



**Minister for Environment; Disability Services**  
**Deputy Leader of the Legislative Council**

Your Ref:           Petition No. 75  
Our Ref:            62-11228

Hon Matthew Swinbourn MLC  
Chair, Standing Committee on Environment and Public Affairs  
Legislative Council Committee Office  
Parliament House  
4 Harvest Terrace  
WEST PERTH WA 6005  
lcco@parliament.wa.gov.au

*Matthew*  
Dear Mr Swinbourn

Thank you for your further letter, received by this office on 7 November 2018, enclosing a submission from the South West Environment Centre (SWEC) relating to Petition No. 75 – Development of Greenpatch, Dalyellup.

I appreciate the opportunity to comment on aspects of this further submission that were not addressed in my letter regarding Petition No. 75 dated 6 November 2018.

I note the SWEC submission raises health based guideline values for hexavalent chromium in water and a buffer zone for the former Dalyellup waste residue disposal facility.

Advice to me from the Department of Water and Environmental Regulation (DWER) regarding hexavalent chromium guideline values is at Attachment A.

The consideration of buffers is a matter for the Planning portfolio through the land use planning process. With my previous correspondence dated 6 November 2018, I attached a copy of the Environmental Protection Authority's July 1998 advice to the Shire of Capel on the (then) proposed scheme amendment.

For completeness, I provide (Attachment B) a copy of correspondence from DWER to the Shire of Capel dated 7 August 2018, along with its two attachments (correspondence from DWER to the Shire dated 8 February 2018, and from the Radiological Council to DWER dated 24 July 2018).

I hope this additional information is of assistance to the Standing Committee.

Yours sincerely

A handwritten signature in black ink, appearing to be 'S Dawson', written in a cursive style.

Hon Stephen Dawson MLC  
**MINISTER FOR ENVIRONMENT**

Att. **04 DEC 2018**

## Attachment A

Advice regarding health based guideline values for hexavalent chromium in water from the Department of Water and Environmental Regulation (DWER), prepared in consultation with the Department of Health (DoH), is set out below.

As part of the assessment of the Greenpatch development, groundwater quality was compared against screening (or 'Tier 1') risk assessment criteria adopted by DWER, as specified in the guideline *Assessment and management of contaminated sites* (Department of Environment Regulation, 2014). This is a guideline made under section 97 of the *Contaminated Sites Act 2003*. All health based screening criteria listed in that guideline were agreed with DoH.

The hexavalent chromium [or (CrVI)] screening criterion for drinking water was adopted from the Australian Drinking Water Guidelines (ADWG) 2011 (updated 2018; hexavalent chromium value unchanged)<sup>5</sup>. Screening criteria for non-potable water uses, such as watering parks and gardens, washing cars and flushing toilets, are drawn from recommended screening criteria in DoH's 2014 *Contaminated Sites Ground and Surface Water Chemical Screening Guidelines*<sup>6</sup>. DoH (2014) recommends a default screening level for non-potable water uses that is ten times the corresponding ADWG health-based guideline value. This is consistent with the approach taken by the World Health Organisation<sup>7</sup> and National Health and Medical Research Council and Natural Resource Management Ministerial Council<sup>8</sup> to establish standards for recreational water use.

Drinking water guidelines are not relevant screening criteria for groundwater at the Greenpatch development as the proposed development will be connected to scheme water (supplied by the Water Corporation), similar to the existing Dalyellup development. Future residents at Greenpatch would only come into contact with groundwater if they install and use garden bores. Groundwater is around 30 metres below the surface and flows towards the ocean from beneath the waste residue disposal facility, away from the Greenpatch development. The groundwater quality at Greenpatch meets health based guidelines for non-potable use, such as garden watering.

---

<sup>5</sup> National Health and Medical Research Council and Natural Resource Management Ministerial Council (2011) *Australian Drinking Water Guidelines Paper 6 National Water Quality Management Strategy*. National Health and Medical Research Council, National Resource Management Ministerial Council, Commonwealth of Australia, Canberra.

<sup>6</sup> Department of Health (2014) *Contaminated Sites Ground and Surface Water Chemical Screening Guidelines*, December 2014

<sup>7</sup> World Health Organisation (2003) *Guidelines for Safe Recreational Water Environments -Volume 1, Coastal and Freshwaters*

<sup>8</sup> National Health and Medical Research Council and Natural Resource Management Ministerial Council (2008) *Guidelines for Managing Risks in Recreational Water*



Government of Western Australia  
Department of Water and Environmental Regulation

Chief Executive Officer  
Shire of Capel  
PO Box 369  
CAPEL WA 6271

Email: [info@capel.wa.gov.au](mailto:info@capel.wa.gov.au)

Dear Sir/Madam

**GREENPATCH DEVELOPMENT- LOTS 9105, 9076 AND 8019, DALYELLUP BUFFER ZONES**

The Department of Water and Environmental Regulation (DWER) has previously provided advice to the Shire of Capel on proposed changes to a modified structure plan (Plan Number 14453P-SP-04B) for Lots 9105, 9076 and 8019 Dalyellup (Greenpatch Development) in a letter dated 8 February 2018 (**Attachment 1**).

DWER have recently received advice from the Radiological Health Unit of the Department of Health regarding the requirement for buffer zones at this development site.

DWER understands that the proposed Greenpatch Development is zoned 'urban' under the Greater Bunbury Region Scheme and 'urban development' under the 'Shire of Capel Town Planning Scheme Number 7.'

The site has a total area of 22.51 hectares. The majority of the development footprint occurs over previously disturbed or cleared areas of the site. The modified structure plan indicates that the development will comprise of residential housing, public open space and recreational and community facilities. An odour buffer to the wastewater treatment plant is present along the north western portion of the site.

Land adjacent the site, known as a portion of Lot 9077 on Deposited Plan 60716, shown as Subject A on Deposited Plan 412592 (the former Waste Residue Disposal Facility [WRDF]), was classified under section 13 of the *Contaminated Sites Act 2003* (the Act) as '*remediated for restricted use*' on 17 October 2017.

The classification states that '*the site appears suitable for passive recreational use as endemic bushland, but may not be suitable for use as irrigated parkland or playing fields (due to the potential for on-going irrigation to generate leachate) or more sensitive land uses such as residential use or child care centres*'.

The former WRDF is subject to numerous restrictions on use which includes the implementation of a site management plan, a restriction on groundwater abstraction (other than for analytical testing or remediation), and ground disturbance with a minimum of 2 metres of clean fill to be maintained at all times across the site.

Further information was sought from the Radiological Health Unit on whether, given the proximity of the proposed residential development, a buffer zone was required around the WRDF, or additional management strategies were required given the proposed land use. The response from the Radiological Health Unit is included as **Attachment 2**.

Based on this advice, DWER consider that, on the understanding that no treated solid residue (TSR) was disposed of on the Greenpatch Development, and as there is adequate distance between the disposal ponds and the Greenpatch Development, a buffer zone is not required. As such, there is no requirement under the Act to amend the restrictions on use for the former WRDF to include a buffer zone or to include additional management strategies.

However, DWER understands that based on historical information, a buffer zone has previously been considered between relevant stakeholders associated with the Greenpatch Development and the WRDF. DWER holds no information on whether a buffer zone has been agreed upon between these stakeholders. DWER has no objection to a buffer zone if proposed by the relevant stakeholders for planning and development purposes.

If you have any further queries, please contact Contaminated Sites Officer, Melanie Nunn, on 9333 7529.

Yours sincerely



Andrew Miller  
**SENIOR MANAGER**  
**CONTAMINATED SITES**

7 August 2018

c.c. Hazel Upton, Radiation Health Unit, Department of Health  
Sam Fagan, Western Australian Planning Commission  
Peter Allen, Cristal Pigment Australia Ltd  
Chief Executive Officer, Satterley  
Jason Clay, Senversa Pty Ltd

Attachment 1: DWER letter dated 8 February 2018.

Attachment 2: Radiological Health Unit letter dated 24 July 2018.



Government of Western Australia  
Department of Water and Environmental Regulation

Chief Executive Officer  
Shire of Capel  
PO Box 369  
CAPEL WA 6271

Email: [info@capel.wa.gov.au](mailto:info@capel.wa.gov.au)

Dear Sir/Madam

**PROPOSED MODIFICATIONS TO STRUCTURE PLAN - LOTS 9105, 9076 AND 8019,  
DALYELLUP - PLAN NO: 14453P-SP-04B- MODIFICATION TO STRUCTURE PLAN**

I refer to your letter dated 15 January 2018, regarding the modified Structure Plan prepared for the development of Lots 9105, 9076 and 8019, Dalyellup, otherwise known as the Greenpatch Development (the site). The Department of Water and Environmental Regulation (DWER) has reviewed the available information and provides the following comments.

The site is zoned 'urban' under the Greater Bunbury Region Scheme and 'urban development' under the Shire of Capel Town Planning Scheme Number 7.'

The site has a total area of 22.51 hectares. The majority of the development footprint occurs over previously disturbed or cleared areas of the site. The modified Structure Plan proposes residential housing, public open space and recreational and community facilities. An odour buffer to the wastewater treatment plant is present along the north western portion of the site.

In accordance with section 11 of the *Contaminated Sites Act 2003* (CS Act), the site was reported to DWER as a suspected contaminated site on 19 October 2017 and on 24 January 2018. The site is currently '*awaiting classification*'. Additional information has recently been submitted to DWER to inform the classification of the site. Once the site has been classified, DWER will provide written notice to the Shire of Capel.

Land adjacent the site, known as portion of Lot 9077 on Deposited Plan 60716 as shown as Subject A on Deposited Plan 412592 (the former Waste Residue Disposal Facility [WRDF]), was classified under section 13 of the CS Act as '*remediated for restricted use*' on 17 October 2017.

The classification states that '*the site appears suitable for passive recreational use as endemic bushland, but may not be suitable for use as irrigated parkland or playing fields (due to the potential for on-going irrigation to generate leachate) or more sensitive land uses such as residential use or child care centres*'.

The former WRDF is subject to numerous restrictions on use and include the implementation of a site management plan, a restriction on groundwater abstraction (other than for analytical testing or remediation) and ground disturbance and a minimum of 2 metres of clean fill is to be maintained at all times across the site.

DWER expects that the Western Australian Planning Commission (WAPC) will request advice from DWER when a subdivision application is submitted for the proposed development.

Depending on the outcome of the review of available information for the site, DWER may recommend that contamination condition EN9 and advice ENa2 should be applied to the approval, as published in 'Model Subdivision Conditions Schedule' (Department of Planning and WAPC, October 2017).

Based on the currently available information, it appears likely that potential contamination issues at the proposed development site can be addressed at the subdivision stage of the development.

However, given the proximity of the proposed development to the former WRDF, it is recommended that the Shire of Capel seek advice from the Department of Health, Radiological Council, regarding other planning requirements, such as recommended setbacks or buffer zones, prior to finalisation of the structure plan for the Greenpatch Development.

If you have any further queries, please contact Contaminated Sites Officer, Melanie Nunn, on 9333 7529.

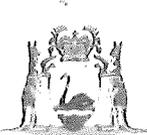
Yours sincerely



Andrew Miller  
**SENIOR MANAGER**  
**CONTAMINATED SITES**

8 February 2018

c.c. Department of Health Radiological Council  
Western Australian Planning Commission



Government of Western Australia  
**RADIOLOGICAL COUNCIL**

Address all correspondence to  
The Secretary

Department of Water and Environmental Regulation	
File Ref _____	
30 JUL 2018	
Doc Ref _____	
Div/Officer _____	
Scanned?	Y      N

Mr Andrew Miller  
Senior Manager, Contaminated Sites  
Department of Water and Environment Regulation  
Locked Bag 33  
CLOISTERS SQUARE WA 6850

Attn: Ms Melanie Nunn

Dear Ms Nunn

**RADIATION SAFETY ACT**

***Greenpatch Residential Development, Adjacent Former Cristal Pigment Dalyellup Waste Disposal Facility***

I refer to your letter of 26 September 2017 to the Department of Health on the above which has been forwarded to the Council for advice on radiation.

As you are aware, the Council has queried whether a buffer zone has been established surrounding the tailings facility. Historically, before the Contaminated Sites legislation was enacted and due to the encroaching Dalyellup Beach Estate, Council determined that a buffer would be appropriate to mitigate the possibility of any intrusion into the waste site after its rehabilitation. The buffer was left as a matter to be negotiated between the Capel Shire Council, the developers of the Dalyellup Beach Estate and Cristal Pigment (formerly Millennium Inorganic Chemicals Ltd).

It is not clear to the Council whether a final agreement was entered into by the three parties. However from a radiation risk perspective, Council received information that a buffer would not be necessary beyond the reserve boundary once the site had been rehabilitated, as long as an adequate internal buffer is maintained between disposal cells and the reserve boundary.

As you are aware, Cristal has also recently provided on 6 July 2018 a copy of the advice from the Environmental Protection Authority (EPA) on the assessment of the rezoning application for the Dalyellup Development Zone from 1998. The EPA also advised that a buffer be retained with a staged approach consistent with the expansion of the estate until the waste disposal facility is rehabilitated.

It is Council's understanding that no disposal involving elevated levels of naturally occurring radioactive material was undertaken on the sites in question for the Greenpatch Residential Development. On this basis, no management strategies are required with respect to radiation other than those pertaining to the existing

management plans for the waste disposal facility, including ongoing radiation monitoring and any potential mitigation requirements. However, consideration should also be given to determine whether a buffer zone has been established by the above-mentioned parties. The Council would appreciate being advised if further information arises in this regard.

Should you have any queries on this matter, please contact Mr Duncan Surin at this office.

Yours faithfully

A handwritten signature in black ink, appearing to read 'H. Upton', written in a cursive style.

Ms Hazel Upton  
Secretary, Radiological Council

24 JUL 2018