

AGL ENERGY LIMITED

**DILAPIDATION CLOSE OUT REPORT
ON CONDITION OF PUBLIC ROADS
OLD MAITLAND ROAD, OLD PUNT ROAD
AND PACIFIC HIGHWAY AFTER
COMPLETION OF HP PIPELINE
CONSTRUCTION FOR THE
HEXHAM TO NEWCASTLE NGSF**

Prepared by:

**Lyle Marshall & Associates Pty Ltd
Consulting Engineers, Architects
Transportation and Environmental Planners**

**Suite 8, 871 Pacific Highway
CHATSWOOD NSW 2067**

**Phone: (02) 9419-8191
Fax: (02) 9419-8107**

**Job No.: 1661/15
Report No.: 11/15**

APRIL, 2015

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1.0 INTRODUCTION

1.1 Purpose

In January 2014, a Pre-Construction Road Inspection of the condition of all public roads to be traversed by construction traffic associated with the NGSF project and Report No. 1/14 was prepared by Lyle Marshall and Associates Pty Ltd and McLaren Traffic Engineering for Lucas Engineering and Construction Pty Ltd-

This existing road condition audit and assessment of the impact of construction traffic on the haul road network of public roads was commissioned by Lucas Engineering and Construction Pty Ltd.

The public roads required to be traversed for the deliveries of steel pipes were Pacific Highway SH10, Old Maitland Road and Old Punt Road. These roads were shown marked up in red on the attached Newcastle Gas Storage Facility Project Layout Plan prepared by AGL Energy Limited.

Steel pipes for the DN 400 high pressure gas pipeline were transported in 18 metre and 12 metre lengths from Newcastle Port to the storage area in Kennington Drive by tri-axle semi-trailer. The route was Industrial Drive MR 316, Pacific Highway SH10 (Maitland Road) to Hexham and north over the Hunter River Bridge to the intersection at Old Punt Road and thence south in Old Punt Road to Kennington Drive. The estimated number of semi-trailer loads and delivery dates to Areas 1, 2, 3 and 4 were as follows:-

Area	Number of Semi-Trailer Loads	Delivery Date
1	7	March, 2014
2	5	November, 2013
	8	December, 2013
3	8	December, 2013
	2	January, 2014
3	19	December, 2013
	2	January, 2014
	2	March 2014
TOTAL	53	

The **haulage routes** from the *origin of deliveries* at *Kennington Drive* to *Construction Areas 2, 3 and 4* were as follows:-

Area 1 -	<i>North</i> along Old Punt Road, left turn into Pacific Highway, <i>south</i> in Pacific Highway across the Hunter River bridge and left turn from Pacific Highway into Old Maitland Road.
Area 2 -	<i>South</i> along Old Punt Road.
Area 3 -	<i>North</i> along Old Punt Road.
Area 4 -	<i>North</i> along Old Punt Road and the gravel NGSF access road.

Based upon the volume of heavy truck traffic on the public roads over their design life, the report found that pavement damage due to the impact of the additional loaded semi-trailers carried by pipeline construction traffic for the NGSF project was negligible.

2.0 ROUTE INSPECTION

2.1 Old Maitland Road.

An inspection of the *pavement condition* in Old Maitland Road, Pacific Highway and Old Punt Road was carried out by Lyle Marshall on Monday 30/03/2015.

There are some localised areas where the pavement has failed in Old Punt Road but the pavement condition is *unchanged* since the inspection carried out on 11 December 2013. *Photographs* taken for the post construction inspection on 30/03/15 follow.

Old Punt Road at Laverick Avenue (Ch 3900 Sheet 6/19):

There is a small area of pavement failure evident by 'crocodile cracking' shown in **photograph P3**. An adjoining area in Laverick Avenue where there was no pipeline construction traffic has similar pavement distress, as shown in **photograph P4**.

Northern Approach and Departure to Roundabout at Tomago Road:

There is some surface distress in the form of stripping, delamination and ravelling visible on these areas due to the passage of heavy vehicles over a long period in **photos P6** and **P7**. Surface patching has been carried out as part of the maintenance programme. Chainage **3635** (Sheet **7/19**) is at the northern end of the splitter island.

Martin Drive Ch 3250 to Access Road to Industrial Subdivision Ch 2825:

The pavement is in reasonable condition except for a short length of **10 to 15 metres** at **Ch 2850 Photo P9** where crocodile cracking indicates pavement failure. Some minor transverse and longitudinal shrinkage cracks in asphalt surfacing. **Photo P8** at **Ch 3275** is the longest crack.

North of Kennington Drive Ch 2725:

Pavement failure in northbound lane over about **11 metres** at **Ch 2610 Photo P10**. The pavement failure was evident in 2013.

TAC Northern Access Road Ch 19.75 to New Work near Pacific Highway Ch 1720:

The pavement in both lanes has extensive crocodile cracking due to smelter heavy vehicles. **Photo P12**. This section of pavement is in the same condition as in 2013 and requires reconstruction.



PHOTO P3

**VIEW NORTH OF CRACKED PAVEMENT IN OLD PUNT ROAD AT
LAVERICK AVE.**



PHOTO P4

VIEW OF CRACKED PAVEMENT IN LAVERICK AVE.



PHOTO P5 VIEW SOUTH OF PRIVATE ROAD TO FORGACS. PAVEMENT POOR CONDITION FOR 50 METRES. UNCHANGED SINCE 11-12-13.

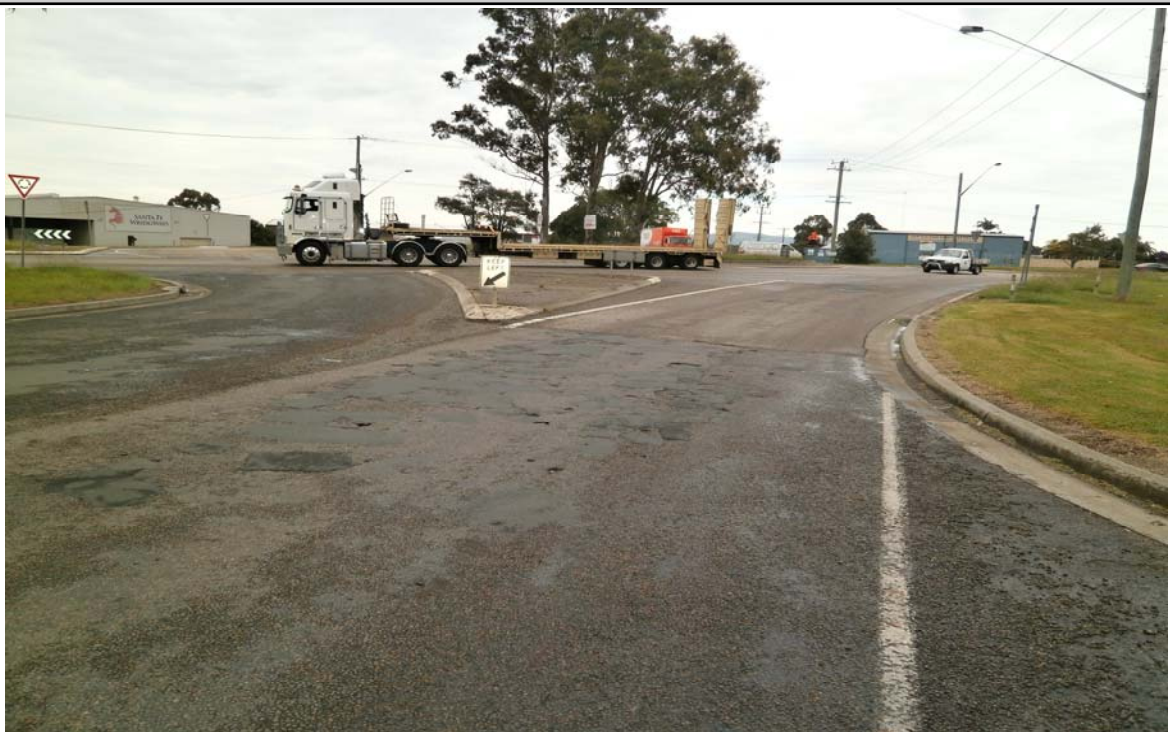


PHOTO P6 OLD PUNT ROAD NORTH OF ROUNDABOUT. PAVEMENT POOR CONDITION ON NORTHERN DEPARTURE.



**PHOTO P7 PAVEMENT POOR CONDITION NORTHERN APPROACH TO ROUNDABOUT IN
OLD PUNT ROAD. Ch3602 to Ch3635**



**PHOTO P8 TYPICAL LONGITUDINAL CRACK IN ASPHALT NEAR EXIT DRIVEWAY FROM
KOMATSU. THESE CRACKS WERE EVIDENT IN DECEMBER 2014. Ch 3275**



PHOTO P9 CROCODILE CRACKING IN PAVEMENT IN OLD PUNT ROAD CH 130.0 SOUTH OF SPEEDWAY ROAD TO INDUSTRIAL PARK. Ch 2850 (Sheet 9/19)



PHOTO P10 CROCODILE CRACKING IN OLD PUNT ROAD CH 2610 (Sheet 10/19) NORTH OF KENNINGTON DRIVE AT END OF KERB AND GUTTER.



PHOTO P11 TYPICAL CROCODILE CRACKING 2.5 METRES FROM EDGE OF BITUMEN IN OLD PUNT ROAD NORTH FROM CH 2599



PHOTO P12 CROCODILE CRACKS IN BOTH LANES | OLD PUNT ROAD FOR 256.6M WEST OF NORTHERN SMELTER ACCESS ROAD. (TAC) Ch 1720 TO Ch 1975 (Sheet 13/19)

3.0 CONCLUDING STATEMENT

Based upon my inspections of the construction roads in 2013 and 2015, it is my opinion that the areas of pavement distress are not due to the very small number of heavy vehicles associated with the NGSF project.

Yours sincerely,



G.L. Marshall
B.E. (Civil), M.Eng.Sc. (NSW)
Dip.Env.S., M.I.E. Aust; P.ENG. NPER (Civil)
F. I.H. & T., M.A.I.T.P.M.
Accredited Road Safety Auditor