ENVIRONMENTAL
ASSESSMENT SERVICES P/L

29 September, 2016

South Kings Properties Pty Ltd on behalf of Precinct 15 Landowners
Suite 650, 1 Queens Road
Melbourne Vic 3004

Email: jadams@cvcventures.com.au

Dear Jonathan,

RE: Precinct 15 Rezoning – Environmental

Following on from our recent meeting and correspondence with the Victorian Planning Authority, Environmental Assessment Services Pty Ltd (EAS) provides the following information.

As a result of discussions held between Environmental Assessment Services Pty Ltd, Senversa and the Victorian Planning Authority it was agreed that a questionnaire be prepared that would more concisely clarify outstanding issues relating to the proposed re-zoning for Precinct 15.

The questionnaire was developed to clarify the following outstanding issues:

a. Provide the historical and current land use and potential contamination history for the land parcel.
b. Identify the key potential sources of land contamination for the land parcel, and their locations, and what contaminants of concern have been identified and/or are expected to which will need to be remediated or managed to allow redevelopment of the land parcel.
c. Overlay this history and known contamination issues with the intended land use and proposed built form for each land parcel.
d. What meaningful conclusions can be drawn from this assessment about the practical and feasible remediation management techniques that can be applied to the land parcel, given the proposed land use and built form?
e. Where it is expected that contamination may remain following clean up and would require ongoing management, what nature of management conditions are expected and who would be responsible for implementation of these?

In response, a questionnaire was prepared and issued to all members of the Project Control Group (representing 82% of Precinct 15 – refer to attached Land Ownership and Property Description Plan). The properties relevant to this group include:

- Catalfamo (40 Kyle Road, Altona North)
- Rosen (8 – 38 Kyle Road, Altona North)
- Secon (278-288 Blackshaws Road, Altona North)
- George Weston / Don (248-258 Blackshaws Road, Altona North)

4 Allee Street, Brighton
Telephone: 03 9503 0107
Mobile: 0431 533480
Email: tony@enviroassess.com.au
Web: www.enviroassess.com.au

- TIC 1 (232-246 Blackshaws Road, Altona North)
- TIC 2 (200-214 Blackshaws Road, Altona North)
- Harbolt / Mirvac (188-198 Blackshaws Road, Altona North)
- 22 Spot 1 (48 New Street, Kingsville South)
- 22 Spot 2 (2 - 22 New Street, Kingsville South)

Environmental Consultants responsible for the site assessment works relating to the above properties completed the questionnaires. Attachment II presents the nine completed questionnaires and the proposed Dwellings Type Map.

A summary of the findings presented in the questionnaires, relating to the above outstanding issues is presented below:

a. Provide the historical and current land use and potential contamination history for the land parcel.

Each questionnaire has provided a comprehensive account of historical land uses and identified the uses that may have contributed to site contamination. Although the uses are many and varied, the land uses that have likely contributed to site contamination include:

- Below ground storage and supply of petroleum hydrocarbons and solvents.
- Manufacture of compressed gasses, titanium dioxide pigments, aluminium sulphate.
- Importation of fill material.
- Timber treatment and storage.
- Landfilling.

b. Identify the key potential sources of land contamination for the land parcel, and their locations, and what contaminants of concern have been identified and/or are expected to which will need to be remediated or managed to allow redevelopment of the land parcel.

Each questionnaire has provided a detailed listing of key potential contaminant sources, their locations and identified the associated contaminants of concern which require remediation / management to allow for the proposed development. Again, although the sources are many and varied, the main sources which have (or will be) cleaned up or require future consideration include:

- Underground storage tanks, pits and associated infrastructure and surrounding soils.
- Site filling material, either imported or impacted by site activities.
- Buildings / sites with asbestos containing materials.
- Residual wastes and sludges.

c. Overlay this history and known contamination issues with the intended land use and proposed built form for each land parcel.

Each questionnaire has recognised which built form land use is relevant to each site, which is predominantly 3-4 storey townhouses, where limited (if any) access to soils would remain.

It has also been recognised that although that mixed use and apartment buildings some soil access would remain in lower density built forms and public open space areas, the only soil that would remain accessible is clean fill.

d. What meaningful conclusions can be drawn from this assessment about the practical and feasible remediation management techniques that can be applied to the land parcel, given the proposed land use and built form?

The questionnaires consistently found that the chemical condition of the sites, would not preclude the proposed built form development/s.

Site management issues were largely focussed on site aesthetics, rather than remnant site contamination.

Where residual contamination remains in isolated areas, such soils will either be removed prior to construction or included in a Construction Environmental Management Plan to ensure such soils cannot be accessed as part of the intended land use (i.e. soil encapsulation or capping with at least 0.5 metres of clean fill).

Where remnant contamination may remain (and in addition to the Construction Environmental Management Plan), a human health risk assessment will be completed to verify that the land parcel is suitable for the intended land use built form.

e. Where it is expected that contamination may remain following clean up and would require ongoing management, what nature of management conditions are expected and who would be responsible for implementation of these?

The questionnaires consistently found that ongoing management following the completion of the site assessment/clean-up would not be required.

Where on-going management of remnant contamination or site aesthetics is required, a Construction Environmental Management Plan would be the tool utilised by the builder who would be responsible for removing fill (where necessary) in areas proposed for accessible soils (i.e. landscaped gardens and lawns) and satisfying relevant Statement Conditions.

The final rehabilitation of former quarries would be completed by the current land owners via the installation of an appropriate capping layer. Should on-going monitoring be required, the cost of such works would not be passed on to Council or future land owners (i.e. existing land owners will continue to be responsible).

Some areas are likely to be designated as a Groundwater Quality Restricted Use Zones (GQRUZ).

For those sites with little (if any) site contamination assessment works completed (which includes at least two operating / former service station sites and several smaller commercial / industrial operations along New Street), the questionnaires have given due consideration to these sites in assessment works carried out in sites adjacent to date.

Numerous groundwater monitoring wells have been established adjacent to these sites, which to date have not identified site contamination that would preclude the proposed built form land uses at any of the PCG sites.

Should you have any queries regarding information presented in this correspondence, please do not hesitate to contact me.

Yours faithfully

Tony Connolly
Environmental Consultant

Attachments:

Attachment I Land Ownership and Property Description Plan
Attachment II Completed Questionnaires & Dwelling Types Map

Attachment I

Land Ownership and Property Description Plan

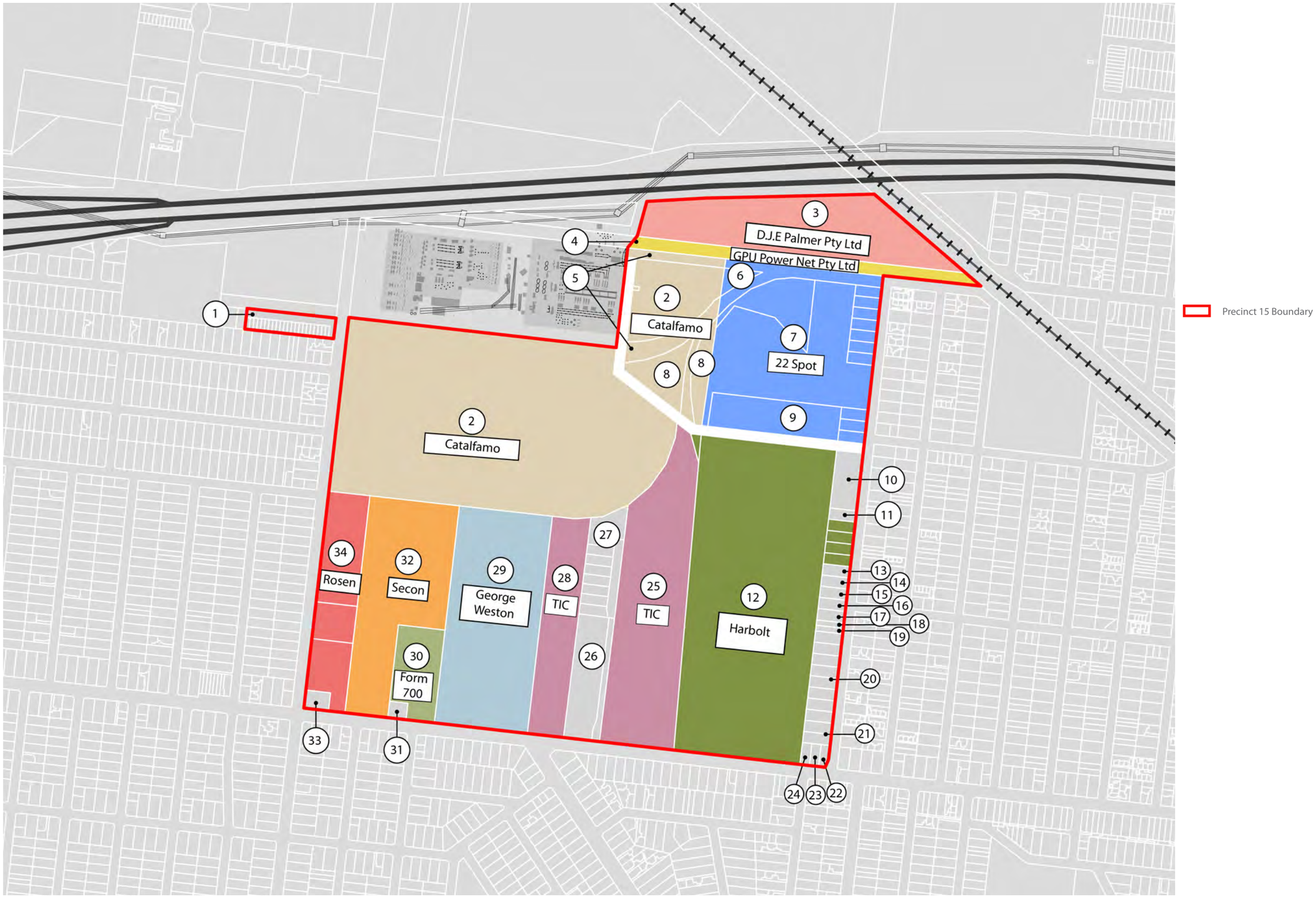

Figure 15 – **Land Ownership and Property Description Plan**

Attachment III

Completed Questionnaires &

Dwelling Types Map

BACKGROUND			
Site Address:	40 Kyle Rd, Altona North	Undergoing Section 53X Audit: YES ☑	Appointed Auditor (Contaminated Land):
Site Assessor:	Environmental Assessment Services Pty Ltd	NO ☐	Nick Owen (Prensa)

HISTORY	
Historical / Current Land Use	Potential Contamination History for Land Parcel
Prior to 1948 - Greenfields site	Agricultural sprays (i.e. pesticides, herbicides and fertilisers)
Gilbertson's abattoir/boning operations from 1951 - 2000	Imported fill, below ground fuel storage tank, waste water collection, transfer and treatment, substation, cattle dip wash, incinerator, railway, cattle yards / holding pens.
SBA solid inert waste landfill in rear quarry between 2000 - 2003	Metals, polycyclic aromatic hydrocarbons, petroleum hydrocarbons
Tasman Group boning operations from 2002 - 2004	As above per Gilbertsons's occupation
Site shut down - all operations ceased 2004	NA
Demolition works commenced 2005	NA

SOURCE IDENTIFICATION AND APPROACH TO CLEAN-UP		
Key Potential Sources	Location	Contaminants of Concern to be Remediated / Managed to Allow Redevelopment of the Land Parcel
Imported fill:	Former abattoir operations - western section of land parcel	Isolated areas contain residual metals and polycyclic aromatic hydrocarbons (PAHs) above standard residential use, along with remnant brick, concrete, crushed rock
Below ground fuel storage tanks:	Former abattoir operations - western section of land parcel	The redundant tanks have been removed and validated
Waste water collection, transfer and treatment:	Former abattoir operations - western section of land parcel	All infrastructure associated with waste water which may previously contained suspended solids, phosphorus, nitrogen, sodium, oil, grease and metals was decommissioned and removed during site demolition works. Detailed investigation carried out adjacent to former below ground services verified the absence of contaminated soils
Substation:	South central boundary	Although absent of PCBs, some near-surface hydrocarbon contaminated soil was removed and exposed soils validated
Cattle dip wash:	North central section	No residue encountered containing arsenic, organochlorines or organophosphate
Incinerator:	North eastern section	No residue encountered containing PAHs or metals
Railway:	Northern section	No residue encountered containing hydrocarbons, arsenic, creosote, nitrates, ammonia or metals
Cattle yards / holding pens:	Northern section	No residue encountered containing phosphorus, nitrogen, sodium, oil, grease or metals
Skin sheds:	South eastern section	Although no raised contaminants of concern remain, some olfactory / aesthetic issues are to be managed
Solid inert waste landfill:	North eastern section	Backfill at depth contains residual metals and (PAHs above standard residential use, along with remnant brick, concrete, crushed rock, plastic, wood, wire and rubber

INTENDED LAND USE (APPLYING SUPPLIED PRECINCT LAND USE MAP)			
Site Dwelling type		Accessibility to Soil	Comments
Mixed Use Areas	☐	Limited or no soil accessibility	
Industrial Areas	☐	Limited or no soil accessibility	
Community Facility	☑	Potential for some soil accessibility	Potential for re-design where necessary
Public Open Space	☑	Accessible soil	Only soil that will remain accessible will be clean fill
2-3 Storey Residential	☑	Likely soil accessibility	Only soil that will remain accessible will be clean fill
3-4 Storey Residential	☑	Potential for some soil accessibility	Potential for re-design where necessary
5-6 Storey Residential	☑	Limited or no soil accessibility	

APPLICATION OF REMEDIATION MANAGEMENT TECHNIQUES BASED ON BUILT FORM

What meaningful conclusions can be drawn from this assessment about the practical and feasible remediation management techniques that can be applied to the land parcel, given the above proposed land use and built form?

Where residual contamination remains in isolated areas, such soils will either be removed prior to construction or included in a Construction Environmental Management Plan to ensure such soils cannot be accessed as part of the intended land use (i.e. soil encapsulation or capping with at least 0.5 metres of clean fill).

The north eastern quarry is to be backfilled with clean soil and an appropriate capping layer applied across the proposed public open space zone.

Any remnant contamination that may remain (and in addition to the Construction Environmental Management Plan), a human health risk assessment will be completed to verify that the land parcel is suitable for the intended land use built form.

POTENTIAL FOR RESIDUAL CONTAMINATION & AMANGEMENT

Where it is expected that contamination may remain following clean up and would require ongoing management, what nature of management conditions are expected and who would be responsible for implementation of these?

As part of the Construction Environmental Management Plan, the builder will be responsible for removing fill (where necessary) in areas proposed for accessible soils (i.e. landscaped gardens and lawns).

The final rehabilitation of the former quarry will be completed by the current land owner via the installation of an appropriate capping layer. Should the existing landfill gas bores require routine monitoring the existing land owner has agreed to continue to be responsible for any such works.

Based on the investigation completed to date, groundwater is not expected to require on-going monitoring, although the site is likely to be desiganted as a GQRUZ.

BACKGROUND			
Site Address:	8-38 Kyle Road, Altona North	Undergoing Section 53X Audit: YES ☐	Appointed Auditor (Contaminated Land):
Site Assessor:	ESP Environmental & Safety Professionals	NO ☑	

HISTORY	
Historical / Current Land Use	Potential Contamination History for Land Parcel
Historical: Engineering works and steel mesh fabrication	Underground fuel storage tanks (USTs)
Current: Steel mesh fabrication and freight storage/distribution	Wash bays and associated triple interceptor traps (x2)
	Engineering activities, including maintenance areas/workshops
	Two substation at the southern (decommissioned) and central portions of the site
	Offsite service station (southwest neighbour)
	Offsite landfill (northern neighbour)

SOURCE IDENTIFICATION AND APPROACH TO CLEAN-UP		
Key Potential Sources	Location	Contaminants of Concern to be Remediated / Managed to Allow Redevelopment of the Land Parcel
Underground fuel storage tanks (now removed)	South / southwest of the northern warehouse	NA: tanks removed/validated. Impacted soil removed.
Engineering operations	Two localised hotspots beneath the southern warehouse	PAH & TRH (ecological, not human health, hotspots).
Wash bay & former USTs (Groundwater)	Various locations	Further assessment only - unlikely to require remediation.
Aesthetic issues in fill	Shallow fill at selected areas across the site.	Aesthetic issue only. Possible disposal or management.
Offsite - Former service station	Southwest of the site (neighbour)	Further assessment, likely risk assessment only.
Offsite - Former landfill	North of the site (neighbour)	Further assessment required, remediation highly unlikely

INTENDED LAND USE (APPLYING SUPPLIED PRECINCT LAND USE MAP)			
Site Dwelling type		Accessibility to Soil	Comments
Mixed Use Areas	☐	Limited or no soil accessibility	
Industrial Areas	☐	Limited or no soil accessibility	
Community Facility	☐	Potential for some soil accessibility	Potential for re-design where necessary
Public Open Space	☐	Accessible soil	
2-3 Storey Residential	☑	Likely soil accessibility	
3-4 Storey Residential	☑	Potential for some soil accessibility	Potential for re-design where necessary
5-6 Storey Residential	☐	Limited or no soil accessibility	

APPLICATION OF REMEDIATION MANAGEMENT TECHNIQUES BASED ON BUILT FORM
What meaningful conclusions can be drawn from this assessment about the practical and feasible remediation management techniques that can be applied to the land parcel, given the above proposed land use and built form?
Given the current understanding of the soil and groundwater condition at the site, it is considered unlikely the site development will be impacted by residual environmental issues. Given the intended land use for the overall site (i.e. likely or potential soil accessibility) retention of aesthetically unsuitable soil may be considered as a management option to avoid offsite disposal.

POTENTIAL FOR RESIDUAL CONTAMINATION & AMANGEMENT
Where it is expected that contamination may remain following clean up and would require ongoing management, what nature of management conditions are expected and who would be responsible for implementation of these?
Unlikely to require ongoing management following the completion of the site assessment/clean-up.

BACKGROUND			
Site Address:	278-288 Blackshaws Road, Altona North	Undergoing Section 53X Audit: YES ☐	Appointed Auditor (Contaminated Land):
Site Assessor:	Cardno	NO ☑	

HISTORY	
Historical / Current Land Use	Potential Contamination History for Land Parcel
Historical: PMG Depot, Engineering works, abattoir stockyard	Underground fuel storage tanks (USTs)
Current: Freight storage/distribution	Fumigation area
	Offsite engineering works (western and southeastern neighbours)
	Offsite service station (southeast neighbour)
	Offsite landfill (northern neighbour)

SOURCE IDENTIFICATION AND APPROACH TO CLEAN-UP		
Key Potential Sources	Location	Contaminants of Concern to be Remediated / Managed to Allow Redevelopment of the Land Parcel
Underground fuel storage tanks (now removed)	North/central portion of the site	NA: tanks removed/validated.
Fumigation area	Northern portion of the site	Unlikely to require remediation.
Aesthetic issues in fill (including recycled asphalt hardstand)	Shallow fill at selected areas across the site	Aesthetic issue only. Possible disposal or management.
Offsite - Operational service station	Southeast of the site (neighbour)	Further assessment required, remediation highly unlikely.
Offsite - Former landfill	North of the site (neighbour)	Further assessment required, remediation highly unlikely.
Fumigation area (Groundwater)	Northern portion of the site	Further assessment only - unlikely to require remediation.

INTENDED LAND USE (APPLYING SUPPLIED PRECINCT LAND USE MAP)			
Site Dwelling type		Accessibility to Soil	Comments
Mixed Use Areas	☐	Limited or no soil accessibility	
Industrial Areas	☐	Limited or no soil accessibility	
Community Facility	☐	Potential for some soil accessibility	Potential for re-design where necessary
Public Open Space	☑	Accessible soil	
2-3 Storey Residential	☐	Likely soil accessibility	
3-4 Storey Residential	☑	Potential for some soil accessibility	Potential for re-design where necessary
5-6 Storey Residential	☑	Limited or no soil accessibility	

APPLICATION OF REMEDIATION MANAGEMENT TECHNIQUES BASED ON BUILT FORM
What meaningful conclusions can be drawn from this assessment about the practical and feasible remediation management techniques that can be applied to the land parcel, given the above proposed land use and built form?
Given the current understanding of the soil and groundwater condition at the site, it is considered unlikely the site development will be impacted by residual environmental issues. Given the intended land use for the majority of the site (i.e. likely or potential soil accessibility) retention of aesthetically unsuitable soil may be considered as a management option to avoid offsite disposal.

POTENTIAL FOR RESIDUAL CONTAMINATION & AMANGEMENT
Where it is expected that contamination may remain following clean up and would require ongoing management, what nature of management conditions are expected and who would be responsible for implementation of these?
Unlikely to require ongoing management following the completion of the site assessment/clean-up.

BACKGROUND			
Site Address:	248 - 258 Blackshaws Road, Altona North	Undergoing Section 53X Audit: YES ☑	Appointed Auditor (Contaminated Land):
Site Assessor:	Golder Associates Pty Ltd	NO ☐	Peter Beck

HISTORY	
Historical / Current Land Use	Potential Contamination History for Land Parcel
Historical : pre_1891, crown land	
pre_1891, crown land	Potential contaminating activities are mainly associated with manufacturing uses of the site which began on site in 1959 when the western portion of the site was purchased by Pacific Oxygen for the manufacture and supply of compressed gasses including acetylene, oxygen and argon. Occupation of the eastern portion of the site by the abattoir operator is considered to have limited contamination risk as the use of this parcel of land is considered to be restricted to temporary holding of stock. Manufacturing activities of the eastern portion of the site began with the occupation by Don Smallgoods who late occupied the western portion of the site by Pacific Oxygen. The manufacturing and ancillary activities by Don Smallgoods would have continued under the ownership of Geroge Weston Foods and are considered to have the potential to have caused contamination.
1891-1929, private ownership part of a larger land parcel, no known site activities	
1929-1951, Brooklyn quarry ownership as part of larger land parcel, no known sit	
1951- change of land owner, land subdivided with no recorded site activities	
1959 - west portion of site owned by Pacific Oxygen Ltd, eastern portion owned b	
1965 - western portion purchased by abattoir operator	
1968 - eastern portion purchased by Don Smallgoods	
1988 - Don Small goods purchase western portion	
1999 - George Weston Foods purchase the site	
2013 - site buildings demolished, no site activity since this time	

SOURCE IDENTIFICATION AND APPROACH TO CLEAN-UP		
Key Potential Sources	Location	Contaminants of Concern to be Remediated / Managed to Allow Redevelopment of the Land Parcel
Following information based upon the following site assessment information: ERM 1999 Phase 1 and Limited Phase 2 ESA, Kilpatrick & Associates 2007 Asbestos Audit Review, Golder Associates 2011 Phase 1 ESA, Golder Associates 2011 Phase 2 ESA, Golder Associates 2014-2016 Additional Targeted ESAs		
small goods processing operations	former main building, eastern portion of site	odour in fill, no measurable chemical impact reported
drum wash down area (during small goods processing site use)	central portion of site	localised hydrocarbon impacts
UST, potentially in-situ (used during small goods processing site use)	south of former main building	inferred potential localised hydrocarbon impacts
Underground services (during small goods processing site use) transporting waste liquids and service trench potentially acting as a preferential pathway for contaminants	central and eastern portion of site	potential petroleum hydrocarbons, solvents, metals, nutrients impacts
Waste oil storage and workshop (during small goods processing site use)	central portion of site	chlorinated hydrocarbons

INTENDED LAND USE (APPLYING SUPPLIED PRECINCT LAND USE MAP)		
Site Dwelling type	Accessibility to Soil	Comments
Mixed Use Areas ☐	Limited or no soil accessibility	
Industrial Areas ☐	Limited or no soil accessibility	
Community Facility ☐	Potential for some soil accessibility	Potential for re-design where necessary
Public Open Space ☑	Accessible soil	

2-3 Storey Residential	☐	Likely soil accessibility	
3-4 Storey Residential	☑	Potential for some soil accessibility	Potential for re-design where necessary
5-6 Storey Residential	☑	Limited or no soil accessibility	

APPLICATION OF REMEDIATION MANAGEMENT TECHNIQUES BASED ON BUILT FORM

What meaningful conclusions can be drawn from this assessment about the practical and feasible remediation management techniques that can be applied to the land parcel, given the above proposed land use and built form?

A letter by the Environmental Auditor was issued to George Weston Foods on 23 December 2014 to document his agreement with a Preliminary Remediation Strategy prepared by Golder Associates that took into account the proposed land uses. The strategy does allow for confirmation on the requirement for a Clean Up to the Extent Practicable by either the Auditor or EPA depending on the outcome of ongoing assessment and remediation.

POTENTIAL FOR RESIDUAL CONTAMINATION & AMANGEMENT

Where it is expected that contamination may remain following clean up and would require ongoing management, what nature of management conditions are expected and who would be responsible for implementation of these?

An area of the site may be identified within a GQRUZ to be managed by the local water authority at the time of someone applying for a groundwater bore licence.

BACKGROUND

Site Address:	232-246 Blackshaws Road, Altona North	Undergoing Section 53X Audit: YES ☑	Appointed Auditor (Contaminated Land):
Site Assessor:	ESP	NO ☐	Sally Bonham

HISTORY

Historical / Current Land Use	Potential Contamination History for Land Parcel
Historical: Heavy engineering works	Various concrete lined sub-ground pits within the main warehouse used for engineering equipment.
Current: Storage and distribution of retail / electrical goods	Two disused furnaces including asbestos containing refractory bricks.
	Hydrocarbon impacts in shallow fill beneath main warehouse.
	An electrical substation.
	Offsite: A former landfill (north); former transport depot (east); Dons smallgoods (west).

SOURCE IDENTIFICATION AND APPROACH TO CLEAN-UP

Key Potential Sources	Location	Contaminants of Concern to be Remediated / Managed to Allow Redevelopment of the Land Parcel
Concrete lined engineering pits	Various locations within the main warehouse	Various heavy metals (soil), TRH.
Southern furnace	South end of the main warehouse	Removal of asbestos.
Groundwater	At the central-west portion of the main warehouse	Low conc. vinyl chloride. Further investigation required.
Shallow soil impacts	Shallow fill predominantly beneath the main warehouse	TRH - possible remediation or offsite disposal options.
Offsite - Former landfill	North of the site	Further assessment required, remediation highly unlikely.

INTENDED LAND USE (APPLYING SUPPLIED PRECINCT LAND USE MAP)

Site Dwelling type		Accessibility to Soil	Comments
Mixed Use Areas	☐	Limited or no soil accessibility	
Industrial Areas	☐	Limited or no soil accessibility	
Community Facility	☐	Potential for some soil accessibility	Potential for re-design where necessary
Public Open Space	☐	Accessible soil	
2-3 Storey Residential	☐	Likely soil accessibility	
3-4 Storey Residential	☑	Potential for some soil accessibility	Potential for re-design where necessary
5-6 Storey Residential	☑	Limited or no soil accessibility	

APPLICATION OF REMEDIATION MANAGEMENT TECHNIQUES BASED ON BUILT FORM

What meaningful conclusions can be drawn from this assessment about the practical and feasible remediation management techniques that can be applied to the land parcel, given the above proposed land use and built form?

Given the current understanding of the soil and groundwater condition at the site, it is considered unlikely the site development will be impacted by residual environmental issues.

Given the intended land use for the majority of the site (i.e. potential to limited soil accessibility) retention of aesthetically unsuitable soil may be considered as a management option to avoid offsite disposal.

POTENTIAL FOR RESIDUAL CONTAMINATION & AMANGEMENT
Where it is expected that contamination may remain following clean up and would require ongoing management, what nature of management conditions are expected and who would be responsible for implementation of these?
Unlikely to require ongoing management following the completion of the site assessment/clean-up.

BACKGROUND

Site Address:	200-214 Blackshaws Road, Altona North	Undergoing Section 53X Audit: YES ☑	Appointed Auditor (Contaminated Land):
Site Assessor:	ESP	NO ☐	Sally Bonham

HISTORY

Historical / Current Land Use	Potential Contamination History for Land Parcel
Historical: Cereal manufacture	Underground fuel storage tanks (USTs) - Six USTs at four locations
Historical: Storage and distribution of car parts	Garage and associated triple interceptor traps
Historical: Rope manufacture	Two former electrical substations
Current: Storage and distribution of retail / electrical goods	Asbestos containing material used as roof sheeting/cladding
	Offsite: Two former landfills (northwest and northeast); timber treatment activities (east); former transport depot (west)

SOURCE IDENTIFICATION AND APPROACH TO CLEAN-UP

Key Potential Sources	Location	Contaminants of Concern to be Remediated / Managed to Allow Redevelopment of the Land Parcel
Six USTs (soil)	Four locations along the eastern portion of the site	UST removal & validation completed. EIL exceedances at >2 m depth, not likely to impact residential land use.
Central USTs (soil vapour)	Near USTs at the mid point of the southern warehouse (east side)	No exceedances of the Vapour Intrusion criteria.
Central USTs (groundwater)	Near USTs at the mid point of the southern warehouse (east side)	Relatively low concentrations of VOCs. Further investigation require
Aesthetic issues (soil)	Shallow fill at selected areas across the site	Aesthetic issue only. Possible disposal or management.
Offsite - Former landfill	Northwest & northeast of the site	Further assessment required, remediation highly unlikely

INTENDED LAND USE (APPLYING SUPPLIED PRECINCT LAND USE MAP)

Site Dwelling type		Accessibility to Soil	Comments
Mixed Use Areas	☑	Limited or no soil accessibility	
Industrial Areas	☐	Limited or no soil accessibility	
Community Facility	☑	Potential for some soil accessibility	Potential for re-design where necessary
Public Open Space	☑	Accessible soil	
2-3 Storey Residential	☐	Likely soil accessibility	
3-4 Storey Residential	☑	Potential for some soil accessibility	Potential for re-design where necessary
5-6 Storey Residential	☑	Limited or no soil accessibility	

APPLICATION OF REMEDIATION MANAGEMENT TECHNIQUES BASED ON BUILT FORM

What meaningful conclusions can be drawn from this assessment about the practical and feasible remediation management techniques that can be applied to the land parcel, given the above proposed land use and built form?

Given the current understanding of the soil and groundwater condition at the site, it is considered unlikely the site development will be impacted by residual environmental issues.

Given the intended land use for the majority of the site (i.e. potential or limited soil accessibility) retention of aesthetically unsuitable soil may be considered as a management option to avoid offsite disposal.

POTENTIAL FOR RESIDUAL CONTAMINATION & AMANGEMENT
Where it is expected that contamination may remain following clean up and would require ongoing management, what nature of management conditions are expected and who would be responsible for implementation of these?
Unlikely to require ongoing management following the completion of the site assessment/clean-up.

BACKGROUND

Site Address:	188-198 Blackshaws Road, Altona North	Undergoing Section 53X Audit: YES ☑	Appointed Auditor (Contaminated Land):
Site Assessor:	ESP	NO ☐	Nicholas Owen

HISTORY

Historical / Current Land Use	Potential Contamination History for Land Parcel
Agricultural	Pesticides, metals
Timber facility	Timber treatment & storage, fuel storage in UST / ASTs/ drums & automotive maintenance in select areas, washbay / TIT
Buildings	Hydrocarbons, metals, solvents
Former buildings and potentially fill	Asbestos containing material used as roof sheeting/cladding
Currently timber storage & distribution	Electrical substation

SOURCE IDENTIFICATION AND APPROACH TO CLEAN-UP

Key Potential Sources	Location	Contaminants of Concern to be Remediated / Managed to Allow Redevelopment of the Land Parcel
Minor oil staining & hydrocarbon impacted soil	Select site locations, localised areas	Remediation of hydrocarbons via surface scrape
Asbestos in soils	Southern & central locations, beneath select buildings	Assessment & removal of asbestos fragments
Asbestos telecommunication pipes in ground	Various, mostly in the southern half	Removal of fixed asbestos
CCA impacted soils	Central portion, predominantly localised near former treatment area	Further assessment, remediation &/or risk assessment
Remnant TIT/sewer pit	Central portion	Removal of TIT/sewer pit
Aesthetic building debris on soil	Demolished areas south and central	Aesthetic issue only. Possible disposal or management
Offsite - Former landfill	Northwest & northeast of the site	Further assessment required, remediation highly unlikely
Offsite - Former service station / spray painter	Southeast of the site (neighbour)	Further assessment
USTs (now removed), wash bay, CCA treatment - groundwater	Various locations	Further assessment only - unlikely to require remediation

INTENDED LAND USE (APPLYING SUPPLIED PRECINCT LAND USE MAP)

Site Dwelling type		Accessibility to Soil	Comments
Mixed Use Areas	☐	Limited or no soil accessibility	
Industrial Areas	☐	Limited or no soil accessibility	
Community Facility	☐	Potential for some soil accessibility	Potential for re-design where necessary
Public Open Space	☑	Accessible soil	
2-3 Storey Residential	☐	Likely soil accessibility	
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5-6 Storey Residential	☑	Limited or no soil accessibility	

APPLICATION OF REMEDIATION MANAGEMENT TECHNIQUES BASED ON BUILT FORM

What meaningful conclusions can be drawn from this assessment about the practical and feasible remediation management techniques that can be applied to the land parcel, given the above proposed land use and built form?

Given the current understanding of the soil and groundwater condition at the site, it is considered unlikely the site development will be impacted by residual environmental issues.

POTENTIAL FOR RESIDUAL CONTAMINATION & AMANGEMENT
Where it is expected that contamination may remain following clean up and would require ongoing management, what nature of management conditions are expected and who would be responsible for implementation of these?
Unlikely to require ongoing management following the completion of the site assessment/clean-up.

BACKGROUND

Site Address:	48 New Street, Kingsville South	Completed Section 53X Audit:	YES ☑	Statement 9/7/2015
Site Assessor:	Nemerous (EAS prepared questionnaire)		NO ☐	

Appointed Auditor (Contaminated Land): Phillip Hitchcock (AEA)

HISTORY

Historical / Current Land Use	Potential Contamination History for Land Parcel
Prior to 1972 the site was vacant and possibly used for stockpile storage	Possible agricultural sprays (i.e. pesticides, herbicides and fertilisers)
Between 1972 - 1982 – construction of shop building, truck wash bay and office building	Storage and supply of hydrocarbons, vehicle maintenance and car wash bay
Between 1982 - 2011 –transport and logistics depot	Storage and supply of hydrocarbons, vehicle maintenance and car wash bay
Between 2011 to 2012 – not in use	NA
Between 2012 - 2015 – leased to a commercial builder for use as a temporary storage of building materials	None

SOURCE IDENTIFICATION AND APPROACH TO CLEAN-UP

Key Potential Sources	Location	Contaminants of Concern to be Remediated / Managed to Allow Redevelopment of the Land Parcel
Imported fill:	Below paved surfaces across the site	No clean-up necessary to meet the proposed landuse
Below ground fuel storage tanks:	North easterm section of land parcel	The redundant tanks have been removed and validated
Former workshop:	North central section of land parcel	No clean-up necessary to meet the proposed landuse
Former truck wash area:	South central section of land parcel	No clean-up necessary to meet the proposed landuse

INTENDED LAND USE (APPLYING SUPPLIED PRECINCT LAND USE MAP)

Site Dwelling type		Accessibility to Soil	Comments
Mixed Use Areas	☐	Limited or no soil accessibility	
Industrial Areas	☐	Limited or no soil accessibility	
Community Facility	☐	Potential for some soil accessibility	
Public Open Space	☐	Accessible soil	
2-3 Storey Residential	☑	Likely soil accessibility	Only soil that will remain accessible will be clean fill
3-4 Storey Residential	☑	Potential for some soil accessibility	Potential for re-design where necessary
5-6 Storey Residential	☑	Limited or no soil accessibility	

APPLICATION OF REMEDIATION MANAGEMENT TECHNIQUES BASED ON BUILT FORM

What meaningful conclusions can be drawn from this assessment about the practical and feasible remediation management techniques that can be applied to the land parcel, given the above proposed land use and built form?

No clean up works are considered necessary. A Statement of Environmental Audit was issued for the site on 15 July 2015 which deems the site suitable for benefical uses including "Parks and Reserves", "Agricultural", "Sensitive Use (High Density)", Sensitive Use (Other)", Recreational Open Space, "Commercial" and "Industrial"

POTENTIAL FOR RESIDUAL CONTAMINATION & AMANGEMENT
Where it is expected that contamination may remain following clean up and would require ongoing management, what nature of management conditions are expected and who would be responsible for implementation of these?
Although there are no on-going management requirements, the list of Conditions associated with the Statemetn of Environmental Audit are provided below: Buildings and structures likely to come into contact with the soil must be designed and constructed in accordance with the relevant Australian Standards to assure protection from potentially corrosive fill. Groundwater quality is polluted and is unsuitable for the following extractive beneficial uses protected under SEPP Groundwaters of Victoria, Segment C namely: Stock Watering and Primary Contact Recreation The shallow soils at the Site contain low contaminant levels but elevated levels of sulphate may impact on standard concrete and/or steel, however, the Site is considered suitable for the proposed development providing that the condition of the Statement is followed. It is noted that the Site is currently used as a builder's storage yard and that there are some stockpiles of building materials such as lengths of timber and metal beams etc. remaining at the Site. Given that they are stored in an orderly fashion they are not considered to represent a significant aesthetic impact. Any soil brought onto the Site to raise levels should be consistent with the definition of 'Fill Material' in IWRG 621, 2009 or its relevant future revision. Any material excavated from the Site and disposed off-site should be classified and managed in accordance with EPA Publication 'Soil Hazard Categorisation and Management' (IWRG 621, 2009 or its relevant future revision). The groundwater monitoring bores present at the Site should be decommissioned in accordance with the requirements of 'Minimum Construction Requirements for Water Bores in Australia', published by the National Water Commission (2012) or later revisions. The Auditor has determined CUTEP and that the Site is a Groundwater Quality Restricted Use Zone (GQRUZ). The Auditor considers that groundwater is suitable for the following beneficial use of groundwater, namely: Building and Structures. In accordance with clause 19(3) of SEPP Groundwaters of Victoria, the Authority may require periodic reassessment of the practicability of groundwater clean up. In accordance with section 53ZE of the Environment Protection Act 1970, the owner/occupier of the Site should provide a copy of this Statement to any person who becomes or proposes to become an occupier of the Site.

BACKGROUND

Site Address:	2 - 22 New Street, Kingsville South	Undergoing Section 53X Audit: YES ☐	Appointed Auditor (Contaminated Land):
Site Assessor:	Various (EAS & CVC input to questionnaire)	NO ☑	

HISTORY

Historical / Current Land Use	Potential Contamination History for Land Parcel
Prior to 1930 - quarry (12 - 15 metres deep)	-
1930's - 1940's manufacturing of titanium dioxide pigments	Residue from manufacturing processes, storage and supply of chemicals and fuels
1940's - 1998 manufacturing also including aluminium sulphate	Residue from manufacturing processes, storage and supply of chemicals and fuels
1972 - EPA licence for the quarry to receive wastes	Disposal of waste generated from site and waste received from off-site
1994 - rehabilitation of quarry commenced	Coode Island Silt imported from Crown Casino construction site

SOURCE IDENTIFICATION AND APPROACH TO CLEAN-UP

Key Potential Sources	Location	Contaminants of Concern to be Remediated / Managed to Allow Redevelopment of the Land Parcel
Spills & leaks from chemical manufacturing infrastructure	Central portion - north of the quarry	Sulphate, ammonia, potassium, acids, metals
Below ground fuel storage tanks:	Central portion - north of the quarry	The redundant tanks have been removed
Waste from on-site chemical manufacturing placed in quarry	South central section	Titanium oxide and sulphate sludges
Waste from off-site sources imported to quarry	South central section	Acids, metals, phosphate, pyrite, cinders, OCPs
Backfilling of quarry during rehabilitation	South central section	Potential acid sulphate soils

INTENDED LAND USE (APPLYING SUPPLIED PRECINCT LAND USE MAP)

Site Dwelling type		Accessibility to Soil	Comments
Mixed Use Areas	☐	Limited or no soil accessibility	
Industrial Areas	☐	Limited or no soil accessibility	
Community Facility	☐	Potential for some soil accessibility	
Public Open Space	☑	Accessible soil	
2-3 Storey Residential	☑	Likely soil accessibility	
3-4 Storey Residential	☑	Potential for some soil accessibility	Potential for re-design where necessary
5-6 Storey Residential	☑	Limited or no soil accessibility	

APPLICATION OF REMEDIATION MANAGEMENT TECHNIQUES BASED ON BUILT FORM

What meaningful conclusions can be drawn from this assessment about the practical and feasible remediation management techniques that can be applied to the land parcel, given the above proposed land use and built form?

A planning permit application PA1633470 has been lodged (early 2016) for further earthworks to be completed. Following approval of this permit application, an Environmental Auditor will be appointed to conduct a 53x audit. Completed and proposed civil works are intended to be tailored to suit any anticipated requirements from the Planning Scheme Amendment process (such as proposed uses and densities).

The conditions of the 53x audit will align with HBCC's reasonable requirements regarding ongoing management
All the environmental information received indicates that the site can be practically and feasibly remediated to suit the proposed rezoning

POTENTIAL FOR RESIDUAL CONTAMINATION & AMANGEMENT
Where it is expected that contamination may remain following clean up and would require ongoing management, what nature of management conditions are expected and who would be responsible for implementation of these?
Once an Environmental Auditor (Contaminated Land) is appointed, specific measure would be put in place to finalise site clean-up works which will aim to ensure that be no overly onerous ongoing management requirements

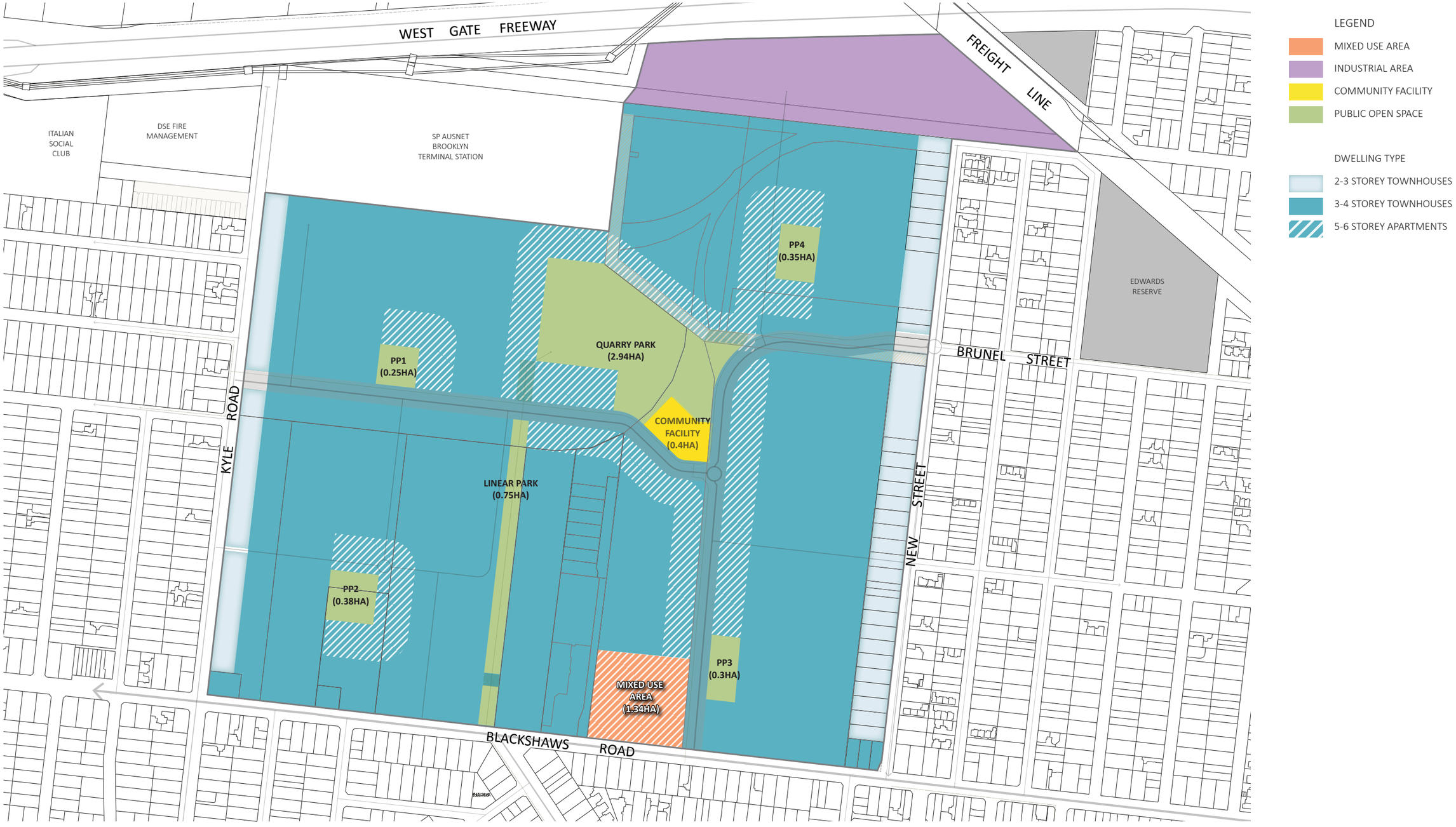

Figure 43: Dwelling Types Map (indicative only)