

HORIZONTAL ALIGNMENT - RAMP A						
CURVE NO	DIRECTION	RADIUS	LENGTH	DESIGN SPEED	e (MAX)	e
1	L	600	93.68	115	8%	7.20%
2	L	152	115.42	65	8%	8.00%
3	R	228	204.522	80	8%	7.90%

HORIZONTAL ALIGNMENT - RAMP B						
CURVE NO	DIRECTION	RADIUS	LENGTH	DESIGN SPEED	e (MAX)	e
1	L	50	72.339	40	8%	8.00%
2	L	50	80.072	40	8%	8.00%
3	R	50	9.099	40	8%	8.00%

HORIZONTAL ALIGNMENT - RAMP C LINK						
CURVE NO	DIRECTION	RADIUS	LENGTH	DESIGN SPEED	e (MAX)	e
1	L	118	320.641	60	8%	8.00%

HORIZONTAL ALIGNMENT - RAMP C						
CURVE NO	DIRECTION	RADIUS	LENGTH	DESIGN SPEED	e (MAX)	e
1	R	160	110.381	70	8%	8.00%
2	R	65	107.804	45	8%	8.00%
3	L	130	109.704	60	8%	8.00%

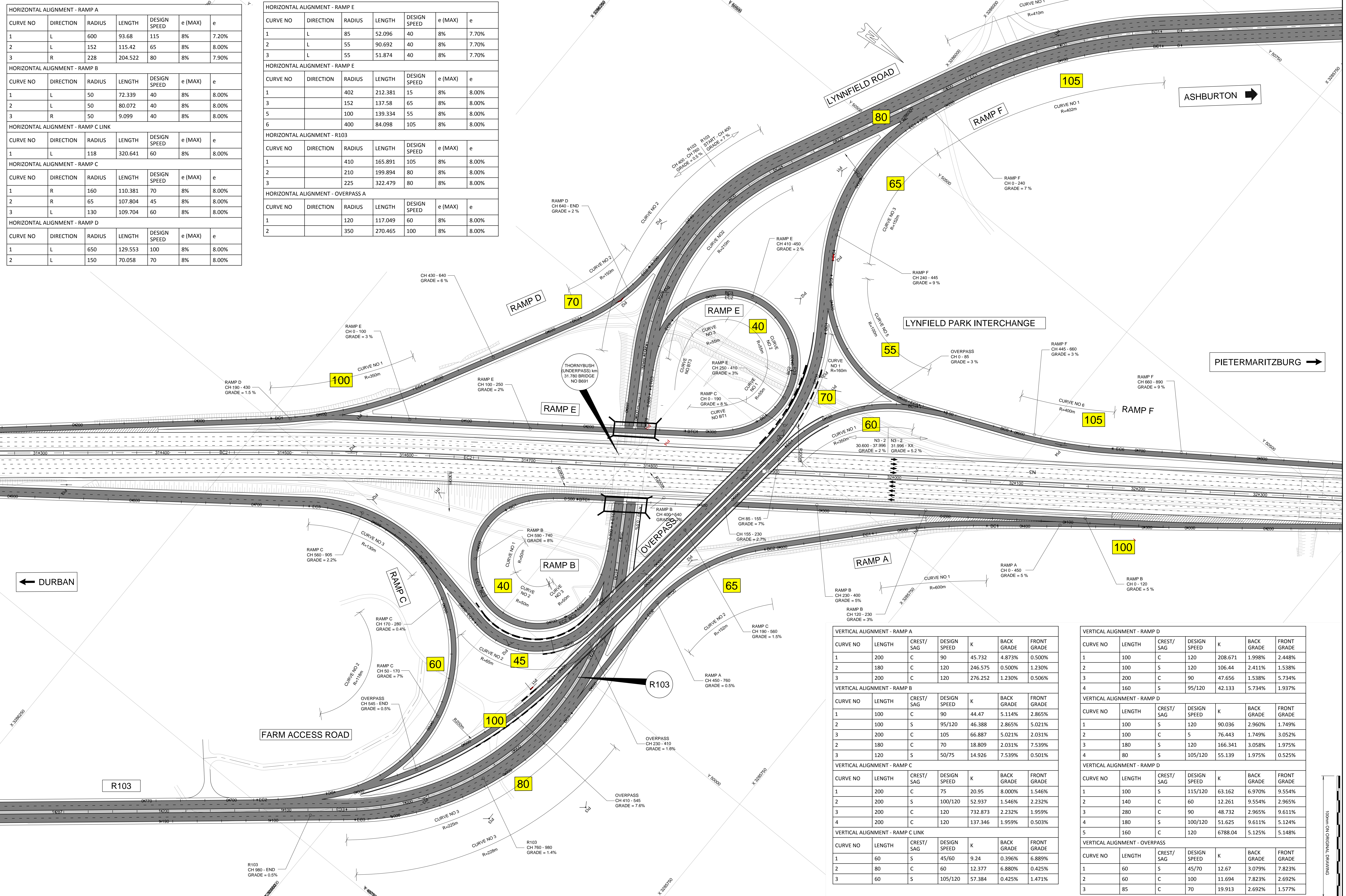
HORIZONTAL ALIGNMENT - RAMP D						
CURVE NO	DIRECTION	RADIUS	LENGTH	DESIGN SPEED	e (MAX)	e
1	L	650	129.553	100	8%	8.00%
2	L	150	70.058	70	8%	8.00%

HORIZONTAL ALIGNMENT - RAMP E						
CURVE NO	DIRECTION	RADIUS	LENGTH	DESIGN SPEED	e (MAX)	e
1	L	85	52.096	40	8%	7.70%
2	L	55	90.692	40	8%	7.70%
3	L	55	51.874	40	8%	7.70%

HORIZONTAL ALIGNMENT - RAMP E						
CURVE NO	DIRECTION	RADIUS	LENGTH	DESIGN SPEED	e (MAX)	e
1		402	212.381	15	8%	8.00%
3		152	137.58	65	8%	8.00%
5		100	139.334	55	8%	8.00%
6		400	84.098	105	8%	8.00%

HORIZONTAL ALIGNMENT - R103						
CURVE NO	DIRECTION	RADIUS	LENGTH	DESIGN SPEED	e (MAX)	e
1		410	165.891	105	8%	8.00%
2		210	199.894	80	8%	8.00%
3		225	322.479	80	8%	8.00%

HORIZONTAL ALIGNMENT - OVERPASS A						
CURVE NO	DIRECTION	RADIUS	LENGTH	DESIGN SPEED	e (MAX)	e
1		120	117.049	60	8%	8.00%
2		350	270.465	100	8%	8.00%



VERTICAL ALIGNMENT - RAMP A						
CURVE NO	LENGTH	CREST/SAG	DESIGN SPEED	K	BACK GRADE	FRONT GRADE
1	200	C	90	45.732	4.873%	0.500%
2	180	C	120	246.575	0.500%	1.230%
3	200	C	120	276.252	1.230%	0.506%

VERTICAL ALIGNMENT - RAMP B						
CURVE NO	LENGTH	CREST/SAG	DESIGN SPEED	K	BACK GRADE	FRONT GRADE
1	100	C	90	44.47	5.114%	2.865%
2	100	S	95/120	46.388	2.865%	5.021%
3	200	C	105	66.887	5.021%	2.031%
2	180	C	70	18.809	2.031%	7.539%
3	120	S	50/75	14.926	7.539%	0.501%

VERTICAL ALIGNMENT - RAMP C						
CURVE NO	LENGTH	CREST/SAG	DESIGN SPEED	K	BACK GRADE	FRONT GRADE
1	200	C	75	20.95	8.000%	1.546%
2	200	S	100/120	52.937	1.546%	2.232%
3	200	C	120	732.873	2.232%	1.959%
4	200	C	120	137.346	1.959%	0.503%

VERTICAL ALIGNMENT - RAMP C LINK						
CURVE NO	LENGTH	CREST/SAG	DESIGN SPEED	K	BACK GRADE	FRONT GRADE
1	60	S	45/60	9.24	0.396%	6.889%
2	80	C	60	12.377	6.880%	0.425%
3	60	S	105/120	57.384	0.425%	1.471%

VERTICAL ALIGNMENT - RAMP D						
CURVE NO	LENGTH	CREST/SAG	DESIGN SPEED	K	BACK GRADE	FRONT GRADE
1	100	C	120	208.671	1.998%	2.448%
2	100	S	120	106.44	2.411%	1.538%
3	200	C	90	47.656	1.538%	5.734%
4	160	S	95/120	42.133	5.734%	1.937%

VERTICAL ALIGNMENT - RAMP D						
CURVE NO	LENGTH	CREST/SAG	DESIGN SPEED	K	BACK GRADE	FRONT GRADE
1	100	S	120	90.036	2.960%	1.749%
2	100	C	5	76.443	1.749%	3.052%
3	180	S	120	166.341	3.058%	1.975%
4	80	S	105/120	55.139	1.975%	0.525%

VERTICAL ALIGNMENT - RAMP D						
CURVE NO	LENGTH	CREST/SAG	DESIGN SPEED	K	BACK GRADE	FRONT GRADE
1	100	S	115/120	63.162	6.970%	9.554%
2	140	C	60	12.261	9.554%	2.965%
3	280	C	90	48.732	2.965%	9.611%
4	180	S	100/120	51.625	9.611%	5.124%
5	160	C	120	6788.04	5.125%	5.148%

VERTICAL ALIGNMENT - OVERPASS						
CURVE NO	LENGTH	CREST/SAG	DESIGN SPEED	K	BACK GRADE	FRONT GRADE
1	60	S	45/70	12.67	3.079%	7.823%
2	60	C	100	11.694	7.823%	2.692%
3	85	C	70	19.913	2.692%	1.577%

No.	DATE	REVISION	CONSULT. ENG.
A	22-03-2016	PRELIMINARY DESIGN REPORT	R SMITH

CONSTRUCTION RECORD
WORKS CONTRACT ENGINEER

Name: _____
Prof. Reg. No.: _____
Date: _____

SANRAL PROJECT MANAGER

Name: _____
Date: _____

LEPOROGO
SPECIALIST ENGINEERS CC

P.O. BOX 12644
BENDOR PARK
POLOKWANE
0699

TEL: (015) 296 3293
FAX: (015) 296 4037
E-MAIL: john@leporogo.co.za

DESIGNED BY

NAME: _____
Prof. Reg. No.: _____
Date: _____

CHECKED BY

NAME: _____
Prof. Reg. No.: _____
Date: _____

DRAWN BY

NAME: _____
Date: _____

CONSULTANT APPROVAL

Name: N.K. NATHOO
Prof. Reg. No.: 120056
Date: _____

HEAD OFFICE
48 Tambolet Avenue
Val de Grace
Pretoria
0184

PO Box 415
Pretoria 0001
South Africa
Tel: (012) 844 8000

THE SOUTH AFRICAN NATIONAL
ROADS AGENCY SOC LTD

EASTERN REGION
58 Van Eck Place
Midrand
Pretoria
2009

PO Box 100410
Scottsville
2909

Tel: (033) 392 8100
Fax: (033) 386 3365

ACCEPTANCE

THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHATSOEVER CAUSE OR HOWEVER ARISING

FOR CEO: SA NATIONAL ROADS AGENCY SOC LTD

PROJECT DESCRIPTION

UPGRADING OF NATIONAL ROUTE 3, SECTIONS 2 AND 3, FROM LYNNFIELD PARK (N3/2- KM 30.6) TO ASHBURTON INTERCHANGE (N3/3- KM 1.5)

DRAWING DESCRIPTION

LYNNFIELD INTERCHANGE - REVIEW OF PRELIMINARY OPTION (GOBA/SSI)

SCALE: - OF - SHEET

PROJECT NUMBER

NRA N003-023-2017/1F

DRAWING LOCATION DATA	START	END
ROUTE	N3	N3
SECTION	2	3

DRAWING DISTANCE

DRAWING TYPE

CIVILS

BRIDGE/STRUCTURE No.

CONSULTANT DRAWING No. FA 15013-PDR-MP-C03

SANRAL DOCUMENT #

VER V1