

Engineering Referral Response

Application Number:	DA2018/1044
To:	Renee Ezzy
Land to be developed (Address):	Lot 5 DP 736961 , 9 Fern Creek Road WARRIEWOOD NSW 2102 Lot 11 DP 1092788 , 11 Fern Creek Road WARRIEWOOD NSW 2102 Lot 13 DP 1092788 , 13 Fern Creek Road WARRIEWOOD NSW 2102 Lot 12 DP 1092788 , 12 Fern Creek Road WARRIEWOOD NSW 2102

Reasons for referral

This application seeks consent for the following:

- New Dwellings or
- Applications that require OSD where additional impervious area exceeds 50m² or
- Alterations to existing or new driveways or
- Where proposals affect or are adjacent to Council drainage infrastructure incl. watercourses and drainage channels or
- Torrens, Stratum and Community Title Subdivisions or
- All new Commercial and Industrial and RFB Development with the exception of signage or
- Works/uses in flood affected areas

And as such, Council's development engineers are required to consider the likely impacts on drainage regimes.

Officer comments

Referral response 24/4/2019

The revised DRAINS model and amended engineering plans were reviewed and are satisfactory. The road layout plan has also been amended to include a temporary turning facility within Lot 2 as previously requested. No objections to the proposed subdivision subject to conditions.

Referral response 28/3/19

The engineering plans have been reviewed and the following further information is required regarding stormwater drainage and the submitted DRAINS model associated with a proposed subdivision .

Stormwater drainage along Proposed Access Street appears insufficient. It appears there will be significant gutter flow in the 20-year storm event, which will flow overland at the intersection with Proposed Local Street. It is recommended that the Applicant investigate increasing the inlet capacity along this proposed Access Street by providing additional pit/pipe connections, and improving the

stormwater arrangement. The capacity of the half-road section should be considered.

- The sag point at the proposed intersection is unclear. The longitudinal section of Proposed Local Street is incomplete.
- Catchment C3/2 indicates 90% impervious. Please consider whether this is appropriate.
- Pipeline 1/L2 to 6/L1 appears to run against the proposed surface levels. A redesign of the drainage arrangement in this area should be considered.
- Pipeline 3/L4 to 1/L4 appears inconsistent with the existing Construction Certificate approval for 6 Orchard Street, Warriewood, with respect to pipe sizes, locations and depths.
- Tailwater conditions have not been considered from the creek. A preliminary assessment does not raise further concern, but should be considered prior to Construction Certificate.
- Detail should be provided regarding the end of road treatment with respect to stormwater management for stormwater discharge to the creek in the 100-year storm event. It appears that the current arrangement will discharge across the adjoining property, which is not acceptable.
- Detail should be provided regarding the provision of a channel for overland flows in the 100-year storm event over the proposed pipeline within Lot 3.
- In addition the end of road treatment with respect to turning facilities for vehicles and waste services would require a temporary /permanent solution. This could be addressed through the provision of a temporary turning facility and associated Rights of Way.

Previous referral response

The 2 lot subdivision proposal is not acceptable for the following reasons:

1) The engineering concept plans fail to address Councils requirements in regard to storm water drainage both internally and externally to the site.

There is a current earth open channel that runs from the Fern Creek cu de sac to the creek, which is required to be pipe in accordance with Councils Auspec One design standard. The concept plans detail part piping of the channel and discharge to an outlet structure in a location not acceptable to council.

The application also requires a hydraulic analysis to determine the upstream flows entering the site both by Councils existing drainage system and as overland flow. The internal pipe is to be designed for

a 1 in 20 ARI storm event and overland flow path to the 1 in 100 year ARI event to the existing creek. Councils requires a Drains model to determine the flows and hydraulic grade line for this new drainage line.

The outlook structure near the creek is to be designed to minimize scour of the creek and impacts on existing flow regimes.

Detailed engineering plans in accordance with Auspec One should of been provided to Council.

2) The internal drainage system is to demonstrate the provision of On site storm water detention for the proposed housing lots in accordance with the Warriewood Valley water management specification.

3)The width of the access street being 11.75m is not in accordance with the Warriewood Valley Masterplan which details a minimum road reserve with of 12.5m.

Referral Body Recommendation

Recommended for approval

Refusal comments

Recommended Engineering Conditions:

FEES / CHARGES / CONTRIBUTIONS

Construction, Excavation and Associated Works Bond (Road)

A Bond of \$350000 as security against any damage or failure to complete the construction of road pavement/shoulder reconstruction works required to demolish the existing cul de sac in Fern Creek Road and construction of the internal roadworks and footpaths.

Reason: Protection of Council's Infrastructure

Construction, Excavation and Associated Works Bond (Drainage)

A Bond of \$150000 as security against any damage or failure to complete the construction of Stormwater drainage works as part of this consent.

Reason: Protection of Council's Infrastructure

Construction, Excavation and Associated Works Bond (Maintenance for civil works)

The developer/applicant must lodge with Council a Maintenance Bond of \$75000 for the construction of

road and drainage infrastructure works. The Maintenance Bond will only be refunded on completion of the six month Maintenance Period, if work has been completed in accordance with the approved plans and to the satisfaction of Council. The maintenance bond is to be paid prior to Council issuing the subdivision certificate .

Reason: To ensure adequate protection of Council infrastructure

CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE CONSTRUCTION CERTIFICATE

Sydney water requirements

1. A section 73 Compliance Certificate under the provisions of the Sydney Water Act, 1994 must be obtained from Sydney Water. A copy of any Notice of Requirements letter which may be issued by Sydney Water, is to be provided to the Private Certifying Authority with the Construction Certificate application.

Application must be made through an authorised Water Servicing Coordinator. Please refer to the Building Developing and Plumbing section of the web site www.sydneywater.com.au then refer to "Water Servicing Coordinator" under "Developing Your Land" or telephone 13 20 92 for assistance.

Following application a "Notice of Requirements" will advise of water and sewer infrastructure to be built and charges to be paid. Please make early contact with the Coordinator, since building of water/sewer infrastructure can be time consuming and may impact on other services and building, driveway or landscape design.

Reason: Compliance with the Sydney Water Act ,1994 (DACENCPCC4)

Erosion and sediment management plan

An Erosion and Sediment Management Plan is to be submitted prior to the issue of a Construction Certificate. Control over discharge of stormwater and containment of run-off and pollutants leaving the site/premises shall be undertaken through the installation of erosion control devices such as catch drains, diversion drains, energy dissipaters, level spreaders and sediment control devices such as hay bale barriers, filter fences, filter dams and sedimentation basins. Such plan is to be accompanied by a certification from an appropriately qualified person, that the plans/ details have been designed in accordance with the requirements of *Managing Urban Stormwater: Soils and Construction* (Landcom 2004). The plan is also to include specific details required to remove fine sediment and clay from vehicles leaving the site so as to maintain public roads in a clean condition.

Reason: To ensure appropriate erosion and sediment control practices.

Submission of Engineering Plans

Engineering plans are to be submitted to the Certifying Authority for approval. The submission is to

include four (4) copies of Civil Engineering plans for the design of the road and stormwater drainage infrastructure which are to be generally in accordance with the civil design approved with the Development Application (Prepared by GDS Surveyors, Planners, Engineers Drawing Nos 1-19 Ref WW FCR19, Revision E)

a. The engineering plans required under this condition must meet the objectives and requirements of The Warriewood Valley Roads Masterplan; Austroads; AusSPEC #1, Councils standard engineering details and Pittwater 21 DCP, as relevant and achieve a road design and landscaped effect consistent with the Warriewood Valley Concept Masterplan (Public Domain), dated October 2007.

b. Street lighting using Ausgrid standard lights/poles in the proposed roads to be provided to meet Australian Standards.

c. Street name signs (complying to Council's requirements) are to be provided for the proposed roads.

d. All traffic facilities within the proposed roads are to be designed to cater for safe movements by a waste collection vehicle minimum 9.7m in length, to accommodate the existing vehicle type (or greater Australian Standard vehicle class), with no vehicle overhang of nature strips and a minimum 300mm as a clearance of all kerb and traffic islands, for all wheel paths.

e. Road shoulder and road pavement construction including pavement design and treatments in the proposed roads are to be designed for ESA pavement design criteria of 6×10^5 for the full frontage of the site.

The engineering design and plans for road and drainage works must be certified as meeting the requirements outlined above by a suitably qualified and experienced Civil Engineer who is accredited with Professionals Australia as RPENG or equivalent .

Details demonstrating compliance are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: To ensure compliance with Council's specification for engineering works.

Submission Roads Act Application for Civil Works in the Public Road

An Application for Road and Drainage works is to be approved within Councils Roadway (Fern Creek Road), including engineering plans and is to be submitted to Council for approval under the provisions of Sections 138 and 139 of the Roads Act 1993. The application is to include four (4) copies of Civil Engineering plans for the demolition of the the existing cu de sac head and reinstatement as road carriageway. The plans are to be generally in accordance with the Development Application and Council's design specification for engineering works - AUS-SPEC #1 , Warriewood Valley Roads Master plan, and Council's standard engineering plans. The plan shall be prepared by a qualified civil engineer registered as a professional engineer with Professionals Australia or equivalent. The design must include the following information: The fee associated with the assessment and approval of the application is to be in accordance with Council's Fee and Charges. An approval is to be submitted to Council prior to the issue of the Construction Certificate

Reason: To provide public and private safety.

Utilities Services

Prior to the issue of the Construction Certificate, evidence is to be submitted to the Principal Certifying Authority that

- (a) A letter from the relevant utility providers (ie Ausgrid , Sydney Water etc) confirming that satisfactory arrangements have been made for the approved development have been made; and
- (b) Evidence that notification has been received from a utility provider, requirements for the development can be provided.

Reason: To ensure that service have been provided as required by this Consent

Construction Management Program

An application for Traffic Management Plan is to be submitted to Council for approval. The Traffic Management Plan shall be prepared to RMS standard by an appropriately certified person. Plans are to be submitted to the Principal Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: To ensure appropriate measures have been considered for site access, storage and the operation of the site during all phases of the construction process in a manner that respects adjoining owner's property rights and protects amenity in the locality, without unreasonable inconvenience to the community

Engineering Details - overhead power and other utility services

The engineering plans are to facilitate all utility services including overhead power supply and communication cables located in the adjacent road verge are to be placed and/or relocated underground for the total frontage of the development site to any public road at the full cost to the developer.

Reason: To ensure works met Council standards and specifications

Pre-commencement Dilapidation Report

The applicant must prepare and submit a pre-commencement dilapidation report providing an accurate record of the existing condition of adjoining public and private properties and public infrastructure (including roads, gutter, footpaths, etc). A copy of the report must be provided to Council, any other owners of public infrastructure and the owners of adjoining and affected private properties.

Reason: Protection of Council's and Private Party's Infrastructure during construction.

CONDITIONS THAT MUST BE ADDRESSED PRIOR TO ANY COMMENCEMENT

Public Liability Insurance - Works on Public Land

Any person or contractor undertaking works on public land must take out Public Risk Insurance with a minimum cover of \$20 million in relation to the occupation of, and approved works within Council's road reserve or public land, as approved in this consent. The Policy is to note, and provide protection for Warringah Council, as an interested party and a copy of the Policy must be submitted to Council prior to commencement of the works. The Policy must be valid for the entire period that the works are being undertaken on public land.

Reason: To ensure the community is protected from the cost of any claim for damages arising from works on public land.

CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK

Road Reserve

The public footways and roadways adjacent to the site shall be maintained in a safe condition at all times during the course of the work.

Reason: Public Safety.

Progress Certification (Road & Subdivision)

Compliance certificates are to be provided by a suitably qualified engineer upon completion and/or as and when requested by the Principal Certifying Authority for the following stages of works.

- (a) Silt and sediment control facilities
- (b) Laying of stormwater pipes and construction of pits
- (c) Proof Roll - AUSPEC Standard
- (d) Sub-grade trimmed and compacted **
- (e) Base-course laid and compacted **
- (f) Kerb and gutter construction
- (g) Pavement
- (h) Landscaping and vegetation
- (i) Clean-up of site, and of adjoining Council roadway and drainage system. (**To be tested by a recognised N.A.T.A. approved laboratory). Details demonstrating compliance are to be submitted to the Principal Certifying Authority.
- (j) All layers of the road formation are to be proof rolled to Council's satisfaction

Reason: To ensure compliance of civil works with Council's Auspec specification for engineering works

Civil Works Supervision

All civil works approved in the Construction Certificate are to be supervised by an appropriately qualified and practising Civil Engineer. Details demonstrating compliance are to be submitted to the Principal Certifying Authority

Reason: To ensure compliance of civil works with Council's specification for engineering works.

Notification of Inspections

Council's Development Engineer is to be given 48 hours notice when the works reach the following stages: (a) Installation of Silt and Sediment control devices

- (b) Prior to backfilling of pipelines
- (c) Prior to pouring of stormwater gully pits
- (d) Prior to pouring of kerb and gutter
- (e) Subgrade level / basecourse level / subbase
- (f) Sealing road pavement

NOTE: Any inspections carried out by Council do not imply Council approval or acceptance of the work, and do not relieve the developer/applicant from the requirement to provide an engineer's certification. Council approval or acceptance of any stage of the work must be obtained in writing, and will only be issued after completion of the work to the satisfaction of Council and receipt of the required certification

Reason: To ensure new Council infrastructure is constructed to Council's requirements.

Traffic Control During Road Works

Lighting, fencing, traffic control and advanced warning signs shall be provided for the protection of the works and for the safety and convenience of the public and others in accordance with RMS Traffic Control At Work Sites Manual (<http://www.rms.nsw.gov.au/business-industry/partners->

suppliers/documents/technical-manuals/tcws-version-4/tcwsv4i2.pdf) and to the satisfaction of the Principal Certifying Authority. Traffic movement in both directions on public roads, and vehicular access to private properties is to be maintained at all times during the works

Reason: Public Safety

Maintenance of Road Reserve

The public footways and roadways adjacent to the site shall be maintained in a safe condition at all times during the course of the work.

Reason: Public Safety.

Excavation and Erosion Control

The following measures shall be implemented in the sequence given below, to minimise soil erosion: Approved runoff and erosion controls shall be installed before site vegetation is cleared (other than that associated with the construction of the controls). These shall be as shown on an ESCP approved by council. Topsoil shall be stripped only from approved areas and stockpiled for re-use during site rehabilitation and landscaping. Stockpiles of topsoil, sand, aggregate, spoil or other material shall be stored clear of any drainage line or easement, waters, footpath, kerb or road surface and shall have measures in place to prevent the movement of such materials onto the areas mentioned. All stockpiled materials are to be retained within the property boundaries. Uncontaminated runoff shall be intercepted up-site and diverted around all disturbed areas and other areas likely to be disturbed. Diversion works shall be adequately stabilised. Runoff detention and sediment interception measures shall be applied to the land. These measures will reduce flow velocities and prevent topsoil, sand, aggregate, or other sediment escaping from the site or entering any downstream drainage easements or waters. The capacity and effectiveness of runoff and erosion control measures shall be maintained at all times to conform to the specifications and standards quoted and to any conditions of approval of those measures.

Measures shall be applied, to the satisfaction of council, to prevent site vehicles tracking sediment and other pollutants onto any sealed roads serving the development. Measures required in permits issued under the Rivers and Foreshores Improvement Act shall be implemented. This Act requires that people obtain approval for any proposed excavation or fill in or within 40 metres of a watercourse. Permits should be sought from the Department of Natural Resources.

Reason: To minimise soil erosion

Safety Fencing of Excavation and/or demolition

The site must be fenced throughout demolition and/or excavation and must comply with WorkCover New South Wales requirements and be a minimum of 1.8m in height.

Reason: To ensure private and public safety

Maintenance of Sediment

Sedimentation and erosion controls are to be effectively maintained at all times during the course of construction and shall not be removed until the site has been stabilised or landscaped to the Principal Certifying Authority's satisfaction.

Reason: To ensure sediment controls are effective

Erosion and Sedimentation Responsibilities

Personnel with appropriate training, or demonstrated knowledge and experience in erosion and sediment control shall be responsible for supervising the installation and maintenance of approved erosion and sediment control measures – during and after construction and until the site has been

restored to the satisfaction of council.

Reason: To ensure sediment and erosion controls comply with standards

Site Entry Access way

An all-weather access way at the front of the property consisting of 50-75mm aggregate or similar material at a minimum thickness of 200mm and 15metres long laid over geotechnical fabric is to be constructed prior to commencement of works and maintenance over the works period.

Reason: To reduce sediment being taken offsite

Cleaning of Vehicles Leaving Site

Adequate measures shall be undertaken to remove clay from vehicles leaving the site so as to maintain public roads in a clean condition.

Reason: To reduce sediment being taken offsite

Site filling - Virgin Excavated Natural Material (VENM)

Where site fill material is necessary, fill materials must:

1. be Virgin Excavated Natural Material (VENM) only, as defined in: The Protection of the Environment Operations Act 1997
2. be free of slag, hazardous, contaminated, putrescibles, toxic or radioactive excavated material and soil, rock or similar material. Putrescibles and non-putrescibles solid waste (including demolition material) is not permitted.
3. Certification is to be provided to the Principal Certifying Authority by a N.A.T.A. approved laboratory.

Reason: To ensure protection of the natural environment

CONDITIONS THAT MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF ANY STRATA SUBDIVISION OR SUBDIVISION CERTIFICATE

Services

All utilities/services and street lighting is to be installed by the applicant/developer. Certification is to be provided to Council stating the above requirement has been complied with. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Subdivision Certificate.

Reason: Public safety and to ensure services have been provided for the newly created lots

Council Dedications

All allotments proposed as Council roads and or reserves are to be dedicated to Council. The subdivision certificate and a certificate of title are to be submitted to Council within one month after registration of the subdivision plan.

Reason: Statutory requirement of the Conveyancing Act 1919

Stormwater Drainage and Utility Services Plan

A plan of subdivision identifying the location of water, gas, telephone, electricity and stormwater drainage in relation to boundaries and/or relevant easements, prepared by a registered surveyor is to be submitted to Council. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Subdivision Certificate.

Reason: To ensure that services have been provided with appropriate easements as required by the

Conveyancing Act 1919

Survey Plan - Construction Identification

A declaration by a registered surveyor shall be provided to Council as evidence that all construction has been effected within the appropriate property, easement boundaries and rights of carriageway. This shall be in the form of a copy of the final subdivision or easement plan, with the distances from the boundaries to the edges of these structures endorsed in red thereon and signed by the surveyor. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Subdivision Certificate.

Reason: To ensure accurate location of buildings, access and services

Sydney Water Compliance Certification

A Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained from Sydney Water Corporation. Application must be made through an authorised Water Servicing Co-ordinator. Please refer to the Building Developing and Plumbing section of the web site www.sydneywater.com.au <<http://www.sydneywater.com.au>> then refer to "Water Servicing Coordinator" under "Developing Your Land" or telephone 13 20 92 for assistance. Following application a "Notice of Requirements" will advise of water and sewer infrastructure to be built and charges to be paid. Please make early contact with the Co-ordinator, since building of water/sewer infrastructure can be time consuming and may impact on other services and building, driveway or landscape design. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Subdivision Certificate.

Reason: To ensure compliance with the statutory requirements of Sydney Water

Certification of Utility Services

The provision of all utilities/services and/or street lighting are to be certified by the relevant authority(s) and/or authorised contractor. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Subdivision Certificate.

Reason: To ensure services have been provided in accordance with the relevant authorities requirements

Easement for Drainage

An easement for drainage (under the provisions of Section 88B of the Conveyancing Act) is to be created on the final plan of subdivision the accompanying 88B instrument to ensure all drainage infrastructure (within proposed Lot 3) is located within the appropriate easement(s). Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Subdivision Certificate.

Reason: Council's Subdivision standards and statutory requirements of the Conveyancing Act 1919

Easement for Services

An easement for services (under the provisions of Section 88B of the Conveyancing Act) is to be created on the final plan of subdivision and the accompanying 88B instrument to ensure all utility services are located within the appropriate easement(s). Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Subdivision Certificate

Reason: Council's Subdivision standards and statutory requirements of the Conveyancing Act 1919

Electrical Substations

The applicant shall dedicate the land required for an electricity sub-station as a public road, if requested by the energy authority. The dedication is to be detailed on the final plan of subdivision, to be submitted

to Council with the application for a Subdivision Certificate.

Reason: To comply with statutory requirements of the energy authority

Subdivision Certificate Application

Prior to the issue of the Subdivision Certificate, a completed Subdivision Certificate form, a final plan of subdivision prepared in accordance with the requirements of the Conveyancing Act 1919 are to be submitted to Council. Nine copies of the final plan of subdivision are to be submitted. All plans of survey are to show connections to at least two Survey Co-ordination Permanent Marks. The fee payable is to be in accordance with Council's fees and charges

Reason: Statutory requirement of the Conveyancing Act 1919

Subdivision certificate documentation

The following documents and payments are to be submitted to Council in a single package to ensure the efficient release of the relevant Subdivision Certificate:

- a. A copy of the Section 73 Compliance Certificate issued under the provisions of the *Sydney Water Act, 1994*;
- b. Copies of the Subdivision Plans (original plus 6 copies);
- c. The accredited certifiers compliance certificates. Each component of the works as outlined above are to be certified as being carried out in accordance with the relevant plans and documentation by suitably qualified professional persons as outlined in this development consent. Certification is to include:
 1. Certification to Council, by an experienced civil engineer who is accredited as RPENG as maintained by Professionals Engineers Australia, that all roads, drainage and other civil engineering works have been carried out and completed in accordance with the engineering plans and specifications required under the Conditions of this Consent.
 2. All appropriate infrastructure as outlined in the Conditions of Consent and approved Construction Certificate plans and specifications has been provided to service the proposed residential lots including roads, drainage facilities, landscaping, water management facilities, civil engineering works and services.
 3. Security deposit of a value to be determined by Council is to be made to ensure rectification of any defects during the maintenance period.
 4. Creation of appropriate easements where service lines or drainage lines pass through private property other than the lot which they benefit.
 5. Works-As-Executed plans for all structures or facilities which will be dedicated to Council or which are located within drainage easements or which will require ongoing maintenance by Council. The plans are to be in paper and electronic format (dwg or dxf file) and comprise at least the following:
 - i. Boundary layout;
 - ii. Kerb and gutter, road pavement, footpaths, traffic devices, retaining walls;
 - iii. Signage (including type and wording), line marking;
 - iv. Easements, survey numbers and marks, reduced levels and co-ordinates;
 - v. Stormwater drainage locations, pipe sizes

and types, pit sizes and types, subsoil drains;

Reason: Compliance with Council's standard specifications and standards (DACENHPS2)

Certification of drainage work and work as executed data

A suitably qualified Civil Engineer shall certify that the completed works have been constructed in accordance with this consent and the approved Construction Certificate plans. CCTV details of all drainage assets to be dedicated to Council are to be in an approved format together with Works as Executed data certified by a registered surveyor prepared in accordance with Council's 'Guideline for preparing Works as Executed data for Council Stormwater Assets' shall be submitted to the Council for approval prior to the issue of the Subdivision Certificate .

Reason: To ensure compliance of drainage works with Council's specification for engineering works. (DACENHPS2)

Restoration of Damaged Public Infrastructure

Restoration of all damaged public infrastructure caused as a result of the development to Council's satisfaction. Council's written approval that all restorations have been completed satisfactorily must be obtained and provided to the Principal Certifying Authority with the Subdivision Certificate application.

Reason: To ensure public infrastructure is returned to the state it was in prior to development

Title Encumbrances

All easements, rights of carriageway, positive covenants and restrictions as to user as indicated on the plans and required by this consent are to be created on the title naming Northern Beaches Council as the sole authority empowered to release or modify. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Subdivision Certificate

Reason: To ensure proper management of land