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Brett Dunn
Program Manager – Land Use Planning
Department of Water and Environment Regulation
Kwinana Peel Region

Dear Brett,

RE: PA034131, RF9830-01 – Proposed Stormwater and Spill Management Plan at Lot 1 (543) King Rd, Oldbury

A development application is proposed at Lot 101 (132) Boomerang Road, Oldbury. The facility will be operated by Bradway Contracting, a small Civil and Earthmoving Contractor. The proposed transport depot will include the parking of various commercial vehicles, trailers, machinery and employee vehicles.

Harley Dykstra latest DA submission was reviewed by the Department of Water and Regulation (DWER). In their letter dated 26/05/2020 (FR9830-01), DWER suggested that the proposed transport depot and parking areas should implement best management practices in accordance with relevant Water Quality Protection Notes.

The below details the proposed management practices to be implemented on site.

It is noted that the mechanical servicing and washdown of trucks are done off site.

The storage of all toxic and hazardous substances, including fuels and lubricants will be located in the workshop (Figure 1) within a bunded hardstand area. Likewise, adequate tools and materials for managing spills will be stored in the workshop (in a designated area) and will be available immediately should a spill occur. In addition, used batteries, used solvent containers, machinery parts and contaminated waste products will also be stored in the workshop in designated areas until they can be moved off-site for recycling or to an approved disposal facility.

DWER suggested that the parking areas must be constructed on a non-permeable concrete hardstand that will contain leaks and spills of all fuels, lubricants, and wastewater in the event that the integrity of the vehicles becomes compromised.

To this end, a Stormwater and Spill Management Plan, detailed below, was developed in accordance to best practice management to ensure that the natural environment, especially the groundwater resource and nearby Resource Enhancement Wetlands (UFI 14741 and UFI 14862) are not subject to adverse impacts from the transport depot should the integrity of the parked vehicles becomes compromised.

Any uncontained spill and runoff from fuel and lubricant leaks or wastewater might cause adverse impacts on the surrounding environment. To prevent the latter, it is proposed to establish dedicated areas for the parking of the commercial vehicles, trailers, machinery and employee vehicles (Figure 1).



The parking areas will be divided in two main categories (Figure 1):

- A parking area consisting of the existing hardstand for machinery or equipment without fuel tanks, lubricant or harmful liquid, e.g. trailers; and,
- An impervious truck parking area (including employee vehicles) made of 100 mm of compacted asphalt profile on top of the existing hardstand.

This impervious truck parking area will have an infiltration $< 10^{-9}$ m/s and graded at 1% towards a concrete sump (Figure 2) for spill and leak containment. The sump is designed for a spill volume of up to 20,000 L, allowing full containment of a spill from all trucks and employee vehicles at once.

It is noted that the impervious parking area will also have a due diligence area for the parking of vehicles with high risk of spillage, e.g. trucks with leaks. Any vehicles parked in the due diligence area would require urgent repairs or maintenance. This due diligence area was designed closer to the sump to maintain spillage footprint to a minimum before discharging into the sump.

Radial flow of any spill within the impervious parking area will be contained via a 200 mm high concrete kerbing (located near the eastern boundaries of the transport depot) and a 200 mm high gently raised concrete bunding (located within the yard as shown in Figure 1). The gently raised bunding will allow access to vehicles while containing radial flow.

It is also noted that stormwater falling in the impervious parking area will also be discharged in the sump. A valve will be used to control outflow of stormwater to sedimentation traps and soakwells hence allowing discharge into the natural environment (Figure 3). The valve will be closed when vehicles are parked in the due diligence area, isolating the wastewater from the surrounding environment. The sump is designed to contain stormwater from events up to the 63.2 % AEP 1 hour, should compromised vehicles be parked within the due diligence area at that time (and hence with a closed valve). When opened, bigger AEP events will be managed by the subsequent drainage system (sump to collection pit to sedimentation traps to soakwells). The 100 mm pipe connected to the collection pit will provide enough flow rate to avoid overflow of the sump. It is also noted that the discharge area is away from any structure. Any overflow will not jeopardise the activity of the Transport Depot.

After a spill event, liquid contained in the concrete sump and collection pit will be vacuumed into a wastewater truck commissioned for the occasion. The sump and the collection pit will then be washed with high pressure water to clean out any residue. Wash out water will also be vacuumed into the truck prior to be disposed off-site to an appropriate, licensed landfill site.

This approach ensures that any stormwater going through this system will not export waste residue into the natural environment. Sedimentation traps will also act as an additional layer of protection should residues still be present after cleaning.

In conclusion:

- In the event of a spill (however unlikely), fuel or other liquid will be contained in a concrete sump and isolated from the natural environment prior to being disposed off-site. This is consistent with DWER's Water Quality Protection Notes, particularly WQPN 51- *Industrial wastewater management*.
- Thorough cleaning of the concrete sump and collection pit will be carried out after any spill event. Any stormwater going through this system; will therefore not



export waste residue into the natural environment. In addition to this thorough cleaning, sedimentation traps will act as an added layer of protection should high pressure water cleaning not be sufficient. Such approach is consistent with WQPN 52 – *Stormwater management at industrial sites*.

- The proposed stormwater and spill management plan is therefore consistent with best practice management and ensures that the nearby Resource Enhancement Wetlands and groundwater resource will not be subject to adverse impacts from the transport depot.

If further information is required, please do not hesitate to contact the undersigned.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Didier Alanoix', written over a faint, illegible printed name.

Didier Alanoix
Environmental Scientist
September 2, 2020

Figures



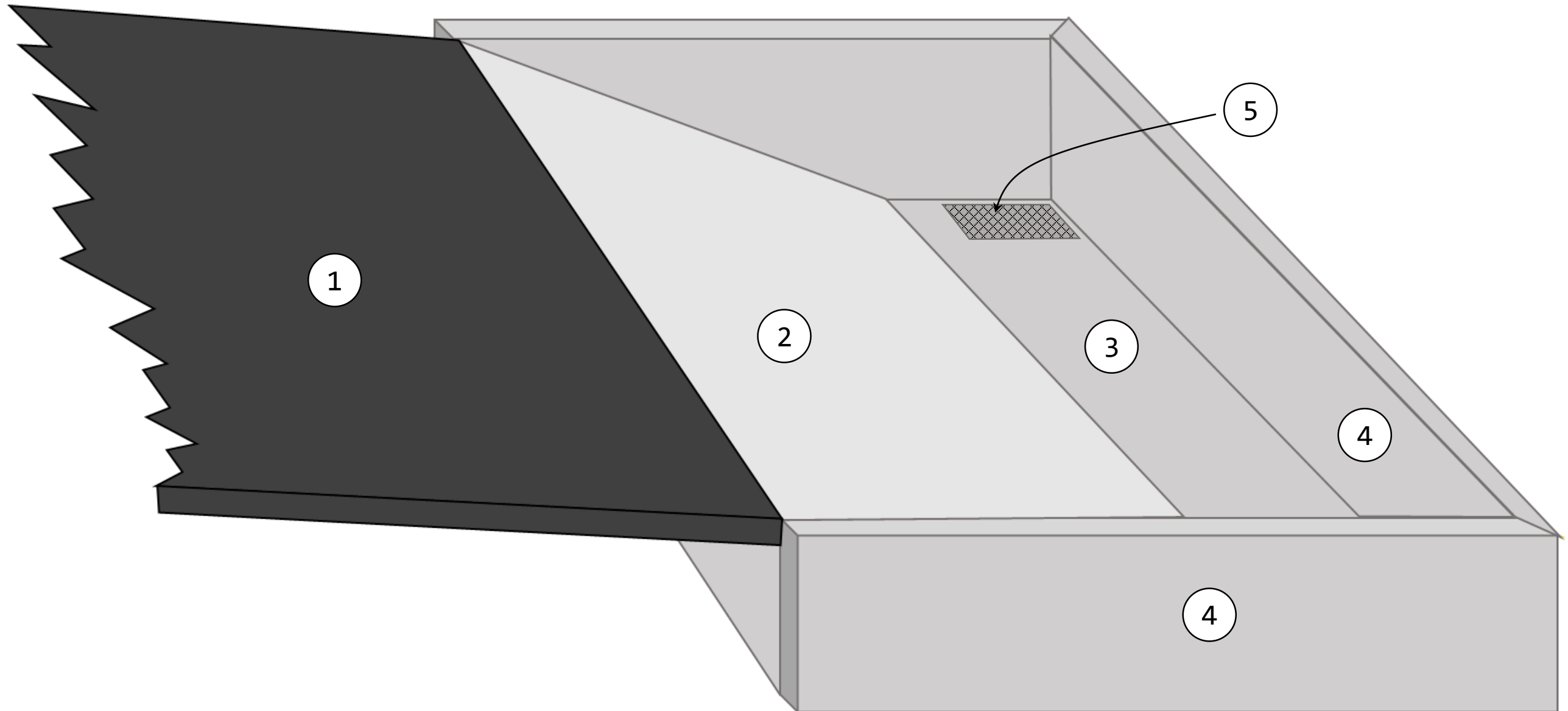
LEGENDS:

- SITE BOUNDARIES
- PARKING AREA FOR MACHINERY WITHOUT FUEL, LUBRICANT OR WASTEWATER, E.G. TRAILERS
- IMPERVIOUS TRUCK PARKING AREA MADE OF 100 MM PROFILE ON TOP OF EXISTING HARDSTAND GRADED AT 1 IN 100 TOWARDS A CONCRETE SUMP
- DUE DILIGENCE AREA, I.E. PARKING OF TRUCKS WITH HIGH RISK OF SPILLAGE (E.G. DAMAGED TRUCK, TRUCKS WITH LEAKS ETC...)
- 200 MM HIGH CONCRETE KERBING TO CONTAIN SPILLS AND STORMWATER WITHIN THE IMPERVIOUS AREA
- 200 MM HIGH GENTLY RAISED CONCRETE BUND TO CONTAIN SPILLS AND STORMWATER WITHIN THE IMPERVIOUS AREA WHILE ALLOWING ACCESS TO VEHICLES
- 8 M x 4 M x 1 M CONCRETE SUMP (DETAILED IN FIGURE 2)
- TRIPLE INTERCEPTOR SEDIMENTATION TRAP (750L EACH) (DETAILED IN FIGURE 3)
- 1500 MM (ID) x 1500 MM (H), 2650 L SOAKWELLS (DETAILED IN FIGURE 3)



LEGENDS:

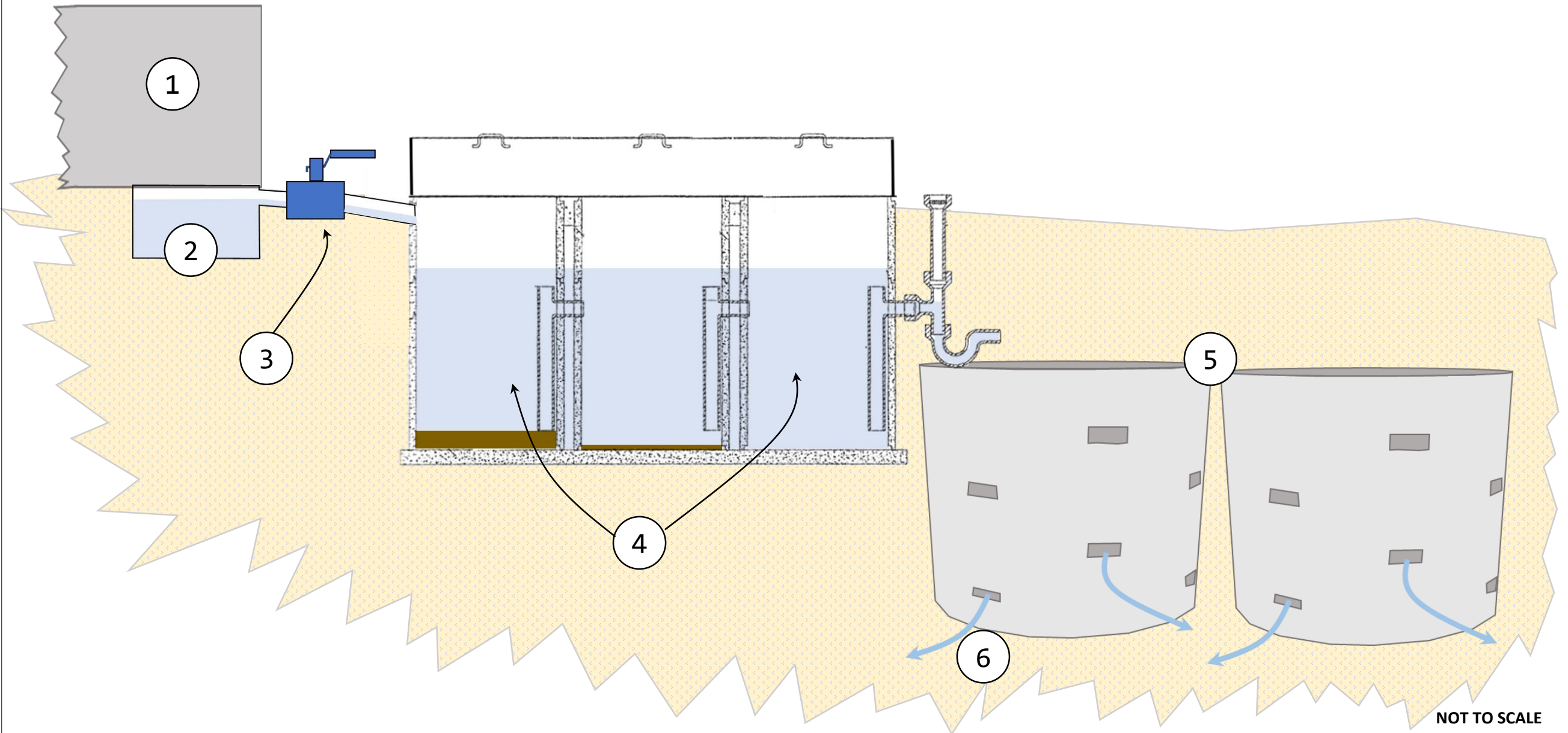
1. TRUCK PARKING AREA TO BE MADE OF 100 MM OF PROFILE ON TOP OF EXISTING HARDSTAND. TO BE GRADED AT 1% TOWARDS A CONCRETE SUMP (DETAILED IN POINTS 2 TO 6). STORAGE CAPACITY OF SUMP TO BE 20,000 L ALLOWING FULL CONTAINMENT OF SPILL FROM FUEL TANKS OF ALL TRUCKS
2. CONCRETE RAMP OF THE SUMP TO BE GRADED AT 1 IN 3 TO ALLOW VEHICLE ACCESS DURING CLEANING AND MAINTENANCE
3. RAMP TO BE MADE OF A CONCRETE BASE TO PREVENT LEACHING OF SPILLS TO NATURAL ENVIRONMENT. SURFACE AREA OF THE BASE TO BE 8M X 1M
4. SUMP TO BE 8 M (WIDTH) X 4 M (LENGTH) X 1M (DEPTH) WITH SUMP WALLS TO BE 150 MM THICK
5. STORMWATER GRATED PIT CONNECTED TO SEDIMENTATION TRAP VIA A 100MM DIAMETER PIPE WHICH IN TURN CONNECT TO SOAKWELLS. OUTLET TO BE CLOSED WITH A VALVE (AS SHOWN ON FIGURE 3) WHEN TRUCKS ARE PARKED IN THE DUE DILIGENCE AREA TO FULLY CONTAIN SPILLS, IF ANY. SUMP AND GRATED PIT TO BE THOROUGHLY CLEANED AFTER ANY SPILL INCIDENT. TRUCKS IN DUE DILIGENCE AREA TO BE BROUGHT OFF SITE FOR REPAIRS



NOT TO SCALE

LEGENDS:

- 1. SUMP
- 2. 600 MM COLLECTION PIT WITH OUTFLOW RESTRICTED BY VALVE
- 3. VALVE TO BE CLOSED WHEN TRUCKS ARE PARKED IN DUE DILIGENCE AREA, OTHERWISE OPEN TO ALLOW DISCHARGE OF STORMWATER INTO THE SEDIMENTATION TRAPS
- 4. TRIPLE INTERCEPTOR SEDIMENTATION TRAP (750 L EACH) TO BE INSTALLED TO CAPTURE ANY SOLID OBJECTS
- 5. FIVE 1500 MM (ID) x 1500 MM (H), 2650 L SOAKWELLS TO BE INSTALLED TO ALLOW STORMWATER TO DISCHARGE INTO NATURAL ENVIRONMENT
- 6. DISCHARGE OF STORMWATER



Project: Transport Depot Application
Client: Bradway Contracting
Date: 31/08/2020
Drawn: DA
Checked: PK
Revision: A

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FIGURE 3. Stormwater Discharge System

LOT 101 (132) BOOMERANG ROAD, OLDBURY
Ordinary Council Meeting - 16 November 2020

SOURCE: Client's proposed plan