Roof Top Water Tanks

Floor Under Water Tanks

Causes of mosquito breeding
- Water stagnation on uneven floor due to
  a) rain accumulation
  b) overflows
  c) leakages from pipes

Preventive/remedial measures
- Shield tanks from rain
- Channel overflows away
- Fix leaking pipes
- Apply BTI briquettes periodically

Check For Gaps And Openings At Covers And Ventilation Holes

Causes of mosquito breeding
- Inspection covers not properly closed after maintenance work
- Damaged, corroded or missing covers and cover gaskets
- Ventilation holes not covered or screened

Preventive/remedial measures
- Close inspection covers properly after maintenance
- Repair or replace covers and cover gaskets
- Install rubber gasket for tank covers to eliminate gaps
- Cover all ventilation holes with anti-mosquito screen
Check For Torn Or Detached Mosquito Nettings

Causes of mosquito breeding
- Anti-mosquito netting for overflow outlets is absent, damaged or not properly installed

Preventive/remedial measures
- Cover all overflow outlets with anti-mosquito netting and replace all damaged nettings

Secondary Roof

Causes of mosquito breeding
- Collection of rainwater below secondary roof

Preventive/remedial measures
- Re-grade uneven floor of roof
- Apply BTI briquettes periodically

Reinforced Concrete Flat Roof Including Scupper Drains

Causes of mosquito breeding
- Water stagnation due to
  a) uneven floor
  b) clogged drains
  c) poor gradient of drains

Preventive/remedial measures
- Re-grade uneven floor
- Carry out regular cleaning to prevent blockages
- Re-grade uneven drains
Roof Gutters

**Causes of mosquito breeding**
- Water stagnation due to
  a) warping of roof gutters, impeding water flow
  b) poor gradient of gutters
  c) roof gutters clogged with leaves or silt
  d) Misalignment of rainwater downpipes with elbow joint, resulting in blockages

**Preventive/remedial measures**
- Remove roof gutters where possible
- Re-grade uneven gutters
- Carry out regular cleaning to prevent blockages
- Apply BTI briquettes periodically

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**PVC Piping Supports**

**Causes of mosquito breeding**
- Collection of rainwater in hollow of PVC supports

**Preventive/remedial measures**
- Fill up hollow of PVC supports with cement

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**Discarded Items & Receptacles**

**Causes of mosquito breeding**
- Water stagnation in discarded receptacles

**Preventive/remedial measures**
- Carry out regular cleaning and disposal of unwanted articles
Corridor & Staircase

Corridors And Staircase Landings, Including Scupper Drains

Causes of mosquito breeding
- Water stagnation due to
  a) uneven floor
  b) clogged drains
  c) poor gradient of drains

Preventive/remedial measures
- Re-grade uneven floor
- Carry out regular cleaning to prevent blockages
- Re-grade uneven drains

Gully / Floor Traps

Causes of mosquito breeding
- Water stagnation in gully / floor traps

Preventive/remedial measures
- Install anti-mosquito valve into traps
- Clear blockages in traps
- Seal up traps that are no longer in use
Flower Pots / Plates / Watering Cans / Plastic Containers / Domestic Containers

**Causes of mosquito breeding**
- Water stagnation in flowerpot plates and on hardened soil
- Collection of water in domestic containers and receptacles

**Preventive/remedial measures**
- Remove flowerpot plates where possible
- Loosen hardened soil regularly
- Empty all water in domestic containers and receptacles
- Store domestic containers and receptacles under shelter, away from rain

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**Canopies**

**Causes of mosquito breeding**
- Water stagnation due to
  a) clogged drainage pipes
  b) uneven flooring of canopies

**Preventive/remedial measures**
- Maintain drainage pipes regularly to prevent blockages
- Re-grade floor of concrete canopies
- Apply BTI briquettes periodically

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**Discarded Items & Receptacles**

For details, refer to page 14: RoofTop – Discarded Items & Receptacles
Ground Level - Void Deck

Pump Rooms / Switch Rooms

Concrete Floor

Causes of mosquito breeding

- Water stagnation on uneven floor due to overflows or leakage from pipes

Preventive/remedial measures

- Channel overflows away
- Fix leaking pipes
- Apply BTI briquettes periodically

Gully/ Floor Traps

For details, refer to page 15:
Corridor & Staircase - Gully / Floor traps

Discarded Items & Receptacles

For details, refer to page 14:
Roof Top - Discarded Items & Receptacles
Water Tanks
For details, refer to page 12: RoofTop – Water Tanks

Gully / Floor Traps
For details, refer to page 15: Corridor & Staircase – Gully / Floor traps

Scupper Drains

Causes of mosquito breeding
- Water stagnation due to
  a) clogged drains
  b) poor gradient of drains

Preventive/remedial measures
- Carry out regular cleaning to prevent blockages
- Re-grade uneven drains
Main Riser Outlet Panels

Causes of mosquito breeding
• Collection of water at base of panels
• Drainage holes at base of panels are clogged

Preventive/remedial measures
• Provide drainage holes at base of panels
• Carry out regular cleaning to clear blockages

Lift Shafts Including Lift Pits

Causes of mosquito breeding
• Water stagnation in the lift pits due to
  a) water seepage through cracks in walls and from the ground
  b) water from floor washing

Preventive/remedial measures
• Repair walls of lift shafts to prevent water seepage
• Ensure that water does not flow into lift shafts during washing of lift lobby
• Pump up or soak up the water

Discarded Items & Receptacles

For details, refer to page 14:
RoofTop – Discarded Items & Receptacles
Ground Level - Apron Of Building

Gutters Including Linkway Gutters

For details, refer to page 14: Roof Top - Roof Gutters

Subterranean Pits & Chambers
Including Key Holes Or Gaps In Covers

Inspection Chambers And Sump Pits

Causes of mosquito breeding
- Collection of rainwater in chambers due to seepage through keyholes or gaps around covers
- Water stagnation in keyholes of covers

Preventive/remedial measures
- Close covers properly after maintenance
- Seal up keyholes and gaps around covers

Rainwater Pipe Sumps

Causes of mosquito breeding
- Refer to above: Inspection Chambers and Sump Pits

Preventive/remedial measures
- Close covers properly after maintenance
- Clear blockages in sumps
- Seal up keyholes and gaps around the covers
Stop-Cock Pits

Causes of mosquito breeding
- Refer to page 20: Inspection Chambers and Sump Pits

Preventive/remedial measures
- Seal up keyhole and gaps around covers

Lightning Conductor Pits

Causes of mosquito breeding
- Collection of rainwater in chambers due to seepage through keyhole or gaps around cover

Preventive/remedial measures
- Fill up pits with sand and seal keyholes

Gully / Floor Traps

For details, refer to page 15:
Corridor & Staircase – Gully / Floor Traps
Grease Traps

Causes of mosquito breeding:
- Water stagnation in grease traps due to blockages

Preventive/remedial measures:
- Carry out regular cleaning to prevent blockages

Bin Chutes, Including Scupper Drains

Causes of mosquito breeding:
- Water stagnation due to uneven floor of chutes
- Blockages in scupper drains

Preventive/remedial measures:
- Re-grade uneven floor
- Carry out regular cleaning to prevent blockages in scupper drains

Value Chambers / Water Meter Concrete Compartments

Causes of mosquito breeding:
- Collection of rainwater in chambers due to blockages

Preventive/remedial measures:
- Carry out regular cleaning to prevent blockages
Open And Closed Perimeter Drains

Causes of mosquito breeding
- Water stagnation in drains due to a) blockages
- b) poor gradient
- Cleaning cannot be carried out properly in covered drains due to concrete slabs/ metal gratings

Preventive/ remedial measures
- Carry out regular cleaning to prevent blockages
- Re-grade uneven drains
- Remove concrete slabs/ metal gratings permanently to facilitate cleaning

Outdoor Hanging And Standing Bins

Causes of mosquito breeding
- Collection of water at base of the bins
- Drainage holes at base of bins are clogged

Preventive/ remedial measures
- Provide drainage holes at base of bins
- Carry out regular cleaning to clear blockages
Joss Paper Burners

Causes of mosquito breeding
- Water stagnation at base of joss paper burners due to accumulation of ashes and litter

Preventive/remedial measures
- Carry out regular cleaning to clear stagnant water

Hollow Metal Or PVC Columns

Causes of mosquito breeding
- Collection of rainwater in hollows of cut-off metal bollard or PVC bar

Preventive/remedial measures
- Seal up holes with cement or sand

Discarded Items & Receptacles

For details, refer to page 14: RoofTop – Discarded Items & Receptacles
Ground Level - Playground/Leisure Facility & Landscaped Area/Garden

RC Gardens

**Flower Pots/Plates/Watering Cans/Plastic Containers/Domestic Containers**

- **Causes of mosquito breeding**
  - Water stagnation in flowerpot plates and on hardened soil
  - Collection of water in domestic containers and receptacles

- **Preventive/remedial measures**
  - Remove flowerpot plates where possible
  - Loosen hardened soil regularly
  - Empty all water in domestic containers and receptacles

**Hydroponic Kits**

- **Causes of mosquito breeding**
  - Water stagnation in unused portions of hydroponic kits

- **Preventive/remedial measures**
  - Remove all unused hydroponics kits
  - Cover all openings of kits

**Ponds and Water Fountains**

- **Causes of mosquito breeding**
  - Water stagnation at corners of ponds or fountains that are not circulating
  - Collection of water in depressions of fountain features

- **Preventive/remedial measures**
  - Introduce fish that are natural predators of mosquito larvae into ponds
  - Eliminate depressions of fountain features to allow water to flow
Base of BBQ Pits

Causes of mosquito breeding
- Collection of rainwater at base of pits

Preventive/remedial measures
- Re-grade base of pits
- Provide outlets at base of pits to drain water away

Lampposts

Causes of mosquito breeding
- Collection of rainwater in lamppost trunks due to seepage through gaps in cover

Preventive/remedial measures
- Seal gaps around cover

Ground Puddles / Depressions

Causes of mosquito breeding
- Collection of rain water in ground puddles or depressions

Preventive/remedial measures
- Back-fill puddles or depressions permanently
Tree Holes, Bifurcation Between Branches, And Thick Leaf Axils

(Banana tree, traveller’s palm and any similar plants that can collect rainwater)

Causes of mosquito breeding

- Collection of rainwater in tree holes, depressions between branches and thick leaf axils

Preventive/remedial measures

- Seal up all tree holes and depressions permanently with ferms or sand
- Avoid planting of vegetation with thick leaf axils

Discarded Items, Receptacles Strewn In Bushes And Flower Beds, Fallen Tree Fronds And Leaves

For details, refer to page 14:
RoofTop – Discarded Items & Receptacles
Multi Storey Carpark
Concrete Floor Including Scupper Drains

Causes of mosquito breeding
- Water stagnation due to
  a) uneven floor
  b) clogged drains
  c) poor gradient of drains

Preventive/remedial measures
- Re-grade uneven floor
- Carry out regular cleaning to prevent blockages
- Re-grade uneven drains

Gully / Floor Traps
For detail, refer to page 15:
Corridor & Staircase – Gully / Floor traps

Pump Rooms / Switch Rooms
For detail, refer to page 17:
Ground Level – Void Deck
Pump Rooms / Switch Rooms
Fire-Hose Reel Compartments

Causes of mosquito breeding
- Water stagnation at base of fire-hose reel compartments due to leaks

Preventive/remedial measures
- Lock the fire-hose reel compartments properly to prevent unauthorised usage
- Fix leakages

Valve Chambers / Water Meter Concrete Compartments

For detail, refer to page 22:
- Ground Level - Apron of Building
- Valve Chambers / Water Meter Concrete Compartments

Carpark Canopies

For detail, refer to page 16:
- Corridor & Staircase – Canopies

Discarded Items & Receptacles

For detail, refer to page 14:
- RoofTop – Discarded Item & Receptacles
Ground Carpark
Open and Closed Carpark Drains

For details, refer to page 23:
Ground Level – Apron of Building
Open and Closed Perimeter Drains

Carpark Aeration Slabs

Causes of mosquito breeding
- Collection of water in hollows of aeration slabs

Preventive/remedial measures
- Refill hollows with soil and carry out replanting of grass to prevent soil erosion

Abandoned Vehicles

Causes of mosquito breeding
- Collection of rain water in various parts of abandoned vehicles

Preventive/remedial measures
- Request the authorities - HDB Carparks Section (1800-2255432, hdbcarparks@hdb.gov.sg) - to tow away abandoned vehicles
Covers For Motorcycles

Causes of mosquito breeding

- Collection of rainwater on undulating surfaces of canvas covers

Preventive/remedial measures

- Avoid using canvas to cover motorcycles that are left unattended for long periods

Discarded Items & Receptacles

For details, refer to page 14:
RoofTop – Discarded Items & Receptacles
Bin Centre / Centralised Bin Chute

Rooftop Including Gutters

Causes of mosquito breeding

- Water stagnation due to
  a) uneven surface of concrete rooftop
  b) poor gradient of gutters
  c) roof gutters clogged with leaves or silt
  d) Misalignment of rainwater downpipes with elbow joint, resulting in blockages

Preventive/remedial measures

- Re-grade uneven gutters and concrete rooftop
- Carry out regular cleaning to prevent blockages
- Apply BTI briquettes periodically

Concrete Floor Including Scupper Drains

Gully / Floor Traps

For details, refer to page 28:
Multi Storey Carpark – Concrete Floor Including Scupper Drains

For details, refer to page 15:
Corridor & Staircase – Gully / Floor traps
**Gully Baskets Below Compactors**

- **Causes of mosquito breeding**
  - Water stagnation due to blockages

- **Preventive/remedial measures**
  - Carry out regular cleaning to prevent blockages

**Stored Bulk Bins And Joss Paper Burners**

- **Causes of mosquito breeding**
  - Water stagnation in stored bulk bins and joss paper burners due to accumulation of rain

- **Preventive/remedial measures**
  - Shield bins and burners from rain
  - Store bins and burners such that there is no stagnation of water
Bulky Waste Storage Areas

- Causes of mosquito breeding:
  - Collection of rainwater in bulky waste items and on ground below

- Preventive/remedial measures:
  - Dispose of unwanted articles regularly
  - Store unwanted articles under shelter

Toilet Cisterns & Unused Toilet Bowls

- Causes of mosquito breeding:
  - Stagnation of water in cisterns and unused toilet bowls

- Preventive/remedial measures:
  - Drain out all water from unused cisterns
  - Cover and seal unused toilet bowls
  - Seal off overflow outlets of cisterns

Discarded Items & Other Water Bearing Receptacles

For details, refer to page 14: RoofTop – Discarded Items & Receptacles