Australian Litter Measure Training Facilitator’s Guide

# Introduction

This session plan covers one day of AusLM training which includes one small outdoor practice activity. The plan also includes one day of practice field work in an outdoor setting to apply knowledge and skills learnt from Day 1.

# SESSION PLAN DAY 1

This plan outlines the learning objectives, detailed training content and resources required for each step and activity of AusLM surveyor training.

Slide numbers in the Resource/Action column are to be used as a guide only.

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| **Trainer:** XXXXXXX **Date:** XXXXXXXXXXXXX **Start time:** 8:30am **End Time:** 5.30pm **Venue:** XXXXXXXXXXX |
| **Session Title: AusLM Introduction** |
| Objectives |
| At the end of this session, the participants will be able to understand the purpose and importance of AusLM. They will have an overview of the key tasks that an AusLM surveyor needs to accomplish.  |
| Equipment | Resources | Participant Handouts |
| * Whiteboard or flipchart paper with stand
* String / rope – Approx 4 x 5 m lengths
* 1 x 1 m timber frame for sub-sampling. (**Can use rope instead and make an approximate 1 x 1 m square shape with rope**)
* Small sample of common litter items (bottle, confectionary wrapper, bag etc)
 | * COVIDSafe plan printout
* Site List spreadsheet with one practice sites that include GPS coordinates and approximate street addresses for each transect start/end point and clickable Google Maps links for each transect start/end point. Any site type can be selected. It doesn’t need to strictly fit the definition. It just needs to be similar enough to an AusLM site type to enable the application of the methodology.
* Email all trainees a copy of the Site List Spreadsheet.
* 1 x printout of satellite images showing transect locations for each practice site.
* OPTIONAL for simulations: 1 x copy of Printed Activity Cards for site type simulations (AusLM Training activity cards.pdf) x 1 set (laminated for long-term use)
 | * AusLM Field Manual 1 per trainee
* Site Information Form. 1 per trainee
* Transect Information Form. 1 per trainee
* Transect Litter Count Form. 2 per trainee
* AusLM checklists.pdf x 1 (AusLM toolkit checklist, Pre-departure checklist, Site steps checklist, Site Safety assessment, Site Type Assessment Checklist,

AusLM Fragment size guide)* Minimum item size guide for each participant (Minimum item size guide.pdf incudes 6)
 |
| **Time Topic** | **Main points / Activity** |  |
| *8:30* | Arrival and set-up | * Action COVIDSafe plan for venue set-up. (e.g. sanitise items such as pens, door handles and desks) Contract tracing sheet out, COVID screening questions present (See COVIDSafe Plan).
* Test projector and laptop connectivity & sound for video
* Set-up room. Tables and chairs placed to allow 1.5 m social distancing.
* Set up flip chart / whiteboard for use as needed
* Set up registration
 |  |
| *9:00**20m* | Introduction | Welcome * Training objectives
* COVIDSafe briefing & questions
* What is AusLM
* Why is measuring litter important
* Any questions?
 |  |
| *9:20**10m* | Ice Breaker | * **Activity:** Around the room introductions and answer:

Name:Which item of litter makes you the most angry or upset when you see it? Why? |  |
| *10m* |  | * What does a AusLM surveyor do?
* Briefly talk through the key tasks.
 |  |
| *5m* | Site types | * Where do surveyors count litter
* Six site types – Brief introduction – covered in more detail later.
 |  |
| *5 m* | Foundation knowledgeGPS Coordinates | * Learn about the 3 different GPS coordinates
* Install an APP on phone to easily find GPS coordinates
* **ACTIVITY –** Find current location
* **AusLM training focus areas**
 |  |
| *10 m* | Travel & finding the site | * How to locate your site
* **ACTIVITY Locate a site** - open the spreadsheet, click on the links.
 |  |
| *~10 AM* |  | List of steps to conduct at every site and transect |  |
| *15 m*  | Step 1. Site Safety Assessment | Safety inspection:* Common hazards – **ACTIVITY** – Eliminate / minimise hazardsFor each of the hazards, ask trainees to suggest ways the hazards can be eliminated / minimised.
* Site specific hazards – **ACTIVITY** – Eliminate / minimise hazardsFor each of the hazards, ask trainees to suggest ways the hazards can be eliminated / minimised.
* Dealing with sharps. See Annex 8.1.1
* Site Safety Checklist Card. See Annex 8.3.3
* Highway safety. See Annex 6.4.4
 |  |
| *15 m*  | Step 2. Site Type Assessment | * Run through the Site Type Assessment checklist for each site type. See Annex 8.3.4
 |  |
| *10.30**30 m* | Step 3. Site Context data | * Refer to Section 5.3 Collect site context data of Field Manual
* Show the Site Form and ask everyone to find their copy.
* Refer to Field manual Annex 8.4.4
* Talk through the fields on the site form and discuss how to complete the form.
 |  |
| *11.00**20 m* | Step 4. Set up transect | * Discuss the different methods to locate a transect.
* Refer to the differ transect layouts for different site types. (# of transects, length, width for each site type.) Whilst we haven’t discussed the litter count process yet, the images displayed also the search pattern to follow in a typical scenario, so this can also be highlighted. Search patterns will be addressed briefly later in Step 6.
 |  |
| *11.20 AM**20 min* | BREAK |  MORNING TEAM |  |
| *11.40AM**20 m* | Step 5. Collecting transect context data | * Discuss the transect context fields
* Refer to the Field manual Annex 8.4.5
* Show the Transect Information Form
 |  |
| *12.00pm**15 m* | Step 6. Conduct Litter count | * Where to count litter
* Search patterns within transects

Discuss the different methods for searching for litter within each transect.* Walking in a straight line – counting litter 1.5 m either side (beach & Park, main road)
* “S” shape search pattern used for street type transects (Residential, retail, industrial)
* How to walk (standing upright, speed)

Where to search & not to search.* How fast to walk
* Special rules to follow
 |  |
| *12.15* *30 m* | Categorising litter items found | * Groupings: Beverage containers – Fragments – General litter items
* Beverage containers (material, contents, size)
* Minimum item size 2.5 cm
* Fragments & Fragments sizes (size guide)
* General litter item groupings – Material categories. What are some of the properties of the materials that can help us identify the material?
* Dealing with broken pieces of litter items
* Quick look at items on litter count form
* ACTIVITY: Ask trainees to review all the items on the Litter Count Form. Does everyone see / understand what the items are/look like?
* Litter Item Exclusions – what AusLM does not count.
 |  |
| *12.45pm**45 m* | **LUNCH** | **LUNCH** |  |
| *1.30pm**10 m* | Litter items | * Litter item identification & categorisation quiz
* ACTIVITY: Slides contain images of litter items. Going around the room, ask one trainee what litter item it is and how they would categorise it in the list of AusLM litter item types. Repeat the process for each item, asking a different trainee each time.
 |  |
| *5 m* | Recording litter items | * Tally Count
* Number count
 |  |
| *1.45 pm**15 m* | **Outdoor** Practice field work – Find the site | * Go outdoors
* Use Site List spreadsheet to navigate to first transect start point of the practice site. Trainees can have this uploaded to their phone (via email), or they can manually enter the GPS coordinates into the Google Maps search box.
* As a means of testing the GPS accuracy of surveyor’s phones, see if everyone navigates to the exact same start location and can accurately record their current location to at least six decimal places.

\*\* 15 MIN provided to get outdoors and to the practice site. |  |
| *2pm**15 m* | GPS coordinates recording test | **ACTIVITY*** This activity will allow trainees to practice recording GPS coordinates using a mobile phone.
* TRAINER: At the practice site, walk 10 metres away from the group and place a stake/flag. Take a GPS reading at the site using the recommended GPS App. Write down the coordinates.
* Ask each trainee to take and write down a GPS reading from the same location.
* Compare results to ensure all trainees GPS coordinates match the original reading taken.
 |  |
| *2.15**75 m*  | Practice field work | **ACTIVITIES:**At the practice site, trainer to lead the group in :* Transect set-up – Transect length can be reduced to ~ 25 m long to allow activity to be completed within allocated time.
* Step 1. Site safety assessment
* Step 2. Site type assessment
* Step 3. Collect site context data
* Step 4. Set up transects
* Step 5. Collect transect context data
* Step 6. Conduct Litter count (correct search pattern & speed) - Trainer should provide feedback on speed and search pattern.

All trainees should complete a copy of the Site Information Form, Transect Information Form and one Transect Litter Count form. Each trainee should complete one search of **one** transect. If there is an absence of litter at the site, lay down some pre-prepared litter items for the activity and pick it up at the end.Trainees who audit the same transect should compare litter count results. |  |
| *3.30 pm**10 m* | Walk back to Training venue |  |  |
| *3.40 pm**20 m* | BREAK |  |  |
| *4.00**20 m* | Visual estimation | Discuss time issue of counting large number of cigarette butts.Cigarette butts are the most commonly littered item.**ACTIVITY:** 1. Move to some open space/corridor.
2. Lay down 4 x A4 printouts of the cigarette butt litter on the ground.
3. Ask one trainee to apply the visual estimation technique for cigarette butts
4. Estimate how many areas are adjacent the area counted with a similar number of butts.
5. Explain how to complete the Transect Litter Count Form with this data when visual estimation is used.
6. One other trainee to practice this activity and compare count results at the end
 |  |
| *4.20pm* *20 m* | Sub-sampling | Discuss when and how to use sub-sampling.When – Only in exceptional circumstances. Only when entire transect is very heavily littered (see Section 6.3.8 in the Field Manual)**ACTIVITY:** 1. Move to some open space/corridor with a minimum of 10 m in length.
2. Lay down some rope/string to simulate a Highway or park site type with the road running approx. 10 m in length.
3. Place the cut out litter items (and any real sample litter items) down along the transect length.
4. Assemble the 1m x 1 m timber/PVC pipe sub-sampling frame (**Or a temporary frame shape can be made with string/rope**)
5. Ask for one trainee to volunteer.
6. Starting at the start of the transect, lay down the sub-sampling frame to the left of the transect.
7. Count litter in this 1 m2 area
8. Measure 2 m forward towards the end of the transect.
9. Lay down the sub-sampling frame to the right of the transect.
10. Count litter in this 1 m2 area
11. Repeat this process, alternating from left to right.
12. Explain how to complete the Litter Count Form when sub-sampling is used.
13. **One other trainee to practice this activity and compare count results at the end.**
 |  |
| *4.40**5 m* | Checklists | * Recap on the various checklists available to assist.
* Toolkit checklist, Pre-departure, Site Type Assessment, Site Safety checklist.
 |  |
| *4.45**15 m* | Data Entry | * Recap on the 3 AusLM paper forms (Site information form, Transect information form, Transect litter count form)
* Outline the options to: a) all capture data on paper forms and then later enter into database; b) Hybrid – enter some (Site & Transect information) data directly into the database using electronic forms and capture Transect Litter Count form data on paper form and then enter into database at a later date/time (RECOMMENDED APPRAOCH); c) Capture all data using electronic forms.
 |  |
| *5.00**10 m* | Recap | * Recap of the key steps a surveyor undertakes as part of AusLM
 |  |
| *5.10pm**20 m* | Evaluation | Reflect on the training and practice field work. Discuss transport and logistics for Day 2 Field Work.End of training Evaluation. See section “2.1 Post-training feedback group discussion” below for group discussion questions. |  |
| *5.20pm* | **Session close** |  |  |  |

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| **Trainer:** XXXXXXX **Date:** XXXXXXXXXXXXX **Start time:** 8:30am **End Time:** 5.30pm **Venue:** XXXXXXXXXXX |
| **Session Title: AusLM Practice Field Work** |
| Objectives |
| At the end of this session, the participants will have applied knowledge and skills covered on day one of the training. Specifically, they will have covered all of the key steps required to audit a site and record the results. |
| Equipment | Resources | Participant Handouts |
| * AusLM toolkit
 | * COVIDSafe plan printout
* Site sampling to include one Industrial (or retail or residential) site, plus one park (or main road), and one beach (or simulated beach - Use string to mark out water, dunes etc) site.
* Site List spreadsheet with one or two practice sites that include GPS coordinates and approximate street addresses for each transect start/end point and clickable Google Maps links for each transect start/end point.
* Email all trainees a copy of the Site List Spreadsheet.
* 1 x printout of satellite images showing transect locations for each practice site.
* Trainer/supervisor – Refer to 2.2. Trainer/Supervisor Field observations as a reminder to observe trainees performance
 | * AusLM Field Manual 1 per trainee
* Site Information Form. 3 per trainee
* Transect Information Form. 10 per trainee
* Transect Litter Count Form. 10 per trainee
* AusLM checklists.pdf x 1 (AusLM toolkit checklist, Pre-departure checklist, Site steps checklist, Site Safety assessment, Site Type Assessment Checklist,

AusLM Fragment size guide)* Minimum item size guide for each participant (Minimum item size guide.pdf incudes 6)
 |
| **Time Topic** | **Main points / Activity** |  |
| 9.00am |  | * Meet at Site 1. Industrial site as per travel arrangements from training day. This may be via personal transport of Taxi. Noting COVIDSafe limit of two people per vehicle.
 |  |
| 9 – 9.15 am |  | COVIDSafe & OH&S refresher briefingAsk for assistance if picking up sharps (needle/syringe). We will be picking up glass at parks/beaches – wear gloves. |  |
| 9.15–9.30 am |  | * AusLM Training refresher
 |  |
| 9.30am – 11.30am(2 hours) |  | Refer to 2.2. Trainer/Supervisor Field observations as a reminder to observe trainees performanceFieldwork at Site 1 – IndustrialRemind surveyors to read the Field Guide description for how to survey an industrial site.Everyone will perform site safety & site type assessment & complete site information form Team A will survey transect 1.Team B will survey transect 2.Team A will re-survey transect 2 and the results (litter counts) between team A and B will be compared and discussed. Team B will survey transect 3.* (Longer time allocated for first site and larger transects)
 |  |
| 11.30am – 12pm |  | Debrief/reflection after first site – Refer to question in section **1.3 Site survey debrief discussion****Discuss how the industrial site is similar/different to residential and retail.**Morning tea Refreshment breakSanitise break |  |
| 12.00pm – 12.15pm |  | Walk to Site 2 |  |
| 12.15 – 1.00pm(45 mins) |  | Fieldwork at Site 2 – ParkRemind surveyors to read the Field Guide description for how to survey a Park site.Team B will perform site safety & site type assessment & capture site context data.Team A will survey transect 1.Team B will survey transect 2.Only 2 transects will be audited to save time. Discuss that there are 5 transects at park sites. Discuss how the park site search pattern is similar that used for Main Roads. |  |
| 1.00pm – 1.45pm(45 min) |  | LunchSanitise breakCharge mobile phones using laptop or powerbank Debrief on Site 2 over lunch (**1.3 Site survey debrief discussion**) |  |
| 1.45pm – 2.00pm(15 min) |  | Walk/travel to Site 3. Beach (or simulated beach could be undertaken at a park) |  |
| 2.00 – 3.30pm |  | Perform all required steps to audit the beach site. Debrief on Site 2 over lunch (**1.3 Site survey debrief discussion**) |  |
| 3.30 – 5.00pm |  | At the beach or simulated beach, either draw in the sand or use string to mark out a simulated Main Road site with features such as the road, edge of the road, roadside verge (vegetation area) clearly marked.Discuss the process of auditing a main road site, noting the need to be 4 m from the road edge at all times.Surveyors should practice auditing a simulated transect.Debrief on Site 3 (**1.3 Site survey debrief discussion**) |  |
| 5.00 – 5.30 pm |  | Debrief and Question and answer session to resolve any confusion or difficult steps or site-specific requirements.  |  |
| 5.30 pm |  | Return home/back to work. |  |

## Post-training feedback group discussion

These questions are to be asked at the end of AusLM training to encourage sharing and discussion between trainees on the effectiveness of the AusLM training Program. Due the small numbers of trainees taking part in the pilot, a group discussion is an appropriate approach. The Trainer should take summary notes from the group feedback.

1. Overall, how did everyone find the training program?
2. Does anyone have any comments or feedback on how the training was planned and organised?
3. Would you say you are confident in knowing what an AusLM surveyor needs to do and how to do it or are there areas where more time and effort is needed to be spent during training and practice?
4. How would you rate the slides and the presentations?
	1. Is there anything you think needs improving?
5. How would you rate the activities we performed indoors?
	1. Which were the most useful activities?
	2. Which activities need to be improved?
	3. Was there a need for more practice and activities in any specific areas?
6. How would you rate the practice field work we performed outdoors?
	1. Did you have all the required knowledge and skills to:
		1. find the sites
		2. complete the safety and site type assessment
		3. identify transect start and end points
		4. count litter in the correct areas using the correct survey method
		5. identify and categorise the litter items
7. Does anyone have any final recommendations for how the training and practice field work could be improved?

## Trainer/Supervisor Field observations

The supervisor should make note of the following items whilst surveyors are undertaking field work:

|  |  |
| --- | --- |
| Observation categories | Observation comments |
| Surveyors referring to the field manual |  |
| Surveyors following the correct steps as per the field manual |  |
| Surveyors referring to checklists and the fragments size guide when needed |  |
| Questions asked by surveyors to fill knowledge gaps not covered during training |  |
| What aspects of field work ran smoothly? |  |
| What aspects of field work ran were problematic for surveyors? |  |
| Comparison of litter item count summaries between surveyors where the same transect was counted by more than one surveyor |  |
| Time taken for a surveyor to:* complete safety assessment
* complete site type assessment
* fill in site context
* conduct litter count
* enter data into webforms/Mobile App
 |  |
| Review Site Forms to estimate the time taken to survey each site. Apply adjustments to reflect the time required if there are only two surveyors present at a site. |  |

## Site survey debrief discussion

At the completion of auditing each site, the following questions will lead a group discussion to collect feedback on the application of AusLM for the specific site type.

1. Overall, how did everyone go surveying this site?
2. Were there any issues or challenges finding the site?
3. Were there any issues or challenges with the safety assessment?
4. Were there any issues or challenges with the site type assessment?
5. Were there any issues or challenges completing the site or transect context information?
6. Were there any issues or challenges finding the transect start and end points?
7. Were there any issues or challenges with transect boundaries and knowing where to count and were not to count?
8. Were there any issues or challenges identifying and categorising litter items?
9. Based on your experience surveying this site, does anyone have any other comments or recommendations to improve the AusLM method, the field guide or the data collection forms?