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**TO:** CITY MANAGER **DATE:** 2009 April 01

**FROM:** DIRECTOR PLANNING AND BUILDING **FILE:** 44000 20  
*Reference:* PPA #09-44

**SUBJECT: NEW BIODIESEL TANK AND ANCILLARY EQUIPMENT,  
BURMOUNT TERMINAL - 2751 UNDERHILL AVENUE, BURNABY**

**PURPOSE:** To inform Council of an application for Preliminary Plan Approval (PPA) for the installation of a new biodiesel tank and ancillary equipment.

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**RECOMMENDATION:**

1. **THAT** a copy of this report be forwarded to Ms. Elaine Bell, Burmount Terminal Superintendent, Shell Canada Products, 2751 Underhill Avenue, Burnaby, B.C. V5A 3C3.

**REPORT**

**1.0 BACKGROUND**

On 2009 February 9, the City received an application for Preliminary Plan Approval (PPA) from Shell Canada Products for the installation of a new biodiesel tank and ancillary equipment at their Burmount Terminal at 2751 Underhill Avenue (*see attachment #1*). The new tank and ancillary blending equipment is proposed to allow for Shell to supply biodiesel blended fuel and thereby meet government biofuel mandates set by both the Federal and Provincial Governments which requires a 5% renewable content in fuel by 2010 January 1.

It is a long standing policy of Council for staff to report on PPA applications relating to the petroleum facilities in Burnaby. In July 2008 Council adopted an information report which outlined a proposal from Shell to construct new ethanol storage and blending system at their Burmount Terminal at 2751 Underhill Avenue in Burnaby. Preliminary Plan Approval was given and Building Permits issued for a new ethanol storage tank, new warehouse in place of an older demolished facility, and a new ethanol unloading station. In the report, it was acknowledged that a possible future tank for storage purposes would be built in the same tank levee as the new ethanol storage tank. As noted, Shell has now applied to move forward on the installation of the tank and has informed staff that the product to be blended and stored in this new tank is biodiesel. This report provides a summary of the application, and the input received from other agencies, Shell's public consultation process and the City's PPA review process.

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## **2.0 FEDERAL AND PROVINCIAL MANDATES**

Both the Federal and Provincial Governments require that diesel have an overall 5% renewable content by 2010 January 01. To meet government mandates, Shell will blend B100 (100% Fatty Acid Methyl Esters) with Ultra Low Sulphur Diesel (ULSD) to produce biodiesel containing from two percent to twenty percent biodiesel, based on specific customer requirements. Biodiesel is a clean burning alternative fuel that can be combined with petroleum diesel to fuel diesel engines. It is generally produced from renewable sources such as canola, soy or palm oils.

## **3.0 PROPOSED BIODIESEL STORAGE & BLENDING SYSTEM AT BURMOUNT TERMINAL**

The subject site is located at 2751 Underhill Avenue and is currently developed for the storage of petroleum only. The existing zoning of the subject site in the Lake City Area is M3 (Heavy Industrial). The proposed biodiesel storage and blending system is a permitted use under the M3 zoning.

The proposed new facilities will allow Shell to receive and store and blend up to 20% B100 into Ultra Low Sulphur Diesel (USLD). Approximately two semi trailer tank trucks per day will deliver B100 to the Terminal. This is in addition to the current truck traffic amounts which are approximately eighty tank trucks per day. The B100 will be stored in a new tank which will be constructed inside the new ethanol tank levee currently being built under the ethanol blending facility permitted under Preliminary Plan Approval #08-97. The B100 will be blended into ULSD at the site's truck loading racks for delivery to customers.

### **3.1 Biodiesel Tank Levee**

A new tank levee, currently under construction for the ethanol tank, was designed to accommodate the proposed B100 storage tank. The walls and floor liner have been designed and approved to meet all National Codes, as well as City of Burnaby guidelines for tank spacing and setbacks. A storm water runoff from the levee will be managed via a valved piping system that will be routed to the existing terminal storm water management system.

### **3.2 B100 Tank**

The new B100 tank will be placed immediately to the east of the previously approved ethanol storage tank (*see attachment #2*) and is about 1/5 of its capacity. The tank will be an insulated carbon steel API 650 cone roof tank 6.1 meters in diameter and 10.7 meters in height with a capacity of 0.3 ML. The new tank will include high level alarms and overfill protection, temperature sensors and special seals applied to vent joints, dip hatches and other appurtenances to prevent rainwater ingress to the tank. Fire alarms and fire fighting foam application systems that are currently being installed as part of the previously approved ethanol storage and blending application will also serve the new tank.

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### **3.3 B100 Truck Unloading**

B100 will be delivered to the terminal via semi-trailer tank trucks. The trucks will enter the unloading area via the main gate on the east side of the Terminal and exit by driving through the existing Terminal load rack and then back through the main gate. A B100 tank truck unloading system will be constructed at the approved ethanol unloading station that will include a common ethanol and B100 tank truck unloading concrete pad with spill containment draining to an underground slop tank. An overhead canopy, previously approved under the ethanol project, will be built to minimize rainwater ingress to the unloading pad system and to support overhead fire suppression systems, lighting and other services. In addition, new operating systems associated with the approved ethanol and proposed B100 unloading will include such things as pumps, motor operator valves, metered facilities, automated fire detection and protections systems etc. The B100 will be pumped from the tank via existing overhead pipeways to the existing terminal loading racks on site where it will be blended by meter into loading Ultra Low Sulphur Diesel tank trucks.

### **3.4 Storm Water Management**

A new storm water management system has been approved as part of the previously approved Ethanol Project and will be installed to collect storm water runoff from the existing terminal tank farm, the new ethanol and B100 tank levee, the demolished warehouse area and surface runoff from the south west corner of the site. A new double walled fibreglass oil/water separator will be installed in parallel with the existing terminal concrete oil/water separator to provide a second barrier in the event of a spill.

### **3.5 Fire Protection Facilities**

A new Fire Fighting Foam Bladder Tank system will be installed that will allow automated foam delivery throughout the terminal.

### **3.6 Environmental Controls**

Construction on the ethanol project, approved under PPA#08-97, is now under way. Upon Burnaby's approval of the biodiesel project, the B100 facilities will be combined with the ethanol project. The project is slated to be completed by the fourth quarter 2009. Work will be restricted to daytime, weekday hours, conforming to the City of Burnaby Noise Bylaws. Shell has indicated that there will be minimal impact on local traffic and every effort will be made to minimize any disruption to the community during construction.

Shell has reviewed the project details with Metro Vancouver's Regulation and Enforcement staff. As a result of the review, Metro Vancouver determined that the new B100 tank does not require an amendment or addition to the existing permit under the GVRD Air Quality Management Bylaw No. 937.

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### **3.7 Project Cost and Schedule**

Shell estimates the project cost to be \$4.8 million dollars. To meet the Federal and Provincial regulations by 2010, Shell indicates that the new B100 storage and blending system must be ready for commissioning in the 4th quarter of 2009.

### **4.0 PUBLIC CONSULTATION PROCESS**

While there is no requirement from any outside agency for a notification process, Shell has informed the surrounding residential and business neighbourhood of the B100 storage tank project as they similarly did for the Ethanol project. Staff were informed by Shell Canada on Monday, March 30, 2009 that there had been no response received from residents or businesses to the information letters which were sent out with respect to the biodiesel tank project.

### **5.0 CITY REVIEW**

The City has completed the review of the application. The application and construction drawings were circulated to applicable City departments for review and comments. In conformance with the requirements of the Fire Prevention Office, the new production system will be incorporated into the existing Fire Safety Plan for the Terminal. As indicated, Shell has also added a new Fire Fighting Foam Bladder Tank system which will distribute foam fighting capability through out the terminal. Shell will be adding the B100 tank to update the submitted Emergency Response Plan.

As previously noted, there will be no requirement from Metro Vancouver for any addition to the existing approved permit. A registration of the change to the water discharge on site will be submitted to BC MOE Water by a registered professional.

The Environmental Services Division has no objection to the issuance of the PPA. The proposal meets all City bylaw requirements.

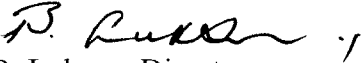
### **6.0 CONCLUSION**

The Planning and Building Department is in receipt of an application for Preliminary Plan Approval (PPA) for the installation of a new B100 storage tank and associated blending system equipment at Shell Canada Products Burmount Terminal at 2751 Underhill Avenue. This new equipment allows for the production of B100 blended ULSD in order to meet government biofuel mandates by 2010 January 01.

A review of the PPA application received has been completed by staff. Shell has informed the surrounding neighbourhood of the additional tank through an information letter sent the week of 2009 March 16, a copy of which was forwarded to Council under separate cover on that date. Metro Vancouver has indicated that there is no requirement for an amendment to the existing Air Permit.

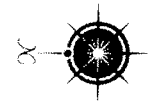
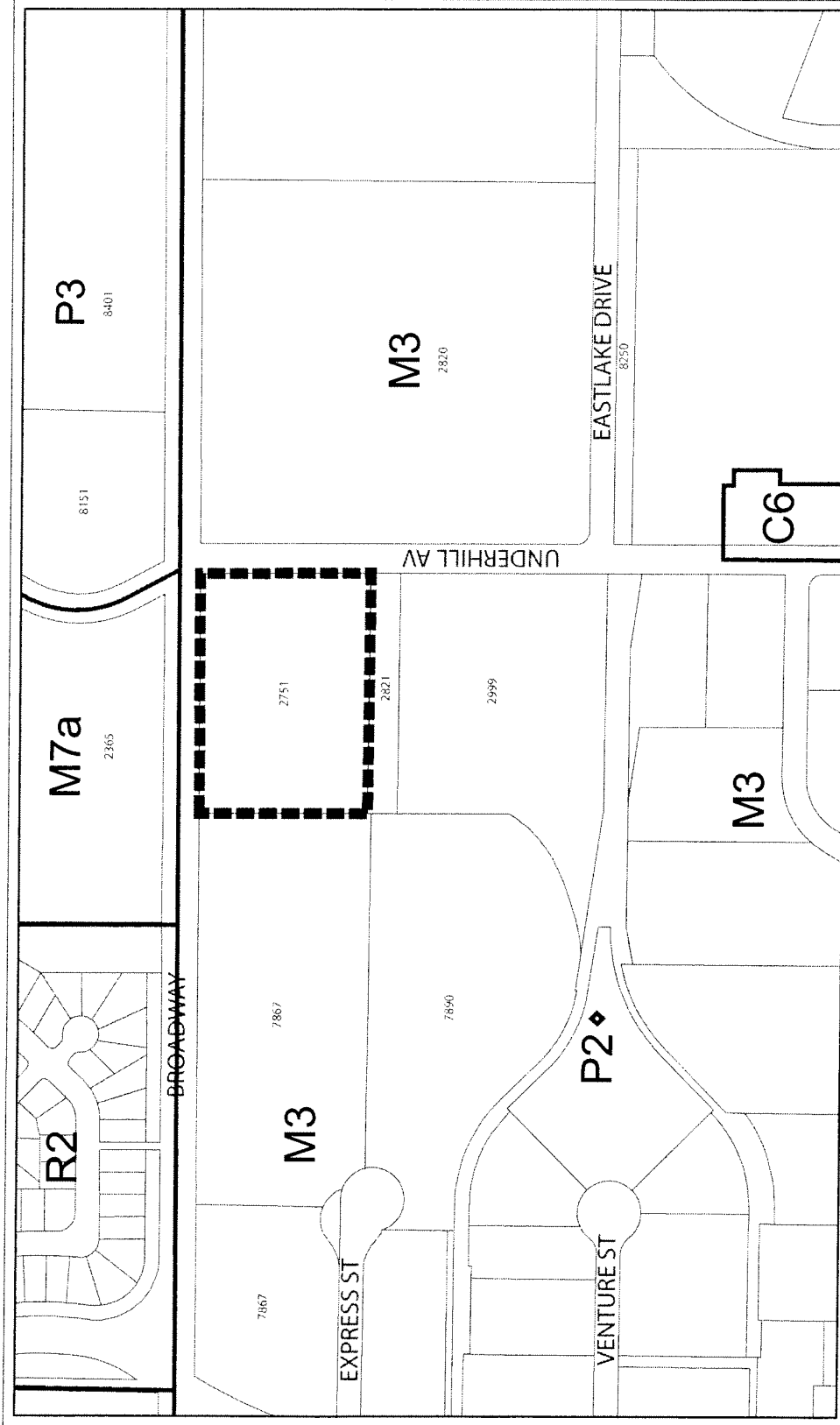
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With Council receipt of this report, staff will complete the process for issuance of the PPA to Shell to allow for the issuance of the required permits for installation of the new B100 tank for storage and blending with ULSD in order to meet biofuel mandates.

  
B. Luksun, Director  
PLANNING AND BUILDING

PJA:ll  
**Attachments (2)**

Copied to: Fire Chief  
Director Engineering  
Director Parks, Recreation and Cultural Services  
Chief Building Inspector



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 2751 Underhill Avenue  
 Subject Site  
 2751 Underhill Avenue

