

**Report To:** Environment & Regeneration Committee      **Date:** 7 March 2019

**Report By:** Corporate Director Environment, Regeneration & Resources      **Report No:** ERC/RT/GMcF/18.600

**Contact Officer:** Steven Walker      **Contact No:** 714828

**Subject:** RAMP Programme – Performance of Microasphalt

---

### 1.0 PURPOSE

- 1.1 The purpose of this report is to advise the Committee of the performance of microasphalt surfacing used as part of the RAMP/Capital resurfacing programmes.

### 2.0 SUMMARY

- 2.1 The use of carriageway protective surface treatments forms an integral part of the overall Roads Asset Management Strategy. These relatively low cost treatments are applied to existing carriageway pavements to restore, preserve, and extend the lifecycle of the underlying materials, and thus avoid or delay the high costs of future resurfacing and/or reconstruction, whilst still maintaining the running surface in an acceptable physical and aesthetic condition.
- 2.2 “Microasphalt” is an asphalt based treatment which is mixed in-situ in specialist plant and deposited on to the road surface. This preventative treatment offers longer life expectancy of existing carriageways, high resistance to rutting, reduced traffic noise and is able to withstand heavy trafficking. This type of treatment has been around for many years and has been used within Inverclyde for a number of years, including prior to the current RAMP programme.
- 2.3 It is considered that the procurement and application of microasphalt continues to provide very good value to the Council. It is a low cost treatment which gives a significant extension to the useful lifespan of the existing road carriageways when used in appropriate circumstances as part of the Council’s Assessment Management approach to roads maintenance.

### 3.0 RECOMMENDATIONS

- 3.1 That the Committee notes the performance of the microasphalt surfacing used as part of the RAMP/Capital resurfacing programmes and that these materials provide a best value approach as part of the Roads Asset Management Strategy.

**Gail MacFarlane**  
**Head of Service – Roads & Transportation**

## 4.0 BACKGROUND

- 4.1 The use of carriageway protective surface treatments forms an integral part of the overall Roads Asset Management Strategy. These relatively low cost treatments are applied to existing carriageway pavements to restore, preserve, and extend the lifecycle of the underlying materials, and thus avoid or delay the high costs of future resurfacing and/or reconstruction, whilst still maintaining the running surface in an acceptable physical and aesthetic condition. These treatments are not used where the existing carriageway is starting to suffer significant deterioration (significant changes in profile or where rutting is developing along the wheel tracks); in these circumstances conventional resurfacing and/or reconstruction would be proposed.
- 4.2 “Microasphalt” is an asphalt based treatment which is mixed in-situ in specialist plant and deposited on to the road surface. This preventative treatment offers longer life expectancy of existing carriageways, high resistance to rutting, reduced traffic noise and is able to withstand heavy trafficking. This type of treatment has been around for many years and has been used within Inverclyde for a number of years, including prior to the current RAMP programme.

## 5.0 ANALYSIS OF PERFORMANCE OF MICROASPHALT

- 5.1 The analysis of the performance considers the period of RAMP/Capital funding for the six year period April 2013 to March 2019. It should be noted that microasphalt has been used to a limited extent on Inverclyde’s road network prior to this period, but given that its intended lifespan before further treatment is required is around 8 years, it is considered that microasphalt laid prior to April 2013 is close to the end of intended lifespan, and given there have been no significant issues of concern, it has not been included in this analysis.
- 5.2 The extent of microasphalt utilised during the 2013/19 period is as follows:

RAMP Year	Carriageway Area m <sup>2</sup>	Carriageway Length m	Total Cost £k	£/m <sup>2</sup>	Scheme Locations (Nr.)	
					Total	Significant Material Failure
2013/14	51,640	9,152	339	6.56	19	0
2014/15	65,587	12,224	402	6.13	38	0
2015/16	86,014	15,561	687	7.99	42	4
2016/17	75,729	10,533	692	9.14	34	2
2017/18	42,264	6,776	314	7.43	32	0
2018/19	28,703	4,297	253	8.81	17	0
<b>2013/19</b>	<b>349,937</b>	<b>58,543</b>	<b>2,687</b>	<b>7.68</b>	<b>182</b>	<b>6</b>

Note 1: Costs include for prep-patching, microasphalt, ironwork, and road markings.

Note 2: £/m<sup>2</sup> varies year on year due to proportion of prep-patching, ironwork, road markings required, and inflation.

- 5.3 The total length of road carriageway resurfaced with microasphalt is just under 59km, and this represents some 16% of the total carriageway length in Inverclyde.
- 5.4 The costs of microasphalt at an average of £7.68/m<sup>2</sup>, with an intended lifespan of around 8 years before further treatment, compares with a conventional resurfacing cost, assuming a 40mm inlay of hot-rolled asphalt, and based on recent RAMP schemes, of £25 to £30/m<sup>2</sup> for a 15 year lifespan. It should be noted that these are different types of treatment and used in differing circumstance according to the level of deterioration of the existing road surface. However, the data demonstrates that microasphalt is a low cost treatment which gives a significant extension to the useful lifespan of the existing road carriageways when used in appropriate circumstances.
- 5.5 Microasphalt is procured from specialist external contractors, and a 2 year maintenance period is specified in the tender/contract documents to ensure that any localised minor surface defects,

---

along with more major early life material failures, are rectified at no cost to the Council.

5.6 Following application of the microasphalt, sweeping of the road surface is required to ensure that any loose aggregates are removed timeously, and this is an area that has caused some concern and complaints to the Council. The difficulty often lies with the number of parked cars, and Officers are working to ensure that a more formalised approach, involving the promotion of Temporary Traffic Regulation Orders, along with advance notice to residents, to ensure that the road carriageways are kept clear to permit an effective sweeping regime across the whole carriageway length and width.

5.7 From the table in 5.2 above, there were six scheme locations where there was an apparent early life failure of the microasphalt; these are discussed as follows:

- One location failed due to braking forces from heavy vehicles and it is considered that that the microasphalt has been pushed to, and probably beyond, the limit of its design capability; as this is primarily a design issue rather than material issue, the location has been resurfaced with a conventional rolled asphalt;
- One location started to fail due to reflective cracking coming up from the sub-surface of the road; this sub-surface cracking was not detected at the time the microasphalt was applied; again, this is primarily a design issue rather than material issue and this location has been resurfaced with a conventional rolled asphalt;
- The other four locations exhibited a failure of the material including loss of bond to the subsurface and ongoing loss of surface aggregates; these were direct failures of the material and its application, and these locations have been rectified by the Contractor(s).

5.8 Of the four material failures noted in 5.7 above, the failed/repared areas comprise some 9,928m<sup>2</sup>, and which represents a failure rate of 2.84% over the period 2013/19. This is considered to be very low.

5.9 It is considered that the procurement and application of microasphalt continues to provide very good value to the Council. It is a low cost treatment which gives a significant extension to the useful lifespan of the existing road carriageways when used in appropriate circumstances as part of the Council's Assessment Management approach to roads maintenance.

## 6.0 IMPLICATIONS

### Finance

6.1 One-off costs:

Cost Centre	Budget Heading	Budget Years	Proposed spend this report (£000s)	Virement from	Other comments
N/A					

6.2 Annually recurring costs:

Cost Centre	Budget Heading	Budget Years	Proposed spend this report (£000s)	Virement from	Other comments
N/A					

### Legal

6.3 There are no legal implications arising from this report.

### Human Resources

---

6.4 There are no specific HR implications arising from this report.

### **Equalities**

6.5 As this report does not involve a new policy or a new strategy, there are no equalities issues arising.

### **Repopulation**

6.6 The quality of the roads network is an influencing factor in the perception which people have of the area and therefore it is important that the Council optimises its limited spend on roads maintenance and as such, the use of cost effective materials will have a positive benefit to the Council's Repopulation Strategy.

## **7.0 CONSULTATIONS**

7.1 The Chief Financial Officer, Head of Legal & Property Services, and the Corporate Procurement Manager have been consulted on the contents of this report.

## **8.0 LIST OF BACKGROUND PAPERS**

8.1 None.