Fuel Management and Tree Hazard Collector Apps

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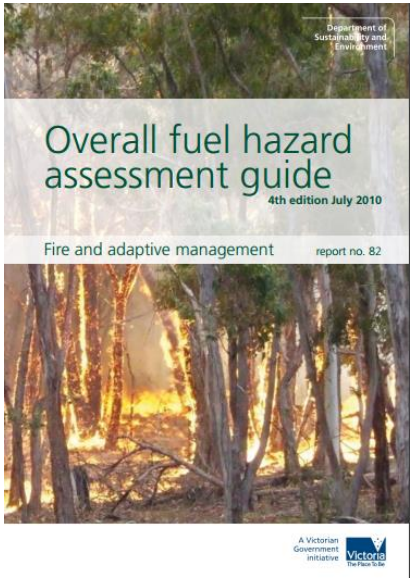
FOREST FIRE MANAGEMENT VICTORIA

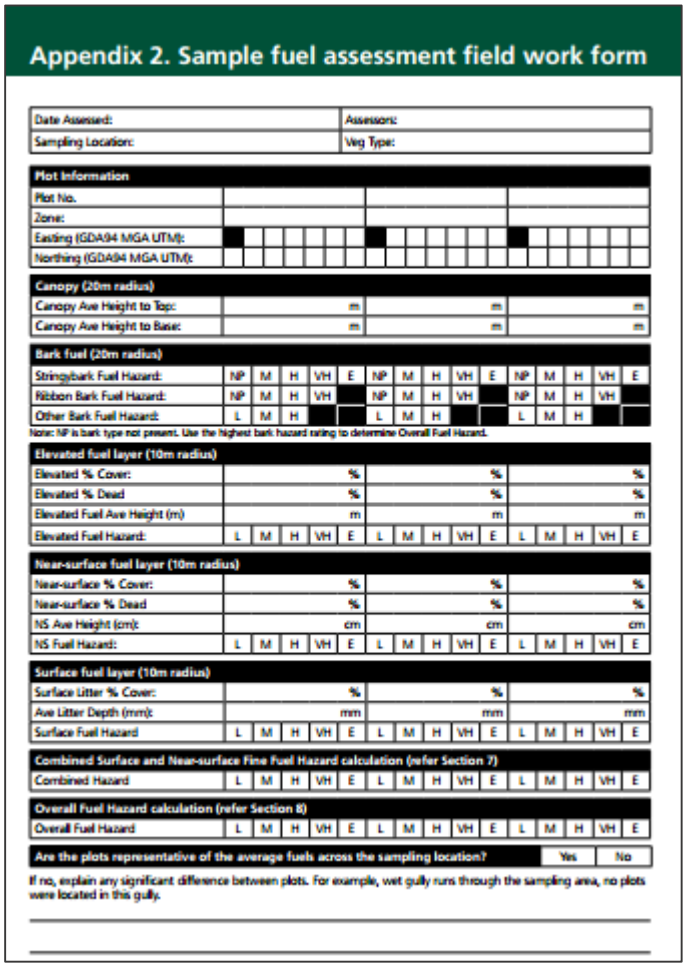
Overview

- Build process – understanding user story
- Bushfire Prevention Patrol Application
- Burn Reccie/Fuel Management Integration
- Hazardous Tree integration

Build Process

Understanding the current user story





Appendix 2. Sample fuel assessment field work form

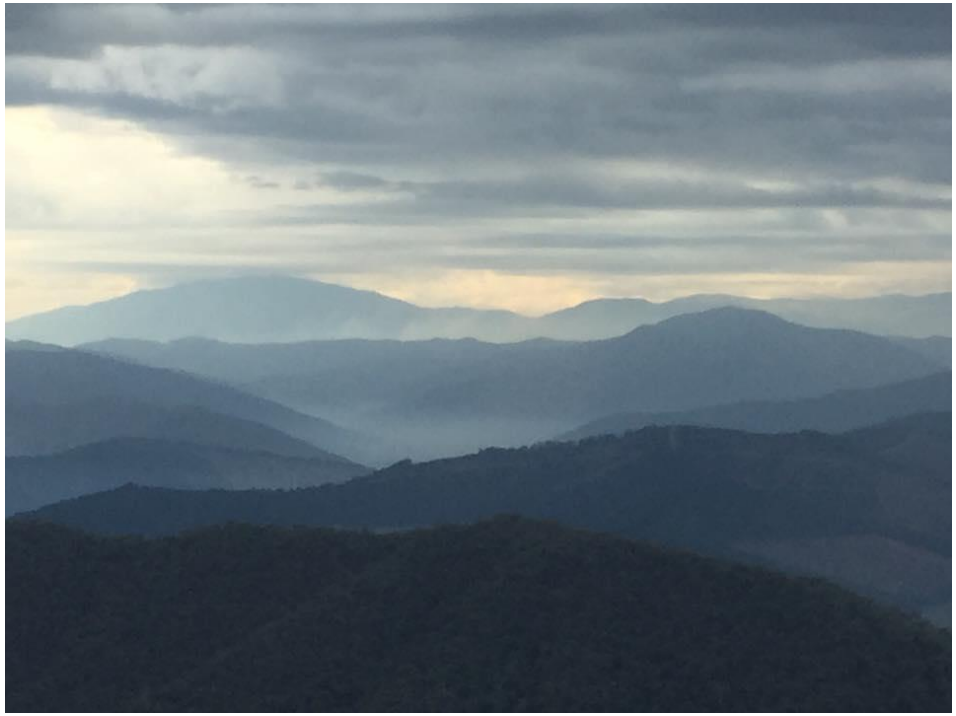
Date Assessed:						Assessors:									
Sampling Location:						Veg Type:									
Plot Information															
Plot No.															
Zone:															
Easting (GDA94 MGA UTM):															
Northing (GDA94 MGA UTM):															
Canopy (20m radius)															
Canopy Ave Height to Top:	m					m					m				
Canopy Ave Height to Base:	m					m					m				
Bark fuel (20m radius)															
Stringybark Fuel Hazard:	NP	M	H	VH	E	NP	M	H	VH	E	NP	M	H	VH	E
Ribbon Bark Fuel Hazard:	NP	M	H	VH		NP	M	H	VH		NP	M	H	VH	
Other Bark Fuel Hazard:	L	M	H			L	M	H			L	M	H		
Note: NP is bark type not present. Use the highest bark hazard rating to determine Overall Fuel Hazard.															
Elevated fuel layer (10m radius)															
Elevated % Cover:	%					%					%				
Elevated % Dead	%					%					%				
Elevated Fuel Ave Height (m)	m					m					m				
Elevated Fuel Hazard:	L	M	H	VH	E	L	M	H	VH	E	L	M	H	VH	E
Near-surface fuel layer (10m radius)															
Near-surface % Cover:	%					%					%				
Near-surface % Dead	%					%					%				
NS Ave Height (cm):	cm					cm					cm				
NS Fuel Hazard:	L	M	H	VH	E	L	M	H	VH	E	L	M	H	VH	E
Surface fuel layer (10m radius)															
Surface Litter % Cover:	%					%					%				
Ave Litter Depth (mm):	mm					mm					mm				
Surface Fuel Hazard	L	M	H	VH	E	L	M	H	VH	E	L	M	H	VH	E
Combined Surface and Near-surface Fine Fuel Hazard calculation (refer Section 7)															
Combined Hazard	L	M	H	VH	E	L	M	H	VH	E	L	M	H	VH	E
Overall Fuel Hazard calculation (refer Section 8)															
Overall Fuel Hazard	L	M	H	VH	E	L	M	H	VH	E	L	M	H	VH	E

Are the plots representative of the average fuels across the sampling location?	Yes	No

If no, explain any significant difference between plots. For example, wet gully runs through the sampling area, no plots were located in this gully.

Build Process

Understanding the environment in which we work

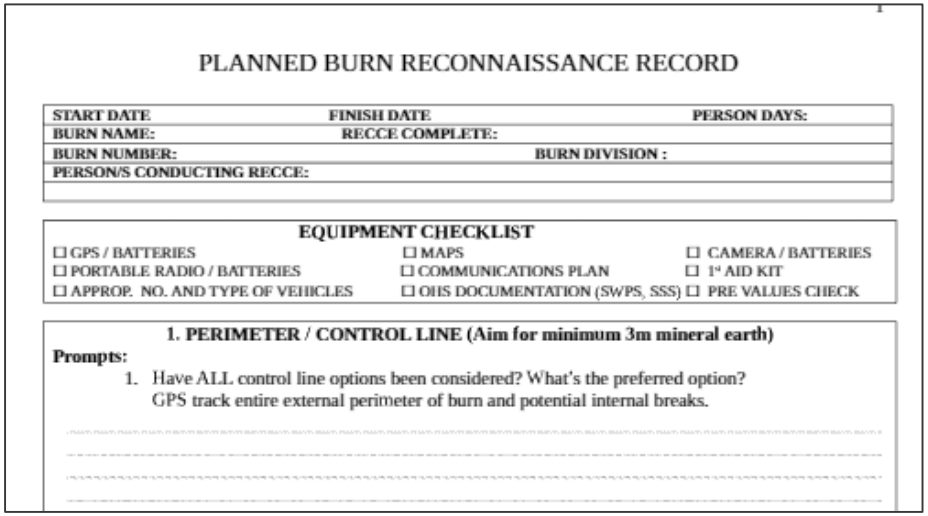


Bushfire Prevention Patrol

- Users wanted to digitise current form during Forest Patrol.
- Built for OCFO as a trial
- Successfully implemented
- Future developments to make changes to Compliance Application

Burn Reccie - Fuel Management

- Current method:
  - Burn reccie sheet
  - Handheld GPS
  - Digital Camera
- Labour intensive
- Still important to maintain this process
- Arc Collector – brings all existing tools into one



PLANNED BURN RECONNAISSANCE RECORD

START DATE	FINISH DATE	PERSON DAYS:
BURN NAME:	RECCE COMPLETE:	
BURN NUMBER:	BURN DIVISION :	
PERSON/S CONDUCTING RECCE:		

EQUIPMENT CHECKLIST

☐ GPS / BATTERIES	☐ MAPS	☐ CAMERA / BATTERIES
☐ PORTABLE RADIO / BATTERIES	☐ COMMUNICATIONS PLAN	☐ 1st AID KIT
☐ APPROP. NO. AND TYPE OF VEHICLES	☐ OHS DOCUMENTATION (SWPS, SSS)	☐ PRE VALUES CHECK

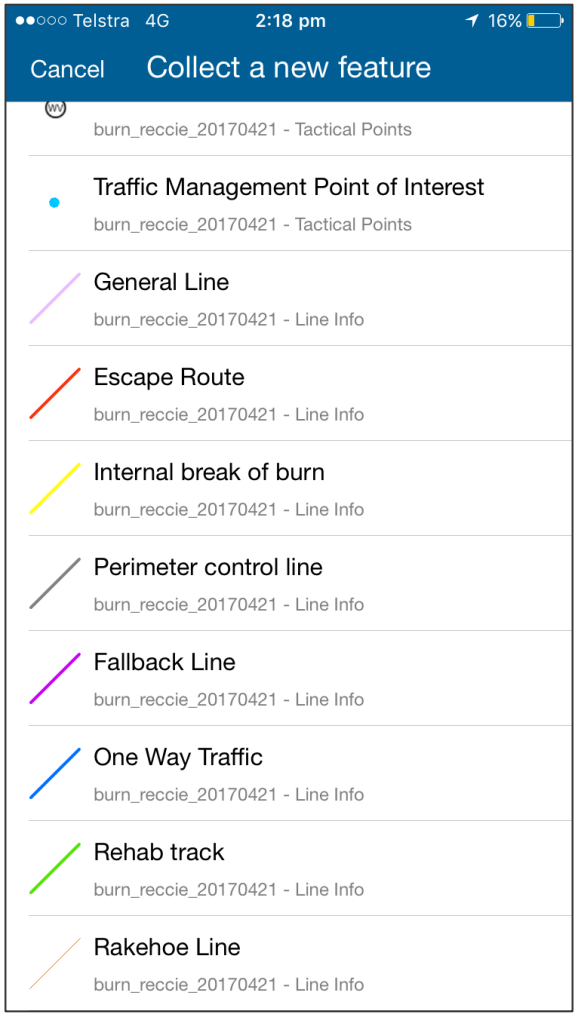
1. PERIMETER / CONTROL LINE (Aim for minimum 3m mineral earth)

Prompts:

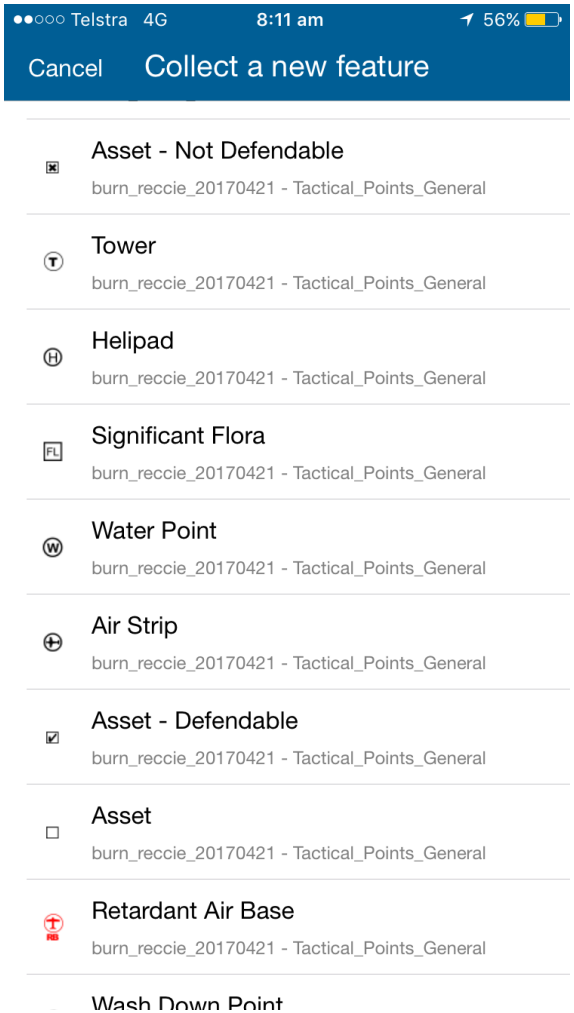
1. Have ALL control line options been considered? What's the preferred option? GPS track entire external perimeter of burn and potential internal breaks.

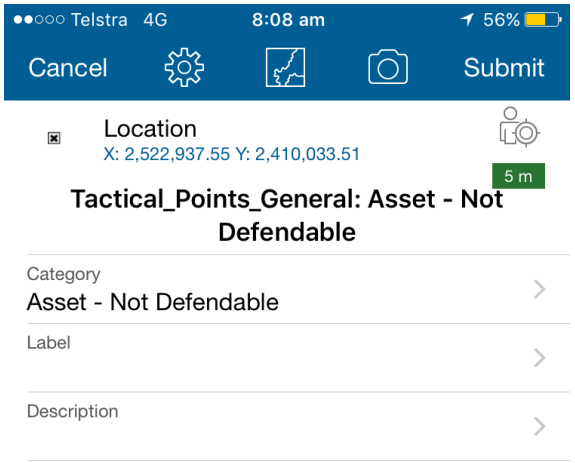
Burn Reccie - Fuel Management

- Burn Reccie Collector tool
- Replicates symbology in eMap
  - Points
  - Lines
  - No polygons at this stage
  - FMC
- Data to feed back into eMap
- Distributed via workcentre accounts



Burn Reccie - Fuel Management



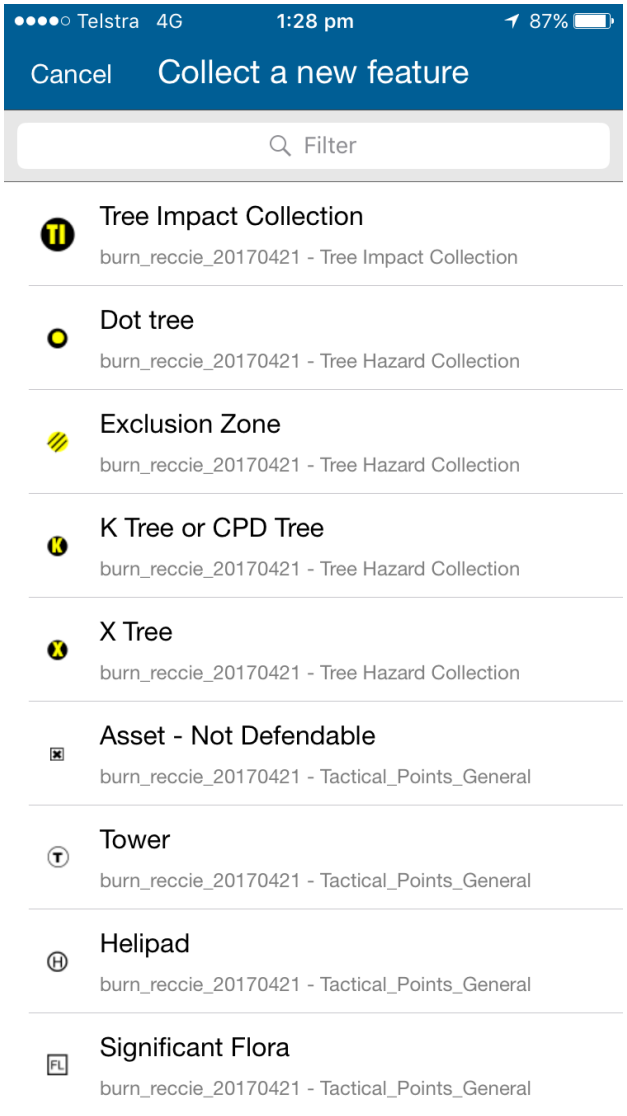


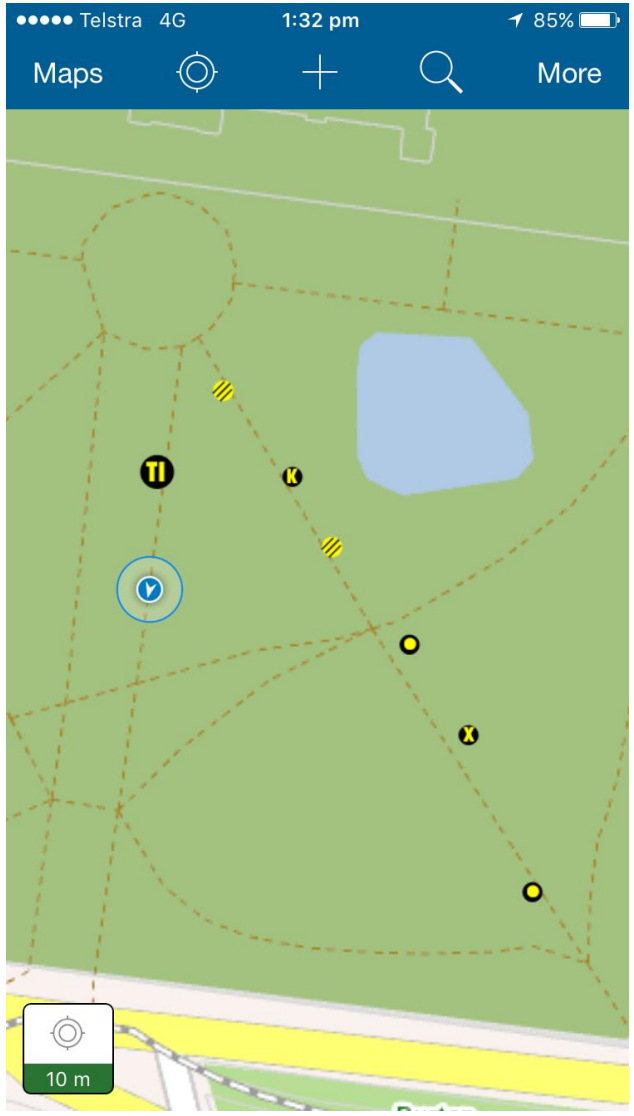
Fuel Management – Tree Hazard

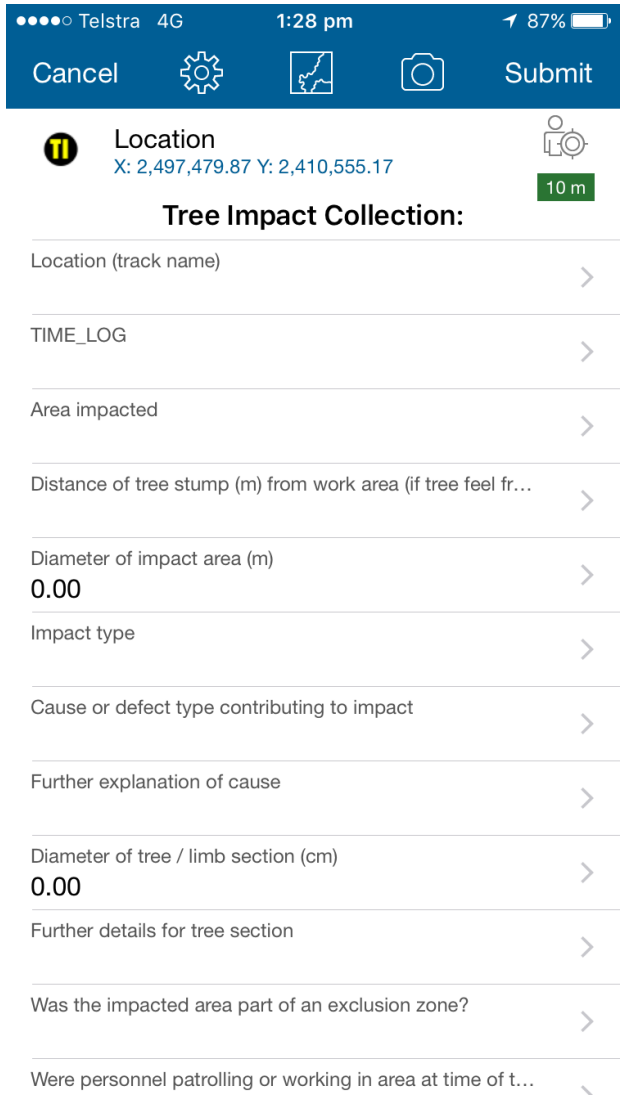
- Tree hazard is a primary safety concern for FFM
- Integration of forms in burn reccie.
- Stand alone map can also be used during post ignition - Tree Impact
- Incorporates with new tool development
  - Tree Hazard Contingency Plan
- Export to multiple formats

Tree Hazard – Arc Collector App – Project Snapshot

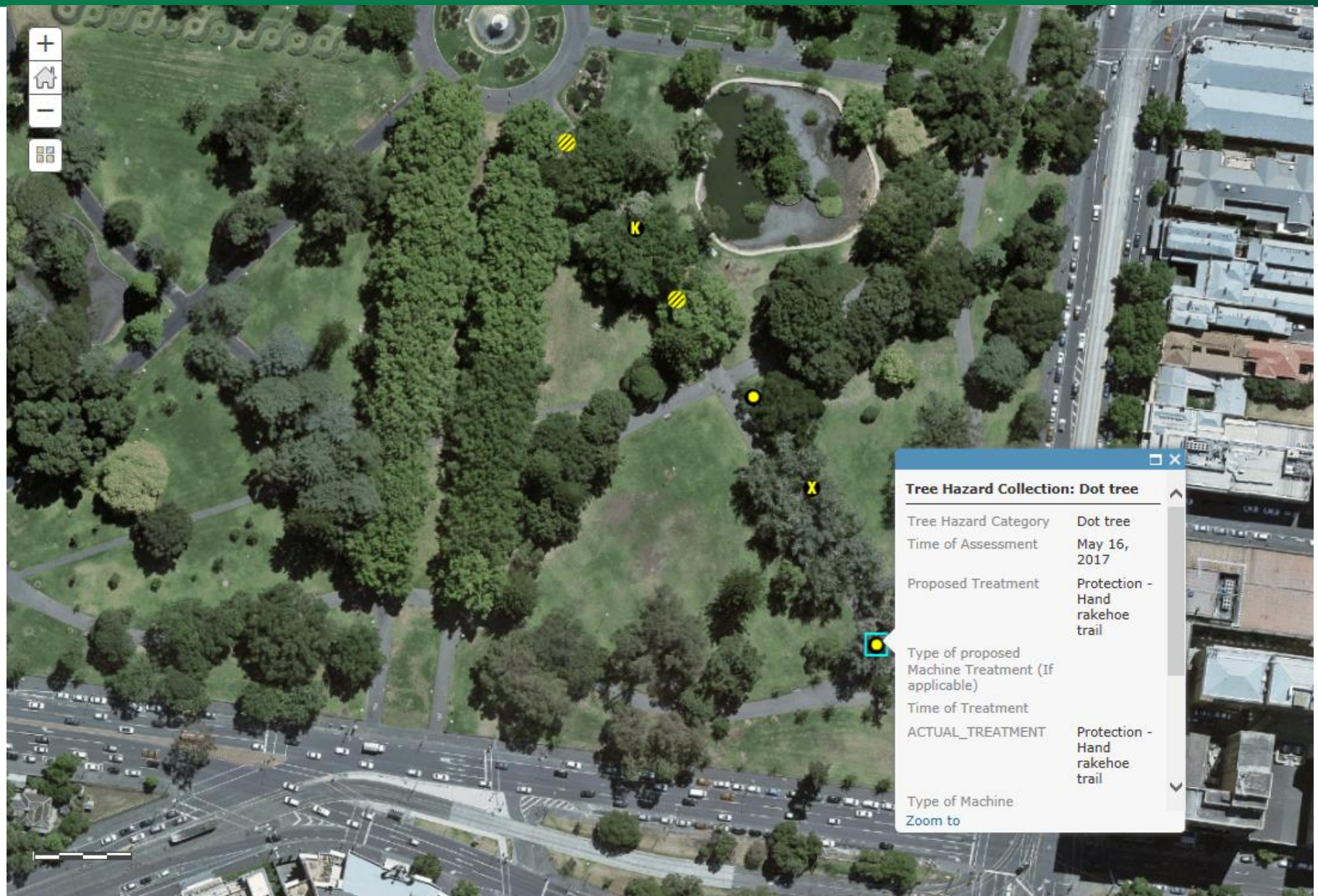
Project Status: In Progress







Tree Hazard – Arc Collector App – Project Snapshot



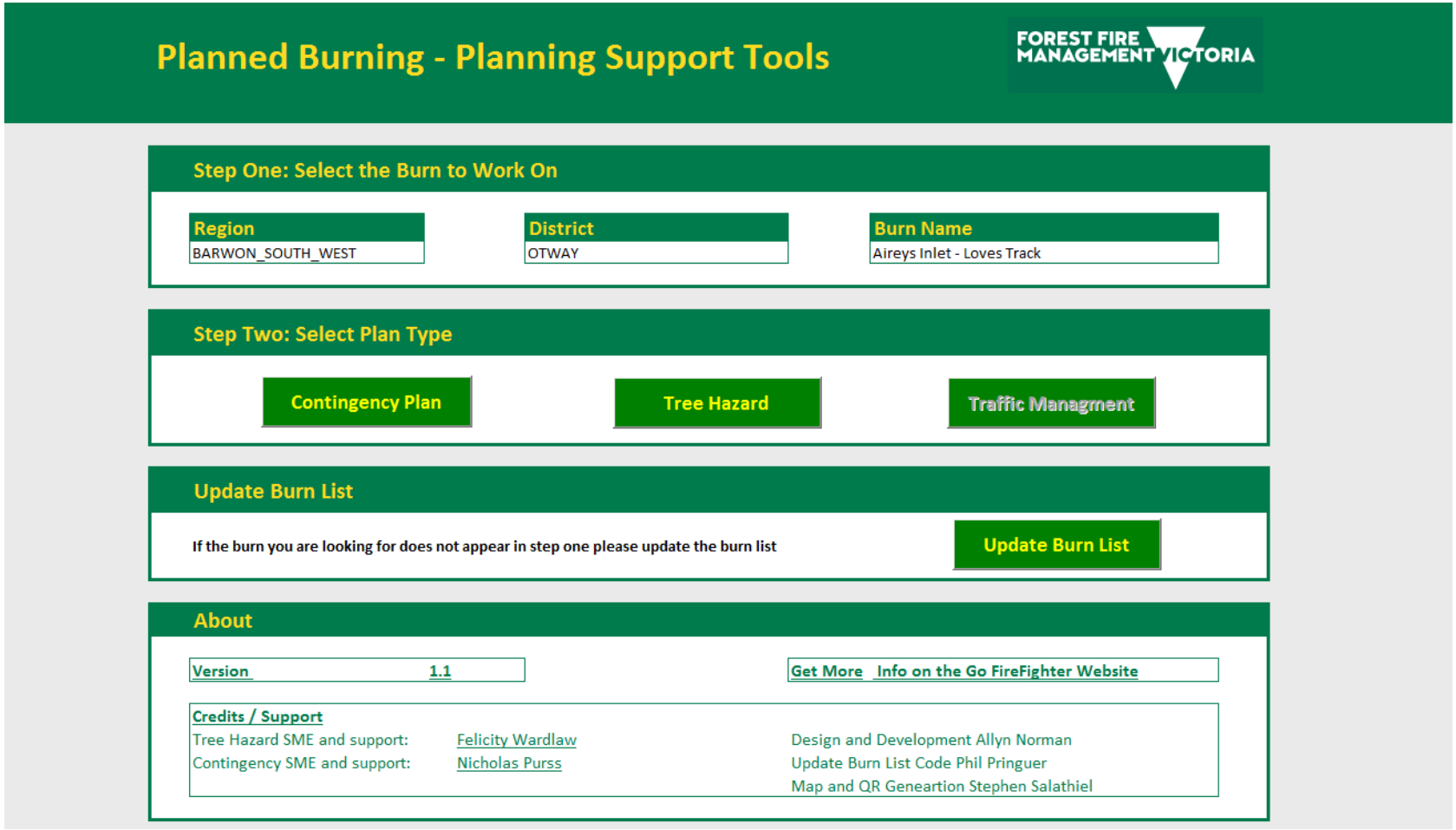
Tree Hazard – Arc Collector App – Project Snapshot

Tree Hazard Collection (6 features, 0 selected)

OBJEC...	Tree Hazard Cat...	Time of Assess...	Proposed Treat...	Type of propos...	Time of Treatment	ACTUAL_TREA...	Type of Machin...	Tree type	Tree diam
1	Dot tree	5/16/17, 1:19 PM	Protection - Hand rakehoe trail			Protection - Hand rakehoe trail		Stringy	
2	X Tree	5/16/17, 1:21 PM	Hand falling						80
3	Dot tree	5/16/17, 1:22 PM	Protection - Machine Clear						60
4	K Tree or CPD Tree	5/16/17, 1:25 PM	Exclusion zone		5/16/17, 1:25 PM	Exclusion zone			

A	B	C	D	E	F	G	H	I	J	K
OBJECTID	Tree Hazard Category	Time of Assessment	Proposed Treatment	Type of proposed Machine Treatment (If applicable)	Time of Treatment	ACTUAL_TREATMENT	Tree type	Tree diameter (cm)	Tree Height (m)	Comments (E.g. hazards when falling)
1	Dot_tree	5/16/2017 3:19:26 AM	Protect_hand_rake			Protect_hand_rake	Stringy			
2	X_tree	5/16/2017 3:21:09 AM	HandFall				Stringy	80		
3	Dot_tree	5/16/2017 3:22:42 AM	Protect_machine_rake	D4			Bluegum	60		
4	CPD_Tree	5/16/2017 3:25:01 AM	Exclude		5/16/2017 3:25:18 AM	Exclude	Peppermint	70	28	On top of batter, very unstable
5	Exclusion_Zone		Exclude			Exclude				
6	Exclusion_Zone		Exclude			Exclude				

Tree Hazard – Integration with new tools



Future

- Testing
- Tool to assist not to replace
- Communication
- Keeping users centric to development
  - Increased functionality:
    - Active symbology
    - Tracks
    - Smoother one-to-many work flows
- Opportunity to engage with Field Tech Reference Group