Cloverdale Paint

Cloverdale Paint
Manitoba Environment Act Proposal
FINAL

KGS Group 14-2729-001
July 2014

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File No. 14-2729-001

Environmental Approvals Branch
Manitoba Conservation and Water Stewardship
Suite 160, 123 Main Street
Winnipeg, Manitoba
R3C 1A5

ATTENTION: Ms. Tracey Braun, M. Sc.
Director

RE: Environment Act Proposal
Cloverdale Paint
Final Report

Dear Ms. Braun:

On behalf of Cloverdale Paint Inc, KGS Group is pleased to submit four (4) paper and one (1) electronic copy of the final Environment Act Proposal to obtain an Environment Act Licence for continued operation of the development at 50 and 70 Panet Road in Winnipeg. This application is being made as directed in the letters to Cloverdale Paint from Manitoba Conservation and Water Stewardship dated March 27, 2014 and May 14, 2014 (File 2743.00).

As part of the licensing process, a Manitoba Conservation and Water Stewardship Environment Act Proposal Form with a $1,000.00 application fee has been included with the Environmental Assessment report.

Please do not hesitate to contact the undersigned if you have any questions or require additional information.

Yours truly,

Shaun Moffatt, M.Sc.
Senior Environmental Scientist

SM/gs/jr
Enclosure

cc: Bill Kieley, Cloverdale Paint

EXECUTIVE SUMMARY

Kontzamanis Graumann Smith MacMillan Inc. (KGS Group) was retained by Cloverdale Paint to prepare an Environment Act Proposal (EAP) for the continued operation of the paint manufacturing and warehouse facilities at 50 and 70 Panet Road in Winnipeg, Manitoba. The manufacturing facility has been operating since 1986 under Order 1082 of the Clean Environment Commission for the manufacture of industrial coatings, sealants and polymer resins. Several changes have been made to the original development including renovation and construction of buildings, new production line equipment, new materials and an ownership change from Guer-tin Brothers Polymers to Cloverdale Paint.

After considering a Notice of Alteration submitted by Cloverdale Paint, Manitoba Conservation and Water Stewardship determined that the changes at the development were considered to be a major alteration. As such to continue operation of the development, Cloverdale Paint is required to prepare and submit an EAP application to obtain an Environment Act Licence. As a manufacturing plant the development is considered a Class 1 Development under the Classes of Development Regulation 164/88.

The development is located on two parcels of land, 50 and 70 Panet Road, separated by Turenne Street. The changes made to the development included renovation of the original manufacturing building at 50 Panet Road for the addition of a powder coating production line and construction of a new 1,950 m^2 warehouse at 70 Panet Road. The development is located within a large industrial area of Winnipeg. Land use at the development and surrounding area has not changed and continues to be industrial.

Project-environmental interactions were assessed to identify potential environmental effects associated with the on-going operation of the development. As the site is an existing developed site in an industrial area of the city there are no major environmental constraints such as rare species or archaeological resources on the site. Cloverdale Paint already employs mitigation and follow-up measures such as secondary containment, a bag house, use of appropriate personal protective equipment and an established emergency response manual to address potential adverse environmental effects including, air quality, soils, groundwater, surface water, wildlife and vegetation, health and well-being, and worker safety.

Based on the available information on the project and the environment, the assessment of environmental effects outlined in this environmental assessment report, and the application of existing and proposed mitigation measures and the conduct of required follow-up, the previously completed upgrades to the Cloverdale Paint facility will not likely result in any significant residual adverse environmental effects.

TABLE OF CONTENTS

PAGE

TABLE OF CONTENTS
(CONTINUED)

PAGE

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

Kontzamanis Graumann Smith MacMillan Inc. (KGS Group) was retained by Cloverdale Paint to prepare an Environment Act Proposal (EAP) for the continued operation of the paint manufacturing and warehouse facilities at 50 and 70 Panet Road in Winnipeg, Manitoba (the development; Figure 1). The manufacturing facility has been operating under Order 1082 of the Clean Environment Commission (CEC) under *The Clean Environment Act* issued to Guer-tin Brothers Polymers on February 3, 1986 (File 2743.0) for the manufacture of industrial coatings, sealants and polymer resins.

Since the order was issued, several changes have been made to the development including renovation and construction of buildings, new production line equipment, new materials and ownership change from Guer-tin Brothers Polymers to Cloverdale Paint. On March 10, 2014, Cloverdale Paint submitted a Notice of Alteration to Manitoba Conservation and Water Stewardship (MCWS) regarding the changes to the development. The Notice of Alteration was considered by MCWS in accordance with Section 14 of *The Environment Act* (Manitoba - C.C.M.S. c. E125) and determined that the changes made are considered a major alteration.

As such to continue operation of the development, in accordance with Section 10(1) of *The Environment Act*, Cloverdale Paint is required to prepare and submit an EAP application to obtain an Environment Act Licence. As a manufacturing plant the development is considered a Class 1 Development under the Classes of Development Regulation 164/88. This document provides the information required for Cloverdale Paint to apply for a Class 1 Development Licence under *The Environment Act* for the continued operation of the development.

The development is located on two parcels of land separated by Turenne Street, with the offices and production area at 50 Panet Road and the distribution terminal (warehouse) at 70 Panet Road (Figure 1). The changes made to the development included renovation of the original manufacturing building at 50 Panet Road in 1993/1994 to create a powder coating production area and construction of a new 1,950 m^2 warehouse at 70 Panet Road, completed in 2001. The powder coating production area included the installation of two new powder coating production lines and a bag house. The warehouse at 70 Panet Road was constructed for storage of select bulk raw materials and finished goods.

Discussions with MCWS indicated that, to date, there have been no public complaints regarding emissions from the facility. As the proposed development consists of continued operation of the existing facility, for which there have been no complaints during the approximately 30 years of operation, a formal public consultation process was not necessary.

2.0 DESCRIPTION OF DEVELOPMENT

The following sections have been structured to address the requirements of the Description of Development as outlined in the Environment Act Proposal Form.

2.1 CERTIFICATE OF TITLE

The development located at 50 and 70 Panet Road is within the limits of land owned by Cloverdale Paint described on Certificate of Title 2323672/1 (Appendix A) as;

- Lots 11, 12, 13, 18 and 19, Plan 5038 WLTO in Lots 294 and 295 Roman Catholic Mission Property, and
- All that portion of Lot 30 Plan 5038 WLTO which lies southeast of the straight production southwesterly of the northwest limit of Lot 11 Plan 5038 WLTO.

Lots 11, 12 and 13 make up 50 Panet Road, while lots 18 and 19 make up 70 Panet Road with Lot 30 covering the portion of the rail spur defining the southwest edge of the property boundary of 50 Panet Road. The portion of Turenne Street that lies between the two addresses is owned by the City of Winnipeg which Cloverdale Paint pays an annual fee to use as per the agreement provided in Appendix A.

2.2 MINERAL RIGHTS

The owner of mineral rights beneath 50 and 70 Panet Road is not explicitly noted on the Certificate of Title and therefore is assumed to be Cloverdale Paint as the land owner.

2.3 EXISTING AND ADJACENT LAND USE

The property at 50 Panet Road includes the offices, labs and manufacturing plant (Photo 1; Appendix B) for Cloverdale Paint and the property at 70 Panet Road includes the warehouse and tank farm (Photo 2) as shown in Figure 1. Both properties have small areas of manicured landscape areas as well as gravel parking, shipping/receiving and storage areas that are accessed from Turenne Street The manufacturing process upgrades took place within the renovated manufacturing plant and construction of the warehouse building was completed on

land that was previously used as a parking lot [(1)] owned by Guer-tin Brothers. The changes that were made to the existing licenced facility were consistent with the industrial land use of the property.

Land use surrounding the property is primarily industrial or commercial with the closest residential property located approximately 130 m northwest of the site along the north side of Dugald Road (Figure 1). The land use adjacent the property is as follows;

- Northeast – The Greater Winnipeg Water District's (GWWD) rail line followed by a Husky Oil CardLock Station and Dugald Road (Photo 3).
- Southeast – Panet Road followed by a multi-unit warehouse and restaurant (Photo 4).
- Southwest – A rail spur (decommissioned) followed by a former Prime Oil site (Photo 5)
- Northwest – A Manitoba Hydro Operating Centre (Photo 6).

2.4 LAND USE DESIGNATION AND ZONING

The land use designation for 50 Panet Road is Industrial and it is zoned M2: Manufacturing – General. The land use designation for 70 Panet Road is Storage Building and it is zoned M3: Manufacturing – Heavy.

2.5 PREVIOUS STUDIES AND ACTIVITIES

Several environmental audits and site assessments have been completed at the property, which were summarized by UMA in 2008 as part of their Phase II Environmental Site Assessment (ESA) [(2)]. Descriptions and conclusions of the previous studies and activities as summarized in the UMA report are provided below along with a summary of the UMA 2008 study.

- ***Environmental Audit and Soil/Groundwater Contamination Assessment. HBT AGRA Limited. April 1992.*** The objective of this audit was to determine the presence of subsurface contaminants and it included a review of historical site information, site reconnaissance and preliminary subsurface investigation. The environmental audit and reconnaissance did not identify historical events or current operating practices of environmental concern. Elevated concentrations of hydrocarbons and heavy metals were measured in the soil south of the manufacturing plant near the railway spur, although it was concluded that contaminant levels did not warrant decontamination. The source of groundwater contamination could not be determined based on the limited investigation completed at the time. All levels of hydrocarbons and heavy metals detected in the soils and

groundwater were below the Canadian Council of Ministers of the Environment (CCME) criteria (in effect in 1992) for industrial and commercial sites and were well within accepted levels.

- ***Phase II Environmental Site Assessment. AMEC Earth & Environmental Limited. September 2003.*** The purpose of the Phase II ESA was to determine the subsurface soil conditions along the south property line to determine potential sources of impacts identified on the ICG Propane property to the south. Although no conclusions were provided in the report, a transmittal letter dated December 10, 2003 indicated that based on the test results and CCME Soil Quality Guidelines at the time, the levels and delineated extent of contamination did not represent any risk to human health or the environment. It also noted that there had not been any measurable impacts on the local groundwater. Manitoba Conservation concurred with the conclusions and indicated in a letter dated March 8, 2004 that no further remediation was required at the site.

- ***Remedial Actions Review. AMEC. July 2005.*** The purpose was to observe the remedial activities conducted at the former ICG property adjacent to the site and to document the soil conditions at the Guer-tin Brothers south property line. Soil sloughing was observed along the north wall of the excavation and concern was expressed that it was significant enough to impair the integrity of the railway spur between the two properties.

- ***Phase II Environmental Site Assessment. ISIS Environmental Consulting. November 2007.*** The purpose of the Phase II ESA was to determine if there were any indications that activities on the site and the former Prime Motor Oils site to the southwest may have resulted in soil impacts that exceeded the Soil Quality Guidelines for current and future land use. It was concluded that there was no evidence of significant petroleum hydrocarbon soil impacts in any of the boreholes completed. The classification of the site in accordance with the CCME National Classification System resulted in a Class N designation with low risk potential. A November 22, 2007 D. Oleksiuk & Associates letter concluded that there was no evidence of significant petroleum hydrocarbon impacted soil in any of the test locations and that additional environmental work was not required based on the results of this Phase II ESA.

- ***Phase II Environmental Site Assessment. UMA Engineering Ltd. February 2008.*** The objective of the investigation was to provide assurance that residual contamination on the site did not pose any significant risk to human health and the environment, should new developments occur on or adjacent to the site. The Phase II Environmental Site Assessment looked at areas identified along the footprint of the production plant, the railway spur along the south side of the production plant and property line, the loading dock on the east side of the building and further investigation to the south and east of the Aboveground Storage Tank farm. A total of 14 test holes were drilled across the property with three completed as monitoring wells. Soil and groundwater samples were collected and analyzed for hydrocarbons and select metals. Sampling results indicated that there was hydrocarbon impacted soil outside and beneath the manufacturing plant at the product intake line, although the exposure risk would likely not represent a significant environmental risk. Groundwater at the site has not been impacted by hydrocarbons or metals.

2.6 PROPOSED DEVELOPMENT

2.6.1 Schedule

All alterations and construction at the site were previously completed. Operation of the facility is ongoing with no anticipated plans to decommission the facility.

2.6.2 Operation and Maintenance

Infrastructure

The manufacturing complex at 50 Panet Road consists of an office area, a research and development laboratory and a manufacturing area which covers approximately 7,000 m^2. A warehouse/distribution facility, of approximately 1,950 m^2, is located northeast of the manufacturing area at 70 Panet Road. A tank farm is located on the northwest section of the property and covers an area of approximately 833 m^2 (Photo 7, Photo 8).

The office portion of the facility houses the administration and sales staff. The research and development laboratory area (Photo 9) serves personnel and equipment related to research and development of product lines. The manufacturing plant area serves personnel and equipment related to manufacturing and packaging, receiving and storage of raw materials, storage and shipping of finished goods and maintenance of production equipment. Within the plant area industrial coatings, sealants and polymers are produced.

Cloverdale Paint are proposing to expand the liquid coatings portion of the manufacturing area in the next 1 to 2 years. The proposed changes would involve expansion of the existing mezzanine area to add additional production space of approximately 15 m x 23 m. Additional equipment and infrastructure that would be required as part of this expansion include:

1) A 200 to 250 horsepower disperser;
2) Two 15,000 litre letdown tanks;
3) Extension of the existing air makeup and exhaust lines or addition of new air makeup unit (undetermined at this time);
4) Extension of the existing tank farm supply piping;

5) Possible addition of a second freight elevator; and
6) Additional fire sprinklers, alarm pull stations and emergency egress.

The proposed expansion would not change the type or quantity of raw materials or finished goods used at the facility as described later in this report. Most of the production related to this expansion would be shipped to and stored at our distribution centers.

Some dry materials such as pigment, dry resins and some Nitrocellulose are stored in shipping containers in the parking lot area (Photo 10). The gravel parking lot and turnaround area is sprayed with water in the summer in order to keep down the level of dust (1).

The warehouse, located on the east side of the site (Photo 10) serves as a storage facility for raw materials and storage and shipping of finished goods. Approximately two-thirds of the warehouse is set up for dangerous goods storage with three tier racking and in-rack sprinklers. The other third is set up for dry goods storage with five tier racking. The floor in the dangerous goods storage area of the warehouse is sloped so that any spill will run toward two sump pits. Each of the sump pits will hold up to 4 drums worth of material or approximately 750 litres. Overflow from the sump pits will run through a pipe to a bermed containment area on the north side of the warehouse. This system serves two purposes: 1) In the case of a spill, the material will flow to the pits for easier cleanup; 2) In the case of a fire, fire fighting water and any flammable liquid will flow into the pits and overflow will go into the bermed area (Photo 11) which retains the liquid preventing it from spreading and causing contamination outside of the berm.

The liquid raw material tank farm is located outside at the northwest side of the property (Photo 7). The 16 above-ground storage tanks range in size from approximately 46,000 L to 89,200 L and contain various solvents and polymers utilized in the manufacturing of the various product lines as shown in the Emergency Response Manual (ERM) attached as Appendix C. The tanks are installed upon a cement pad and the area is enclosed by a cinder block dyke to a height of approximately 60 cm. The tanks are piped and valved to ensure that in the event of a tank rupture the spill will be contained within the enclosure. Thirteen remotely operated pumps located within the enclosure serve as raw materials transfer pumps to pipe these liquid materials to where they are used in the manufacturing process. Drawings and descriptions of the flammable piping and flammable goods storage are provided in the ERM (Appendix C).

Hazardous materials (aside from the tank farm) include various liquid and dry powder materials used in the production processes which are supplied in metal drums on pallets and stored on shelves in various locations in the plant, storage containers and warehouse. There is pressurized bottle storage (oxygen/acetylene) located outside of the maintenance shop. Propane tank storage is located outside of the plant area, in a metal enclosure, by the receiving doors (Photo 12).

Manufacturing Process

The facility produces four basic types of products: polymers, liquid coatings, powder coatings and tape sealants/caulking. The manufacture of these products uses a number of different raw materials which are listed in the ERM attached as Appendix C. Raw materials and packaging are received either at the manufacturing facility or at the warehouse shipping entrance on pallets, and are typically moved using a forklift to a storage location until such time as they are required in the manufacturing process.

Personal protective equipment including steel-toed boots, safety glasses and hearing protection is required at all times while working in the plant. Respirators, Tyvec suits, gloves and/or aprons are required at specified times during the manufacturing process and this is noted on the batch ticket and in the work procedures.

All the process equipment and tanks are grounded to the plant's main grounding loop and all tools, portable tanks or equipment are bonded to the loop via portable ground clamps.

Polymers – Production of liquid polymers (Photos 13-14) involves mixing/heating crystal resin, solvents and other additives. This process melts the crystal resin and blends it with the other material to form a liquid resin for use in the production of liquid coatings. The chemicals used in this process are a mixture of wet material from the tank farm/drum stock and dry material. The tank farm materials are dispensed as needed into the process tanks and the other wet materials are pre-weighed from the pail/drum/tote stock. The dry material is pre-weighed from either bag or drums stock.

Liquid Coatings – Production of liquid paint coatings (Photos 15-16) involves mixing pigments with resin, solvents, and other additives to form a paste. The chemicals used to make the liquid

paint coatings are a mixture of materials that come out of the tank farm and from drum stock. The tank farm materials are dispensed as needed into process tanks on the production floor and the other materials are pre-weighed in either the dry weigh-up or wet weigh-up departments. The wet materials come in pails, drums and totes. The dry materials come in bags and drums.

Depending on the customer's specifications the mixture is then processed in a tank on a high-speed disperser using a circular, toothed blade attached to a rotating shaft to agitate the mixture and blend the resin, pigment, solvent and additives together. If the required results cannot be achieved using the disperser alone then the mixture is routed into a sand mill, a large cylinder that agitates tiny particles of grinding media to smash the pigment particles, making them smaller and dispersing them throughout the mixture. Once the correct results have been achieved, the finished paint is given to the quality control department for final approval and it's then packaged into a variety of metal containers (gallon cans, pails, drums or totes) depending on the customer's needs.

In the event of a small spill (100 litres or less), all production in the vicinity will be shut down and a clean-up crew is organized in accordance with the ERM (Appendix C). All personnel involved in the clean-up must wear all the required safety gear (glasses, gloves, boots, respirators, *etc.*). All spilt material is contained using dikes and absorbent socks from the area spill kit. It is then either shoveled (non-sparking) or vacuumed (air operated vacuums) into drums for disposal. The collected material would be pumped into a sludge tank and disposed of through Clean Harbors a Manitoba Registered hazardous waste carrier (MBC07392) and receiver (MBR07393) with offices in Winnipeg.

In the event of a spill greater than 100 litres the fire alarm is activated, the building is evacuated and the Fire Department and Manitoba Environment are notified in accordance with the ERM (Appendix C). If Cloverdale Paint employees are asked to participate in the clean-up then the actions listed under small spills would apply. In addition to spills, the ERM also outlines procedures for organization and notification, shut-down and evacuation in response to fire emergencies along with details on the building fire fighting facilities.

Both the plant and warehouse are designed to act as a retention bowl for any spills. There are no open floor drains in either building and both buildings have floor pits for capturing spilt materials. The two sump pits in the warehouse are designed to contain 4 barrels each of

material (750 litres) before they would begin to overflow into the clay berm on the north side of the building (Photo 12).

Powder Coating – The powder coating production process (Photos 17-20) has three stages:

1. Pre-mixing includes weighing and mixing of all the raw materials including resin and hardeners. Materials are loaded into pre-mix tanks and run on a high intensity mixer (Photo 17) for a designated period of time before samples are taken for testing purposes.

2. Extrusion involves heating the powder from the pre-mix process which activates the resin and hardeners and causes the powder to liquefy. The mixture is then extruded into a sheet (Photo 18, Photo 19) and cooled, which causes the liquid to harden. This sheet is then broken into small chips.

3. Grinding involves putting the chips through a machine to grind them into a fine powder. After the chips are ground into a powder they are packed into boxes or drums lined with plastic bags (Photo 20).

The areas in the facility where powders are mixed and where the powder coating chips are ground have air makeup units and bag houses to remove dust and particulate matter from the air. The bag house is emptied into plastic bags as required depending on the workload and rate of capture. Materials from the bag house are disposed as solid waste. All spills can be swept up and the material is put into plastic bags before being disposed of as solid waste.

Tape Sealants/Caulking – Production of tape sealants/caulking (Photos 21-25) requires various powder and liquid materials to be mixed and then extruded into a thin bead. The various powder materials used to produce the sealant are pre-batched on pallets prior to mixing in Baker-Perkins ribbon mixers. After the materials are mixed together they form a dough-like material which is cut into manageable pieces before it is fed through one of two “single auger” extruders which processes a bead of material onto a non-stick tape backing which is then cooled along a take-up line and wound into a roll for packaging in cardboard boxes.

A bag house (Photo 25) is used to remove and filter dust and particulate matter that may become airborne during the tape sealants/caulking production process. The bag house is emptied into plastic bags as required depending on the workload and rate of capture. Materials from the bag house are disposed as solid waste.

Quantities of Materials

The approximate quantities of Volatile Organic Carbon (VOC) containing materials used on annual basis are summarized by category in Table 1.

TABLE 1
ANNUAL USAGE OF VOLATILE ORGANIC CARBON CONTAINING MATERIALS

VOC-CONTAINING MATERIALS	ESTIMATED ANNUAL USAGE
Polymer solvents	360,000 kilograms
Dilution and Cleaning Solvents	766,000 kilograms
Adhesives	110,000 kilograms
Annual Total	**1,236,000 kilograms**

Hazardous Waste

Cloverdale Paint is registered as a Hazardous Waste Generator (MBG13414; Appendix D). Hazardous wastes at the site are mostly liquid and are generated from the cleaning processes on the sand mills, dispersers, holding tanks, packaging equipment and to a lesser extent from writing-off slow moving or stale-dated raw materials and/or finished goods. A small percentage of hazardous waste generated at the facility is solid.

Improper disposal of hazardous wastes can contaminate soil, groundwater and surface water, which is harmful to humans, wildlife and vegetation. Clean Harbors, as previously noted, are retained by Cloverdale Paint to dispose of hazardous waste from the facility in an environmentally sound manner. Government issued manifests are used for control and traceability. All drums of waste have labels showing the transportation of Dangerous Good markings and classification, as well as the manifest number used to transport them. Liquid hazardous wastes are collected in a 10,000 litre sludge tank housed inside the facility. The sludge tank is emptied by Clean Harbors every 2 to 3 weeks on an as-needed basis.

TABLE 2
TYPE AND QUANTITY OF HAZARDOUS WASTE DISPOSED OF IN 2013

HAZARDOUS WASTE TYPE/ CLASS/ CATEGORY	QUANTITY DISPOSED
Waste flammable liquid NOS (paint, Methyl Ethyl Ketone, Xylene) UN1993, class 3, PG II, waste class 145B	194,000 litres
Waste corrosive solid basic inorganics, nos (Sodium Hydroxide) UN3262, class 8, PG II, waste class 120C	60 kilograms
Waste paint related material UN1263, class 3, PG III, waste class 145H	34,000 litres

2.6.3 Funding

Cloverdale Paint has funded the development and the preparation of this EAP.

2.7 STORAGE OF GASOLINE AND ASSOCIATED PRODUCTS

Gasoline and associated products will not be stored at the site with the exception of propane which is stored outside of the manufacturing building in a metal shed near the shipping/receiving area (Photo 12), as previously noted.

3.0 PHYSICAL ENVIRONMENT

3.1 LOCATION, PHYSIOGRAPHIC SETTING AND CLIMATE

The facility is located in an industrial area at 50 and 70 Panet Road in Winnipeg, Manitoba at the intersection of Panet Road and Turenne Street (Figure 1; Photo 1). The development lies on two properties totaling 2.3 hectares (50 Panet Road = 1.3 ha; 70 Panet Road = 1.0 ha). The surface topography of the property is generally flat (Photo 2) and the elevation at the facility is approximately 232 m above sea level.

The project area is located within the Winnipeg Ecodistrict which occupies most of the southeastern portion of the Lake Manitoba Plain Ecoregion. It extends from the Canada-US border to about 50˚ 30' N. The ecodistrict has a cool, subhumid to humid, Boreal to a moderately cold, subhumid, Cryoboreal soil climate. This ecodistrict is in the most humid subdivision of the Grassland Transition Ecoclimatic Region in southern Manitoba and is characterized by short, warm summers and long, cold winters [(3)].

Based on climate data for Winnipeg (at the airport) from 1981 to 2010 the mean daily temperature ranges from 19.7 °C in July to -16.4 °C in January with an annual mean of 3.0 °C and 252 days with the daily maximum temperature above 0 °C [(4)]. The mean annual precipitation is approximately 521 mm of which 418.9 mm falls as rain. Precipitation varies from year to year and is highest from late spring through summer. June has the highest average rainfall (90.0 mm) and January has the highest average snowfall (23.7 cm).

3.2 GEOLOGY

3.2.1 Regional Geology

The Winnipeg area is underlain by unconsolidated glacial sediments averaging 18 m in thickness. These deposits include a lower till layer averaging 6 m thick, a silty clay layer typically 9 m to 12 m thick and in some regions a surface complex zone from 1 m to 4.5 m thick. Surficial deposits are underlain by Paleozoic limestones and dolomites of the Red River Formation.

3.2.2 Local Geology

During the Phase II Assessment conducted by UMA in 2008, 14 test holes were completed on the site, 10 located outside the building and 4 located inside the production plant. Test holes were advanced to depths ranging from 4.6 to 6.1 m below ground surface and indicated that the soil stratigraphy at the site is relatively uniform [(2)]. Aside from localized areas of asphalt, the soil consists of fill materials (sand, gravel, clay) ranging from ground surface to approximately 1.7 m, and underlain by high plasticity brown clay with varying amounts of silt inclusions to the maximum depth of drilling (6.1 m) [(2)].

3.3 GROUNDWATER HYDROLOGY

Based on data from three monitoring wells installed by UMA in 2008 the depth to the shallow overburden groundwater varies across the site and is 1.39 m at monitoring well 1 (south corner of manufacturing plant), 4.9 m at monitoring well 4 (west corner of manufacturing plant), and 4.16 m at monitoring well 7 (adjacent southwest edge of tank farm) [(2)]. This overburden groundwater is not used as an aquifer for potable water as the facility obtains potable water from the City of Winnipeg supply system. While the groundwater gradient across the site could not be established, the inferred groundwater flow direction was determined to be toward the Seine River approximately 1.6 km to the west of the site [(2)].

3.4 SURFACE WATER

The nearest water body to the development site is the Seine River located approximately 1.6 km to the west. While the Seine River often floods in spring, from backwater affects from the Red River, the site is well above the 100 year flood elevation of approximately 229 m. Run-off from the site is directed to and controlled by ditches along Panet Road to the southeast side of the property. During very heavy rain events the capacity of the roadside ditches can be temporarily exceeded causing localized overland flooding. This area of Winnipeg is serviced by a combined sewer system that collects both wastewater and surface runoff. As such any site run-off collected by these ditches is directed to the City's North End Treatment Plant except during large rainstorms when the higher flows exceed the sewer system's capacity and overflows to the river system.

3.5 WILDLIFE, HABITAT AND VEGETATION

The project area is located within the Winnipeg Ecodistrict of the Lake Manitoba Plain Ecoregion and Prairies Ecozone [(3)]. The subject property is primarily covered with the buildings and a gravel parking and storage area. The vegetation on-site consists mostly of mown grass with typical weedy species. There are some red osier dogwood shrubs along the fenced rail spur on the north side of the site and a few poplar and horticultural tree and shrub species near the offices at the south end of the property. The ditch along Panet Road supports cattail and wetland grasses. As the site is primarily developed and within a larger industrial area, it does not provide any significant wildlife cover and it is unlikely that any wildlife sensitive to human disturbance would be present. Terrestrial and avian species potentially found in the project area would be limited to those found in an urban setting.

Mr. Chris Friesen [(5)], Biodiversity Information Manager, Manitoba Conservation Data Centre (MCDC) completed a search of the MCDC rare species database and found no occurrences of federally or provincially listed species (Manitoba *Endangered Species Act* and *Species At Risk Act*) in the area (Appendix E).

3.6 SOCIOECONOMIC

The manufacturing development is located within a large industrial area within the City of Winnipeg. As one of the larger cities in Canada, with a current population of approximately 663,617 people [(6)], Winnipeg contains numerous amenities and developed infrastructure.

3.7 HERITAGE RESOURCES

Ms. Heather McClean of Manitoba Culture, Heritage, and Tourism, Historic Resources Branch [(7)] examined Branch records and confirmed that there are no archaeological or heritage resources known to exist in the project area (Appendix E).

4.0 POTENTIAL ENVIRONMENTAL EFFECTS ASSESSMENT

An environmental effect includes any change that the project may cause to the environment (biological, physical, social and economic). Environmental effects were identified from interactions between project activities and environmental components. Any potential adverse effects that may have occurred during renovation of the manufacturing plant and construction of the warehouse would have been short term and happened in the past. It is very unlikely that any of the construction effects would still be observable and therefore effects of the renovations and upgrades were not considered further. As such this assessment will focus on those effects potentially arising from the continued operation of the manufacturing facility and warehouse.

Considering that the project consists of the continued operation of an existing manufacturing facility there will be no change to socio-economic components such as land use or aesthetics and therefore these are not discussed in the following sections. Mitigation measures and follow-up activities were identified for environmental effects determined to be adverse.

4.1 AIR QUALITY

Material shipping activities may result in temporary increases in fugitive dust levels, greenhouse gases and vehicle emissions in the local area. The small amount of dust, greenhouse gases and vehicle emissions arising from shipping activities is unlikely to exceed Manitoba's air quality guidelines. Therefore the potential adverse effects on air quality in the local area were assessed to be minor. The effects from fugitive dust are mitigated by spraying the gravel parking lot and turnaround area with water in the summer and controlling vehicle speeds. Mitigation measures to control increased greenhouse gases and vehicle emissions include requiring a high standard of maintenance for shipping vehicles and limiting unnecessary long-term idling.

Indoor air quality in the manufacturing plant may be affected during operation with potential increases in levels of dust and volatile organic carbon (VOC) associated with the powder coating production line and some of the hazardous materials used in the manufacturing process. As previously noted a bag house has been installed to control releases of fugitive dust. Based on results of particulate monitoring conducted in the facility in 2010 the bag house is effective at controlling air quality. All employees and production departments that were monitored were well below the maximum recommended exposure limits (and generally not

detected) for all tested particulates (Appendix F). The Cloverdale Technical Director compared the results of VOC and solvent air quality monitoring from 2009 and 2013 (Appendix F) to the allowable thresholds listed on the raw material MSDS and determined that all of the measured concentrations were well below the thresholds and that there were no concerns to employee's health. Therefore the potential adverse effects on indoor air quality were assessed to be minor. The continued operation and maintenance of the air ventilation and bag house should provide sufficient control of fugitive dust and VOC such that no additional mitigation measures are required.

4.2 SOILS

Soils in the project area may become contaminated from accidental spills or releases of hazardous substances and waste. Should a spill occur within the production facility, the warehouse or the tank farm these would be contained by the existing control measures previously described; and cleaned up with no impact to soils on the property. Potential spills that could occur outside of the existing containment areas is where the hoses are coupled to the delivery truck during refilling operations when liquid materials are transferred to the tank farm. The previous ESA indicated that there was no evidence of petroleum hydrocarbon impacted soil at the site except outside and beneath the manufacturing plant at the product intake line, which is no longer used to transfer materials. As previously noted the exposure risk from the impacted soil would likely not represent a significant environmental risk [(2)]. As such, the potential adverse effects on soil quality were assessed to be moderate. Proposed mitigation includes preventing leaks, spills and releases by maintaining the existing secondary containment for hazardous materials storage, providing spill clean-up equipment and materials, complying with provincial regulations for storing hazardous materials, adhering to the ERM in response to spills (Appendix C) and periodic inspection for leaks, spills and releases. The process for managing small and large spills in accordance with the ERM was previously described in Section 2.6.2. Additionally, large spills outside of containment would need to be assessed and delineated following Phase III Environmental Site Assessment standards. If a spill should occur the proponent would be responsible to notify MCWS Emergency Response Program (204-944-4888) and the appropriate clean-up would be determined according to the size of spill and quantity of contamination. A remediation program would need to be developed to ensure that the site is cleaned to meet MCWS soil remediation criteria.

4.3 GROUNDWATER

Groundwater in the project area may become contaminated from leaks, accidental spills, or releases of hazardous substances and waste. Most spills at the site would be within existing containment with the exception of potential spills during material transfers from tanker trucks to the tank farm as described in Section 4.2. Additionally any spills that may occur would be cleaned up in accordance with the ERM for spills and unlikely to infiltrate through the thick layer of low permeability clay on site that forms an aquaclude to the overburden or bedrock aquifers. Water quality in the shallow overburden groundwater at the site was previously tested for hydrocarbons in 1992, 2003 and 2008 and there was no evidence of significant petroleum hydrocarbon impact, despite some hydrocarbon impacted soils being present [(2)]. As such the potential adverse effects on groundwater quality were assessed to be minor. Proposed mitigation includes preventing leaks, spills and releases by maintaining the existing secondary containment, providing spill clean-up equipment and materials, complying with provincial regulations for storage of hazardous materials using approved containers, adhering to the ERM in response to spills (Appendix C) and periodic inspection for leaks, spills and releases.

4.4 SURFACE WATER

Surface water in the project area may become contaminated from leaks and accidental spills or releases of hazardous substances and waste. Most spills at the site would be within existing containment with the exception of potential spills during material transfers from tanker trucks to the tank farm as described in Section 4.2. Additionally any spills that may occur would be cleaned up in accordance with the ERM for spills and unlikely to run-off from the site. Drainage at the site flows toward the ditches along Panet Road and eventually into the city's combined sewer system for treatment at the North End Treatment Plant. Therefore the potential adverse effects on surface water were assessed to be minor. Proposed mitigation includes preventing leaks, spills and releases by maintaining the existing secondary containment, providing spill clean-up equipment and materials, complying with provincial regulations, storing hazardous materials in approved containers, adhering to the ERM in response to spills (Appendix C) and periodic inspections for leaks, spills and releases.

4.5 WILDLIFE, HABITAT, FISH AND VEGETATION

The renovations and changes to the production line in the existing manufacturing facility and construction of the new warehouse did not result in the loss of any shrubs and trees that would provide wildlife habitat. As the site was already developed and within an industrial area it does not provide any significant wildlife cover, as previously noted. It is unlikely that any wildlife sensitive to human disturbance would be present and the MCDC found no occurrences or rare or endangered plant and wildlife species at the project area (Appendix E). As such effects on wildlife, habitat and vegetation as a result of the project are expected to be negligible. Likewise, as potential adverse effects on surface water were assessed to be minor due to project design (containment) and mitigation (ERM), it follows that potential adverse effects on fish and fish habitat would be negligible.

4.6 EMPLOYMENT / ECONOMY

The existing facility is only a small component of the employment and economy within Winnipeg and the continued operation will not change the current employment opportunities or the economy in the local and surrounding area. As such, no mitigation or follow-up has been proposed.

4.7 HUMAN HEALTH AND WELL BEING

Soil, surface water and groundwater in the project area may become contaminated during operation activities, as previously noted in Section 4.2, from leaks and accidental spills or releases of hazardous substances, which could adversely affect human health. Any potential spills would be immediately cleaned up as previously described with no migration off-site. Therefore the potential adverse effects of the project on human health were assessed to be negligible. Regardless the mitigation measures previously described to prevent leaks, spills and releases will be implemented.

4.8 PUBLIC AND WORKER SAFETY

The public does not have access to the facility and therefore the project should not have any effect on public safety. However, the handling and storage of hazardous materials and waste is

required both in the production process and when cleaning machinery and is a potential hazard to worker health and safety. Additionally, an occupational noise monitoring study completed in 2009 (Appendix G) found that the industrial machinery within the plant generates noise levels above the Manitoba training and voluntary protector level of 80 dBA (Canning, Resins and Mezzanine areas) and above the occupational exposure limit of 85 dBA (Sealants, Extruding and Grinding areas) which can be harmful to workers hearing. The potential hazard to worker health and safety will be continuous while working in the manufacturing plant and was assessed as moderate. Mitigation measures already implemented include providing hazardous materials training and appropriate PPE for workers, signs warning about elevated noise levels requiring hearing protection (Photo 26), storing hazardous materials in approved containers, complying with *Manitoba Workplace Safety and Health Act* and regulations, conducting safety briefings with workers and providing employee training.

4.9 HERITAGE RESOURCES

Ms. Heather McClean of Manitoba Culture, Heritage, and Tourism, Historic Resources Branch examined Branch records and confirmed that there are no archaeological or heritage resources known to exist in the project area (Appendix E). Therefore the potential for the project to impact archaeological or heritage resources is considered negligible and no specific mitigation measures or follow-up are proposed.

5.0 ENVIRONMENTAL MANAGEMENT PRACTICES

Environmental management practices proposed to be employed to prevent or mitigate environmental effects that were determined to be adverse, as described in Section 4.0, are summarized in the following sections. Mitigation is defined under the *Canadian Environmental Assessment Act* as the elimination, reduction and control of the adverse effects of a project and includes restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means. Mitigation measures must be technically and economically feasible, and implemented.

5.1 AIR QUALITY

Spraying the gravel parking lot and turnaround area with water in the summer and controlling vehicle speeds can mitigate increased fugitive dust levels. Requiring a high standard of maintenance for shipping vehicles and limiting unnecessary long-term idling at the loading docks can mitigate increased levels of greenhouse gases and vehicle emissions during operation activities.

Continued operation and maintenance of the air ventilation and bag house during the manufacturing process should provide sufficient control of fugitive dust and VOC concerns with regard to indoor air quality.

5.2 SOILS

Preventing leaks, spills and releases by maintaining the existing secondary containment for hazardous materials storage, providing spill clean-up equipment and materials, complying with provincial regulations, storing hazardous materials in approved containers, adhering to the ERM in response to spills and periodic inspection for leaks, spills and releases should mitigate potential soil contamination from leaks and accidental spills during operation.

5.3 GROUNDWATER

The mitigation measures outlined in Section 5.2 above for soil contamination will also mitigate groundwater contamination from leaks, spills and releases.

5.4 SURFACE WATER

The mitigation measures outlined in Section 5.2 above for soil contamination will also mitigate surface water contamination from leaks, spills and releases.

5.5 HUMAN HEALTH AND WELL BEING

The mitigation measures outlined in Section 5.2 above for soil contamination will also mitigate human health and well being concerns related to soil, surface water and groundwater contamination from leaks, spills and releases.

5.6 PUBLIC AND WORKER SAFETY

Providing hazardous materials training and appropriate PPE for workers, posting signs warning about elevated noise levels requiring hearing protection, storing hazardous materials in approved containers, complying with *Manitoba Workplace Safety and Health Act* and regulations, conducting safety briefings with workers and providing employee training can mitigate the threat to worker health and safety during operation.

5.7 RESIDUAL ENVIRONMENTAL EFFECTS

The significance of residual environmental effects, the effects remaining after the implementation of mitigation measures, was evaluated following procedures outlined in the Canadian Standards Association Draft environmental assessment standard [(8)]. Significance was evaluated based on the criteria below:

- **Societal value** of the affected environmental components – includes nature and degree of protection provided
- **Ecological value** – includes rarity and uniqueness, fragility, importance within ecosystem, importance to scientific studies
- **Duration** – length of time the project activity will last
- **Frequency** – rate of reoccurrence of the project activity causing the effect
- **Geographic extent** – area over which the effect will occur

- **Magnitude** – predicted disturbance compared to existing conditions
- **Reversibility** – time the environmental component will take to recover after the source of the effect ceases

Based on the available information on the project and the environment, the assessment of environmental effects outlined in this environmental assessment report, and the application of proposed mitigation measures and the conduct of required follow-up, the continued operation of the Cloverdale Paint manufacturing facility and warehouse will not likely result in any significant residual adverse environmental effects.

6.0 FOLLOW-UP ACTIVITIES

Follow-up is defined under the *Canadian Environmental Assessment Act* as a program to verify the accuracy of the environmental assessment of a project and determine the effectiveness of measures taken to mitigate the adverse environmental effects of the project. Follow-up activities include monitoring, surveillance, inspection, and may include data collection, analysis, evaluation, and reporting. Monitoring of implementation of the standard mitigation measures identified for environmental effects determined in Section 4.0 to be adverse are described in the following sections.

6.1 AIR QUALITY

Proposed follow-up during operation involves periodic observations for fugitive dust levels, inspections of the local area for accumulated dust, monitoring of complaints, and periodic inspection for VOC sources.

6.2 SOILS

Follow-up proposed during operation includes periodic inspections of equipment and storage containers for leaks, spills and releases, periodic observation for potential soil contamination, in particular where the transport trucks off-load materials to the tank farm, and monitoring of soil quality as required.

6.3 GROUNDWATER

Follow-up proposed includes periodic inspection for leaks, spills and releases during operation, as per section 6.2 above.

6.4 SURFACE WATER

Follow-up proposed includes periodic inspection for leaks, spills and releases during operation, as per section 6.2 above.

6.5 HUMAN HEALTH AND WELL BEING

Follow-up proposed during operation includes periodic inspections of equipment and storage containers for leaks, spills and releases, periodic observation for potential soil or surface water contamination and monitoring of soil or surface water quality as required.

6.6 PUBLIC AND WORKER SAFETY

Follow-up proposed includes recording any occurrence of workplace accidents, ensuring proper PPE is being used by workers, conducting additional noise level monitoring as required, maintaining records of hazardous materials used on site, confirming compliance with provincial hazardous waste handling and disposal regulations and updating health and safety training and the ERM as required.

7.0 STATEMENT OF LIMITATIONS

7.1 THIRD PARTY USE OF REPORT

This report has been prepared for Cloverdale Paint and any use a third party makes of this report, or any reliance on or decisions made based on it, are the responsibility of such third parties. KGS Group accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions undertaken based on this report.

7.2 ENVIRONMENTAL STATEMENT OF LIMITATIONS

KGS Group prepared the environmental conclusions and recommendations for this report in a professional manner using the degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants. The information contained in this report is based on the information that was made available to KGS Group during the investigation and upon the services described which were performed within the time and budgetary requirements of Cloverdale Paint. As the report is based on the available information, some of its conclusions could be different if the information upon which it is based is determined to be false, inaccurate or contradicted by additional information. KGS Group makes no representation concerning the legal significance of its findings or the value of the property investigated.

8.0 REFERENCES

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8. Canadian Standards Association. 1999. Preliminary Draft Standard: Environmental Assessment, produced for: The Working Group of the EIA Technical Committee, Draft #14, July 26.