

Risk Assessment Report on Water Gathering Ground

1. The applied use is ‘Proposed Temporary Place of Recreation, Sports or Culture (Hobby Farm) with Ancillary Facilities and associated Filling of Land’ for a period of 5 years. The Site is on Lot Nos. 86, 90, 91(Part), 92(Part), 103(Part), 147(Part), 148 S.A(Part), 148 S.B(Part), 149(Part), 150 S.A, 151 S.A(Part), 153(Part), 572 S.A(Part), 572 S.B(Part), 572 RP(Part) and 576(Part) in D.D. 16, Tai Po, New Territories, which falls within an area zoned “Agriculture” (“AGR”) on the Approved Kau Lung Hang Outline Zoning Plan (OZP) No. S/NE-KLH/11.
2. The site area is about 3,873 m². The Site is currently vacant and fenced off. It falls within the upper indirect Water Gathering Ground (WGG). This report aims to evaluate and eliminate the potential risks to the environmental quality of the WGG. Mitigation measures would be implemented to reduce potential impacts to the WGG.
3. Factors that may affect the WGG:
 - a. discharge of effluent or foul water;
 - b. improper disposal of solid waste & sludge;
 - c. the use and storage of pesticides, herbicides, toxicants, chemical solvent, larvicidal oil, rodenticide, tar and petroleum oil;
 - d. the use and storage of chemicals including fertilizers and detergents;
 - e. existence of oil leakage & spillage;
 - f. close distance between structures & uses of the development and water courses;
 - g. improper storage of fertilizers and wastes;
 - h. lack of fencing to trap wind-blown litters within the site;
 - i. contamination of soil;
 - j. oil tanker parking inside vehicle parking spaces;
 - k. kerbs & drains surrounding vehicle park / drainage traps at each drainage outlet;
 - l. on-site vehicle inspection, maintenance, repairing & washing activities; and
 - m. earth and other construction materials stockpiled or stored on site.
4. Findings and mitigation measures

All potential hazards are anticipated to remain at low risk or to be reduced after the implementation of mitigation measures. This report shows that the Site is less likely to cause contamination to the water courses in the WGG.

Factors	Hazard	Likelihood	Consequence	Risk Level	Mitigation Measure	Likelihood	Consequence	Residual Risk Level
a	Discharge of effluent or foul water	M	M	M	<p>No toilet facilities will be provided within the Site. No activity will produce foul water or effluent on the Site. Visitors will use the public toilet located at Wai Tau Tsuen, which is within 4 minutes walking distance from the Site.</p> <p>No effluent or foul water will be discharged into adjoining land, storm water drain, channel, stream or river course.</p> <p>Bar screen will be installed at u-channel to catch the wind-blown litters.</p> <p>Notice will be posted on the Site to forbid any usage and storage of pesticides, herbicides, toxicants, chemical solvents, larvicidal oil, rodenticide, tar and petroleum oil.</p> <p>Oil and grease decontamination kit will be placed at the Site to absorb any potential oil and grease that might be found on site.</p> <p>These measures would help prevent foul water or effluent discharging to the WGG.</p>	L	L	L
b	Improper disposal of solid waste and sludge	L	L	L	<p>Any waste (expected to be small in amount) will be put into covered rubbish bins which will be placed on site. It will be regularly collected and transferred to the nearest refuse collection point.</p> <p>All solid waste and sludge arising from the erection of the proposed development will be collected in waste skips and disposed of properly outside WGG.</p> <p>No rubbish will be disposed to the U-channel.</p>	L	L	L

Factors	Hazard	Likelihood	Consequence	Risk Level	Mitigation Measure	Likelihood	Consequence	Residual Risk Level
c	Use and storage of pesticides, herbicides, toxicants, chemical solvent, larvicidal oil, rodenticide, tar and petroleum oil	L	M	L	<p>No usage or storage of pesticides, herbicides, toxicants, chemical solvents, larvicidal oil, rodenticide, tar and petroleum oil will be allowed at the Site.</p> <p>Notice will be posted on the Site to forbid the usage and storage of pesticides, herbicides, toxicants, chemical solvents, larvicidal oil, rodenticide, tar and petroleum oil.</p>	L	L	L
d	Use and storage of chemicals, detergents and fertilizers	L	M	L	<p>No chemicals, detergents and fertilizers are allowed to be used/stored at the Site.</p> <p>Notice will be posted on the Site to prohibit the usage and storage of chemicals, detergents and fertilizers.</p>	L	L	L
e	Oil leakage & spillage	L	M	L	<p>Electric vehicles do not produce any contaminants or petroleum waste such as oil leakage or spillage comparing with traditional cars. Nevertheless, grease traps will be installed.</p> <p>The operation and maintenance of the proposed development on parking spaces for private cars with Electric Vehicle charging facilities will not cause contamination to the WGG.</p> <p>Oil and grease decontamination kit such as absorbent pads will be placed at the Site to absorb any potential oil and grease that might be found.</p>	L	L	L
f	Close distance between structures & uses of the development and water courses	L	L	L	The structures (i.e. office, storage rooms & meter room), farm and vehicle park cum the electric vehicle charging station as well as their associated activities under the development are located further away from the water course as far as possible.	L	L	L

Factors	Hazard	Likelihood	Consequence	Risk Level	Mitigation Measure	Likelihood	Consequence	Residual Risk Level
					<p>All agricultural structures including but not limited to compost sheds and structures for storage of wastes are water-tight and are properly maintained.</p> <p>A notice will be posted on the Site for alerting not to pollute the WGG.</p>			
g	Improper storage of fertilizers and wastes	L	M	L	No fertilizers are allowed to be used at the Site. Please refer to the supplementary information at Annex I for details.	L	L	L
h	Lack of fencing to trap wind-blown litters within the site	L	L	L	An existing boundary fencing has been erected on all sides of the Site to trap all wind-blown litters such as paper, plastic bags, bottles and boxes.	L	L	L
i	Contamination of soil	L	M	L	Any soil contaminated with fuel leakage will be removed off site immediately and the voids arising from removal of contaminated soil will be replaced by suitable material to the satisfaction of the Water Authority.	L	L	L
j	Oil tanker inside the site	L	M	L	<p>No oil tanker will be allowed to be parked inside the Site to avoid potential oil leakage or spillage.</p> <p>A notice will be posted at the entrance of the Site to prohibit oil tanker to enter the Site.</p>	L	L	L
k	Kerbs & drains / Drainage traps	M	M	M	Kerbs and drains are provided. Drainage traps such as grease traps and petrol interceptors are installed at each of the drainage outlets and are under proper maintenance. All such drainage traps have sufficient capacity to ensure the proper interception and collection of potential fuel and lubricants.	L	L	L

Factors	Hazard	Likelihood	Consequence	Risk Level	Mitigation Measure	Likelihood	Consequence	Residual Risk Level
					Oil and grease decontamination kit such as absorbent pads will be placed at the Site to absorb any potential oil and grease that might be found.			
l	On-site vehicle inspection, maintenance, repairing & washing activities	M	M	M	No vehicle inspection, maintenance, repairing and washing activities will be allowed within the Site. Notice will be posted on the Site to prohibit vehicle inspection, maintenance, repairing and washing activities.	L	L	L
m	Earth and other construction materials stockpiled or stored on site	M	M	M	No earth and other construction materials which may cause contamination to the WGG will be stockpiled or stored on site. All excavated or filled surfaces will be protected from erosion and siltation. Earthwork final surfaces will be well compacted and the surface protection work will be carried out immediately after the final surfaces are formed to prevent erosion. All construction spoils will be contained and protected in waste skips and effluent containing spoils will be disposed of after desiltation.	L	L	L

Remarks: L = Low ; M = Medium ; H = High

Supplementary Information for Risk Assessment Report

- The proposed hobby farm promotes natural farming principles to ensure minimal environmental impact.
- Natural farming is an ecological method that mimics natural ecosystems, emphasizing no tillage, no external fertilizers (organic or inorganic), no pesticides, and no weeding. It relies on biodiversity, soil microbes, and natural cycles to maintain fertility.
- No fertilizers are used on site because healthy soil self-regulates through microbial activity and plant roots. Straw mulch protects the soil, suppresses weeds, and recycles nutrients naturally. This avoids nutrient overload and runoff, unlike conventional methods where added fertilizers can leach into water bodies.
- The applicant is aware that the application site is located in close proximity to the Lam Tsuen River. The main farming activities are to preserve the existing trees such as *Artocarpus heterophyllus*, *Clausena lansium*, *Dimocarpus longan* etc. in the lower portion of the Site. Only water will be applied when necessary. No fertilizer will be used. No-tillage preserves soil structure, allowing roots, worms, and microbes to maintain stability. Tree treatment such as pruning by the experts will be carried out annually to maintain the shape and health of the existing trees.
- For the upper portion of the Site, planting area will be physically isolated from the ground. Raised beds will be used to contain soil and water. No farm water, soil, or materials will be allowed to flow into the water gathering grounds (WGG), ensuring complete separation.
- Crops include resilient, locally adapted varieties such as seasonal vegetables, herbs, and perennials that thrive without input, ensuring low-risk operations near sensitive areas, will be grown in raised beds with waterproof plastic liners placed inside to prevent water and soil leakage. Water will be stored in the bottom of the raised beds. There are taps equipped on each raised bed for draining water (please see the pictures below for illustration). The water will then be collected and transported out of the Site, such as the public toilet at Wai Tau Tsuen, which is within 4 minutes walking distance from the Site. No fertilizer will be used for growing these crops.



- Regular monitoring will ensure soil remains compacted, preventing loose soil from being washed away.
- On rainy days, the raised beds will be covered with waterproof covers to prevent water and soil leakage from the raised beds (see pictures below). As such, no pollution or contamination of the WGG is expected.



Raised beds will be placed inside the waterproof cover.

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