



**Addendum (01) –
Douglas Partners (2022) Remediation Action Plan (RAP)**
Westlink Stage 2 – 1030 – 1064 Mamre Road, Kemps Creek, NSW, 2178

Prepared for: ESR Australia
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Addendum (01) – Douglas Partners (DP) Remediation Action Plan (RAP) Westlink Stage 2 –1030 – 1064 Mamre Road, Kemps Creek, NSW, 2178

INTRODUCTION

ESR Australia (ESR) engaged EP Risk Management Pty Ltd (EP Risk) to prepare this Addendum (01) to the Douglas Partners Pty Ltd (DP) Remediation Action Plan (RAP) (DP 2022¹) for the Westlink Stage 2 Project located at 1030 – 1064 Mamre Road, Kemps Creek, NSW, 2178 (the Site). The Site is legally described as Lot 114 and Lot 115 in Deposited Plan (DP) 1296469 and covers an area of approximately 23 hectares (ha). Majority of the Site is zoned as IN1: General Industrial, with a small portion of the western Site zoned as SP2: Infrastructure under the State Environmental Planning Policy (SEPP) (Industry and Employment) 2021 (currency 08.11.2024). The Site has been identified as a State Significant Development (SSD), SSD-9138102. The location of Westlink Stage 2 has been presented in **Figure 1**.

OBJECTIVE

The objective of this Addendum is to outline the preferred remediation and validation strategy for additional stockpiled material impacted by total recoverable hydrocarbons (TRH) and bonded (non-friable) asbestos above the remediation action criteria (RAC) within the Westlink Stage 2 boundary, originating from the adjacent Westlink Stage 1 Project. The Westlink Stage 1 Project, is understood to fall within the same SSD as the Westlink Stage 2 Project.

REMEDIATION MATERIAL, LOCATION AND EXTENT

According to the Validation Report for the Westlink Stage 1 Project (EP Risk 2024),² the stockpiled material is comprised of material from two (2) areas of environmental concern (AECs) (AEC22 and AEC40), associated with the excavation of on-site septic tank systems. This material, hereby referred to as 'AEC22/40' was later consolidated and moved to the southern (central) portion of Westlink Stage

¹ Douglas Partners (2022) Remediation Action Plan, Proposed Industrial Development – Westlink Stage 2, 1030-1064 Mamre Road, Kemps Creek, ref: 211619.02, dated 27 October 2022.

² EP Risk (2024) Site Remediation and Validation Report, *Westlink Stage 1 – 290 – 308 Aldington Road and 59 – 63 Abbots Road, Kemps Creek, NSW, 2178*, ref: EP3244.006_v1, dated 28 August 2024.

2. The location of AEC22/40, is presented in **Figure 2** and **Figure 3**. It is understood AEC22/40 has not been placed on geofabric or plastic sheeting.

AEC22/40 was comprised of three (3) stockpiles: 40SEP02 (up to 75 m³), AEC22_SEP01 (up to 7 5m³) and AEC22_SEP02 (up to 75 m³). Each of these stockpiles were assigned a remediation category, in accordance with the remediation hierarchy developed in the Addendum for the Westlink Stage 1 Project by EP Risk (2023)³, presented below in **Table 1**. This remediation hierarchy focused on retaining suitable material on-site under appropriate management conditions and unsuitable material that could not be treated (i.e. friable asbestos) within a containment cell with a Long Term Environmental Plan (LTEMP).

Table 1 - Remediation Hierarchy			
Category	B	F	O
	Bonded (Non-Friable) Asbestos	Friable Asbestos (AF/FA)	Other Impacted
1	B1: Suitable (No asbestos detected)	F1: Suitable (No asbestos detected)	O1: Suitable
2	<p>B2: <0.05% HSL (Bonded (non-friable) asbestos detected below HSL)</p> <p>Suitable to remain on-site subject to placement >0.1 m below finished ground level and in areas where no services will be installed.</p> <p>Location of this material must be tracked, and a survey must be undertaken to confirm placement at depth.</p>	<p>F2: <0.001% HSL (Friable asbestos detected below HSL)</p> <p>Suitable to remain on-site subject to placement >0.1 m below finished ground level and in areas where no services will be installed.</p> <p>Location of this material must be tracked, and a survey must be undertaken to confirm placement at depth.</p>	<p>O2: Suitable, subject to additional management.</p> <p>Suitable to remain on-site, subject to placement > 2 m below finished ground level and in areas where no services will be installed.</p> <p>Location of this material must be tracked, and a survey must be undertaken to confirm placement at depth.</p>
3	<p>B3: ≥0.05% HSL (Bonded (non-friable) asbestos detected above HSL). Not suitable.</p> <p>Suitable subject to mechanical raking and emu picking treatment.</p> <p>If successfully validated, material downgraded to B2 status.</p> <p>If ACM is identified, re-treat the material again until the material can be successfully validated.</p>	<p>F3: ≥0.001% HSL (Friable asbestos detected above HSL). Not suitable.</p> <p>Excavate and stockpile on-site.</p> <p>Dispose off-site with a Waste Classification or placed within an on-site containment cell with a Long Term Environmental Management Plan (LTEMP).</p>	<p>O3: ≥NEPM Guidelines Not suitable.</p> <p>Excavate and stockpile on-site.</p> <p>Dispose off-site with a Waste Classification or placed within an on-site containment cell with a LTEMP.</p>

³ EP Risk (2023) Addendum (01) – Alliance Remediation Action Plan (RAP), *Westlink Stage 1 - 290 – 308 Aldington Road and 59 – 63 Abbots Road, Kemps Creek, NSW, 2178*, ref: EP3244.003_v1, dated 12 September 2023.

The remediation hierarchy for each of the stockpiles has been presented below in **Table 2**. Due to the consolidation of all three (3) stockpiles, AEC22/40 as a whole was conservatively classified as O2 and B3 material.

Table 2 – Remediation Hierarchy of AEC2240					
AEC	Stockpiles	Source	Volume	Remediation Hierarchy	Contamination Risk
AEC22/40	40SEP02	Material within septic tank in AEC40	Up to 75 m ³	O2	TRH C6-C10 (F1 minus BTEX) above Management Limits for Commercial/Industrial Land Use (Coarse Soil) TRH C16-C34 above the Ecological Screening Level (ESL) for Commercial/Industrial Land Use (Coarse Soil)
	AEC22_SEP01	Material within septic tank in AEC22	Up to 75 m ³	Same as AEC22_SEP02 ¹	Same as AEC22_SEP02 ¹
	AEC22_SEP02	Material within septic tank in AEC22	Up to 75 m ³	O2 and B3	TRH C16-C34 above the Ecological Screening Level (ESL) for Commercial/Industrial Land Use (Coarse Soil) Bonded (non-friable) asbestos above the HSL for Commercial/Industrial Land Use

¹ AEC22_SEP01 assumed to be the same classification as AEC22_SEP02 due to same source of the material, from within the septic tank in AEC40.

REMEDIATION STRATEGY

The preferred remediation strategy for AEC22/40 is to treat the B3 classification, to downgrade the material to a B2 classification. This remediation strategy was adopted in the adjacent Westlink 1 Project. The treatment methodology is summarised below:

- 1) Establish a hard surface treatment pad on-site e.g. clay soils;
- 2) Spread approximately 10 m³ of material from AEC22/40 across the treatment pad, ideally in a 10 m x 10 m grid, at no greater than 100 mm thickness using an excavator with a tooth bucket;
- 3) Using an excavator fitted with a tooth bucket, rake material in one direction;
- 4) Conduct a systematic inspection of the raked surface was undertaken. Remove any visible bonded (non-friable) ACM fragment through handpicking;

- 5) Using an excavator fitted with a tooth bucket, rake soils in a direction 90° perpendicular to the first raking direction;
- 6) Conduct a final systematic inspection of the raked surface. Remove any visible bonded (non-friable) ACM fragment through handpicking; and
- 7) Dispose of all bonded (non-friable) ACM fragments to a suitable licensed waste receiving facility in a 200 µm thick asbestos waste bag, with waste dockets.

Treatment works must be undertaken by a Licensed Asbestos Removal Contractor (LARC) with a Class A or Class B asbestos removal licence.

The preferred remediation strategy for the residual footprint of where AEC22/40 was stockpiled is a surface scrape to 0.2 mBGL. This excavated material should be treated as per the treatment methodology above.

VALIDATION STRATEGY

Validation works should be undertaken by an independent Environmental Consultant (e.g. EP Risk) with competency in asbestos.

The treatment pad should be inspected by the Environmental Consultant to determine its suitability prior to treatment works occurring.

Control asbestos air monitoring is recommended to be established at the boundary of asbestos work zones to ascertain the effectiveness of controls by the Environmental Consultant.

The validation strategy for each 10 m³ of treated material from AEC22/40 is as follows:

- 1) A visual clearance inspection of the spread treated material and preparation of an Asbestos Clearance Certificate by a competent person;
- 2) On-site field screening of 10 L of material for bonded (non-friable) ACM (>7 mm):
 - One (1) field screen is to be undertaken for every 25 m² (5 x 5 m) of the spread treated material; and
 - Results should be compared to the remediation acceptance criteria RAC of 0.05% w/w for bonded (non-friable) ACM; and
 - Should results exceed the RAC, another round of treatment should be undertaken.
- 3) Collection of one (1) 500 mL soil samples for asbestos gravimetric analysis for every 10 treated stockpiles (100 m³) to identify if treatment process has impacted the friability of asbestos contamination within the material:
 - Samples should be submitted to a National Association of Testing Authorities (NATA) accredited laboratory for analysis;
 - Result should be compared to the RAC of 0.001 %w/w for asbestos fines (AF) and fibrous asbestos (FA); and

- If there is an exceedance to the adopted soil remediation criteria, the corresponding treated stockpile should be reclassified as F2 or F3 material and managed in accordance with **Table 1**.

The validation strategy for the residual footprint of where AEC22/40 was stockpiled is as follows:

- 1) A visual clearance inspection of the residual footprint and preparation of an Asbestos Clearance Certificate by a competent person;
- 2) On-site field screening of 10 L of material for bonded (non-friable) ACM (>7 mm).
 - One (1) field screen is to be undertaken for every 25 m² (5 x 5 m) of the spread treated material;
 - Results should be compared to the RAC of 0.05% w/w for bonded (non-friable) ACM; and
 - Should results exceed the RAC, further may be required to 'chase out' impacted material as instructed by the Environmental Consultant, with the validation sampling continuing into the extended area.

PLACEMENT OF VALIDATED AND SUITABLE MATERIALS AT DEPTH

Following successful validation, AEC22/40 will be classified as O2 and B2 material and suitable to be retained on-site, subject to conditions outlined within this section.

Due to the potential presence of bonded (non-friable) asbestos (albeit below the HSL), validated and suitable materials should be moved and placed on-site by a Class A or Class B LARC under bonded (non-friable) standard asbestos controls.

Validated and suitable materials should be stockpiled on geotextile fabric material and remain covered with geotextile fabric until it is placed in its final location.

According to **Table 1**:

- O2 is suitable to remain on-site subject to placement > 2 m below finished ground level; and
- B2 is suitable to remain on-site subject to placement > 0.1 m below finished ground level.

The most conservative depth will be adopted and as such AEC22/40 must be placed at a depth of more than 2 m below finished ground level.

As per **Table 1** and the RAP (DP 2022), validated and suitable materials:

- Should not be placed where services will be installed;
- Should not be placed below the groundwater table;
- Should preferably not be placed within landscaped areas; and
- Should be covered in a marker layer (orange geofabric).

As per the RAP (DP 2022), two (2) surveys should be undertaken to confirm the location and depth of this material:

- A survey should be undertaken of the placed material's lateral extent and height in Australian Height Datum (AHD) and comprise in the order of one (1) survey point per 40 m² and every 5-10 lateral metres around the perimeter of the areas; and
- A survey should be undertaken of the final surface level at the same survey point locations and overlayed on the original drawing to confirm a minimum 2 m depth to the top of the placed material has been achieved. The survey is to be overlaid on a recent aerial photograph and provided to ESR and the Environmental Consultant.

VALIDATION REPORT

Following the completion of all remediation and validation works at the Site in accordance with the RAP (DP 2022) and this Addendum, a Validation Report should be prepared for Westlink Stage 2 by an Environmental Consultant.

In addition to Section 18 of the RAP (DP 2022), the following must be included within the Validation Report:

- Summary of the remediation and validation process for AEC22/40, including residual footprints and treatment pad addressed within this Addendum (01);
- Summary of the where the validated and suitable material has been placed on-site;
- Copies of surveys to show the location and depth of the validated and suitable material placed on-site;
- Waste dockets pertaining to the emu picking treatment works; and
- Recommendations for ongoing management of this validated and suitable material placed on-site, through an Asbestos Management Plan (AMP).

ASBESTOS MANAGEMENT PLAN

An AMP should be prepared by an Environmental Consultant for the ongoing management of material from AEC22/40 placed on-site at depth and to cover the management of any potential unexpected asbestos finds at other areas of the Site.

CONCLUSION

It is considered the Site can be made suitable for commercial / industrial use, subject to remediation, management and site validation in accordance with the RAP (DP 2022), this Addendum and provision of an AMP.

CLOSURE

This RAP Addendum letter has been reviewed and approved by Kellie Guenther, a Certified Environmental Practitioner (CEnvP SC) of EP Risk Management Pty Ltd.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Kellie Guenther".

Kellie Guenther
Principal Environmental Scientist
Certified Environmental Practitioner (1083) - Site Contamination (SC41067)
EP Risk Management Pty Ltd
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Attachments:

Attachment 1 – Figures

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	03.04.2025	K. Guenther (CEnvP-SC)	03.04.2025	K. Guenther (CEnvP-SC)	03.04.2025

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	03.04.2025	EP4132.001_ESR_Westlink Stage 2_RAP Addendum 01_v1	ESR Australia

LIMITATIONS

This Addendum (01) to the Douglas Partners (DP) Remediation Action Plan was conducted on the behalf of ESR Australia for the purpose/s stated above.

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Attachment 1 – Figures



Figure 1 - Site Location





Figure 2 - Location of AEC22/40





Location of AEC22/40

Legend:

- Site Boundary
- AEC22/40

Figure 3 - Location of AEC22/40 (Close Up)



