GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS
Area Permit Number: 7724/1
File Number: 2017/001430-1
Duration of Permit: From xxxxxxxxxxx to xxxxxxxxxxxxxxx

PERMIT HOLDER
Palmer Earth Moving (Australia) Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE
Lot 8078 on Diagram 57639, Cranbrook

AUTHORISED ACTIVITY
The Permit Holder shall not clear more than 9.6 hectares of native vegetation within the area hatched yellow on attached Plan 7724/1.

CONDITIONS

1. Avoid, minimise and reduce the impacts and extent of clearing
In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:
(a) avoid the clearing of native vegetation;
(b) minimise the amount of native vegetation to be cleared; and
(c) reduce the impact of clearing on any environmental value.

2. Retain vegetative material and topsoil, revegetation and rehabilitation
The Permit Holder shall:
(a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
(b) prior to xxxxxxx, *revegetate* and *rehabilitate* within the areas cross-hatched yellow on attached Plan 7724/1 by:
  (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land;
  (ii) ripping the ground on the contour to remove soil compaction; and
  (iii) ripping the pit floor and contour batters within the extraction site; and
  (iv) laying the vegetative material and topsoil retained under condition 2(a) on the cleared area(s).

3. Records must be kept
The Permit Holder must maintain the following records for activities done pursuant to this Permit, in relation to the clearing of native vegetation authorised under this Permit:
(a) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
(b) the date that the area was cleared;
(c) the size of the area cleared (in hectares);
(d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 1 of this Permit; and
(e) Actions taken in accordance with condition 2 of this permit.

4. Reporting

The Permit Holder must provide to the CEO the records required under condition 2 of this Permit, when requested by the CEO.

DEFINITIONS

The following meanings are given to terms used in this Permit:

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area; and

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.

_____

xxxxxx xxxxxxxxx
xxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Officer delegated under Section 20
of the Environmental Protection Act 1986

DD MM YYYY

Draft Plan 7724/1

Legend

- Areas approved to clear
- Cadastre
- Roads

Virtual Mosaic (LGATE-V001)

N

1:4,000

MGA 94
Geocentric Datum of Australia 1994

.....Date.....

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7724/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Palmer Earthmoving (Australia) Pty Ltd
Application received date: 9 August 2017

1.3. Property details

Property: LOT 8078 ON DIAGRAM 57639, CRANBROOK
Local Government Authority: CRANBROOK, SHIRE OF
Localities: CRANBROOK

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
9.6	-	Mechanical Removal	extraction

1.5. Decision on application

Decision on Permit Application: ~~Granted~~Undertaking

Decision Date: 18 January 2018

Reasons for Decision: The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*, and it has been concluded that the proposed clearing is not likely to be at variance to any of the clearing principles.

The Delegated Officer has had regard to specialist advice received from the Department of Biodiversity, Conservation and Attractions and a site inspection of the application area undertaken by the Department of Water and Environmental Regulation.

Based on the application areas predominantly degraded condition and condition of the understorey and as linkages will remain through adjoining vegetation, the Delegated Officer considers that the proposed clearing represents a low risk and is unlikely to result in unacceptable impacts to the environment.

The Delegated Officer also took into consideration that in order to limit the impact of the clearing the applicant:

- removed the southern portion of the lot from the application area;
- retained a vegetated buffer surrounding the lot; and
- has developed management plans in order to limit clearing and minimise potential environmental impacts.

Given the above, the Delegated Officer has determined to grant a clearing permit subject to conditions.

As the proposed clearing is for a temporary land use, a revegetation condition has been placed on the permit in order to ~~return~~ rehabilitate native vegetation once extraction ceases. As an understorey has not been able to establish on the site due to historical extraction activities, this is likely to result in a positive environmental outcome.

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Clearing Description
The application is to clear 9.6 hectares of native vegetation within Lot 8078 on Diagram 57639, Cranbrook, for extraction.

Vegetation Description
The application area is mapped as Beard vegetation association 697 described as shrublands; scrub-heath on lateritic sandplain in the southern Geraldton Sandplain Region (Shepherd et al., 2001).

A site inspection of the property conducted by Department of Water and Environmental Regulation (DWER)(DWER site inspection) officers, described the vegetation within five vegetation types (VT), as shown in figure 1 (DWER, 2017):

- Stockpile regeneration (VT1) - Low Open *Allocasuarina fraseriana* forest over historical extraction stockpiles in a degraded (Keighery, 1994) condition;
- Stockpile remnant (VT2) - Low Open Eucalyptus woodland over pasture grasses (adjoining and surrounded by historical extraction stockpiles) in a degraded (Keighery, 1994) condition.
- Allocasuarina hilltop (VT3) - Low Open *Allocasuarina fraseriana* with little to no understorey on rocky hill top in a good (Keighery, 1994) condition;
- Eucalyptus Woodland (VT4) - Open *Eucalyptus Wandoo* Woodland over Herbs in an excellent (Keighery, 1994) condition.
- Eucalyptus Forest (VT5) - Open Eucalyptus sp. Forest over a sparse understorey in a good (Keighery, 1994) condition.

Vegetation Condition
The condition of the application area is shown in figure 2.

As assessed within section 3, VT 4 and 5 have been removed from the application area. Given this, the application area is predominantly in a degraded (Keighery, 1994) condition. As the application area occurs on historical stockpiles and a historical extraction site, regeneration to a good condition is not likely (DWER, 2017).

Soil Type
The application area has been mapped within the following land units (DPIRD, 2017).

- Jaffa 1 Subsystem: Lower to upper slopes and hillcrests. Duplex sandy gravel, grey deep sandy duplex and grey shallow sandy duplex are common; and
- Jaffa 2 Subsystem: Footslopes, gently undulating rises and undulating plains. Grey deep sandy duplex is widespread with grey shallow sandy duplex and semi-wet soil.

Comment
The local area considered in the assessment of this application is defined as a 10 kilometre radius measured from the perimeter of the application area.

Fig 1: Vegetation Areas.

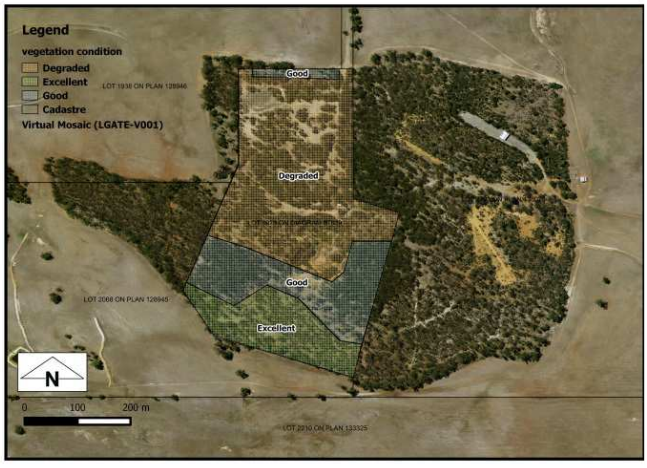

Figure 2: Vegetation condition.

3. Mitigation and minimisation

Following the DWER site inspection, in order to minimise the potential impact of the clearing, the applicant revised the initial application area to remove vegetation types 4 and 5. This reduced the application area from 16.2 hectares to 9.6 hectares and removed the vegetation with the highest environmental value.

In order to manage the impacts of the clearing the applicant has outlined the following management Actions (Quarry management Services, 2018):

- Avoid and minimise clearing where possible;
- A 10 metre vegetated buffer will be retained along the West of the lot;
- A 25 metre vegetated buffer will be retained along the north of the lot;
- A mine closure plan has been developed which includes revegetation; and
- Employing fauna spotters/wildlife carers while clearing.

4. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Proposed clearing is not likely to be at variance to this Principle
The vegetation within the application area is described within section 2.1 and predominantly consists of Low Open *Allocasuarina fraseriana* forest over historical extraction stockpiles with small pockets of Low Open Eucalyptus woodland over pasture grasses in a degraded condition (Keighery, 1994) condition (Figure 1 and 2). The application area forms part of a larger 53 hectare remnant of native vegetation.

As assessed under Principle (e), the application area falls within an extensively cleared landscape with 21.7 per cent vegetation remaining within the local area. As assessed under principle (b):

- the remnant is likely to act as an ecological linkage for the movement of fauna and flora through the landscape. As the application area is the most degraded portion of the remnant, the application area is not likely to regenerate given previous disturbance and the applicant has retained the southern portion of the lot thereby retaining linkage values, the proposed clearing is not likely to impact on the viability of the linkage or environmental value of the larger remnant.
- As the understorey within the application area is constrained by the excavation stockpiles present and a linkage through the remnant has been retained, the proposed clearing is not likely to impact on conservation significant terrestrial fauna species recorded within the local area.
- As the application area predominantly consists of *Allocasuarina fraseriana*, which is not a core foraging species for black cockatoos and potential hollow bearing tree species are not present, the proposed clearing is not likely to contain significant habitat for these species.

Four rare flora species, three Priority 1, six Priority 2 and 22 Priority 3 or 4 flora species have been recorded within the local area. Given the lack of understorey within the application area, as it is dominated by a monoculture of *Allocasuarina fraseriana* and as recruitment and establishment is constrained by excavation stockpiles dominating the understorey, the proposed clearing is not likely to impact on priority or rare flora, and the application area is not likely to be representative of a priority of threatened ecological community (TEC). Rare flora and TEC's are assessed in more detail under Principles (c) and (d) respectively.

The Department of Biodiversity Conservation and Attractions have advised that there is no additional information known at a regional level (DBDA, 2017).

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Proposed clearing is not likely to be at variance to this Principle

According to available databases, ten threatened fauna, one fauna protected under international agreement, two other specially protected fauna and four Priority 4 fauna have been recorded within the local area (DBCA, 2007-).

As assessed under principle (e), the application area falls within an extensively cleared landscape with 21.7 per cent vegetation remaining within the local area. The application area forms part of a larger remnant of approximately 53 hectares. The application area is likely to form part of the 'Forest to Fitzgerald Corridor', mapped as an ecological linkage by the Albany Regional Vegetation Survey. Given this and the presence of adjoining vegetation, the application area is likely to aid in the movement of fauna through the landscape.

The proposed clearing would reduce the remnant by approximately 18 per cent to 43 hectares. As the application area is the most degraded portion of the remnant, is not likely to regenerate given previous disturbance and the applicant has retained the southern portion of the lot thereby retaining linkage values, it is not likely to impact on the viability of the linkage or environmental value of the larger remnant.

As assessed within section 2.1 the application area predominantly consists of Low Open *Allocasuarina fraseriana* forest over historical extraction stockpiles with small pockets of Low Open Eucalyptus woodland over pasture grasses in a degraded (Keighery, 1994) condition. As the understorey within the application area is constrained by the excavation stockpiles present and a linkage through the remnant has been retained, the proposed clearing is not likely to impact on conservation significant terrestrial fauna species recorded within the local area.

Black cockatoos nest in large hollows of Eucalyptus trees and forage on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (Banksia, Hakea, Grevillea), Eucalyptus, Corymbia and a range of introduced species (DBCA, 2013; Valentine and Stock, 2008). As the application area predominantly consists of *Allocasuarina fraseriana*, which is not a core foraging species for black cockatoos and potential hollow bearing tree species are not present, the proposed clearing is not likely to contain significant habitat for conservation significant black cockatoos.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Proposed clearing is not likely to be at variance to this Principle

Four rare flora species have been recorded within the local area. Given the vegetation and soil type within the application area, the degraded condition of the vegetation and consideration of the habitat requirements for each of these species (Western Australian Herbarium, 1997-), they are not likely to be present or impacted by the proposed clearing.

As the understorey within the application area is constrained by the excavation stockpiles present, conservation significant flora species are not likely to have established.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Proposed clearing is not likely to be at variance to this Principle
The application area is mapped within the 'Eucalypt woodlands of the Western Australian Wheatbelt' TEC. The mapping for this TEC is based on indicative locations only and has not been ground-truthed.

The DWER site inspection of the application area noted that VT's 4 and 5 may be consistent with this TEC (outside of the application area) however, the application area does not contain characteristic species and given its degraded (Keighery, 1994) condition, the TEC is not likely to be present within the application area. The application area is dominated by *Allocasuarina fraseriana* which is not a characteristic dominant species as defined by the conservation advice for this TEC (TSSC, 2015).

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Proposed clearing is not likely to be at variance to this Principle
The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

As indicated in Table 1, the remaining extents of native vegetation within the mapped Beard vegetation association and Avon Wheatbelt IBRA Bioregion are below the 30 per cent representation threshold. The local area retains approximately 21.7 per cent native vegetation cover. On this basis the application area is located within an area that has been extensively cleared.

As assessed within Principles (a), (b), (c) and (d) the application area is not likely to contain significant flora or fauna values. This is due to the application area being restricted to areas previously impacted by extraction activities and dominated by regenerating *Allocasuarina fraseriana*. Given this, and as the presence of adjoining vegetation in a better condition, the application area is not likely to be a significant remnant within the local area.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Table 1: Vegetation extents (*Government of Western Australia, 2016).

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Avon Wheatbelt	9,517,109.9	1,763,070.8	18.5	9.8
Shire*				
Shire of Cranbrook	327,504.8	118,471.1	36.2	37.5
Beard Vegetation Association in Bioregion*				
697	105,911.1	19,022.5	18.0	1.7
Local Area				
10 km radius	33565.7	7286.7	21.7	-

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Proposed clearing is not likely to be at variance to this Principle
No watercourses or wetlands have been mapped within the application area. The closest occurs 700 metres from the application area.

The DWER site inspection did not identify a watercourse within the application area.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Proposed clearing is not likely to be at variance to this Principle
The land degradation risk categories for the mapped soil subsystems are presented within table 2. It is noted that the area under application has a low risk of water erosion, wind erosion, eutrophication, waterlogging or flooding and has a medium risk of salinity.

As no watercourses or wetlands are present within the application area, and the application area is predominantly

Allocasuarina regrowth, the proposed clearing is not likely to cause appreciable land degradation through salinity.

As part of the planning approval process, A Mine Site Management Plan has been developed by the applicantion that includes the following actions (Quarry management Services, 2018):

- Construction of water catchment systems to avoid water run-off from site;
- Actions to ensure that Groundwater will not be intercepted by project; and
- Actions to be undertaken during high rainfall events.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Table 2: Mapped land degradation risk categories (DPIRD, 2017).

Risk categories	Jaffa 1	Jaffa 2
Wind erosion	<3% of map unit has a high to extreme wind erosion risk	10-30% of map unit has a high to extreme wind erosion risk
Water erosion	<3% of map unit has a high to extreme water erosion risk	<3% of map unit has a high to extreme water erosion risk
Salinity	30-50% of map unit has a moderate to high salinity risk or is presently saline	50-70% of map unit has a moderate to high salinity risk or is presently saline
Subsurface Acidification	<3% of map unit has a high subsurface acidification risk or is presently acid	<3% of map unit has a high subsurface acidification risk or is presently acid
Flood risk	<3% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk
Water logging	<3% of map unit has a moderate to very high waterlogging risk	<3% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	<3% of map unit has a high to extreme phosphorus export risk	<3% of map unit has a high to extreme phosphorus export risk

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Proposed clearing is not likely to be at variance to this Principle

The closest conservation area occurs approximately five kilometres from the application area. As assessed under principle (b), although the application area forms part of an ecological linkage, the proposed clearing is not likely to impact on the viability of the linkage or form significant fauna habitat. This is due to the condition of the vegetation, its lack of regenerative capacity and the presence of adjoining vegetation in a better condition.

The applicant has retained the linkage value of the remnant by retaining the southern portion of the lot. Given this, value of the remnant in providing linkages between reserves has been retained.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Proposed clearing is not likely to be at variance to this Principle

As assessed under Principle (f), no watercourses or wetlands occur within or in close proximity to the application area (DWER, 2017).

As assessed under Principle (g):

- the proposed clearing is not likely to cause land degradation through waterlogging, eutrophication or water erosion and is not likely to increase the risk of salinity.
- Management actions have been developed in order to ensure that surface water is retained on site and groundwater will not be intercepted.

Given the above, the proposed clearing is not likely to deteriorate the quality of surface or ground water and is not likely to be at variance to this Principle.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Proposed clearing is not likely to be at variance to this Principle

Noting the lack of watercourses within the application area, the proposed clearing is not likely to be of a scale as to cause an increase in the incidence or intensity of flooding.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

5. Planning instruments and other relevant matters

The application was advertised on DWER's website on 28 August 2017 with a 21 day public submission period. No public submissions were received.

No Aboriginal sites of significance have been registered within the application area.

The applicant has submitted an Application for a Works Approval under Part 5 Division 3 of the *Environmental Protection Act 1986*. This application is currently under assessment.

Planning approval has been obtained from the Shire of Cranbrook for the proposed development (Quarry Management Services, 2018). Conditions include the further development of the Mine Site Management Plan and Mine Closure Plan.

The Gillamii Centre (Land Conservation District representatives) have objected to the proposed clearing on the following grounds (Gillamii board, 2017):

- The application area is likely to contain high biodiversity;
- The application area forms part of the broad scale Gondwana Link ecological linkage;
- The application area may contain rare flora;
- The application area provides habitat for Carnaby's cockatoo;
- The application area may contain the 'Eucalypt woodlands of the Western Australian Wheatbelt' TEC;
- The proposed clearing may cause land degradation;
- The proposed clearing may cause and flooding; and
- The application area is a significant remnant within a highly cleared landscape.

The concerns raised have been addressed in the assessment against the relevant clearing Principles. It is also noted that since the Gillamii Centre have been notified of the proposed clearing, the application area has been reduced from 16.2 hectares to 9.6 hectares and remove the vegetation with the highest environmental value.

The Land Conservation District representatives have requested that flora and fauna surveys are undertaken. Given the reduced application area being in degraded condition ~~of the application area~~, the lack of understorey within the application area, ~~as it is~~ the vegetation being dominated by a monoculture of *Allocasuarina fraseriana* and as recruitment and establishment is constrained by excavation stockpiles and given the findings against the clearing Principles within section 4 of this report, DWER determined that flora and fauna surveys are not justified in this case.

6. References

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Department of Biodiversity Conservation and Attractions (DBCA) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: http://naturemap.dpaw.wa.gov.au/. Accessed November 2017.

Department of Biodiversity Conservation and Attractions (DBCA)(2013) (2013) Carnaby's cockatoo (Calyptorhynchus latirostris) Recovery Plan. Department of Parks and Wildlife, Perth, Western Australia.

Department of Biodiversity Conservation and Attractions (DBCA) (2017) Advice received in relation to clearing permit application CPS 7724/1, received 1 September 2017 (DWER ref: A1529038).

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Department of Water and Environment Regulation (DWER) (2017) Site inspection report for clearing permit application CPS 7724/1, undertaken 20 September 2017 (DWER ref: A1558159).

Gillamii Board (2017) Advice received in relation to clearing permit application CPS 7724/1, objecting to proposed clearing. Received 27 October 2017 (DWER ref: A1553926).

Government of Western Australia (2016). 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2016. WA Department of Parks and Wildlife, Perth.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Quarry management Services (2018) Correspondence received from Mr Chris Barker, Quarry Management Services, in relation to clearing permit application CPS 7724/1. Received 11 January 2018 (DWER ref: A1594341)

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

Threatened Species Scientific Committee (TSSC) (2015) Approved Conservation Advice (including listing advice) for the Eucalypt Woodlands of the Western Australian Wheatbelt. Department of the Environment and Energy, Canberra.

Town Planning Innovations (2017) Advice received on behalf of the Shire of Cranbrook in relation to clearing permit application CPS 7724/. Received 28 September 2017 (DWER ref: A1533988).

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Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. http://florabase.dpaw.wa.gov.au/ (Accessed August 2017).