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| RevB | <p><b>Petrol Filling Station</b></p> <p><b>Project Description</b></p> <p>The scope of works is to develop a new Petrol Filling Station (PFS) at the ASDA Superstore, Littlehampton Road, Ferring, BN12 6PN. The scheme design has to take into account the existing surrounding retail environment and provide safe and easy means of access for both the store and petrol only custom. For this reason the location of the forecourt is located directly off the store main entrance. The new proposal is segregated by locating into a graveled area currently used as an overflow car park with the store primary access running between the forecourt and car park.</p> <p>The station will comprise three rows of two inline pumps providing a maximum twelve fill positions in simultaneous use. Access to the site for both custom and service vehicles is designed to be in a single direction and due to the efficiency of the fuel delivery/payment process, no passing lanes are necessary, therefore reducing the potential forecourt conflict with personnel.</p> <p>The proposed PFS shall be for retail trade of Petroleum &amp; Diesel to the general public with the process involving taking delivery; on site storage in underground vessels (UST's) and dispensing of product via suction pump dispensers operated by customers on a self service basis. It is intended that the station will operate from 07.00 to 22.30pm Mon-Sat and 10.00 to 17.00 Sunday which reflects the store trading hours. Store management will provide "competent" colleague attendance on the forecourt to assist customers at key trading times and to achieve a minimum standard of monitoring through daily checks etc in compliance with ASDA corporate procedures. When a Greeter is not in attendance "competent" colleagues will be available within store to attend site within an agreed five minute period. The forecourt operation is consistently monitored by CCTV with the records retained for a set period of time for the purpose of pursuing any legal claim. Customer awareness of the forecourt being monitored is highlighted by forecourt signage. The colleagues are also responsible for general forecourt housekeeping and reporting of any equipment faults/failures, and are able to accept attended deliveries in the unlikely event of the DCD failing. There will be periodical inspections, such as regular walk over's or as site specific risk assessments dictate. The station shall incorporate Engineered Control Measures that have been approved with the Authoritative Advise of the Petroleum Group of London Fire and Emergency Planning Authoritative with whom ASDA have entered into a formal partnership agreement.</p> <p>Store management/colleagues are to be trained to "competent" status with theoretical and practical training in line with ASDA Corporate procedures. Sufficient colleagues shall trained to ensure that "competent" persons are available at all forecourt trading times. The forecourt shall be closed when appropriate colleagues are not available in store. In addition to the store management support the forecourt operation shall also be monitored by an accredited remote surveillance company called FARSIGHT who have both visual and voice communication with the forecourt via dedicated CCTV and direct telephone or Tannoy systems. This company have predetermined procedures that are designed to address forecourt issues and include the ability to remotely close the forecourt if required. Analytic CCTV cameras are located on the forecourt entrance and exit to monitor activity at all pump positions. This system is site specific, and is set up to monitor activity around the pumps with primary functions to pick up and notify the remote monitoring company of persons without a vehicle or a vehicle that has been stationary on the forecourt for more than 4 minutes. The system can be demonstrated in more detail once the system has been set up on the site.</p> |
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Forecourt Specification and design – Pollution Provision

The site will have a Driver Controlled Delivery facility using Veeder-Root systems. All wet stock reconciliation shall be carried out at ASDA head office by the Petrol Trading team using dip levels and sales figures automatically polled out of the tank gauge and forecourt controller system. The specification also includes for Gilbarco FMS which provides additional monitoring and alarms if excess wet stock loss occurs. The store colleagues are then responsible for completion of the Fire Certificate for Driver Controlled Delivery and also the pre and post-delivery checking of the DCD box.

Fuel storage shall be in double skinned single compartment steel tanks to BS EN 12285 – 1:2003 with polyurethane finish, these will incorporate interstitial monitoring of the space between the inner and outer skins of the tanks by vacuum Class 1 monitoring. These will be supplied by WEFCO and will be supported with a 30 year warranty. There will only be two grades, regular ULG and Diesel, each vessel being 75,000Ltr capacity with tank gauges set at safe working capacity of 97%. The tanks will be located under the forecourt and partially encased in concrete and pea shingle backfill. Tanks shall be fitted with VEEDER ROOT TLS 450 tank gauging & environmental protection system.

Fuel distribution will be by Durapipe Fuel systems P-LX polyethylene pipes fusion welded joints supplying Gilbarco SK700 suction pumps and shall include Stage 2 Vapour Recovery. Polyethylene pipework and equipment for Stage 2 Vapour Recovery will be installed and will be operational from the opening. Stage 1b is provided to the fuel delivery offset fills and “Flame arrester” connections to the vapour return hook up.

Delivery will be controlled by a DCD DIS-500 unit complete with associated automatic lighting standards.

The concrete forecourt shall be set to falls at 1:60 gradients with drainage channels across the full width of the front and rear of the forecourt. The ASDA Specification includes for containment of the dispensing forecourt by provision of drainage channels to the forecourt perimeter. The channel specification around the tanker delivery area is increased up to a 300mm section with special grating to collect and discharge volumes for worst case scenarios in accordance with the APEA guidance. These drains will discharge to a 10,000Ltr Class I interceptor which is fitted with a shut off valve activated by a probe sensor that is alarmed and constantly monitored by a forecourt Management System (FMS). The size of the interceptor is determined by the compartment size of a fuel tanker to ensure that in the event of a hose uncoupling or leakage it can achieve full containment.

Weather protection shall be provided to the forecourt dispensers by a single skin structural steel canopy with gantry fitted floodlighting co-ordinated with dispenser siting.

Customer service facilities comprising an Air / Water unit, a Vacuum unit and two jet wash bays are provided on the exit forecourt situated in an offset position outside the traffic flow and beyond the tanker tracking.

**Environmental Legislation.** The development shall be subject to the following legislation governing the design and construction of for delivery, storage and dispensing of hazardous materials relative to the prevailing site conditions.

**Environment Agency - Groundwater protection: Principles and practice (GP3).** November 2012 Version 1

The following requirements shall be taken into consideration in the Risk Assessment.

- Part 2 - A1 - Position Statements: It is intended that this document shall provide substantiation to a Risk based approach to consider the suitability of the proposal relative to the sensitivity of the site conditions.
- Part 2 – B – Protection of water intended for human consumption: For the purposes of this RA the site shall be classified as not being within a source protection zone (SPZ) and with no currently licensed surface water abstractions within a 1km radius of the site.
- Part 2 – C – Infrastructure: For the purposes of this RA the site shall be classified as being a “Specific infrastructure project defined as a Petrol/diesel retail filling station”
- Part 2 – D – Storage of pollutants:

This proposal is designed upon the principles of detection and containment based upon a theory that the systems, activities and monitoring in place are sufficiently robust to prevent any containment release and thereby adequately protect the local environment. The key features of these measures are:

- Fuel release above ground at the tanker fill point -
  - First line of containment shall be by monolithic impervious paving throughout the activity area set to falls to perimeter drainage channels.
  - Second line of containment by appropriate drainage channels to collect worst case product volume and rate of discharge defined by the APEA.
  - Third line of containment to provide Class 1 full retention interceptors with capacity to withhold worst case contamination release as defined by the APEA.
  - Fourth line of containment to monitor systems with 24/7alarms and automatic closures to interceptors.
- Fuel release above ground on the dispensing forecourt -
  - First line of containment shall be by monolithic impervious paving throughout the activity area set to falls to perimeter drainage channels.
  - Second line of containment by appropriate drainage channels to collect minor spillages/drips arising from customer fuelling activities.
  - Third line of containment by drainage connections to Class 1 full retention interceptors.
  - Fourth line of containment by monitor systems with 24/7alarms and automatic closures to interceptors.
- Fuel release from underground pipework including offset fill pipes to tank, pressure lines to dispensers and stage 2 vapour recovery pipework. Dual pipework specified.
  - Fuel release detection by rupture of the inner pipe releasing fuel into the dual pipe interstitial space activating alarms by 24/7 monitoring system and closure of pump.
  - Fuel containment by outer pipe.
- Fuel release from underground storage tanks. Double skinned tanks specified.
  - Fuel release detection by inner tank rupture releasing fuel into the interstitial space activating alarms by 24/7 monitoring system.
  - Fuel containment by outer tank lining.
  - Fuel containment by concrete encasement to tanks.

The design considerations and risk mitigation to each element are scheduled below in more detail.

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| <p><b>APEA Design, construction, modification, maintenance &amp; decommissioning of filling stations, 3<sup>rd</sup> Edition</b><br/> Produced jointly in association with the Energy Institute.<br/> All specifications and construction detailing shall be compliant with the requirements of this document and subject to Petroleum Officer approvals.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p><b>DEFRA 202 - Groundwater protection code: Petrol stations and other fuel dispensing facilities involving underground storage tanks.</b><br/> The installation shall be design and constructed in compliance with the requirements of this code, details of which have been considered and incorporated into the proposed design and considerations listed below.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p><b>PPG2: Above ground Oil Storage tanks, EA 2011a.</b><br/> Due to the conclusions of this assessment based upon the considerations below, above ground tanks cannot be accepted as a means of storage on this site and therefore there is no requirement for compliance with this legislation.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p><b>PPG3: Design and operation of oil interceptors.</b><br/> The proposed development shall be designed in accordance with the principles of PPG3 and shall include Class1 Full retention interceptors to all areas where containment is required to activities involving the presence of hazardous materials. Interceptors shall be 10,000Ltr capacity providing containment in accordance with section 13 of the "Blue Book" produced by the APEA.<br/> Interceptors shall be fitted with self-closing devices activated by detection of hydrocarbons and shall be fitted with probes connected to the forecourt monitoring system. ASDA to produce a maintenance regime for regular clean/flushing out the units with disposal of contents discharged to licenced operators -- details to be provide in due course.</p>                                                           |
| <p><b>PPG7: Safe operation of refuelling facilities, EA 2011B.</b><br/> The proposed development shall be designed in accordance with the principles of PPG7.</p> <p>Separate surface water from the forecourt canopy, control room roof and entry/exit macadam paved forecourts shall be collected separately and discharge into the existing on site surface water drainage systems passing through car park interceptors.</p> <p>Surface water from areas subject to potential contamination, i.e. the dispensing forecourt incorporating the fuel tanker unloading position, shall discharge into the foul water drainage system via a Class 1, 10,000Ltr full retention interceptor compliant with PPG3 referred to above.</p>                                                                                                                                                    |
| <p><b>PPG 21: Incident response Planning, EA 2009.</b><br/> The whole of the installation shall be designed on the principle of eliminating the risk of pollutant release to ground by detection of a breach of the primary containment system and contain the fuel by secondary system preventing release to ground.<br/> In the onsite fuel storage and distribution this is achieved by dual lined fuel lines and tank vessels that have interstitial space are monitored 24/7 linked to alarms which shall have in built mechanisms for closure of systems and reporting. Installation of underground tanks is considered a more robust installation than above ground facilities in this respect. The dual skin lining of the underground tanks provides additional protection to restrict/prevent leakage in the unlikely catastrophic failure of the primary installations.</p> |

## Site Conditions.

This statement should be read in conjunction with Site Investigations undertaken by DTS Raeburn Report Reference E13043/2. This report reviews the site history, geology, hydrology relevant to the site and its immediate surroundings.

The site is underlain by bedrock geology of superficial Quaternary Aeolian Deposits (Brickearth) (sandy gravelly clay), which are in turn underlain by Cretaceous chalk bedrock (Lewes Nodular Chalk Formation). The site investigation borehole logs confirm the superficial strata to be made ground generally comprising very sandy mixed gravels up to 1.4m bgl. This is underlain by sandy gravelly clay (Aeolian deposits) between depths of 3.2m and 7.2m bgl. The Aeolian Deposits and Cretaceous chalk bedrocks have been identified as secondary and primary aquifers respectively. Therefore the location of the fuel tanks has been chosen to avoid encroaching into the chalk primary aquifer.

Ground water: No significant surface water features are recorded in the vicinity of the site. Groundwater monitoring found levels between 3.63 and 2.54m bgl.

Flood Risk: The site is located within Flood Zone 1 - the lowest risk classification with respect to fluvial and tidal flooding.

Risk and hazard classification compliance with APEA Blue Book Section 11.

| Severity of a leak                                      | Category |        |     | Comment                                                                                                       |
|---------------------------------------------------------|----------|--------|-----|---------------------------------------------------------------------------------------------------------------|
| Aspect                                                  | High     | Medium | Low |                                                                                                               |
| Fire and Explosion risk due to below ground structures. |          |        | x   | Not present                                                                                                   |
| Site throughput or people potentially affected.         |          | x      |     | Site throughput will be in excess of 5 million ltr/year.                                                      |
| Impact on groundwater.                                  | x        |        |     | Ground water below tank installation, chalk high porosity with ability for contaminant to migrate vertically. |
| Impact on surface water.                                |          |        | x   | Not present                                                                                                   |
| Impact on flora and fauna                               |          |        | x   | No significant landscape of high value present.                                                               |

| Likelihood of a leak occurring          | Category |        |     | Comment                                                                             |
|-----------------------------------------|----------|--------|-----|-------------------------------------------------------------------------------------|
| Aspect                                  | High     | Medium | Low |                                                                                     |
| Underground tanks                       |          | x      |     | Dual containment to be provided.                                                    |
| Liquid fuel pipework -- Suction system. |          | x      |     | Dual containment to be provided.                                                    |
| Vapour pipework.                        |          |        | x   | Dual containment to be provided. Liquid within vapour system should not be present. |
| Sumps & chambers.                       |          | x      |     |                                                                                     |

|                     |        | Severity of impact. |        |     | For the purposes of this assessment the risk/likelihood has been elevated to high relative to potential impact on ground water. |
|---------------------|--------|---------------------|--------|-----|---------------------------------------------------------------------------------------------------------------------------------|
|                     |        | High                | Medium | Low |                                                                                                                                 |
| Likelihood of leak. | High   | A                   | A      | B   |                                                                                                                                 |
|                     | Medium | A                   | B      | C   |                                                                                                                                 |
|                     | Low    | A                   | B      | C   |                                                                                                                                 |

| Leak detection class    | Site Classification |   |   | Comment                                                                             |
|-------------------------|---------------------|---|---|-------------------------------------------------------------------------------------|
| Element to be monitored | A                   | B | C |                                                                                     |
| Underground tanks       | Class 1             |   |   | Vacuum monitoring of interstitial space.                                            |
| Liquid fuel pipework.   | Class 3             |   |   | Suction system.                                                                     |
| Vapour pipework.        | Class 3             |   |   | Dual containment to be provided. Liquid within vapour system should not be present. |
| Sumps & chambers.       | Class 3             |   |   |                                                                                     |

#### The need for the Petrol Station facility.

The planning application proposes the change of use of an underused section of the ASDA supermarket car park for development of a six-pump (twelve filling positions), automated Petrol Filling Station (PFS). The purpose of the Petrol Filling Station is to enable ASDA to provide a petrol offer in line with customer expectation/demand and is to match competition from other major retailers within the locality. Petrol Filling Stations (PFS) are an accepted supermarket offer, attracting customers in their own right as well as combining linked trips to the store.

#### Site Specific Specification (New Installation).

Due to the sensitivity of the site location, the presence of a Principal aquifer and a Secondary A aquifer, it is proposed the ASDA standard Petrol Filling Station specification be upgraded to provide additional containment and protection. The primary specification shall be as follows with the additional measures highlighted in bold.

The leak containment systems shall be as defined above with leak detection classification as defined in the APEA Blue Book designed to eliminate the risk of release of fuel to ground.

#### Fuel tanks:

- Double skin steel vessels to BS EN 12285 – 1 2003.
- Tank access chambers to be ATLAS steel units factory welded to the tank to provide integral seal with tank crown.
- Tank to have external finish of Endoprene paint which shall be covered by a 30 year warranty.
- Interstitial space between inner/outer linings to be Class 1 leak detection monitored by vacuum seal.
- Tanks to be partially encased in concrete to provide another level of leak protection.

#### Fuel Pipes:

- Fuel pipe to be Durapipe Fuel Systems P-LX polyethylene with fusion welded joints.
- Double skin pipework with Class 3 leak detection compliant with APEA Blue Book Clause 11.5.3. Sump sensor to be located with tank chamber monitored with probes linked to the tank gauge monitoring system.

Forecourt pumps.

- Each pump to have sumps to collect any potential drips from the pump use.
- Each sump to have individual probe sensor linked to the tank gauge monitoring system.

| 1 Pollutant leakage assessment. And other fuel dispensing facilities involving underground storage tanks" |                                                                  |                                                                                                                                                                                                                                                                                                                                 |          |   |        |                                                                                                                                                                                                                                                                                                                                                                                         |
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|                                                                                                           | Contaminant.                                                     | Receptor.                                                                                                                                                                                                                                                                                                                       | Pathway. |   |        |                                                                                                                                                                                                                                                                                                                                                                                         |
| 1.00                                                                                                      | Risk                                                             | Activity                                                                                                                                                                                                                                                                                                                        | Risk.    |   | Action | Comment                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                           | Petroleum spirit and diesel                                      | <p>Contaminant migration.</p> <p>Direct water borne contact within saturated ground conditions where installations are below the water table.</p> <p>Slow migration of contamination through chalk formations identified as having high leaching potential.</p> <p>Migration through fractures within the chalk formations.</p> | M        | M | M      | <p>The investigation has shown that the proposed underground storage tanks may extend below a perched groundwater between the clay and the chalk bedrock; therefore the containment to the tanks has been supplemented by partial concrete encasement.</p> <p>Potential for product release is minimal and systems and procedures ensure containment can be satisfactorily managed.</p> |
| 1.01                                                                                                      | Petroleum spirit and diesel migration to ground from forecourts. | Site entry and exit forecourts.                                                                                                                                                                                                                                                                                                 | L        | L | L      | <p>Pavings comprise macadam and are outside the areas subject to potential containment.</p> <p>Surfacing and use is comparable with existing use, no special requirements.</p>                                                                                                                                                                                                          |
| 1.02                                                                                                      | Petroleum spirit and diesel site delivery.                       | Unloading of product from fuel tankers to UST's caused by dropping of hoses or failure of connection                                                                                                                                                                                                                            | M        | M | M      | <p>Forecourt in proximity of the tanker delivery point shall comprise monolithic concrete paving slabs set to falls to perimeter drainage channels.</p> <p>Slabs to be set to falls to perimeter drainage channels.</p> <p>Proposals provide satisfactory containment.</p>                                                                                                              |

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|      |                                                                             | at either tanker or offset fill.                                            |   |   |   | New/additional drainage channels to be installed in proximity of the fill point for direct collection of any residual surface spills.                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1.03 | Petroleum spirit and diesel migration to ground from dispensing forecourts. | Petroleum spirit and diesel migration to ground from dispensing forecourts. | M | L | L | Monolithic impervious surface and perimeter drainage discharging to interceptors ensure containment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Proposals provide satisfactory containment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 1.02 | Petroleum spirit and diesel storage within underground storage tanks (UST). | Design/installation benefits.                                               | L | H | H | <p>Tank specifications have been significantly enhanced from former single skin units and meet international manufacturing standards.</p> <p>Tank specification includes ATLAS mono chambers which are factory welded to the tank lining forming an integral construction providing industry leading robust standards.</p> <p>External tank lining is protected by an external finish of Endoprene paint.</p> <p>Tanks are covered by an insurance backed 30 year warranty.</p> <p>Tanks to be partially encased in concrete to provide another level of leak protection.</p> | <p>Double skin tanks provide robust structures proven to maintain integrity and Nationally there are no records of any catastrophic failures of vessels leading to significant contamination release.</p> <p>Proposed tanks are compliant with APEA guidance.</p> <p>Potential for contamination release is very low and in worst case scenario minor due to sensitivity of monitoring equipment and client reactive control measures.</p> <p>Any potential product release would be minimal and contained locally concrete encasement to tank.</p> <p>Risk is to the Environment is considered low.</p> |
| 2.03 | UST Leakage                                                                 | Potential leak from tank to ground.                                         | L | M | M | <p>UST specification to be steel to BS EN 12285 -- 1 2003</p> <p>Tank to have external finish of Endoprene paint which shall be covered by a 30 year warranty.</p>                                                                                                                                                                                                                                                                                                                                                                                                            | Double skin tank linings offer a robust construction which, taking into consideration monitoring and management control measures, provide an accepted means of                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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|      |                                                                                                          |                                                                                    |   |   |   | <p>Tanks to be double skinned with interstitial space for monitoring of tank integrity.</p> <ul style="list-style-type: none"> <li>Breakdown in inner tank lining due to corrosion or defective tank welding would be localised (not catastrophic), product release would be slow/minimal, enter the interstitial space and be contained by the tank outer lining. Release would activate alarm on 24/7 forecourt monitoring system, operator to implement corrective measures.</li> <li>Breakdown of outer tank lining due to corrosion would lead to loss of vacuum/pressure within interstitial space and activate alarm on 24/7 forecourt monitoring system, operator to implement corrective measures.</li> </ul> <p>Tanks to be partially encased in concrete to provide another level of leak protection.</p> | <p>containment.</p> <p>Any potential product release would be minimal and contained locally concrete encasement to tank.</p>                                                                                                                                   |
| 2.04 | UST Live loadings                                                                                        | Point loadings from vehicle tracking over UST.                                     | L | M | M | Protection required to prevent point loading of tanks when overrun by HGV, typically the fuel tanker delivery vehicles.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Specification to be site specific to structural engineers detail design.                                                                                                                                                                                       |
| 2.05 | Tank buoyancy<br>Tank uplift pressures in water bound conditions when fuel reserves in the tank are low. | SI suggests that perched groundwater could reach a level above the tank farm base. | L | L | L | Tanks to be secured down to the reinforced base slab with woven nylon straps at max 1.2m cts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Specification to be site specific to structural engineers detail design.                                                                                                                                                                                       |
| 2.06 | Petroleum spirit and diesel storage within above ground storage tanks.                                   | Potential leak from tank to surface and subsequent migration to ground.            | L | H | H | Containment released from unspecified occurrence by passing containment control measures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>Above ground tanks are not considered acceptable or suitable for use on this site due to:</p> <ul style="list-style-type: none"> <li>Available site area accommodating 2No 75,000ltr tanks together with secondary containment structures is not</li> </ul> |

|      |                                          |                                         |   |   |   |                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|      |                                          |                                         |   |   |   |                                                                                                        | <p>achievable without unacceptable loss/compromise to the store car parking and servicing requirements.</p> <ul style="list-style-type: none"> <li>• Above ground structures would need to be located outside the station forecourt area and would lead to excessive fuel distribution pipeline lengths under the site which increases risk of failure potential due to differential settlement of road pavings etc.</li> <li>• Integral self-contained containment tanks are visually unacceptable within a general public environment and require secondary structures. These prohibitively increase size of the structures and development cost.</li> <li>• H&amp;S Access for maintenance/inspection of tanks requires working at height with special access platforms to be in-built or provided.</li> <li>• Above ground storage of hazardous materials is intrinsically less safe than below ground vessels due to potential exposure to climatic conditions, vehicle impact and profile for possible terrorist activities.</li> </ul> |
| 2.07 | Petroleum spirit and diesel distribution | Potential failure of pipework or joints | L | M | M | Product distribution from the unloading fill point to the underground tanks and tank to the dispensers | Proposals provide satisfactory containment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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|      | within site.                                                 | resulting in contamination leaks to upper ground conditions with leaching potential to the ground water.                                                                                            |   |   |   | <p>shall be by continuous double lined polyethylene fusion welded pipework compliant with BS EN14125. The pipework shall be continuous flexible pipe minimizing connections under the forecourt.</p> <p>Interstitial space between the pipe linings shall be monitored by the TLS 450 tank forecourt management system. Use of continuous pipes enables below ground joints to be kept to a minimum with joints only located at rising positions at the pumps and offset fills.</p> <p>Joints are fusion welded on site removing possible defects associated with mechanical fittings.</p> <p>All pipework is subjected to pressure testing on site prior to backfilling and surround.</p> <p>Fuel distribution shall be by suction pumps within the forecourt dispensers. Failure of a line within the inner primary pipe will result in the forecourt monitoring system closing down the pump and residual fuel will self- drain back to the UST.</p> |                                             |
| 2.08 | Petroleum spirit and diesel dispensing to customer vehicles. | <p>Potential release of small quantities of hazardous product by the general public during filling of motor cars.</p> <p>Contamination release by surface run off protected areas to underlying</p> | M | M | M | <p>The dispensing forecourt shall be constructed of monolithic in-situ concrete extending out front and rear of the dispenser by a distance relevant to the dispenser hose length accordance with hazardous zones defined in section 3 of the APEA Blue Book.</p> <p>Construction joints within the concrete surfacing shall be sealed with mastic sealant resistant to hydrocarbons.</p> <p>All dispenser shall be fitted with under pump sumps to capture any residual fuel arising from handling of</p>                                                                                                                                                                                                                                                                                                                                                                                                                                              | Proposals provide satisfactory containment. |

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|      |                                                                                        | soils.                                                                 |   |   |   | <p>the pump nozzle. Fuel captured by the sump would activate alarm on 24/7 forecourt monitoring system, operator to implement corrective measures.</p> <p>Forecourt dispenser shall be Gilbarco Veeder-Route SK700 incorporating safety features including automatic termination of the product flow at either 100ltrs or 3 minutes run time limiting the extent of product outflow.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                             |
| 2.09 | Petroleum spirit and diesel containment within drainage system to all sensitive zones. | Contamination migration from forecourt paving's to below ground soils. | M | M | M | <p>The dispensing forecourt shall be designed in accordance with the APEA Guidance for containment of contamination arising from fuel deliveries and customer retail sales. The tanker unloading position shall be a minimum size 5m wide x 15m long formed with in-situ monolithic concrete set to nominal falls to perimeter drainage channels.</p> <p>The channel gratings, sumps and connecting underground pipework to the interceptor shall be designed to meet the requirements of clause 13.4 of the APEA Guidance to collect and contain worst case scenario discharges i.e. two delivery hose failures discharging at a rate 1000ltrs/minute for 4 minutes. The remainder of the forecourt will be contained by smaller "domestic" size channel gratings.</p> <p>Discharges from the forecourt will be directed to a Class 1 10,000Ltr Interceptor which shall be monitored 24/7 by the forecourt monitoring system and shall be fitted with automatic closure devices activated by the presence of hydrocarbons.</p> | Proposals provide satisfactory containment and are compliant with guidance. |
| 2.10 | Forecourt monitoring.                                                                  | Standard of monitoring relevant to site condition.                     | L | L | L | <p>All systems of containment shall be monitored to Class 1 standard and shall be fully compliant with Section 11 of the APEA Blue Book.</p> <p>This section to be read in conjunction with Power</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Leak detection system considered adequate.                                  |

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|  |  |  |  |  | <p>Point Leak Detection System.</p> <p>The whole of the installation shall be monitored by GVR remote Fuel Monitoring Services (FMS), which will also remotely monitor the site 24 / 7 /365 for all gauge alarms. There will be a monthly Statistical Inventory Reconciliation (SIR) variance check to detect any losses down to and below 0.38lph for the whole site. This set up will pick up and notify of any ATG Wetstock management issues to ensure appropriate action is taken.</p> <p>An action plan will be in place for product removal should it be deemed necessary.</p> <p>MAG1 probes will be installed (0.38Lph detection capabilities) in the tanks, setting up :-</p> <ul style="list-style-type: none"> <li>• QPLD= Quiet Period Leak Detection so tank test automatically running during the night every night of tank tightness (0.38Ltr/hr).</li> <li>• CSLD = Continuous Statistical Leak Detection, (76Ltr/hr) always on operates during trading.</li> <li>• HRM = Hourly Reconciliation Monitoring, (detects any tank leak over 3 to 5 Ltr/hr, i.e for sudden larger fast leaks) this is always on.</li> <li>• PLLD = Pressurised Liquid Leak Detection, for monitoring pressure inside the fuel lines from sub-pumps for any leaks from internal pipe to interstitial space are detected instantaneously and sub pumps are automatically shut down. With GVR RISK software doing line test function continuously)</li> <li>• SCVS = Secondary Containment Vacuum Sensing, this is where a vacuum is applied to the interstitial</li> </ul> |  |
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|      |                                      |                                      |   |   |   | space of pipework and any pipework breaches (even external interstitial) are detected instantaneously and sub pumps are automatically shut down.                                                                                                                                                                                                                                              |                                                                                                                          |
| 2.08 | DSEAR                                | Operating conditions                 | L | L | L | Measures to be taken in operating the site, active monitoring and reporting procedures.                                                                                                                                                                                                                                                                                                       | DSEAR to be undertaken by independent consultant post completion.                                                        |
| 3.00 | Forecourt Monitoring and Management. |                                      |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                          |
| 3.01 | Competent persons                    | Training                             | L | L | L | Designated colleagues to be trained through ASDA corporate procedures with enhanced reference to site specific issues relating to Environmental Sensitivity.<br><br>Additional notices to be provided to site within the control unit for colleague on going awareness.<br><br>ASDA to review Daily/weekly check list and enhance enforcement of procedures for managing forecourt condition. | Ongoing forecourt management to be monitored by separate compliance team within ASDA to ensure practices are adhered to. |
| 3.03 | Customers.                           | Environmental sensitivity awareness. | L | L | L | Additional signage to be provided to pump livery to highlight customer responsibility for notification of spillages at the dispensing point.                                                                                                                                                                                                                                                  | Prominent signage and appropriate wording to be agreed with the EA/LPA prior to the forecourt becoming operational.      |
| 3.04 | Offsite monitoring                   | Management personnel awareness.      | L | L | L | FARSIGHT monitoring to be reviewed with operator to ensure sensitivity of site is registered.                                                                                                                                                                                                                                                                                                 | ASDA to review supplier monitoring procedures.                                                                           |