	2018-03-02
REVIEWED	MATT HACKETT	DATE	2018-03-02
DRAWN	LOGAN BROWN	DATE	2018-03-02
FILE NUMBER	987654	PROJECT NUMBER	12345
REV	1	DRAWING NUMBER	R1-730-302



TYPICAL ROUNDABOUT SECTION



TYPICAL BRIDGE APPROACH SECTION

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



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SCALE 0 1 1:75 3.5

REV.	DATE	REVISION	DRAWN
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MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

TYPICAL SECTIONS AND DETAILS
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
TYPICAL ROUNDABOUT AND BRIDGE APPROACH

DESIGNED LOGAN BROWN DATE 2015-03-02

QUALITY CONTROL MATT HACKETT DATE 2015-03-02

REVIEWED MATT HACKETT DATE 2015-03-02

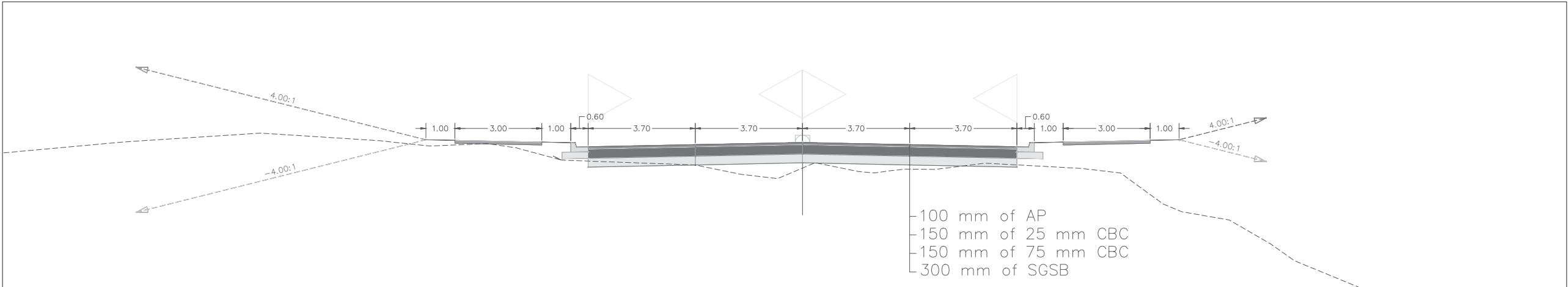
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FILE NUMBER
987654

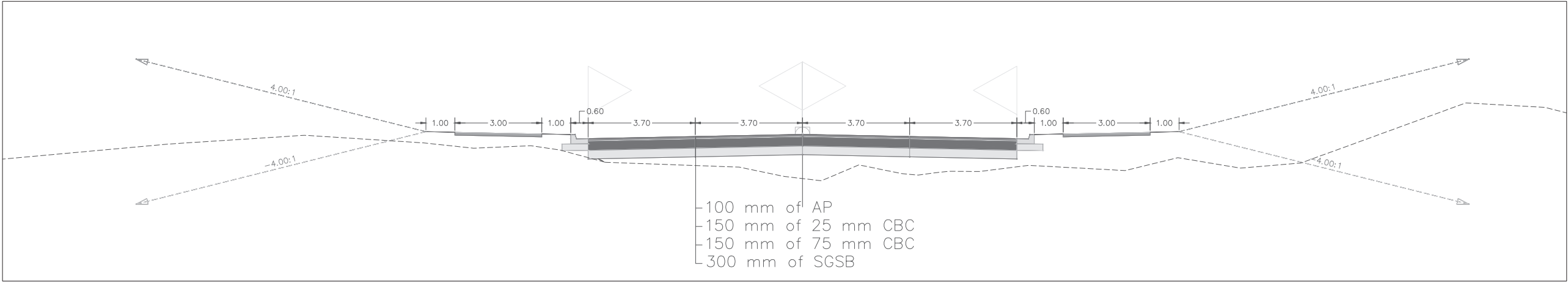
PROJECT NUMBER
12345

REV
1

DRAWING NUMBER
R1-730-303



TYPICAL MARSHALL ROAD WEST SECTION



TYPICAL MARSHALL ROAD EAST SECTION

FOR GEOMETRICS AND LANING
SEE DWG 400 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



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SCALE 0 1 1:75 3.5

REV.	DATE	REVISION	DRAWN
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MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

TYPICAL SECTIONS AND DETAILS
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
MARSHALL ROAD WEST & EAST

DESIGNED LOGAN BROWN DATE 2015-03-02

QUALITY CONTROL MATT HACKETT DATE 2015-03-02

REVIEWED MATT HACKETT DATE 2015-03-02

DRAWN LOGAN BROWN DATE 2015-03-02

SEND TO DESIGNER

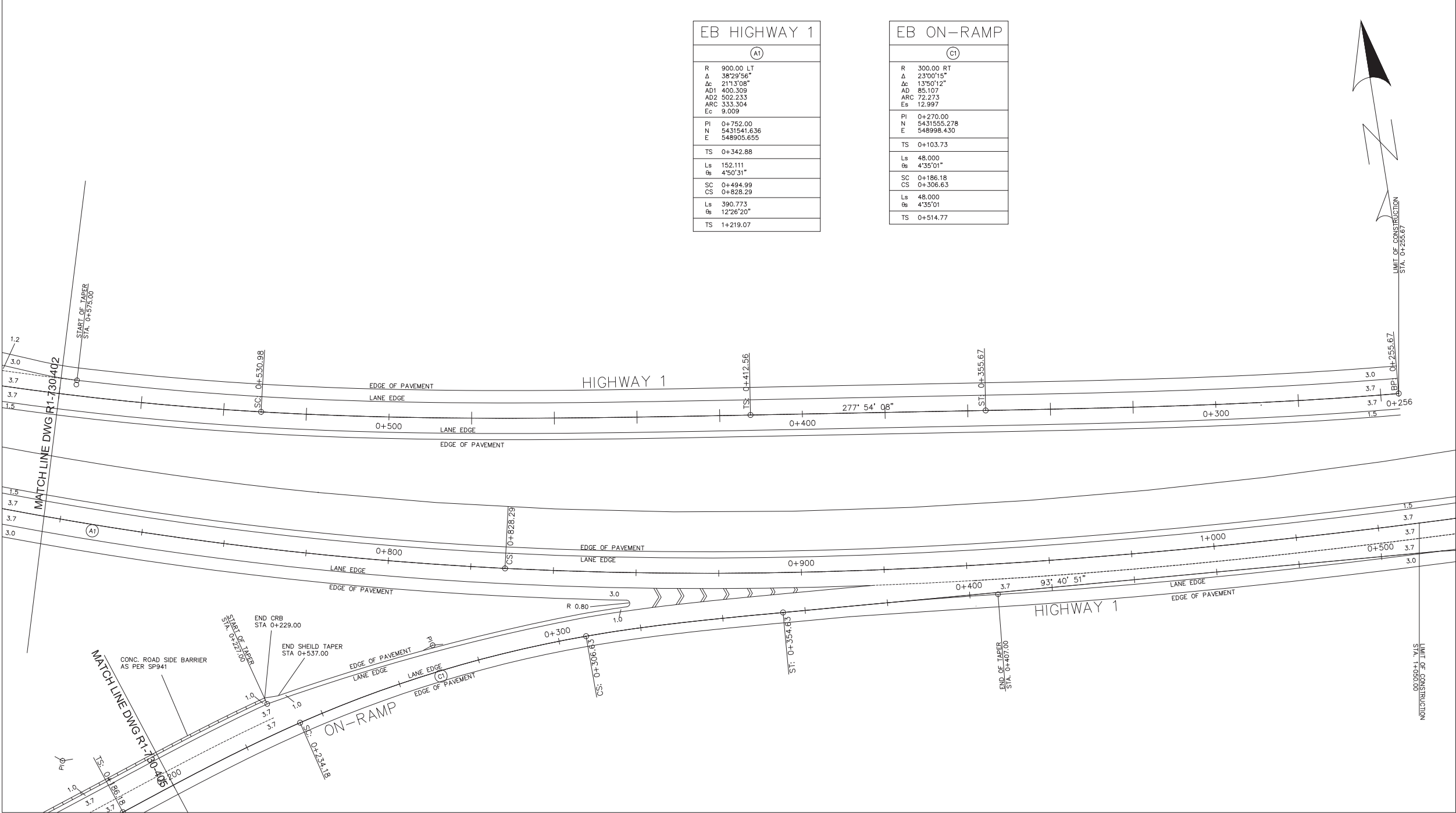
DATE 2015-03-02

FILE NUMBER
987654

PROJECT NUMBER
12345

REV
1

DRAWING NUMBER
R1-730-304



EB HIGHWAY 1	
(A1)	
R	900.00 LT
Δ	38°29'56"
Δc	211'3'08"
AD1	400.309
AD2	502.233
ARC	333.304
Ec	9.009
PI	0+752.00
N	5431541.636
E	548905.655
TS	0+342.88
Ls	152.111
ts	4'50'31"
SC	0+494.99
CS	0+828.29
Ls	390.773
ts	12'26'20"
TS	1+219.07

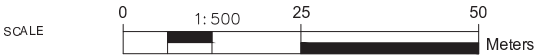
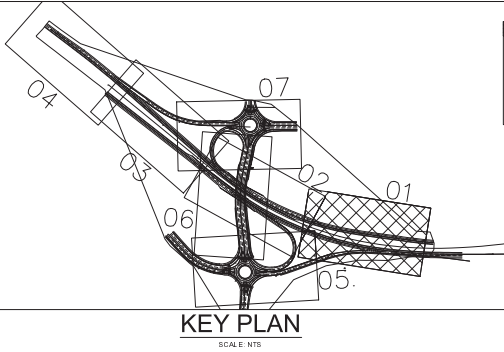
EB ON-RAMP	
(C1)	
R	300.00 RT
Δ	23°00'15"
Δc	13°50'12"
AD	85.107
ARC	72.273
Es	12.997
PI	0+270.00
N	5431555.278
E	548998.430
TS	0+103.73
Ls	48.000
ts	4'35'01"
SC	0+186.18
CS	0+306.63
Ls	48.000
ts	4'35'01"
TS	0+514.77

FOR PROFILES
SEE DWG 200 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

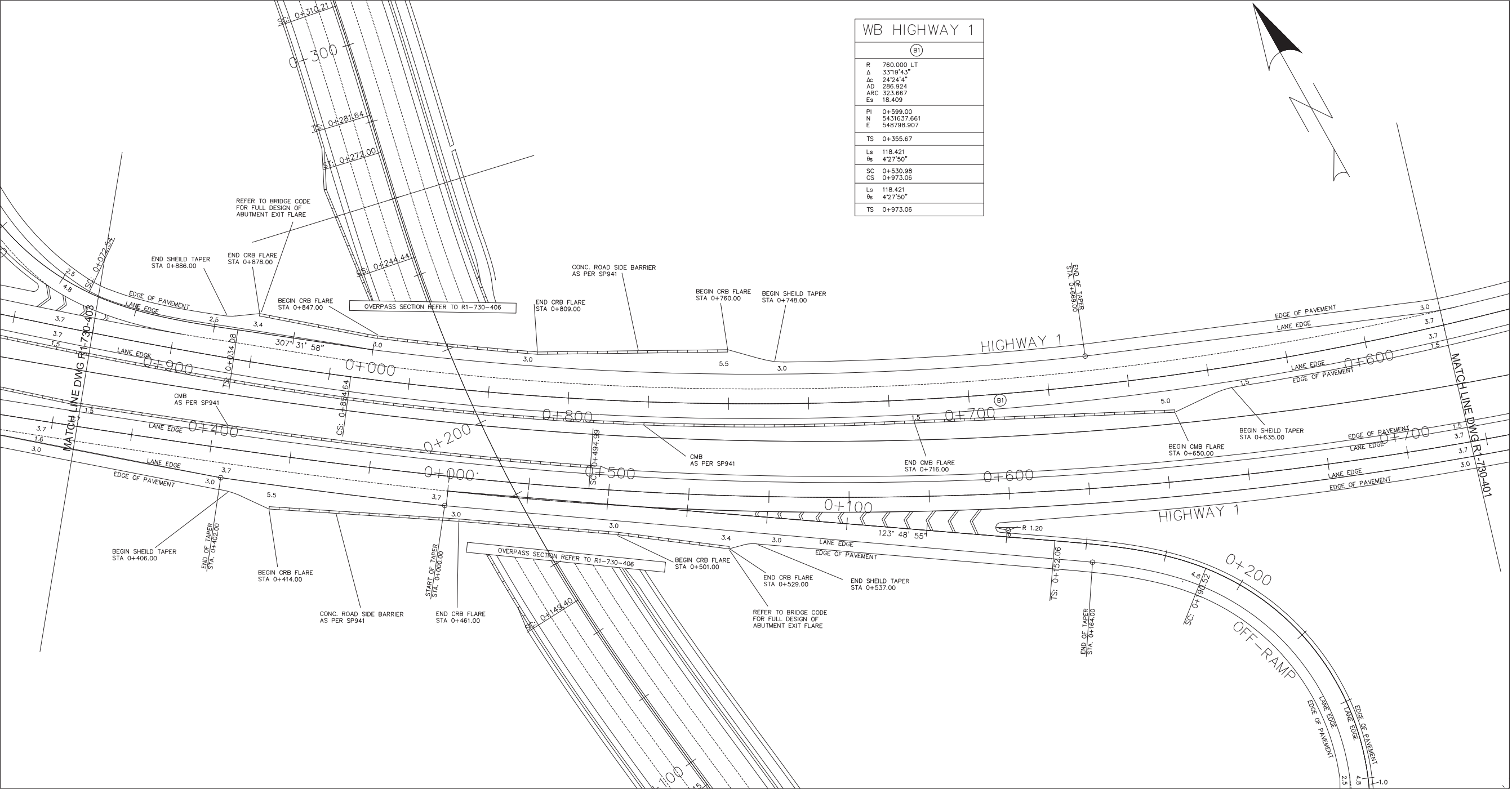
FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



REV.	DATE	REVISION	DRAWN
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GEOMETRICS AND LANING			
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE			
CLEARBROOK INTERCHANGE			
STA. 1+050.00 TO STA. 0+706.00			
DESIGNED	MATT HACKETT	DATE	2018-03-02
QUALITY CONTROL	LOGAN BROWN	DATE	2018-03-02
REVIEWED	MATT HACKETT	DATE	2018-03-02
DRAWN	LOGAN BROWN	DATE	2018-03-02
FILE NUMBER	987654	PROJECT NUMBER	12345
REV	1	DRAWING NUMBER	R1-730-401

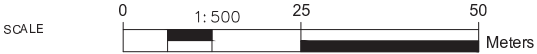
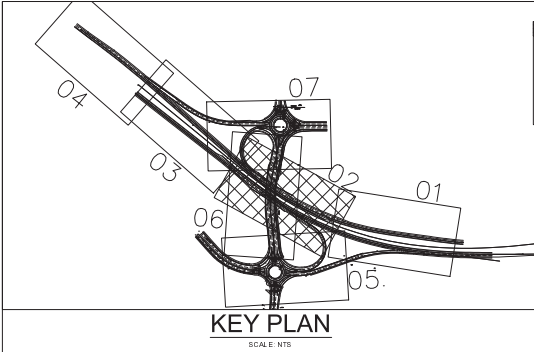


FOR PROFILES
SEE DWG 200 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

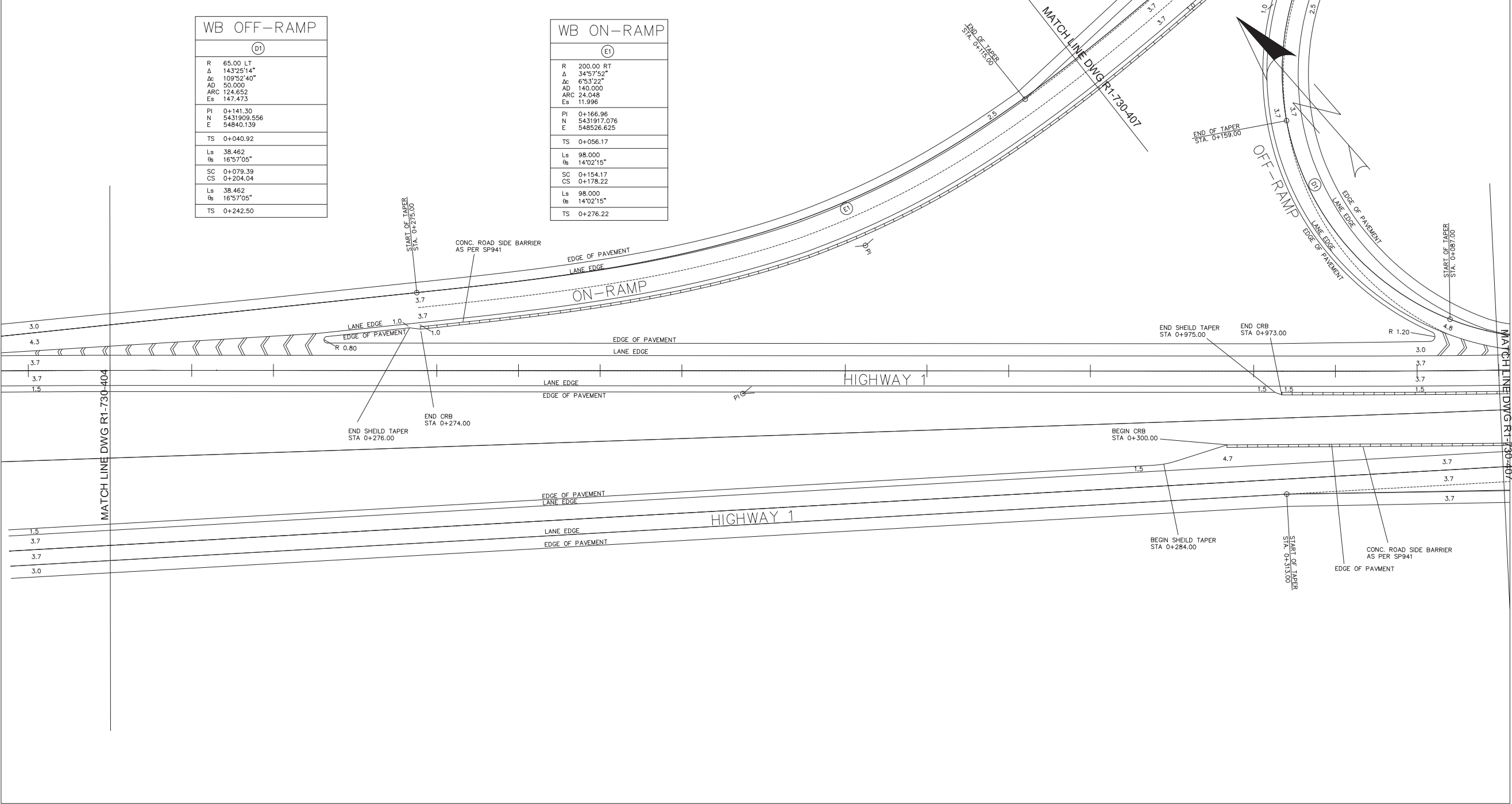
FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



REV.	DATE	REVISION	DRAWN
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GEOMETRICS AND LANING			
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE			
CLEARBROOK INTERCHANGE			
STA. 0+932 TO STA. 0+718			
DESIGNED BY		MATT HACKETT	
DATE		2018-03-02	
QUALITY CONTROL BY		LOGAN BROWN	
DATE		2018-03-02	
REVIEWED BY		MATT HACKETT	
DATE		2018-03-02	
DRAWN BY		LOGAN BROWN	
DATE		2018-03-02	
FILE NUMBER	PROJECT NUMBER	REV.	DRAWING NUMBER
987654	12345	1	R1-730-402



WB OFF-RAMP	
(D1)	
R	65.00 LT
Δ	143°25'14"
Δc	109°52'40"
AD	50.000
ARC	124.652
Es	147.473
PI	0+141.30
N	5431909.556
E	54840.139
TS	0+040.92
Ls	38.462
Os	16°57'05"
SC	0+079.39
CS	0+204.04
Ls	38.462
Os	16°57'05"
TS	0+242.50

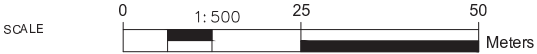
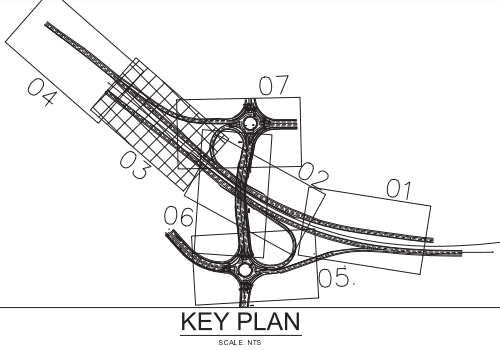
WB ON-RAMP	
(E1)	
R	200.00 RT
Δ	34°57'52"
Δc	6°53'22"
AD	140.000
ARC	24.048
Es	11.996
PI	0+166.96
N	5431917.076
E	548526.625
TS	0+056.17
Ls	98.000
Os	14°02'15"
SC	0+154.17
CS	0+178.22
Ls	98.000
Os	14°02'15"
TS	0+276.22

FOR PROFILES
SEE DWG 200 SERIES

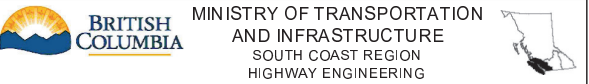
FOR DRAINAGE
SEE DWG 700 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

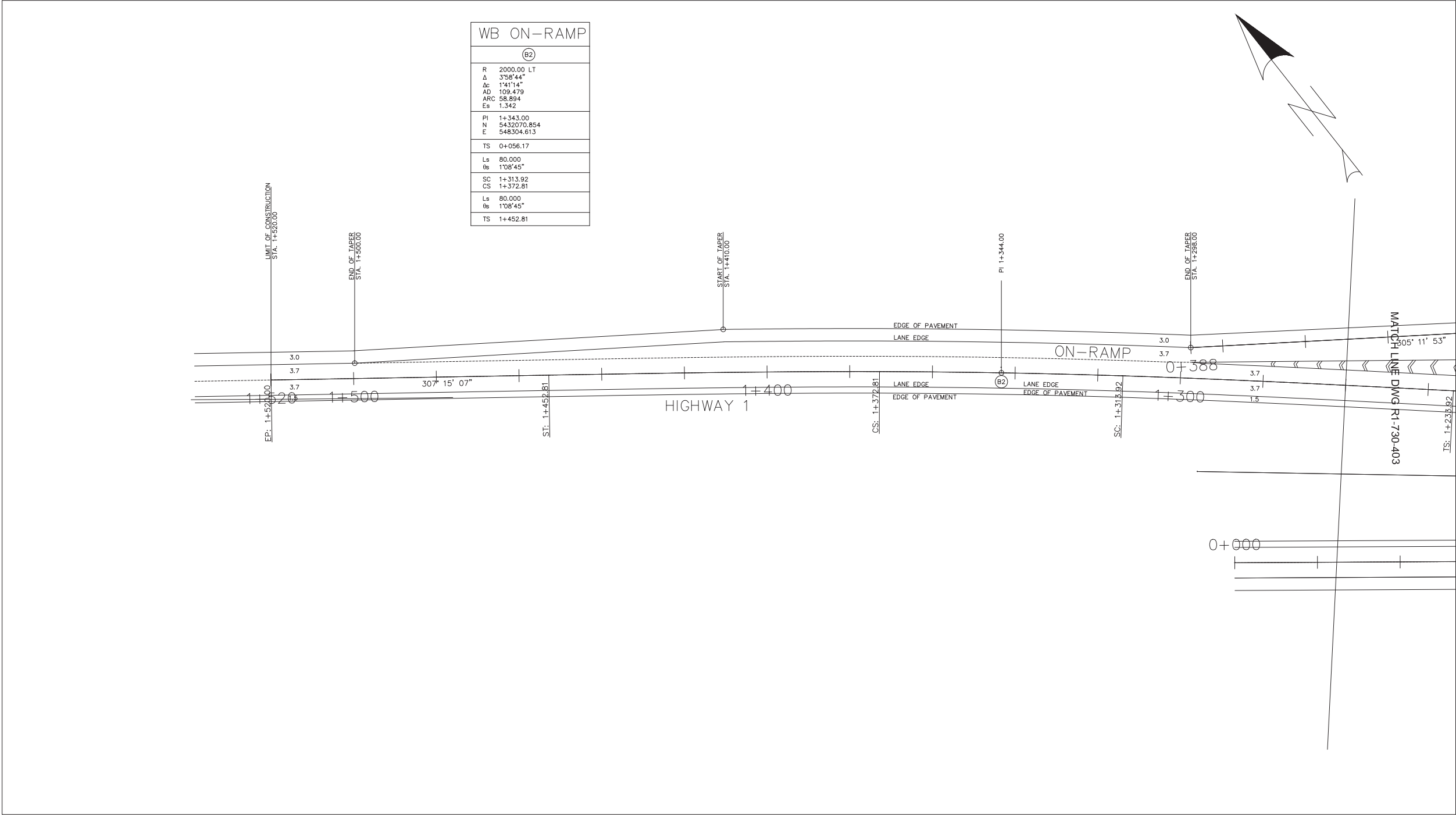
FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES



REV.	DATE	REVISION	DRAWN
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-	-	-	-
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GEOMETRICS AND LANING			
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE			
CLEARBROOK INTERCHANGE			
STA. 1+1281.00 TO STA. 0+929.00			
DESIGNED BY: MATT HACKETT		DATE: 2018-03-02	
QUALITY CONTROL BY: LOGAN BROWN		DATE: 2018-03-02	
REVIEWED BY: MATT HACKETT		DATE: 2018-03-02	
DRAWN BY: LOGAN BROWN		DATE: 2018-03-02	
FILE NUMBER	PROJECT NUMBER	REV.	DRAWING NUMBER
987654	12345	1	R1-730-403



FOR PROFILES
SEE DWG 200 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES

KEY PLAN

SCALE: 1:500

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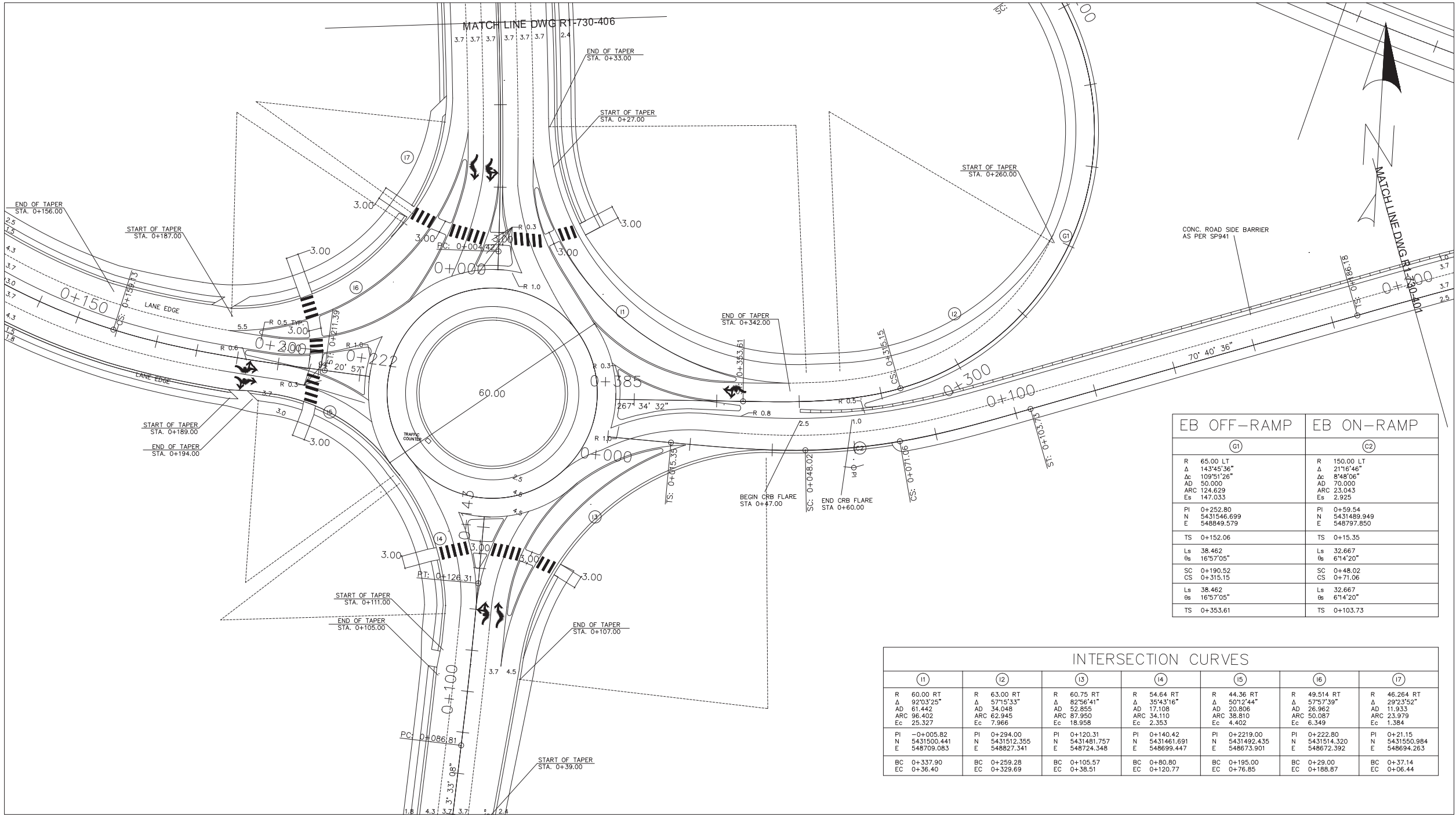
BRITISH COLUMBIA

MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

GEOMETRICS AND LANING
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
STA. 1+280.66 TO STA. 1+520.00

DESIGNED	MATT HACKETT	DATE	2018-03-02
QUALITY CONTROL	LOGAN BROWN	DATE	2018-03-02
REVIEWED	MATT HACKETT	DATE	2018-03-02
DRAWN	LOGAN BROWN	DATE	2018-03-02

FILE NUMBER	PROJECT NUMBER	REV	DRAWING NUMBER
987654	12345	1	R1-730-404



EB OFF-RAMP	EB ON-RAMP
①	②
R 65.00 LT Δ 143°45'36" Δc 109°51'26" AD 50.000 ARC 124.629 Es 2.925	R 150.00 LT Δ 21°16'46" Δc 8°48'06" AD 70.000 ARC 23.043 Es 2.925
PI 0+252.80 N 5431546.699 E 548849.579	PI 0+59.54 N 5431489.949 E 548797.850
TS 0+152.06	TS 0+15.35
Ls 38.462 Bs 16°57'05"	Ls 32.667 Bs 6°14'20"
SC 0+190.52 CS 0+315.15	SC 0+48.02 CS 0+71.06
Ls 38.462 Bs 16°57'05"	Ls 32.667 Bs 6°14'20"
TS 0+353.61	TS 0+103.73

INTERSECTION CURVES						
⑪	⑫	⑬	⑭	⑮	⑯	⑰
R 60.00 RT Δ 92°03'25" AD 61.442 ARC 96.402 Ec 25.327	R 63.00 RT Δ 57°15'33" AD 34.048 ARC 62.945 Ec 7.966	R 60.75 RT Δ 82°56'41" AD 52.855 ARC 87.950 Ec 18.958	R 54.64 RT Δ 35°43'16" AD 17.108 ARC 34.110 Ec 2.353	R 44.36 RT Δ 50°12'44" AD 20.806 ARC 38.810 Ec 4.402	R 49.514 RT Δ 57°57'39" AD 26.962 ARC 50.087 Ec 6.349	R 46.264 RT Δ 29°23'52" AD 11.933 ARC 23.979 Ec 1.384
PI -0+005.82 N 5431500.441 E 548709.083	PI 0+294.00 N 5431512.355 E 548827.341	PI 0+120.31 N 5431481.757 E 548724.348	PI 0+140.42 N 5431461.691 E 548699.447	PI 0+2219.00 N 5431492.435 E 548673.901	PI 0+222.80 N 5431514.320 E 548672.392	PI 0+21.15 N 5431550.984 E 548694.263
BC 0+337.90 EC 0+36.40	BC 0+259.28 EC 0+329.69	BC 0+105.57 EC 0+38.51	BC 0+80.80 EC 0+120.77	BC 0+195.00 EC 0+76.85	BC 0+29.00 EC 0+188.87	BC 0+37.14 EC 0+06.44

FOR PROFILES
SEE DWG 200 SERIES

FOR DRAINAGE
SEE DWG 700 SERIES

FOR SIGNING & PAVEMENT MARKINGS
SEE DWG 600 SERIES

FOR CONSTRUCTION PHASING
SEE DWG 1100 SERIES

KEY PLAN

SCALE: 1:500

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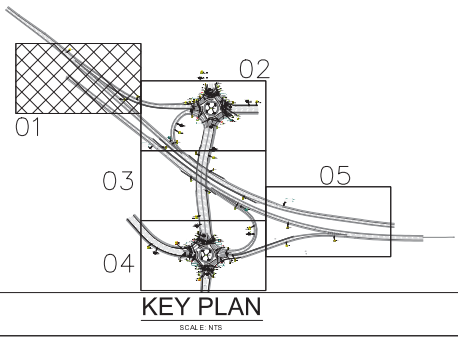
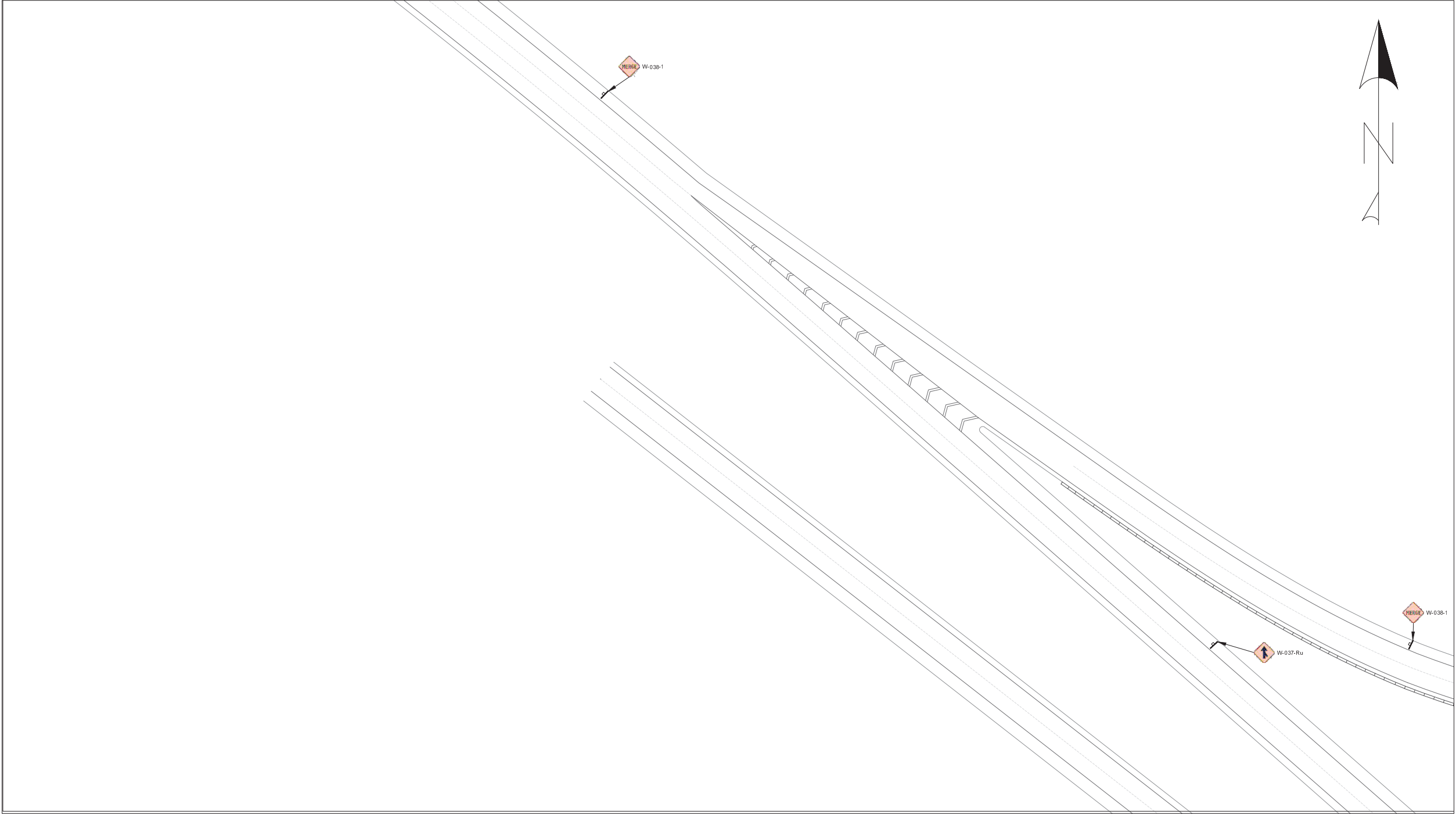
BRITISH COLUMBIA
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

GEOMETRICS AND LANING
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
SOUTH ROUNDABOUT

REV.	DATE	REVISION	DRAWN
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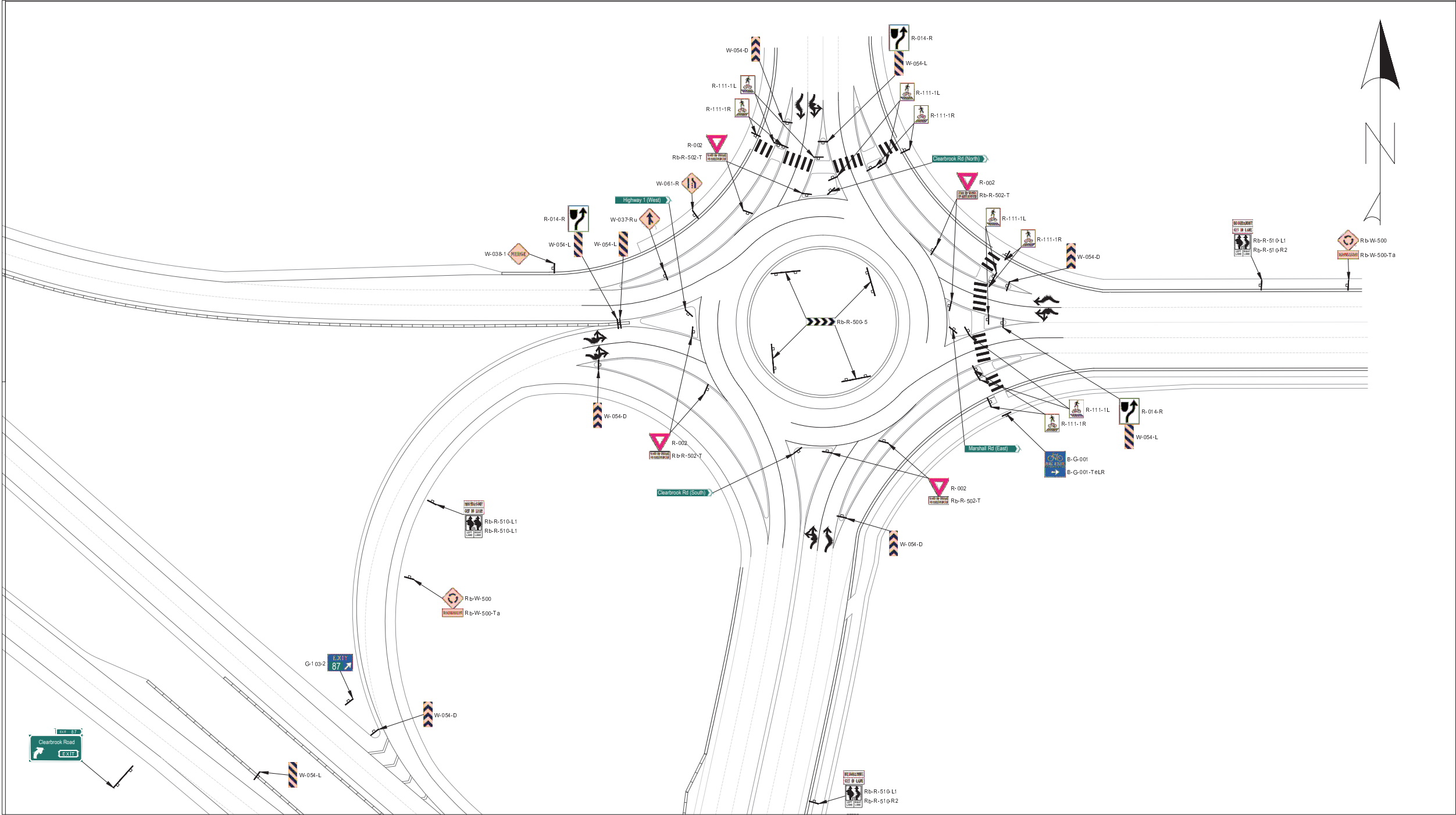
DESIGNED	LOGAN BROWN	DATE	2015-03-02
CHECKED	MATT HACKETT	DATE	2015-03-02
REVIEWED	LOGAN BROWN	DATE	2015-03-02
DRAWN	MATT HACKETT	DATE	2015-03-02

FILE NUMBER	PROJECT NUMBER	REV.	DRAWING NUMBER
987654	12345	1	R1-730-405



SCALE			
REV.	DATE	REVISION	DRAWN
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SIGN LAYOUT			
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE			
CLEARBROOK INTERCHANGE			
WESTBOUND ON-RAMP AND WESTBOUND HIGHWAY No. 1			
DESIGNED BY KETH DOUGLAS		DATE 2015-03-02	
QUALITY CONTROL BY MATT HACKETT		DATE 2015-03-02	
REVISED BY MATT HACKETT		DATE 2015-03-02	
DRAWN BY KETH DOUGLAS		DATE 2015-03-02	
FILE NUMBER	PROJECT NUMBER	REV	DRAWING NUMBER
987654	12345	1	R1-730-601





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SCALE 0 1: 500 25 50 Meters

REV.	DATE	REVISION	DRAWN
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BRITISH COLUMBIA

MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



SIGN LAYOUT
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
NORTH ROUNDABOUT AND WESTBOUND OFF-RAMP

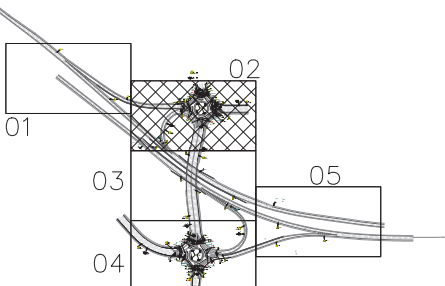
DESIGNED	DATE
KETH DOUGLAS	2015-03-02

QUALITY CONTROL	DATE
MATT HACKETT	2015-03-02

REVIEWED	DATE
MATT HACKETT	2015-03-02

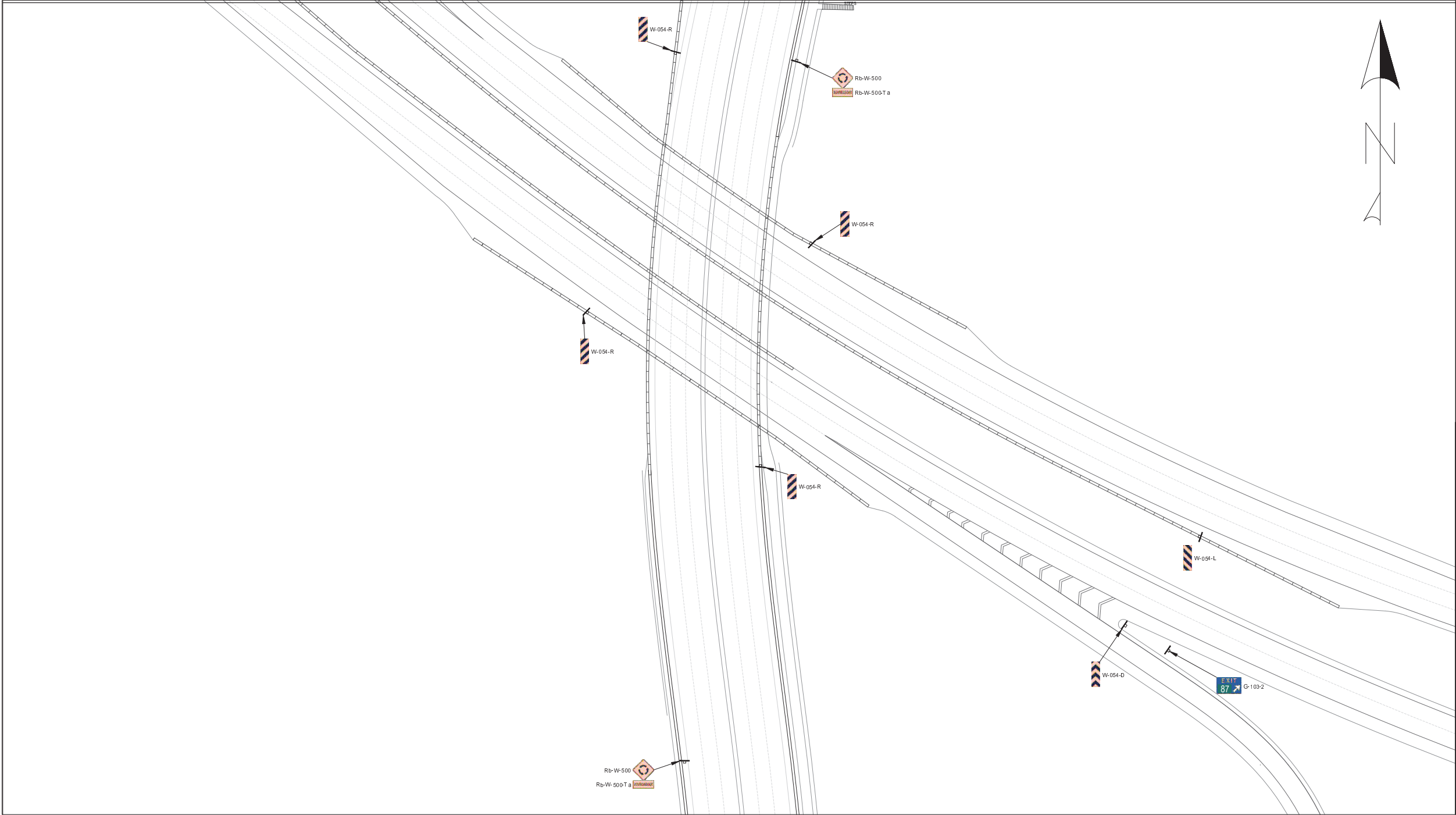
DRAWN	DATE
KETH DOUGLAS	2015-03-02

FILE NUMBER	PROJECT NUMBER	REV	DRAWING NUMBER
987654	12345	1	R1-730-602



KEY PLAN
SCALE: 1:500

01 02 03 04 05



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SCALE

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Meters

REV.	DATE	REVISION	DRAWN
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DESIGNED
KETH DOUGLAS
DATE 2015-03-02

QUALITY CONTROL
MATT HACKETT
DATE 2015-03-02

REVIEWED
MATT HACKETT
DATE 2015-03-02

DRAWN
KETH DOUGLAS
DATE 2015-03-02

SEND TO DESIGNER

DATE 2015-03-02

FILE NUMBER
987654

PROJECT NUMBER
12345

REV
1

DRAWING NUMBER
R1-730-603

BRITISH COLUMBIA

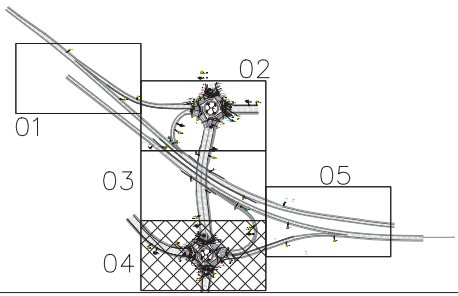
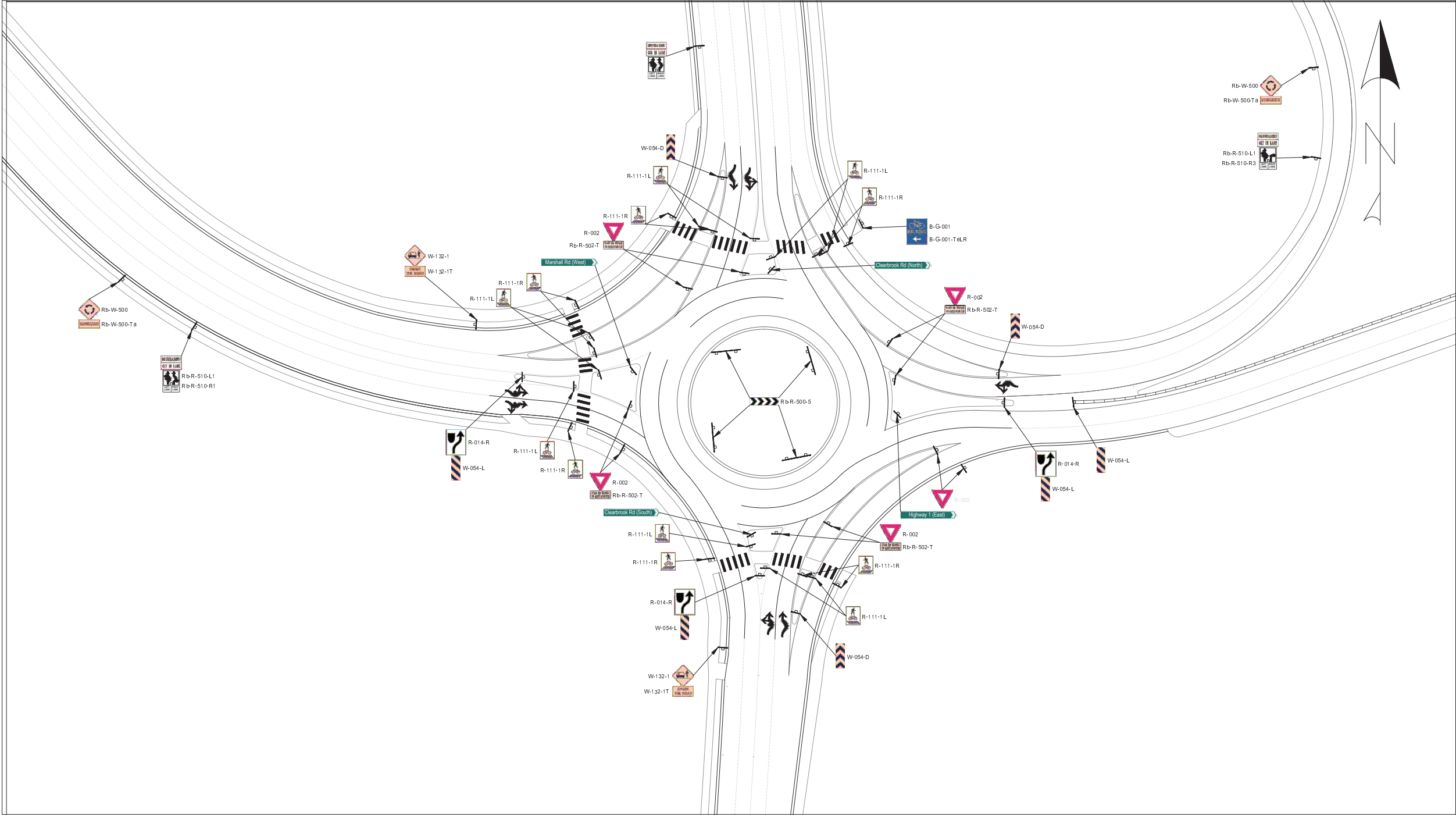
MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

SIGN LAYOUT

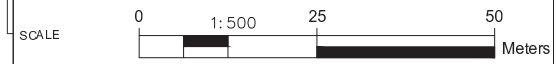
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE

CLEARBROOK INTERCHANGE

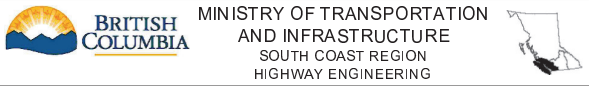
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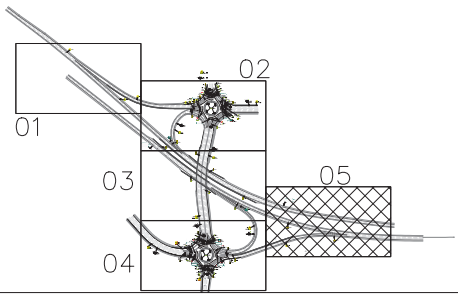
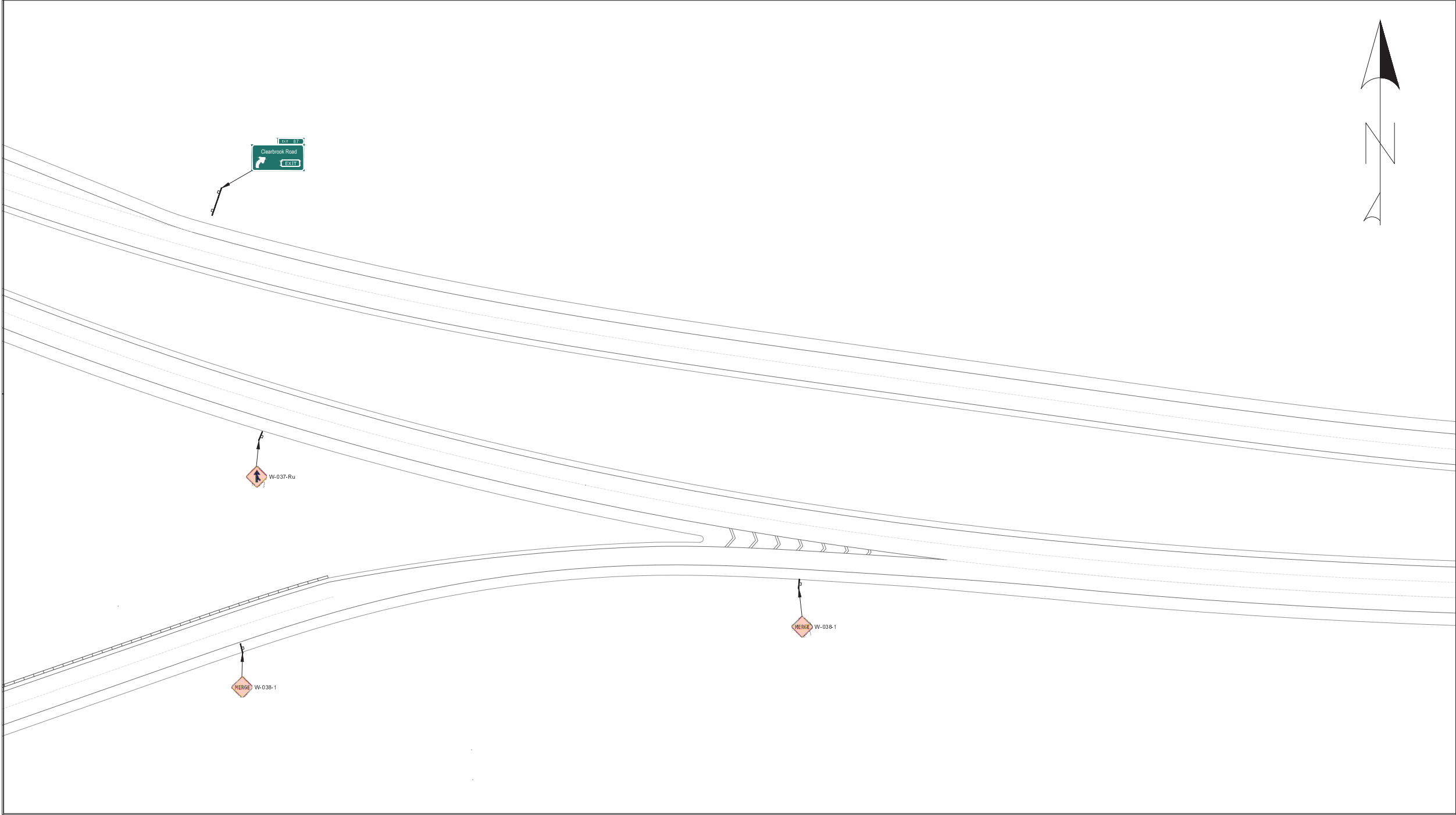
KEY PLAN



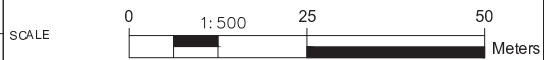
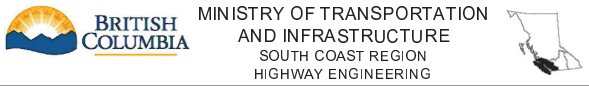
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-	-	-	-
-	-	-	-



SIGN LAYOUT			
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE			
CLEARBROOK INTERCHANGE			
SOUTH ROUNDABOUT AND EASTBOUND OFF-RAMP			
DESIGNED BY KETH DOUGLAS		DATE 2018-03-02	
QUALITY CONTROL BY MATT HACKETT		DATE 2018-03-02	
REVIEWED BY MATT HACKETT		DATE 2018-03-02	
DATE 2018-03-02		DRAWN BY KETH DOUGLAS	
FILE NUMBER	PROJECT NUMBER	REV	DRAWING NUMBER
987654	12345	1	R1-730-604



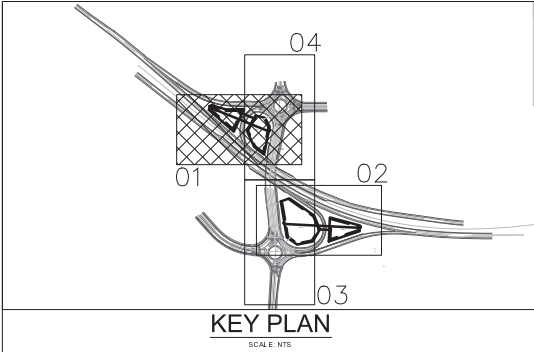
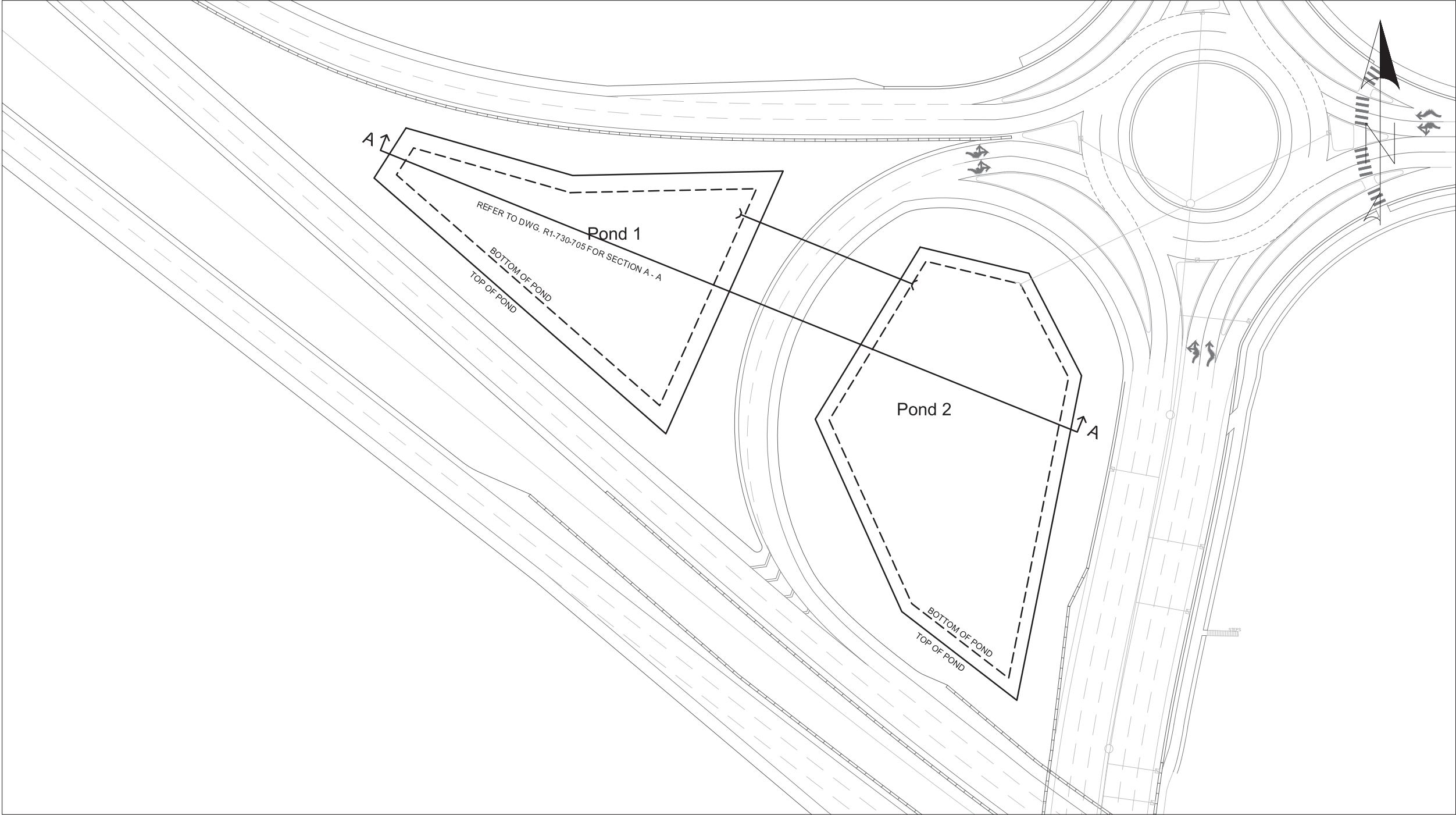
KEY PLAN



SIGN LAYOUT
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
EASTBOUND ON-RAMP AND HIGHWAY No. 1

REV.	DATE	REVISION	DRAWN
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DESIGNED	KETH DOUGHERTY	DATE	2015-03-02
QUALITY CONTROL	MATT HACKETT	DATE	2015-03-02
REVIEWED	MATT HACKETT	DATE	2015-03-02
DRAWN	KETH DOUGHERTY	DATE	2015-03-02
FILE NUMBER	987654	PROJECT NUMBER	12345
REVISION	1	DRAWING NUMBER	R1-730-605



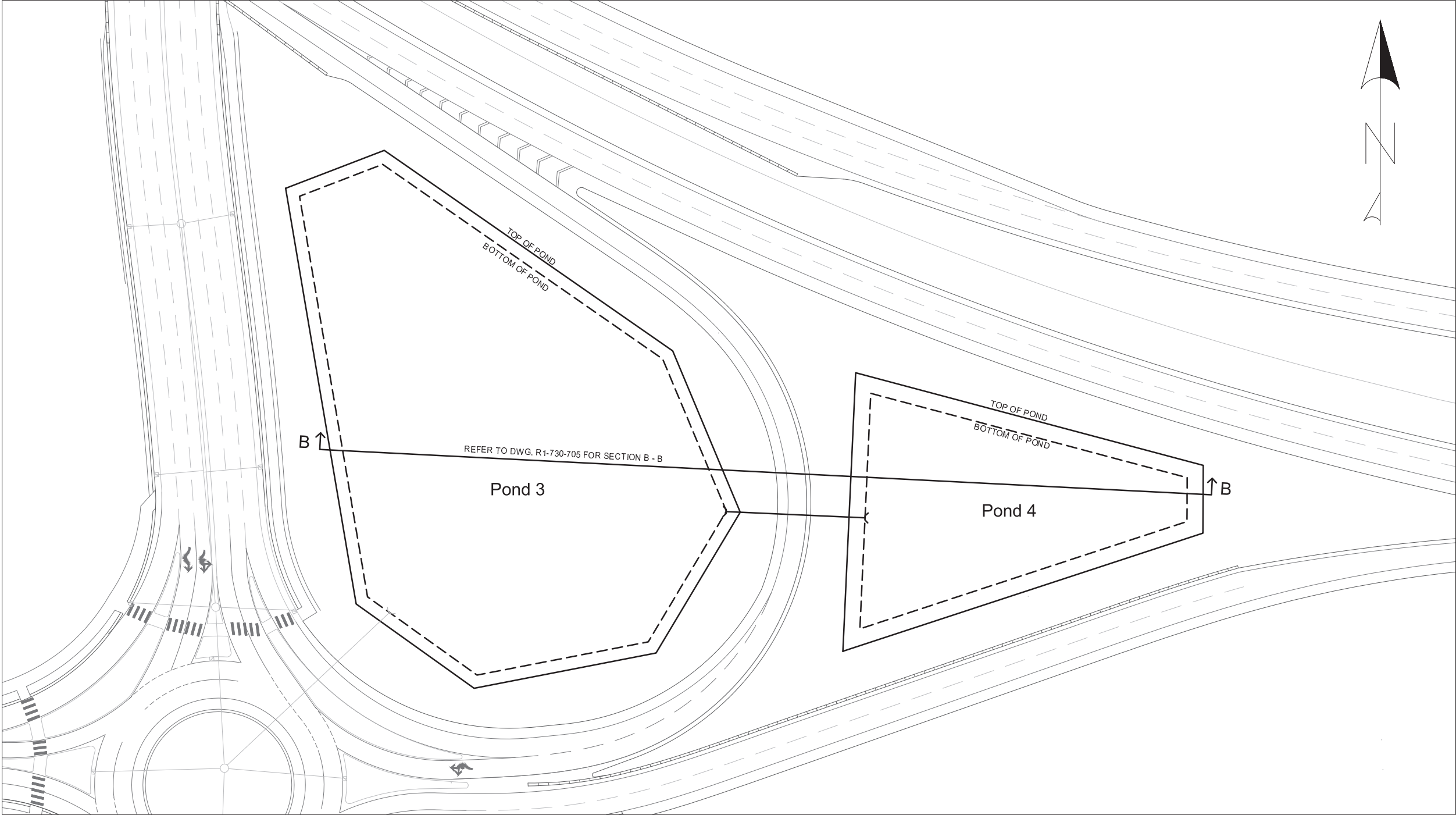
MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



INFILTRATION PONDS
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
NORTH PONDS 1 AND 2

SCALE			
0 1: 500 25 50 Meters			
REV.	DATE	REVISION	DRAWN
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DESIGNED <u>KETH DOOSMAN</u> DATE <u>2018-03-02</u>		QUALITY CONTROL <u>MATT HACKETT</u> DATE <u>2018-03-02</u>	
REVIEWED <u>MATT HACKETT</u> DATE <u>2018-03-02</u>		DRAWN <u>KETH DOOSMAN</u> DATE <u>2018-03-02</u>	
DATE <u>2018-03-02</u>	FILE NUMBER <u>987654</u>	PROJECT NUMBER <u>12345</u>	REV <u>1</u> DRAWING NUMBER <u>R1-730-701</u>



KEY PLAN
SCALE: 1:500

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BRITISH COLUMBIA
MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

SCALE 0 1:500 25 50 Meters

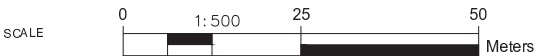
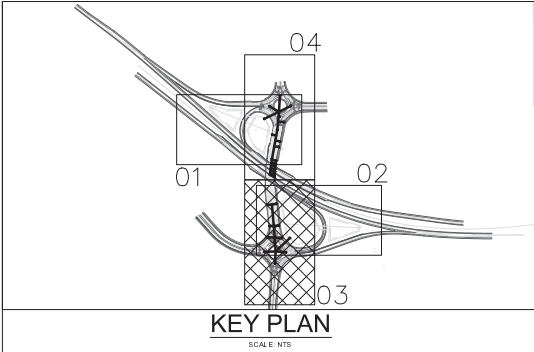
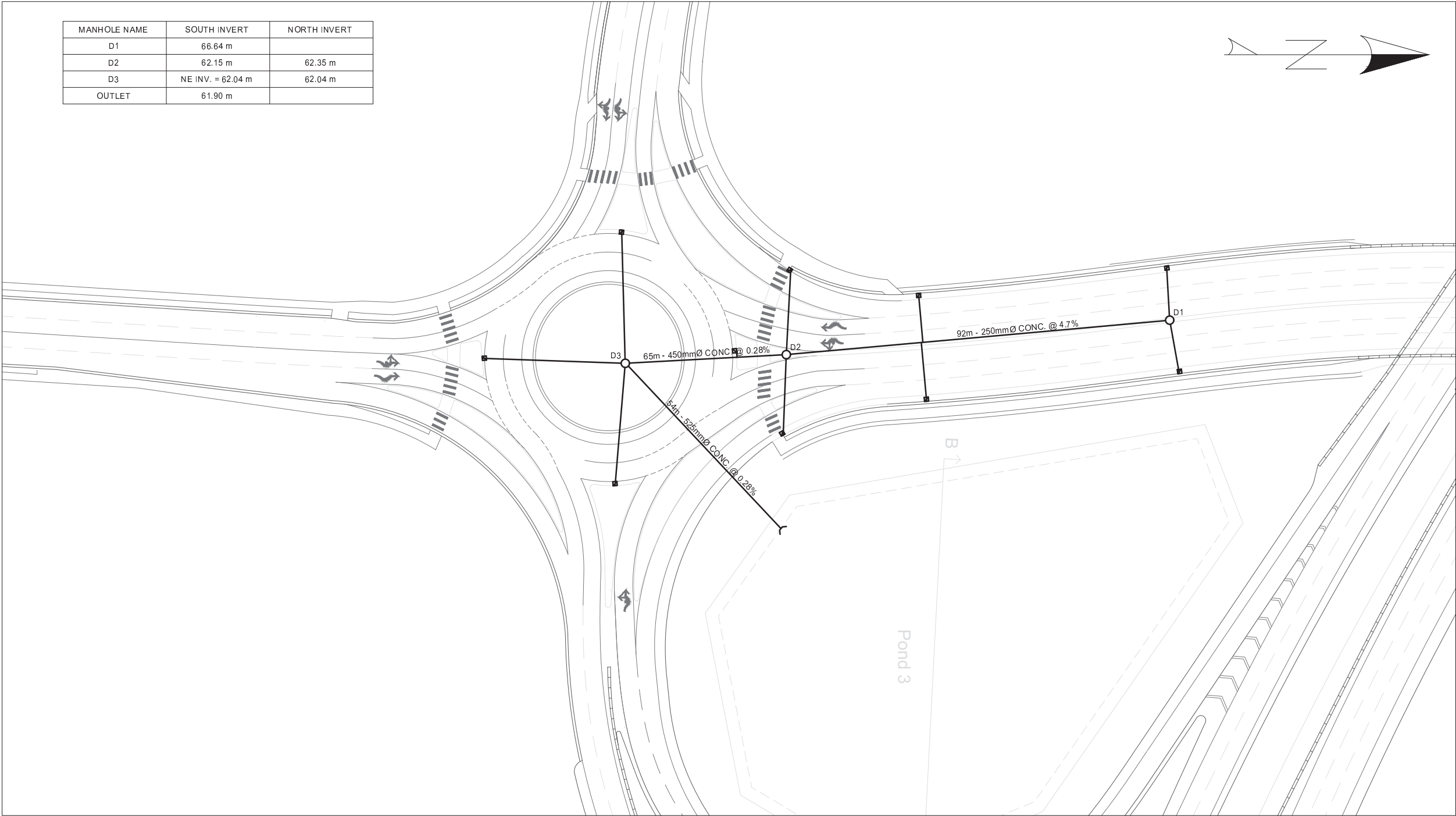
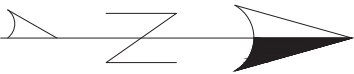
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INfiltration Ponds
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
SOUTH PONDS 3 AND 4

DESIGNED	KETH DOUGLAS	DATE	2015-03-02
QUALITY CONTROL	MATT HACKETT	DATE	2015-03-02
REVIEWED	MATT HACKETT	DATE	2015-03-02
DRAWN	KETH DOUGLAS	DATE	2015-03-02

FILE NUMBER	PROJECT NUMBER	REV.	DRAWING NUMBER
987654	12345	1	R1-730-702

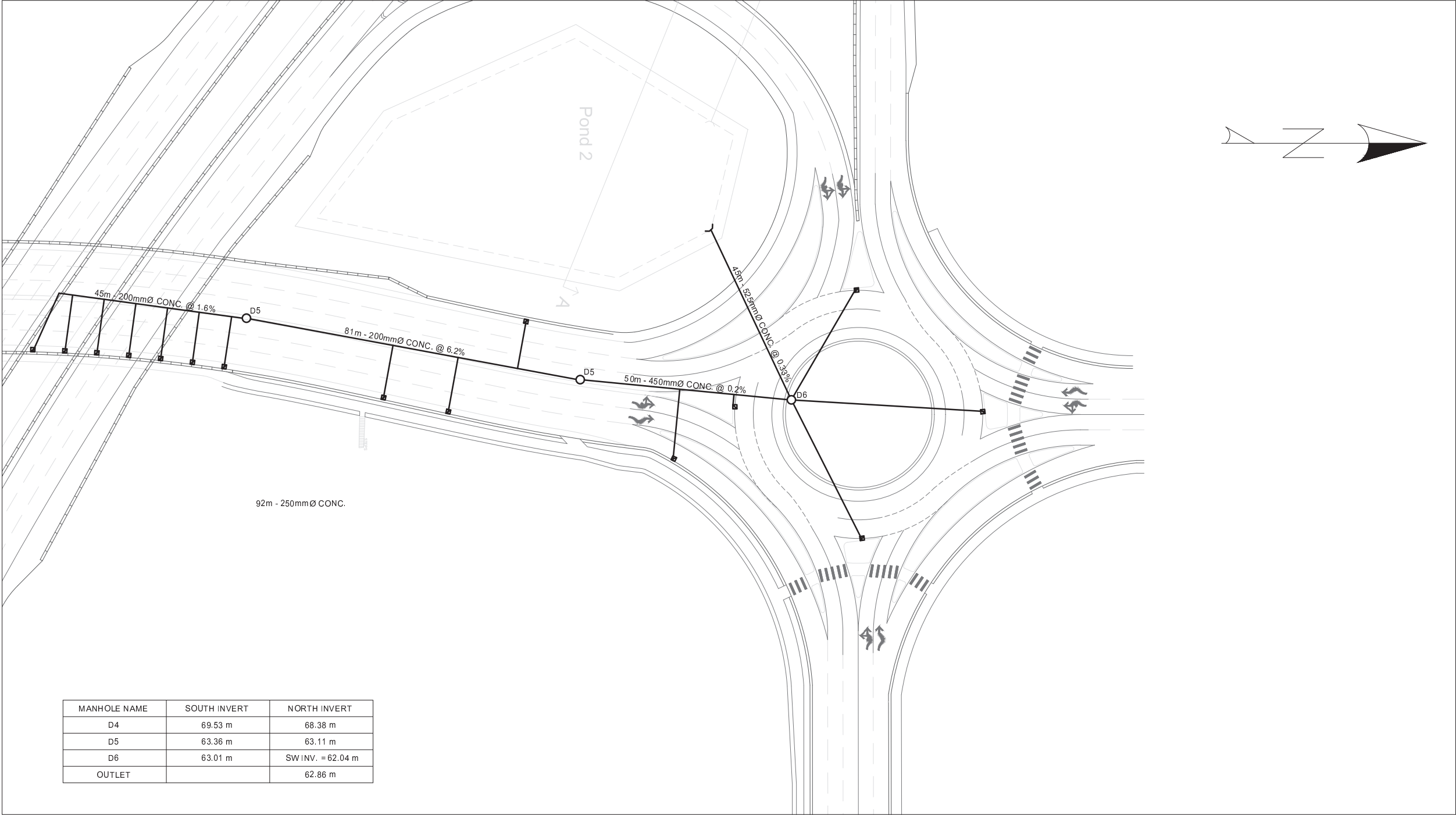
MANHOLE NAME	SOUTH INVERT	NORTH INVERT
D1	66.64 m	
D2	62.15 m	62.35 m
D3	NE INV. = 62.04 m	62.04 m
OUTLET	61.90 m	



DRAINAGE
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
SOUTH STORM MAINS

REV.	DATE	REVISION	DRAWN
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DESIGNED <u>KETH DOUGHERN</u> DATE <u>2018-03-02</u>		QUALITY CONTROL <u>MATT HACKETT</u> DATE <u>2018-03-02</u>	
REVIEWED <u>MATT HACKETT</u> DATE <u>2018-03-02</u>		DRAWN <u>KETH DOUGHERN</u> DATE <u>2018-03-02</u>	
DATE <u>2018-03-02</u>	FILE NUMBER <u>987654</u>	PROJECT NUMBER <u>12345</u>	REV <u>1</u> DRAWING NUMBER <u>R1-730-703</u>



MANHOLE NAME	SOUTH INVERT	NORTH INVERT
D4	69.53 m	68.38 m
D5	63.36 m	63.11 m
D6	63.01 m	SW INV. = 62.04 m
OUTLET		62.86 m

KEY PLAN

SCALE: 1:500

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MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

SCALE: 0 1:500 25 50 Meters

REV.	DATE	REVISION	DRAWN
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DRAINAGE

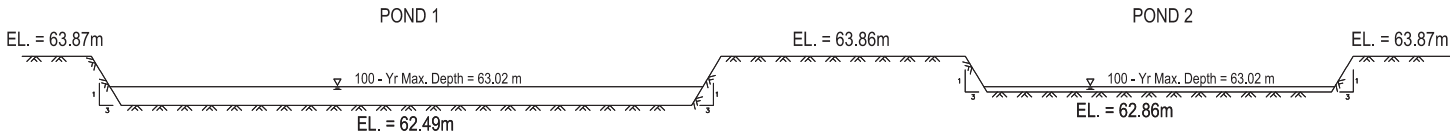
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE

CLEARBROOK INTERCHANGE

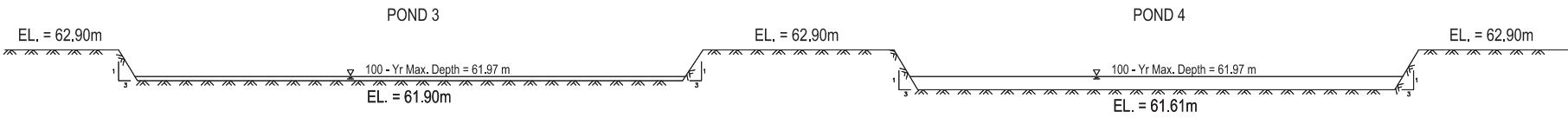
NORTH STORM MAINS

DESIGNED: KETH DOOSHIEN	DATE: 2018-03-02
QUALITY CONTROL: MATT HACKETT	DATE: 2018-03-02
REVIEWED: MATT HACKETT	DATE: 2018-03-02
DRAWN: KETH DOOSHIEN	DATE: 2018-03-02

FILE NUMBER: 987654	PROJECT NUMBER: 12345	REV: 1	DRAWING NUMBER: R1-730-704	----
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SECTION A - A



SECTION B - B



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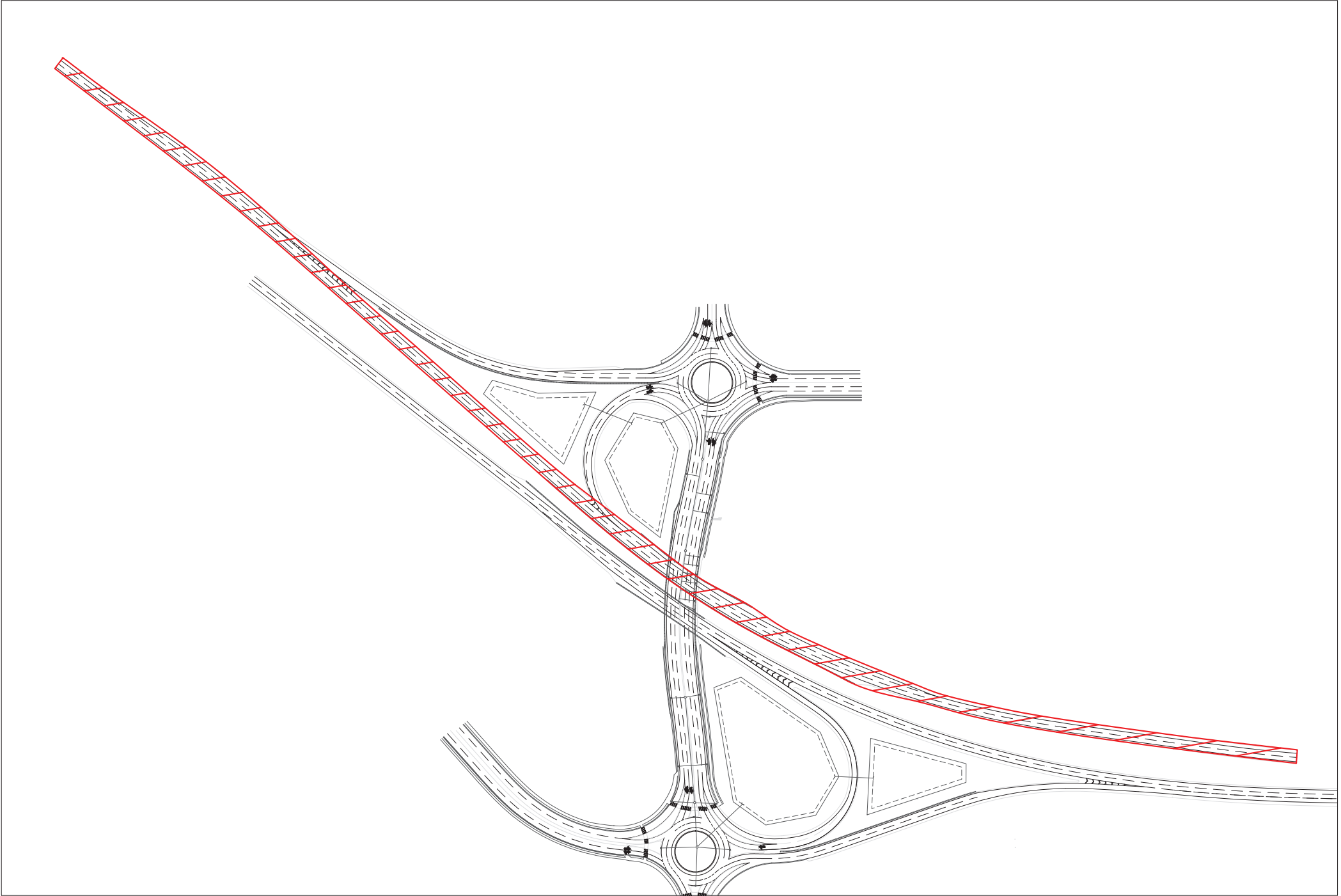


BRITISH COLUMBIA
MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



SCALE			
REV.	DATE	REVISION	DRAWN
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POND SECTIONS			
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE			
CLEARBROOK INTERCHANGE			
DESIGNED BY <u>KETH DOUGLAS</u>		DATE <u>2015-03-02</u>	
QUALITY CONTROL BY <u>MATT HACKETT</u>		DATE <u>2015-03-02</u>	
REVIEWED BY <u>MATT HACKETT</u>		DATE <u>2015-03-02</u>	
DRAWN BY <u>KETH DOUGLAS</u>		DATE <u>2015-03-02</u>	
DATE <u>2015-03-02</u>	FILE NUMBER <u>987654</u>	PROJECT NUMBER <u>12345</u>	REVISION <u>1</u>
		DRAWING NUMBER <u>R1-730-705</u>	----



- PHASE 1**
- CLEAR ORGANICS FOR NEW HIGHWAY (38 DAYS)
 - PLACE AND COMPACT SUBBASE AND BASE (21 DAYS)



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AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



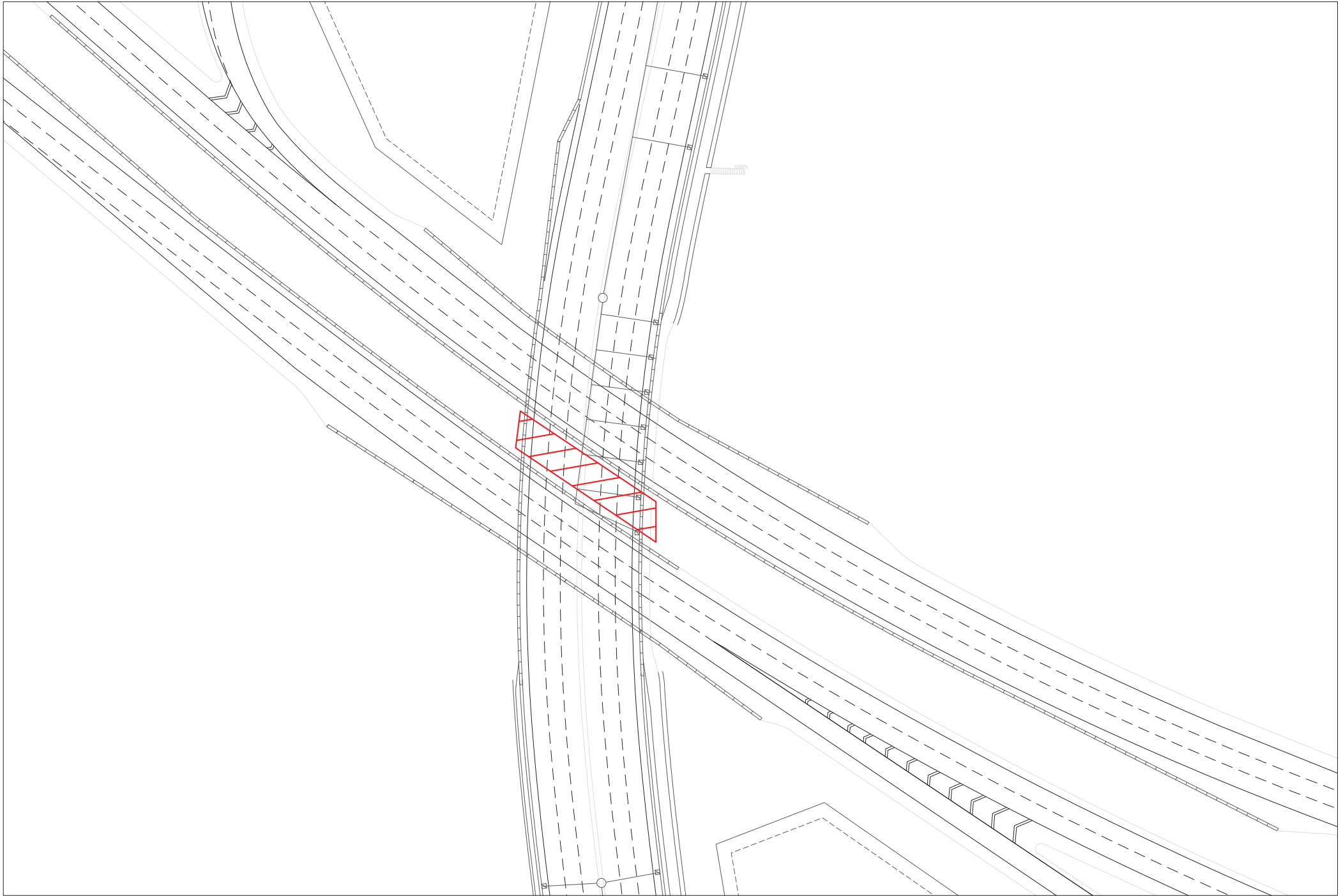
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CONSTRUCTION PHASING
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
PHASE 1 - BEGIN HIGHWAY No. 1 RELOCATION

DESIGNED <u>KETH DOUGHERN</u> DATE <u>2018-03-02</u>	QUALITY CONTROL <u>MATT HACKETT</u> DATE <u>2018-03-02</u>
REVIEWED <u>MATT HACKETT</u> DATE <u>2018-03-02</u>	DRAWN <u>KETH DOUGHERN</u> DATE <u>2018-03-02</u>

DATE <u>2018-03-02</u>	FILE NUMBER <u>987654</u>	PROJECT NUMBER <u>12345</u>	REV <u>1</u>	DRAWING NUMBER <u>R1-730-1101</u>	----
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- PHASE 2**
- DRIVE PILES (3 DAYS)
 - CAST FOOTING (5 DAYS)
 - PLACE COLUMNS AND GIRDERS (3 DAYS)



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AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



SCALE01: 5002550Meters

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DESIGNED
KETH DOOSHEEN
DATE 2018-09-02

QUALITY CONTROL
MATT HACKETT
DATE 2018-08-06

REVIEWED
MATT HACKETT
DATE 2018-08-06

DRAWN
KETH DOOSHEEN
DATE 2018-09-02

SEND R DESIGNER

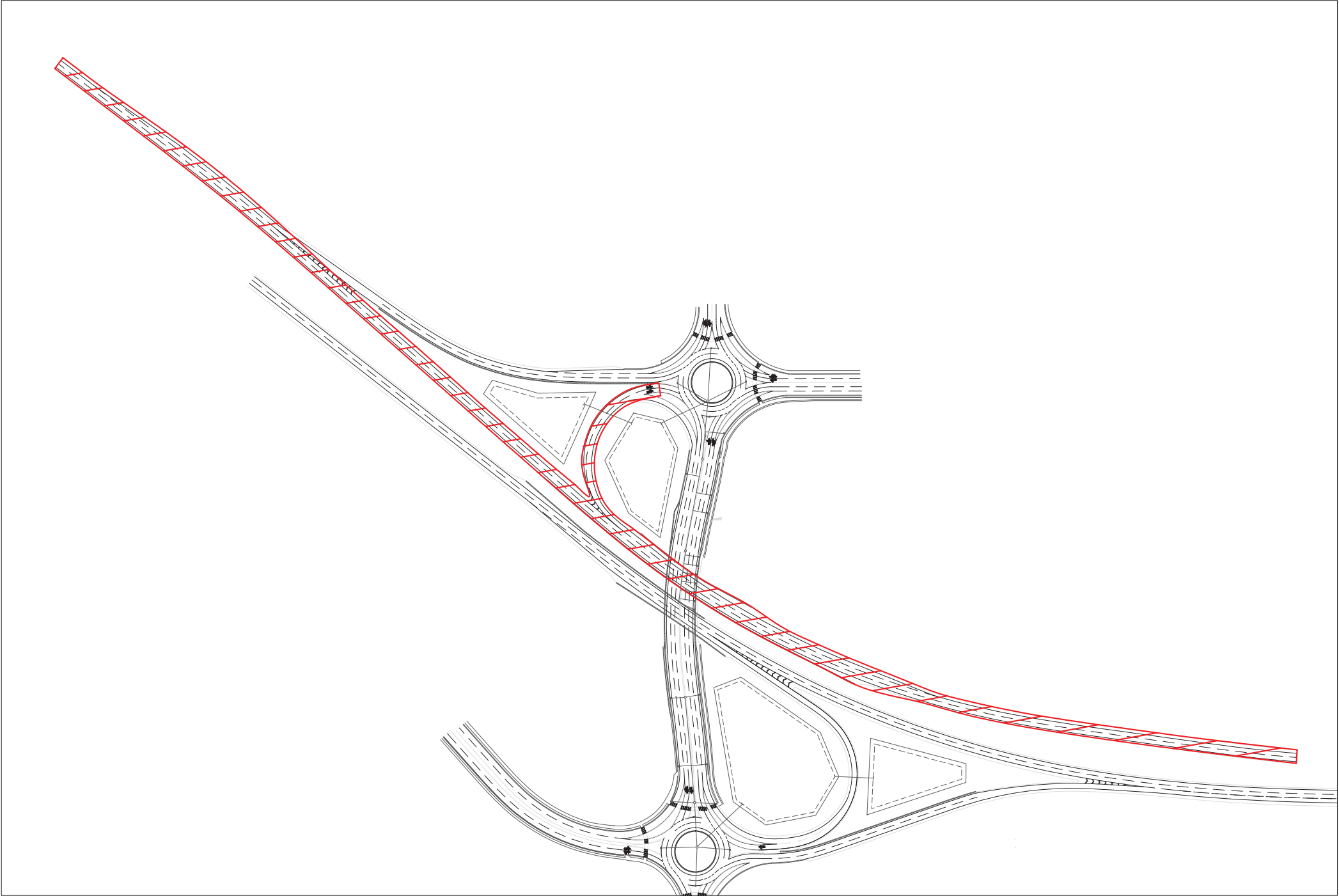
DATE2018-09-02

FILE NUMBER
987654

PROJECT NUMBER
12345

REV
1

DRAWING NUMBER
R1-730-1102



PHASE 3

- CLEAR ORGANICS FOR OFF RAMP (4 DAYS)
- PLACE AND COMPACT SUBBASE AND BASE (3 DAYS)
- PAVE BASE ASPHALT ON OFF RAMP AND TCH (5 DAYS)
- PAVE TCH AND OFF RAMP SURFACE (1 DAY)



MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

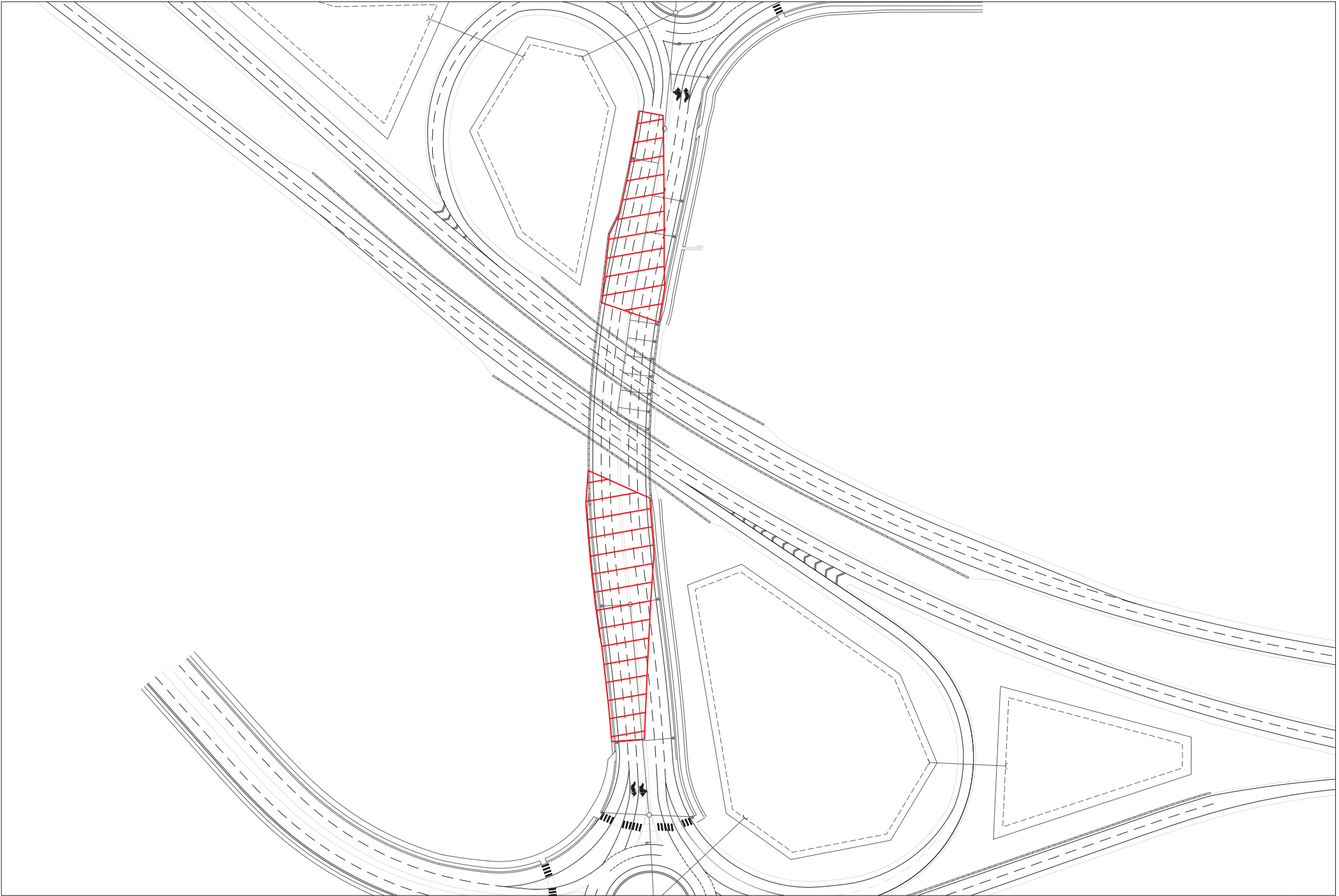


SCALE 0 1: 2000 100 200 Meters

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CONSTRUCTION PHASING
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
PHASE 3 - FINISH HIGHWAY No. 1 RELOCATION

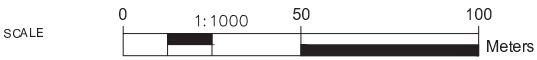
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QUALITY CONTROL	MATT HACKETT	DATE	2018-03-02
REVIEWED	MATT HACKETT	DATE	2018-03-02
DRAWN	KETH DOUGHERTY	DATE	2018-03-02
FILE NUMBER	987654	PROJECT NUMBER	12345
REVISION	1	DRAWING NUMBER	R1-730-1103



- PHASE 4**
- BUILD ABUTMENT AND WING WALLS (35 DAYS)
 - FILL BRIDGE APPROACHES (50 DAYS)

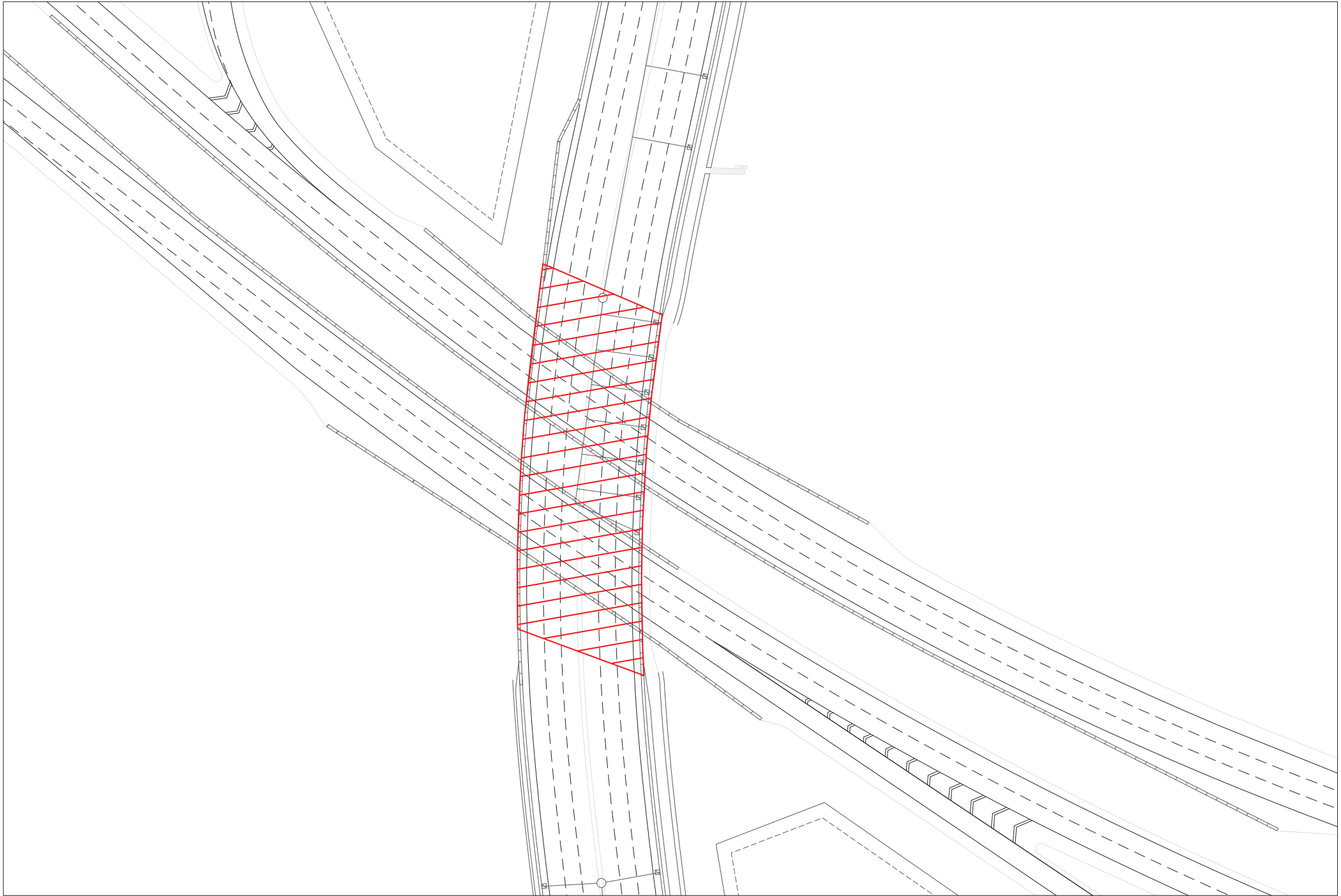


MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



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CONSTRUCTION PHASING			
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE			
CLEARBROOK INTERCHANGE			
PHASE 4 - CONSTRUCT ABUTMENTS AND BRIDGE APPROACHES			
DESIGNED BY <u>KETH DOUGHERN</u> DATE <u>2018-03-02</u>		QUALITY CONTROL BY <u>MATT HACKETT</u> DATE <u>2018-03-02</u>	
REVIEWED BY <u>MATT HACKETT</u> DATE <u>2018-03-02</u>		DRAWN BY <u>KETH DOUGHERN</u> DATE <u>2018-03-02</u>	
DATE <u>2018-03-02</u>	FILE NUMBER <u>987654</u>	PROJECT NUMBER <u>12345</u>	REVISION <u>1</u> DRAWING NUMBER <u>R1-730-1104</u>



PHASE 5

- PLACE BRIDGE GIRDERS (1 DAY)
- FORM AND POUR BRIDGE DECK (10 DAYS)
- ADD MISCELLANEOUS ITEMS (RAILS, SIDEWALKS, ETC.) (10 DAYS)
- PAVE BRIDGE DECK AND APPROACHES (3 DAYS)



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MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



SCALE01: 5002550Meters

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CONSTRUCTION PHASING

HIGHWAY No. 1 - CLEARBROOK INTERCHANGE

CLEARBROOK INTERCHANGE

PHASE 5 - CONSTRUCT BRIDGE DECK

DESIGNED
KETH DOUGLAS
DATE 2018-03-02

QUALITY CONTROL
MATT HACKETT
DATE 2018-03-02

REVIEWED
MATT HACKETT
DATE 2018-03-02

DRAWN
KETH DOUGLAS
DATE 2018-03-02

SEND TO DESIGNER

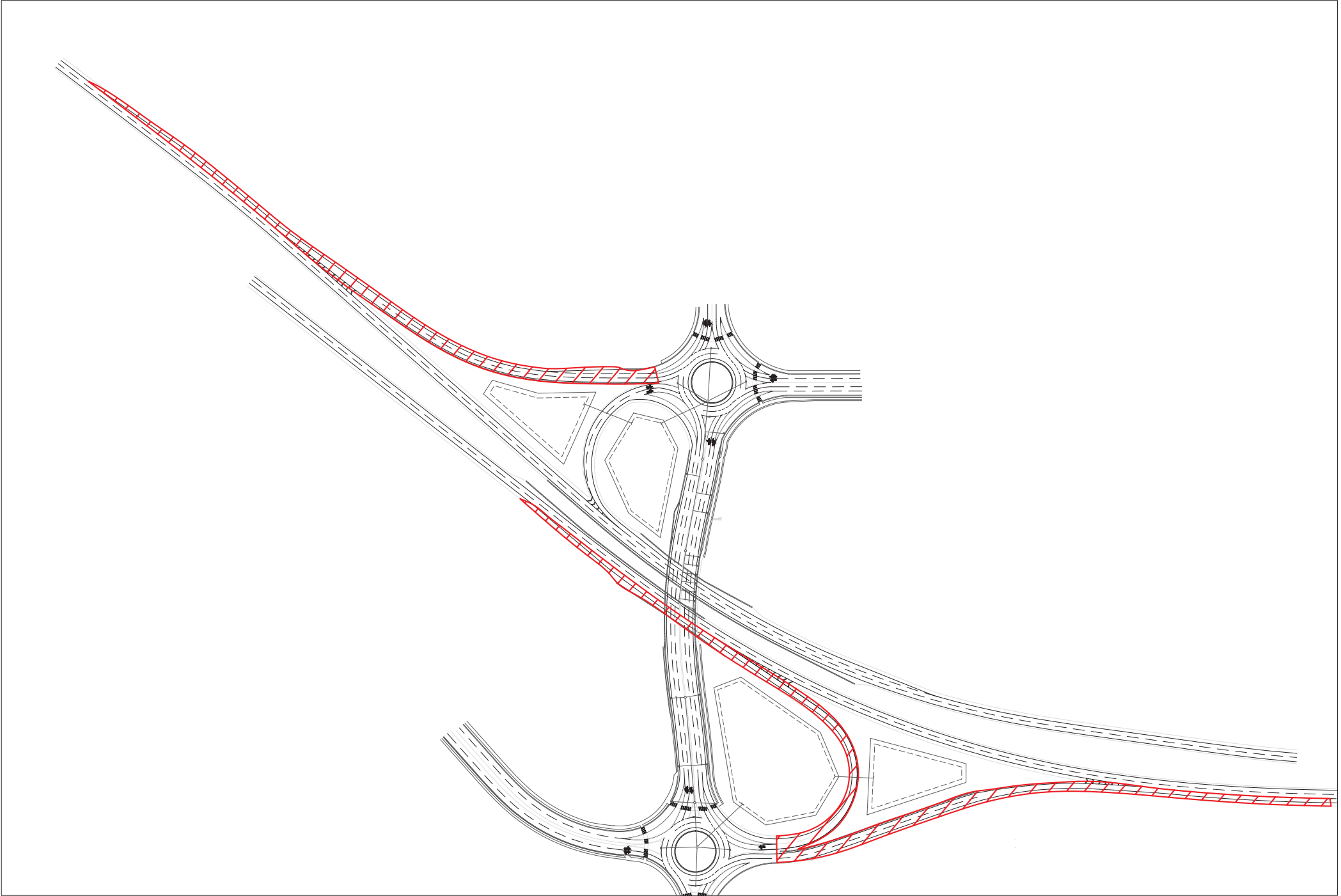
DATE 2018-03-02

FILE NUMBER
987654

PROJECT NUMBER
12345

REV
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DRAWING NUMBER
R1-730-1105



PHASE 6

- CLEAR ORGANICS FOR RAMP (15 DAYS)
- PLACE AND COMPACT SUBBASE AND BASE (7 DAYS)
- INSTALL CULVERTS (1 DAY)
- PAVE RAMP (3 DAYS)



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AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

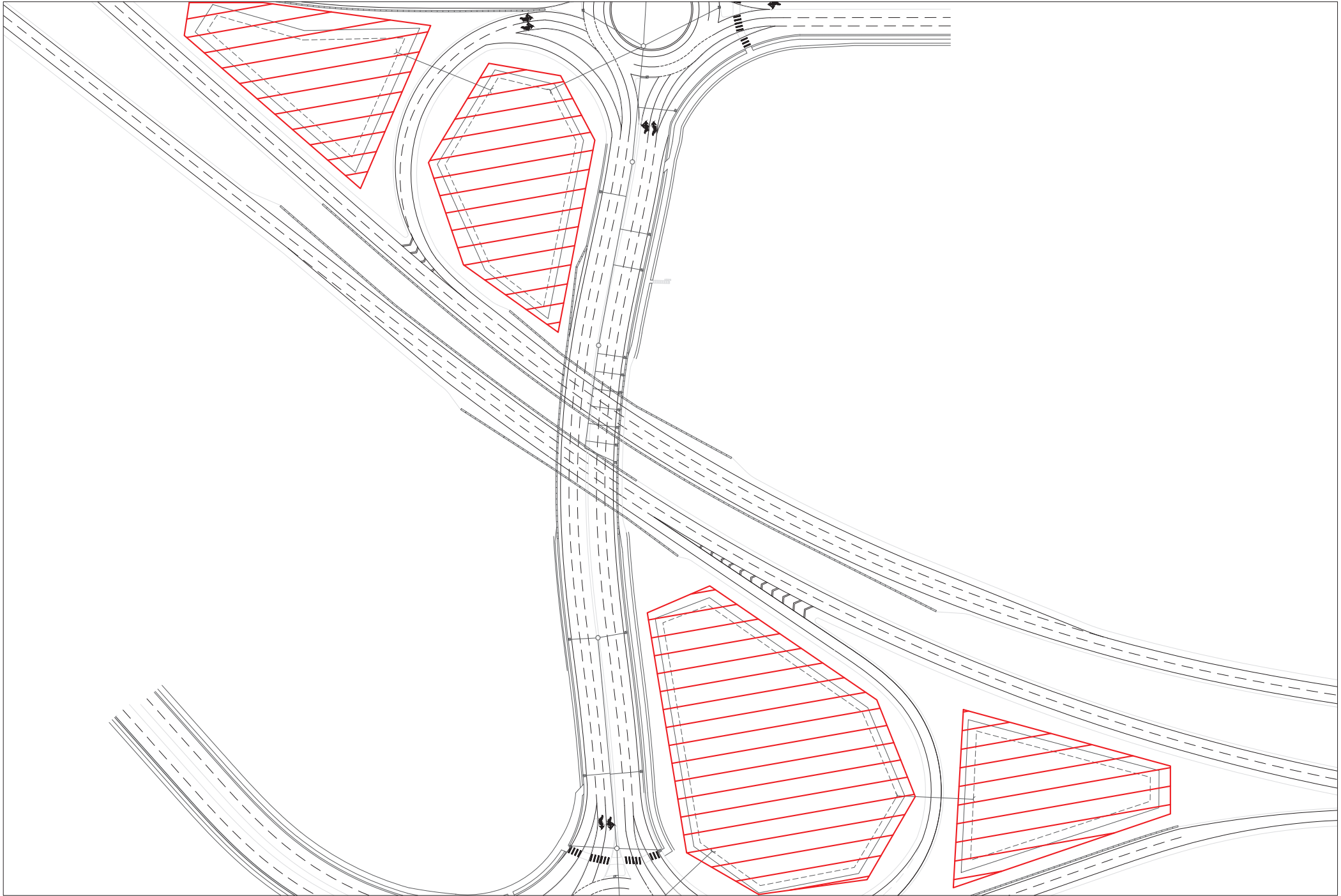


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CONSTRUCTION PHASING
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
PHASE 6 - CONSTRUCTION AND OFF RAMP

DESIGNED	KETH DOUGLAS	DATE	2015-03-02
QUALITY CONTROL	MATT HACKETT	DATE	2015-03-02
REVIEWED	MATT HACKETT	DATE	2015-03-02
DRAWN	KETH DOUGLAS	DATE	2015-03-02
DATE	2015-03-02	FILE NUMBER	987654
PROJECT NUMBER	12345	REVISION	1
DRAWING NUMBER	R1-730-1106	DATE	----



PHASE 7

•EXCAVATE PONDS

(59 DAYS)

•FILL PONDS WITH SAND

(7 DAYS)

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SCALE01:100050100Meters

REV.	DATE	REVISION	DRAWN
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BRITISH COLUMBIA

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SOUTH COAST REGION

HIGHWAY ENGINEERING

CONSTRUCTION PHASING

HIGHWAY No. 1 - CLEARBROOK INTERCHANGE

CLEARBROOK INTERCHANGE

PHASE 7 - CONSTRUCT PONDS

DESIGNED

KETH DOUGLAS

DATE

2018-03-02

QUALITY CONTROL

MATT HACKETT

DATE

2018-03-02

REVIEWED

MATT HACKETT

DATE

2018-03-02

DRAWN

KETH DOUGLAS

DATE

2018-03-02

SEND TO DESIGNER

DATE

2018-03-02

FILE NUMBER

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PROJECT NUMBER

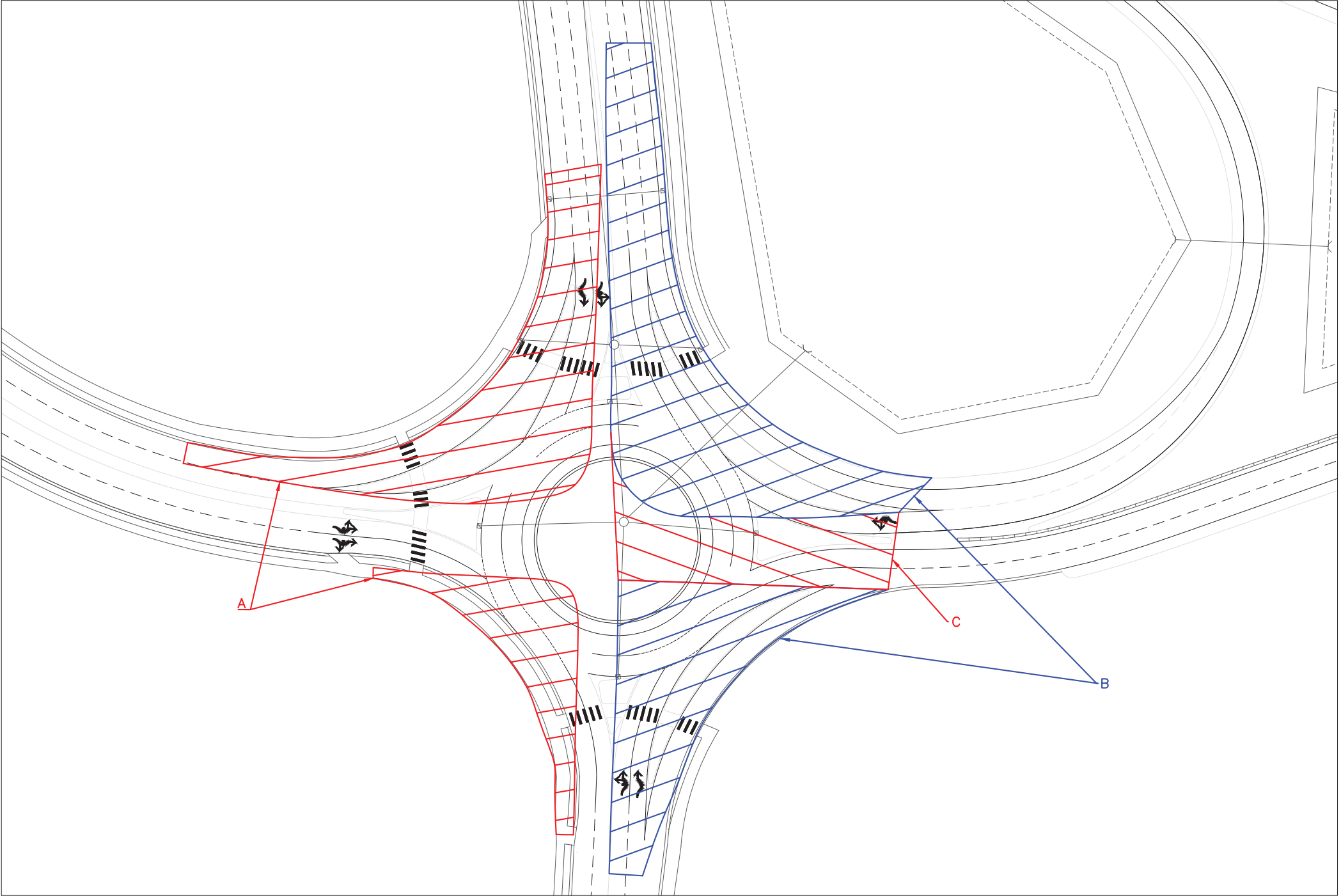
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DRAWING NUMBER

R1-730-1107



PHASE 8

- A: PAVE TO WEST ROUNDABOUT LIMITS (21 DAYS)
- B: PAVE NE & SE CORNERS (18 DAYS)
- C: FINISH EAST SIDE OF ROUNDABOUT (1 DAY)



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SCALE

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Meters

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DESIGNED
KETH DOUGHERN
DATE
2018-03-02

QUALITY CONTROL
MATT HACKETT
DATE
2018-03-02

REVIEWED
MATT HACKETT
DATE
2018-03-02

DRAWN
KETH DOUGHERN
DATE
2018-03-02

SEND TO DESIGNER

DATE
2018-03-02

FILE NUMBER
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PROJECT NUMBER
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DRAWING NUMBER
R1-730-1108



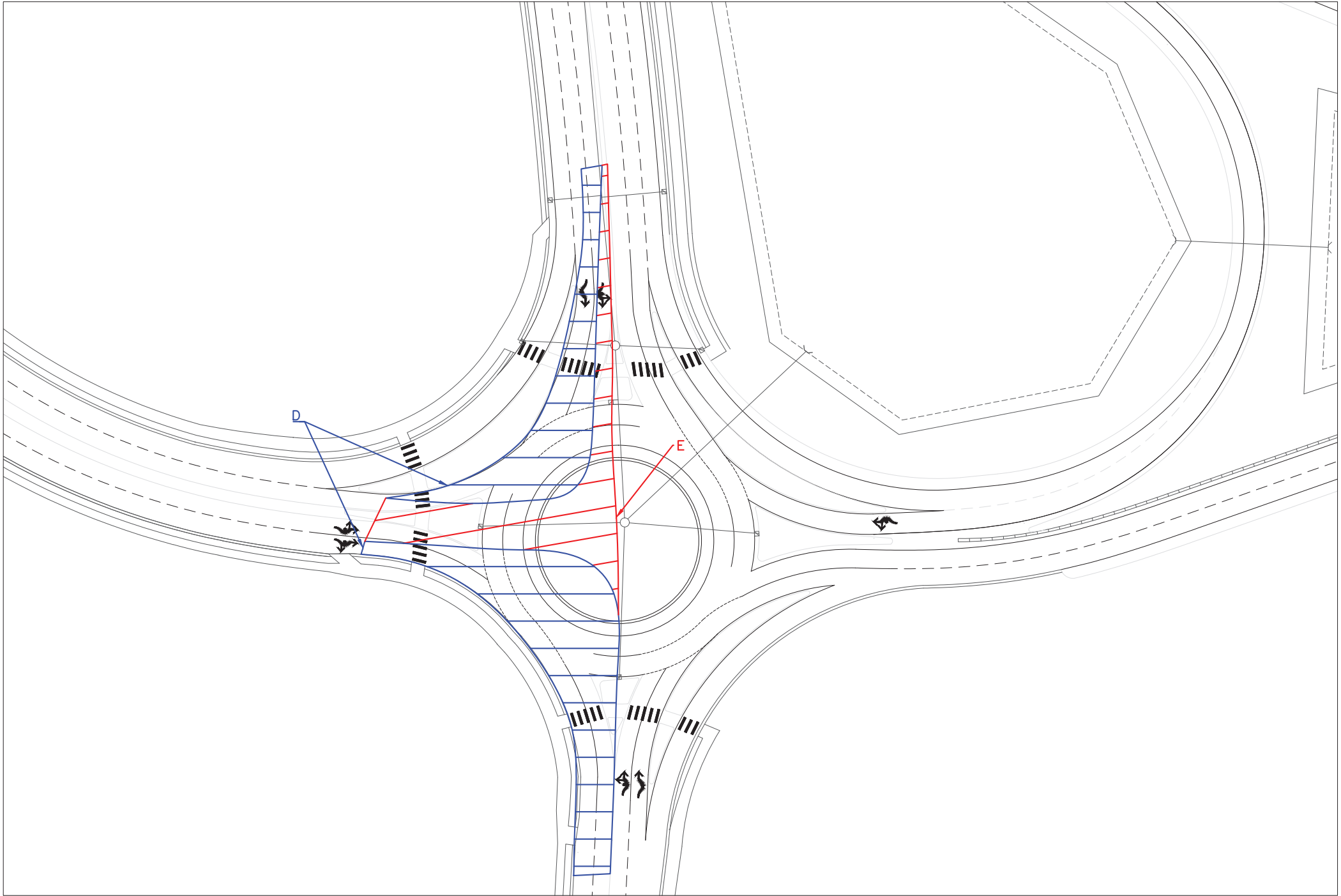
MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

CONSTRUCTION PHASING

HIGHWAY No. 1 - CLEARBROOK INTERCHANGE

CLEARBROOK INTERCHANGE

PHASE 8 - CONSTRUCT ROUNDABOUTS - SOUTH ROUNDABOUT PART 1



PHASE 8

- D: PAVE NW & SW CORNERS (2 DAYS)
- E: FINISH WEST SIDE OF ROUNDABOUT (1 DAYS)
- F: ADDITIONAL ITEMS (SIDEWALK, CURB, ETC.) (15 DAY)



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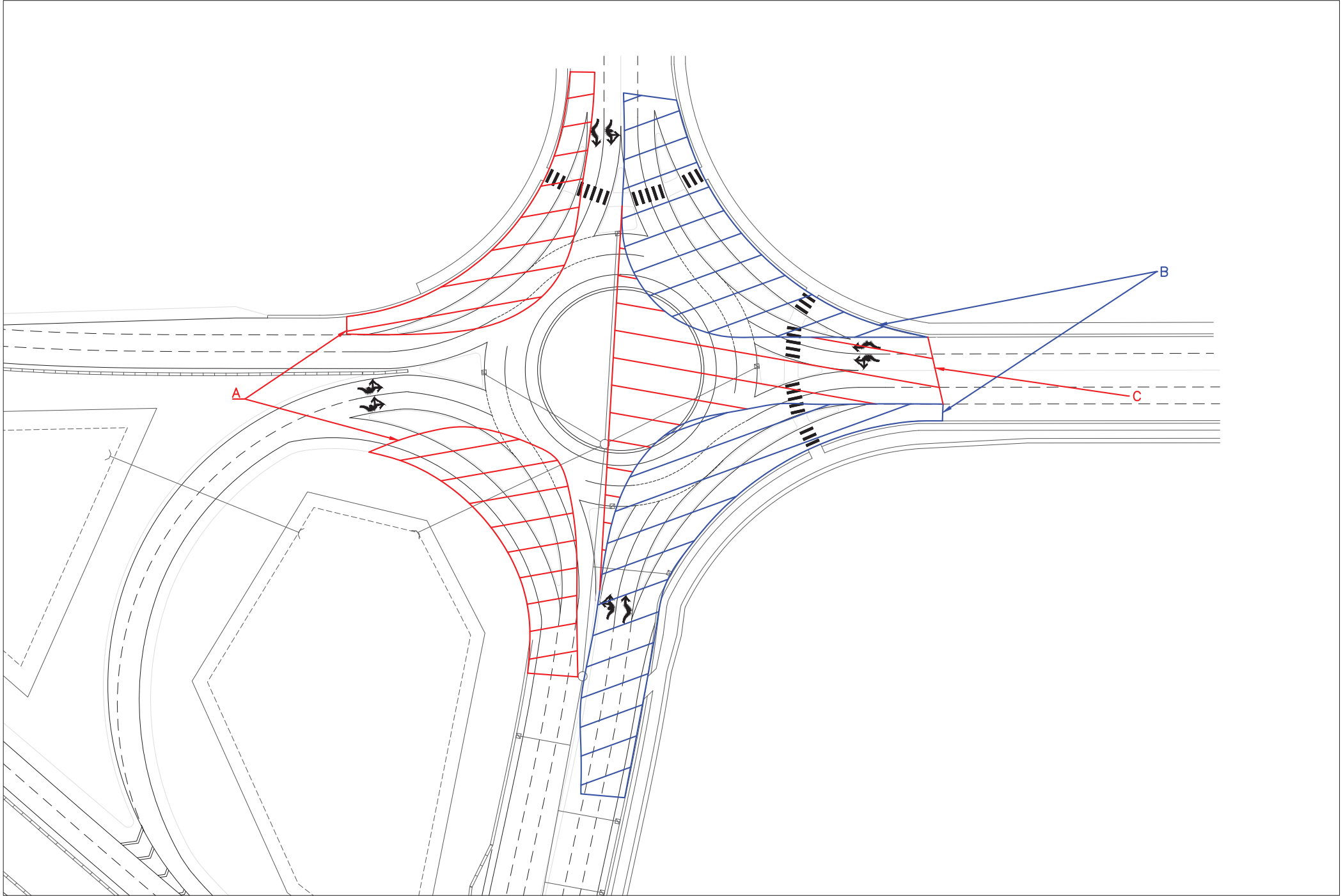
MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



SCALE 0 1: 500 25 50 Meters

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CONSTRUCTION PHASING			
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE			
CLEARBROOK INTERCHANGE			
PHASE 8 - CONSTRUCT ROUNDABOUTS - SOUTH ROUNDABOUT PART 2			
DESIGNED BY <u>KETH DOUGLAS</u> DATE <u>2018-03-02</u>		QUALITY CONTROL BY <u>MATT HACKETT</u> DATE <u>2018-03-02</u>	
REVIEWED BY <u>MATT HACKETT</u> DATE <u>2018-03-02</u>		DRAWN BY <u>KETH DOUGLAS</u> DATE <u>2018-03-02</u>	
DATE <u>2018-03-02</u>	FILE NUMBER <u>987654</u>	PROJECT NUMBER <u>12345</u>	REVISION <u>1</u> DRAWING NUMBER <u>R1-730-1109</u>



PHASE 8

- A: PAVE TO WEST ROUNDABOUT LIMITS (21 DAYS)
- B: PAVE NE & SE CORNERS (18 DAYS)
- C: FINISH EAST SIDE OF ROUNDABOUT (1 DAY)



MINISTRY OF TRANSPORTATION
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SOUTH COAST REGION
HIGHWAY ENGINEERING

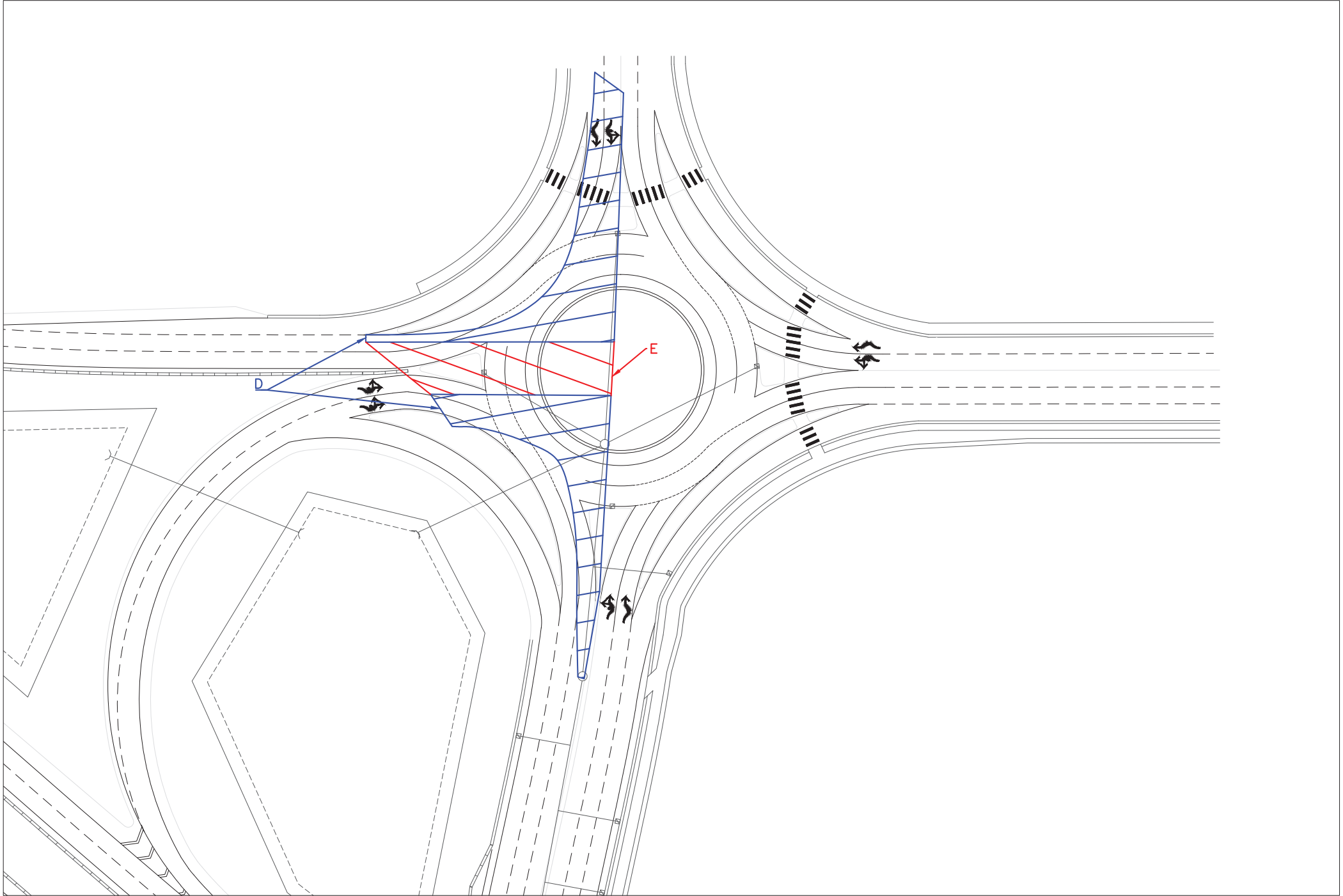


SCALE 0 1:500 25 50 Meters

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CONSTRUCTION PHASING
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
PHASE 8 - CONSTRUCT ROUNDABOUTS - NORTH ROUNDABOUT PART 1

DESIGNED	KETH DOUGLAS	DATE	2018-03-02
QUALITY CONTROL	MATT HACKETT	DATE	2018-03-02
REVIEWED	MATT HACKETT	DATE	2018-03-02
DRAWN	KETH DOUGLAS	DATE	2018-03-02
FILE NUMBER	987654	PROJECT NUMBER	12345
REVISION	1	DRAWING NUMBER	R1-730-1110



PHASE 8

- D: PAVE NW & SW CORNERS (2 DAYS)
- E: FINISH WEST SIDE OF ROUNDABOUT (1 DAYS)
- F: ADDITIONAL ITEMS (SIDEWALK, CURB, ETC.) (15 DAY)



MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING

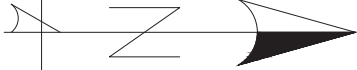
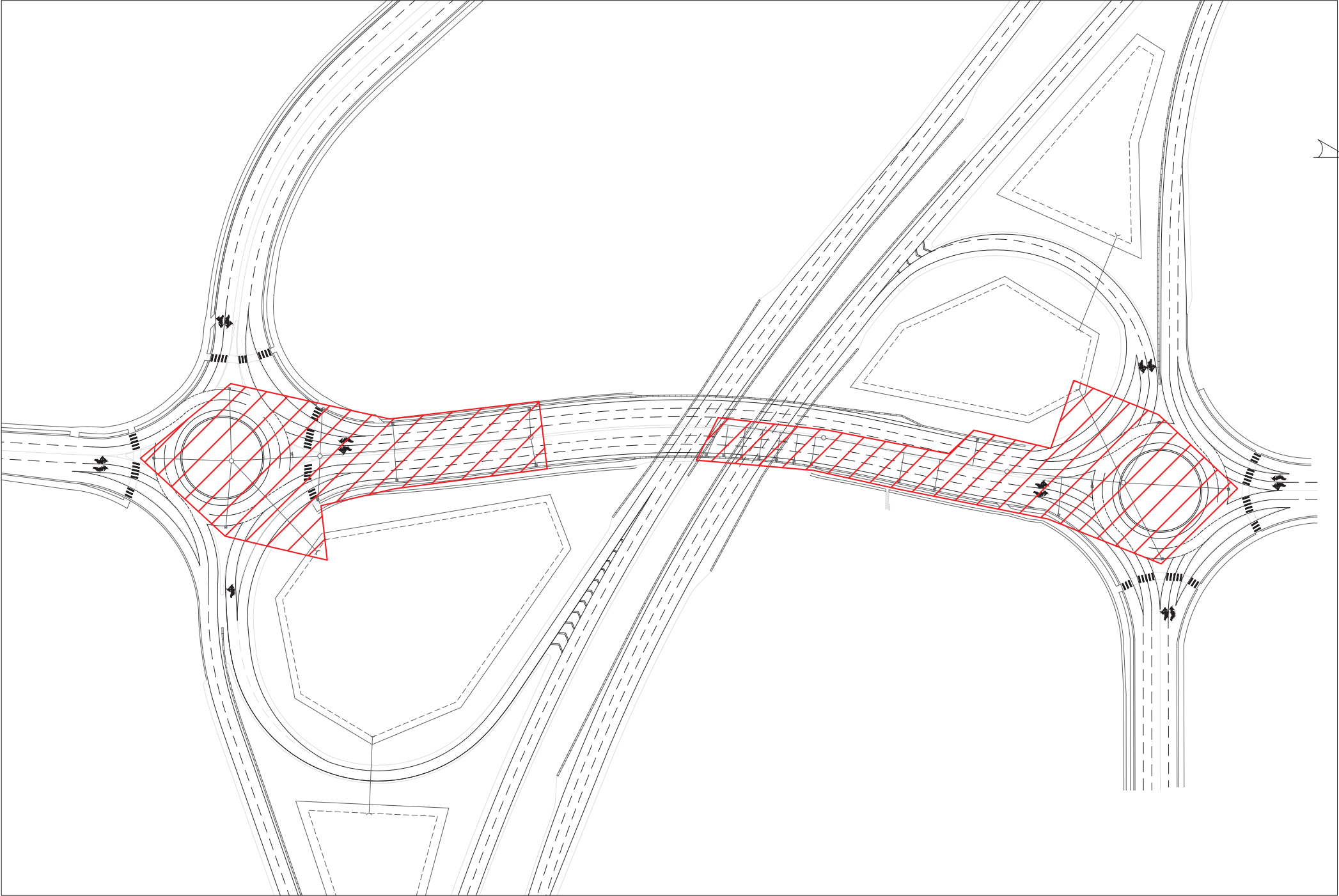


SCALE 0 1: 500 25 50 Meters

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CONSTRUCTION PHASING
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE
CLEARBROOK INTERCHANGE
PHASE 8 - CONSTRUCT ROUNDABOUTS - NORTH ROUNDABOUT PART 2

DESIGNED	KETH DOUGLAS	DATE	2018-03-02
QUALITY CONTROL	MATT HACKETT	DATE	2018-03-02
REVISED	MATT HACKETT	DATE	2018-03-02
DRAWN	KETH DOUGLAS	DATE	2018-03-02
FILE NUMBER	987654	PROJECT NUMBER	12345
REVISION	1	DRAWING NUMBER	R1-730-1111



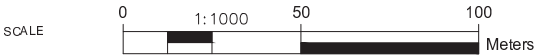
- PHASE 9
- INSTALL STORM MAINS UNDER APPROACHES (38 DAYS)
 - INSTALL STORM MAINS UNDER ROUNDABOUTS (21 DAYS)



Alloy Consulting
Doing it Right

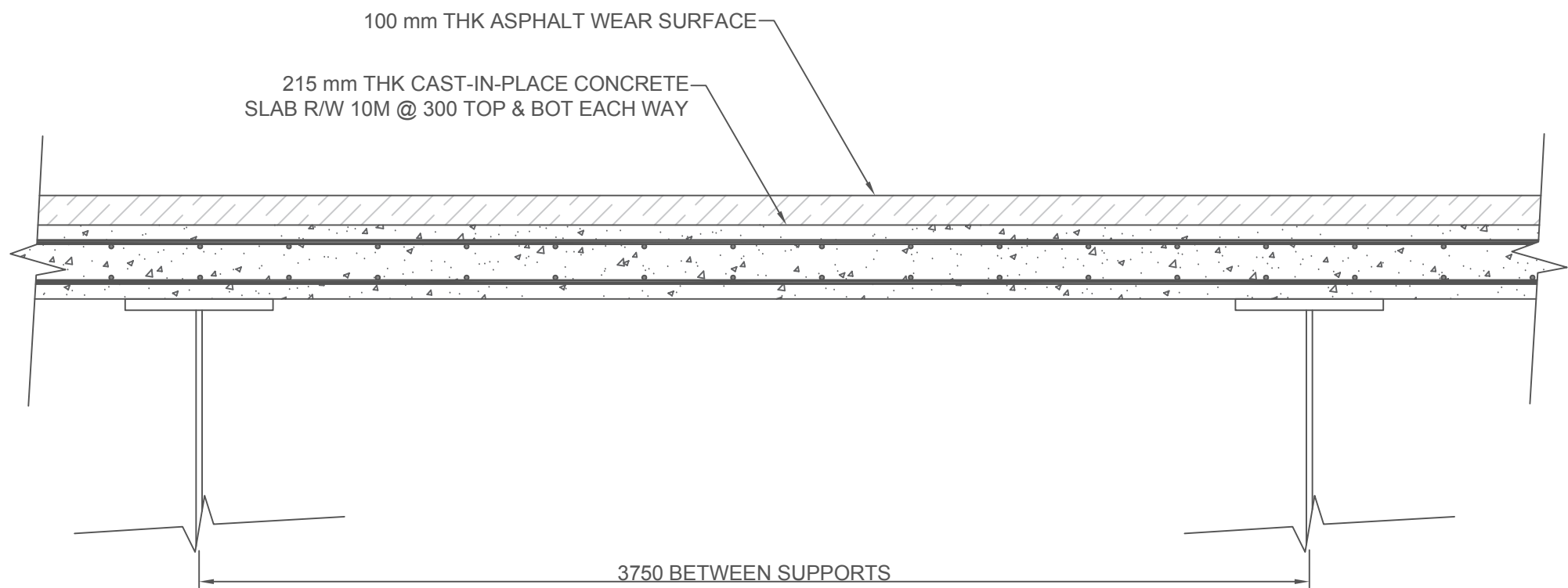


MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING



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CONSTRUCTION PHASING			
HIGHWAY No. 1 - CLEARBROOK INTERCHANGE			
CLEARBROOK INTERCHANGE			
PHASE 9 - INSTALL STORM MAINS			
DESIGNED BY <u>KETH DOUGHERN</u> DATE <u>2018-03-02</u>		QUALITY CONTROL BY <u>MATT HACKETT</u> DATE <u>2018-03-02</u>	
REVIEWED BY <u>MATT HACKETT</u> DATE <u>2018-03-02</u>		DRAWN BY <u>KETH DOUGHERN</u> DATE <u>2018-03-02</u>	
DATE <u>2018-03-02</u>	FILE NUMBER <u>987654</u>	PROJECT NUMBER <u>12345</u>	REV. <u>1</u> DRAWING NUMBER <u>R1-730-1112</u>



A CONCRETE BRIDGE DECK
SCALE: 1:20

NOTES:

- CONCRETE BRIDGE DECK DESIGNED IN ACCORDANCE WITH CSA S6-06 CLAUSE 8.18
- CONCRETE SHALL HAVE 28 DAY COMPRESSIVE STRENGTH $f_c = 30$ MPa
- REINFORCEMENT SHALL BE TYPE 400R WITH YIELD STRENGTH $f_y = 400$ MPa

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CLEARBROOK INTERCHANGE
IMPROVEMENT PROJECT

BRIDGE DESIGN - Concrete Bridge Deck

REV.	DATE	REVISION	DRAWN

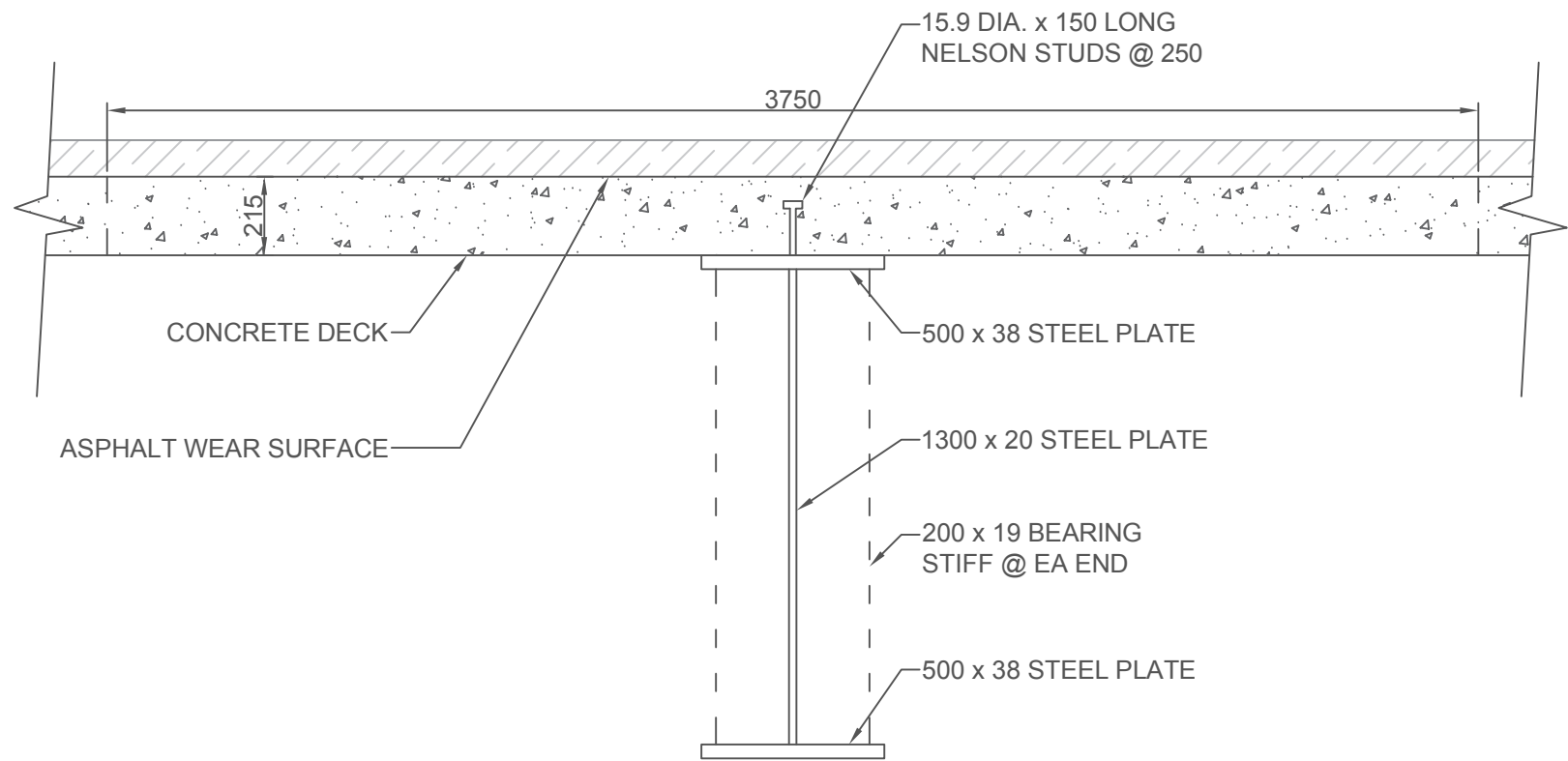
ENGINEER OF RECORD

DATE

SHEET 1 OF 4

SEAL

DESIGNED BY:	JACOB DEVOS	03/16/2015
QUALITY CONTROL BY:	KEITH DODGSHON	03/16/2015
REVIEWED BY:	LOGAN BROWN	03/16/2015
DRAWN BY:	JACOB DEVOS	03/16/2015
HWY DIST	REG	DRAWING NUMBER
1	1	S-001 0



A STEEL PLATE GIRDER
SCALE: 1:20

NOTES:

- STEEL PLATE GIRDER DESIGNED IN ACCORDANCE WITH CSA S6-06 SECTION 10
- STEEL SHALL HAVE YIELD STRENGTH $f_y = 300$ MPa

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REV.

DATE

REVISION

DRAWN

ENGINEER OF RECORD

DATE

SHEET 2 OF 4

DESIGNED BY: JACOB DEVOS03/16/2015

QUALITY CONTROL BY: KEITH DODGSHON03/16/2015

REVIEWED BY: LOGAN BROWN03/16/2015

DRAWN BY: JACOB DEVOS03/16/2015

HWY DIST1

REG1

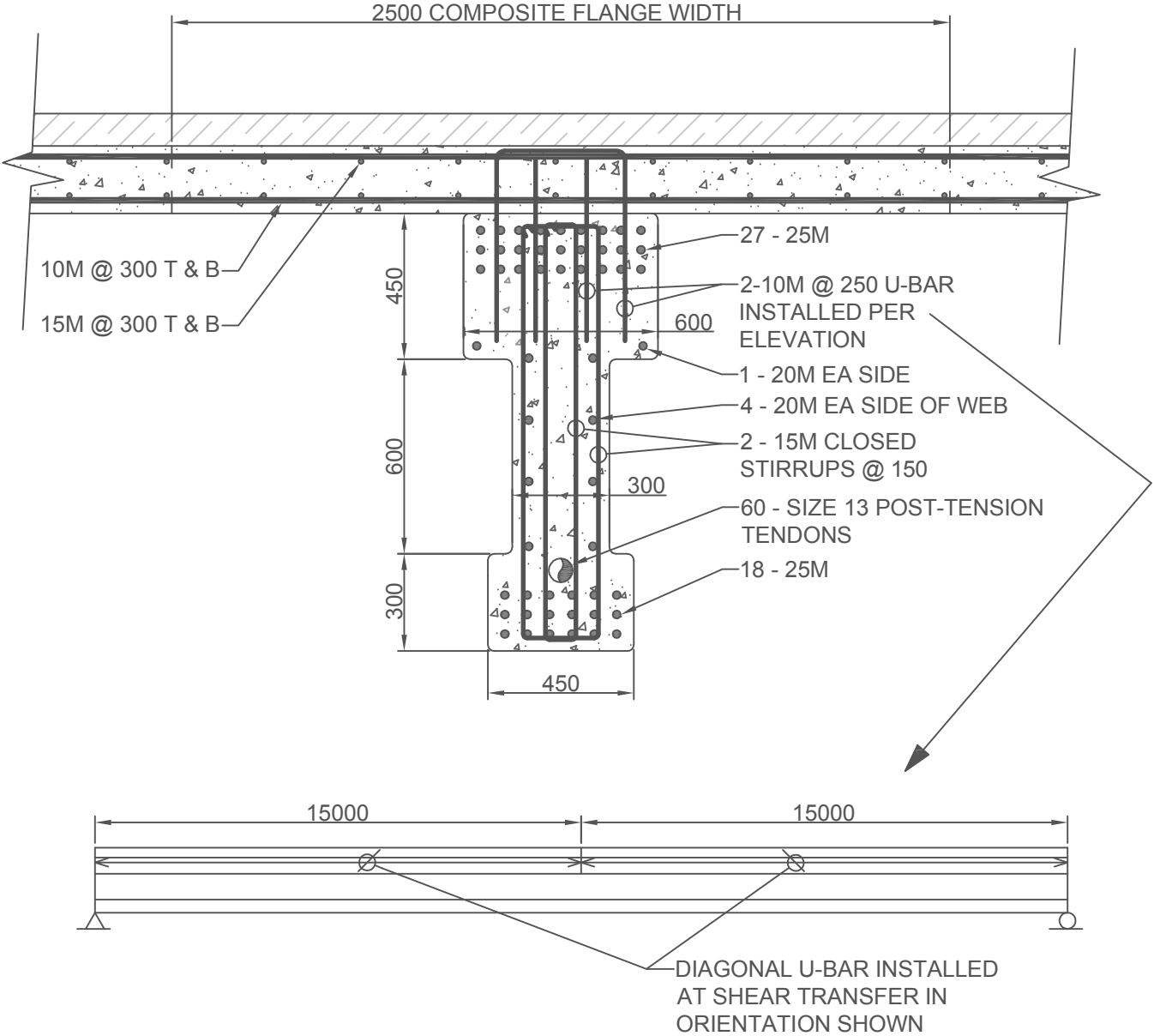
DRAWING NUMBER

S-0020

CLEARBROOK INTERCHANGE
IMPROVEMENT PROJECT

BRIDGE DESIGN - Steel Plate Girder

SEAL



A PRECAST CONCRETE I-BEAM
SCALE: 1:20 (ELEVATION: NTS)

NOTES:

- CONCRETE BRIDGE DECK DESIGNED IN ACCORDANCE WITH CSA S6-06 CLAUSE 8.18
- PRECAST CONCRETE I-BEAM SHALL HAVE 28 DAY COMPRESSIVE STRENGTH $f_c = 40 \text{ MPa}$
- CONCRETE BRIDGE DECK SHALL HAVE 28 DAY COMPRESSIVE STRENGTH $f_c = 30 \text{ MPa}$
- REINFORCEMENT SHALL BE TYPE 400R WITH YIELD STRENGTH $f_y = 400 \text{ MPa}$
- POST-TENSION TENDONS SHALL HAVE ULTIMATE STRENGTH $f_u = 1860 \text{ MPa}$

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**CLEARBROOK INTERCHANGE
IMPROVEMENT PROJECT**

BRIDGE DESIGN - Precast Concrete I-Beam

REV.	DATE	REVISION	DRAWN

ENGINEER OF RECORD

DATE

SHEET **3** OF **4**

DESIGNED BY: **JACOB DEVOS** 03/16/2015

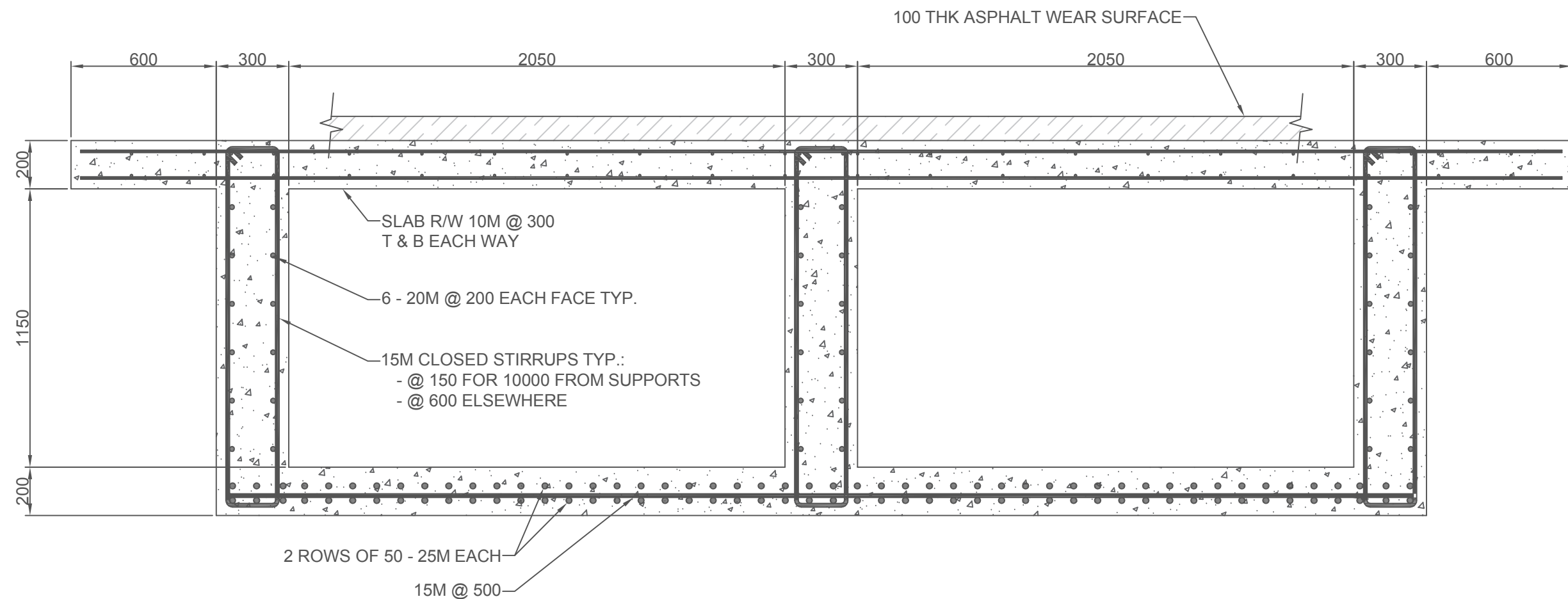
QUALITY CONTROL BY: **KEITH DODGSHON** 03/16/2015

REVIEWED BY: **LOGAN BROWN** 03/16/2015

DRAWN BY: **JACOB DEVOS** 03/16/2015

HWY DIST	REG	DRAWING NUMBER
1	1	S-003

SEAL



A PRECAST CONCRETE BOX GIRDER
SCALE: 1:20

- NOTES:
- CONCRETE BRIDGE DECK DESIGNED IN ACCORDANCE WITH CSA S6-06 CLAUSE 8.18
 - PRECAST CONCRETE BOX GIRDER SHALL HAVE 28 DAY COMPRESSIVE STRENGTH $f_c = 40 \text{ MPa}$
 - REINFORCEMENT SHALL BE TYPE 400R WITH YIELD STRENGTH $f_y = 400 \text{ MPa}$

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CLEARBROOK INTERCHANGE IMPROVEMENT PROJECT

BRIDGE DESIGN - Precast Concrete Box Girder

REV.	DATE	REVISION	DRAWN

ENGINEER OF RECORD
DATE

SHEET 4 OF 4

DESIGNED BY: JACOB DEVOS 03/16/2015

QUALITY CONTROL BY: KEITH DODGSHON 03/16/2015

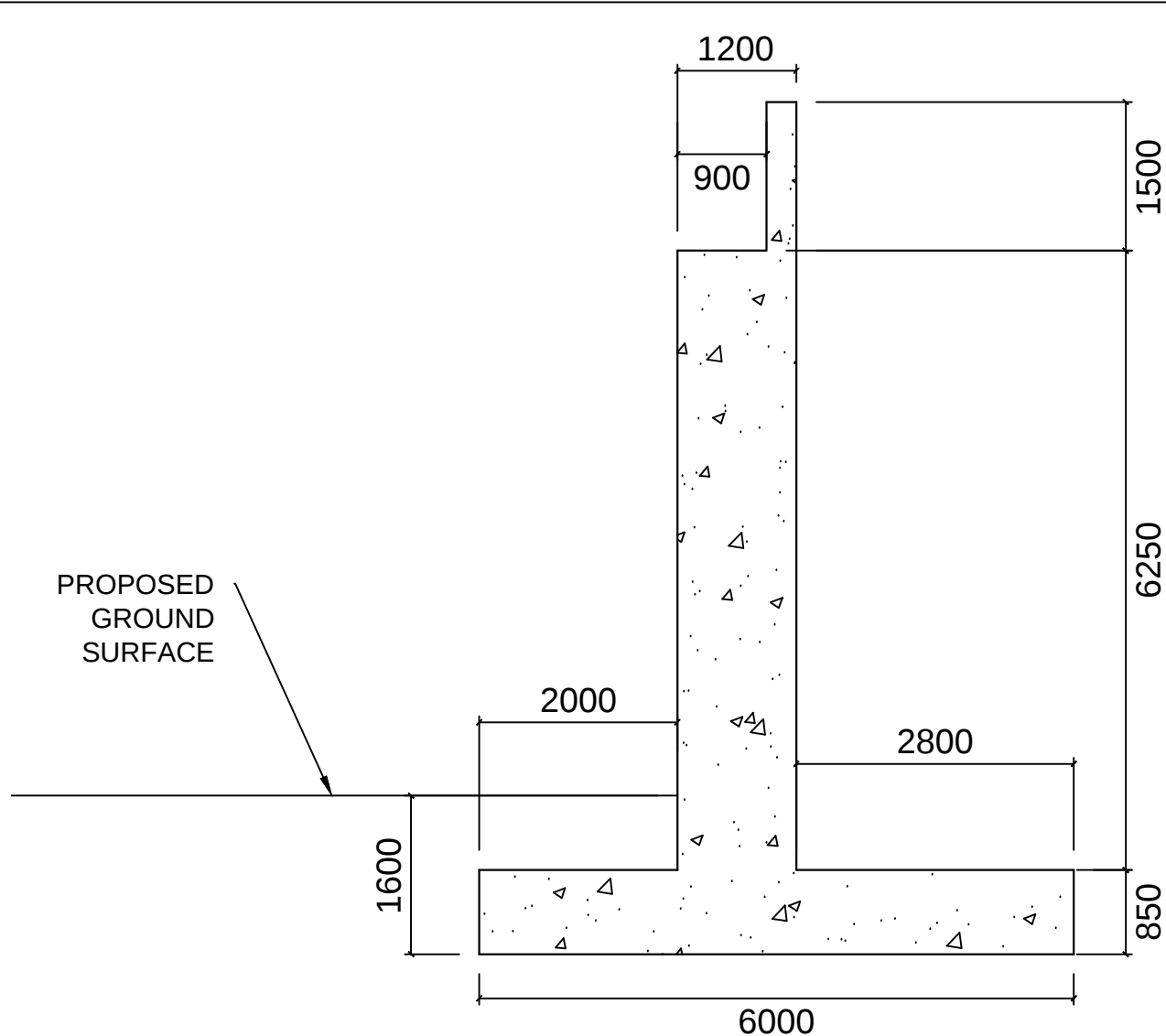
REVIEWED BY: LOGAN BROWN 03/16/2015

DRAWN BY: JACOB DEVOS 03/16/2015

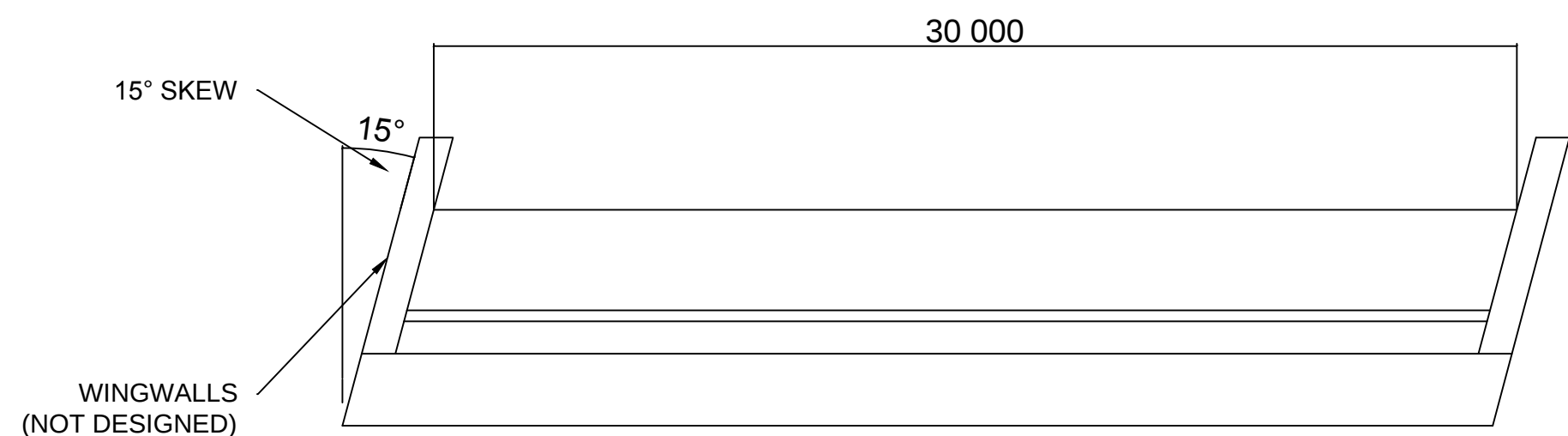
HWY DIST REG DRAWING NUMBER

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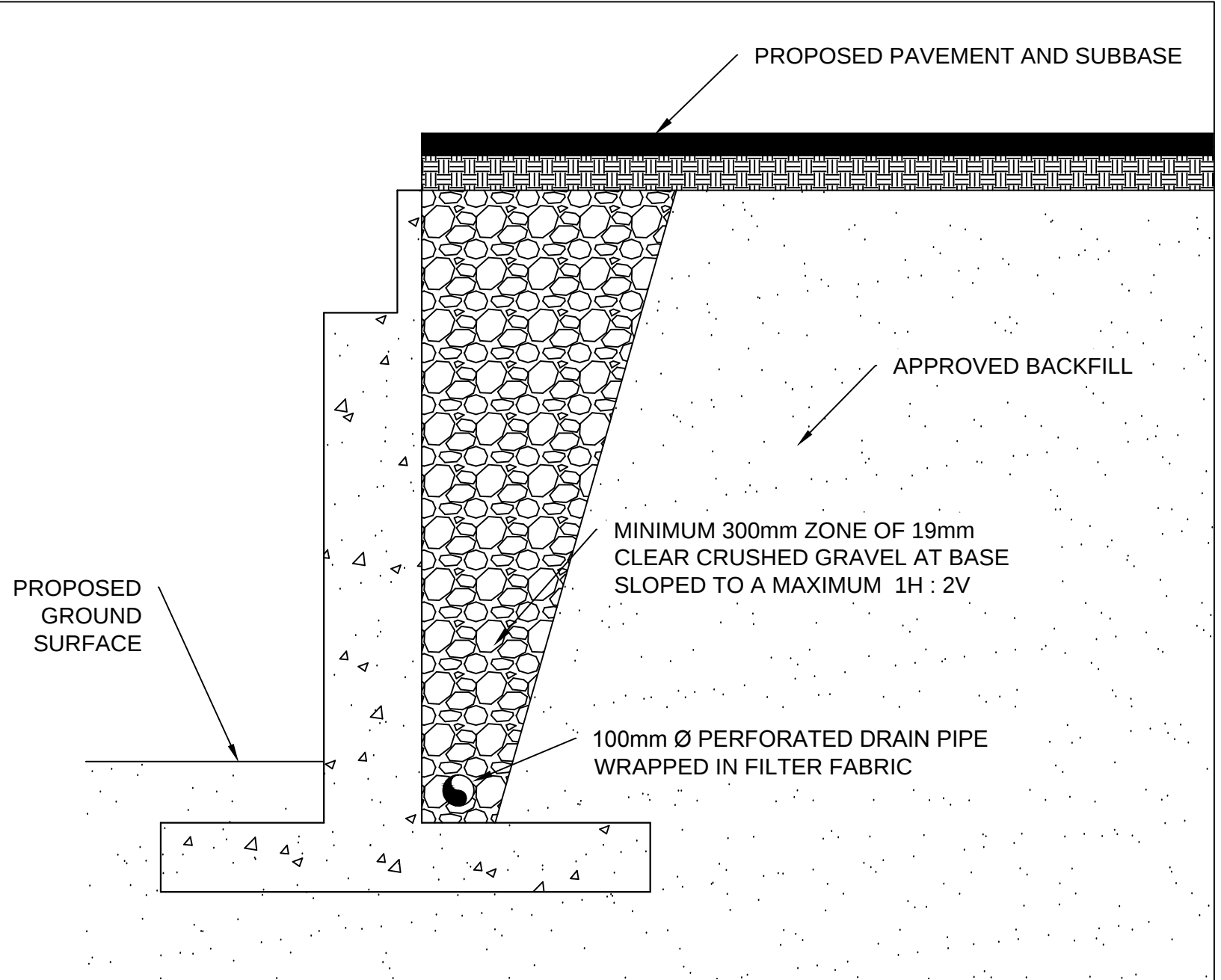
SEAL



DIMENSIONS
NTS



PLAN VIEW
NTS



TYPICAL SECTION
NTS

 Alloy Consulting Doing it Right				 BRITISH COLUMBIA				MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE SOUTH COAST REGION HIGHWAY ENGINEERING							
SCALE NTS								ABUTMENT DESIGN CLEARBROOK INTERCHANGE IMPROVEMENT PROJECT ABBOTSFORD BC							
REV.	DATE	REVISION		DRAWN		SENIOR DESIGNER				DESIGNED <u>JF</u>					
-	-	-		-		DATE 2015-03-02				QUALITY CONTROL					
-	-	-		-		FILE NUMBER 987654				REVIEWED					
-	-	-		-		PROJECT NUMBER 12345				DRAWN					
-	-	-		-		REG 1				DRAWING NUMBER AB - 0001					
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