

APPENDIX 'C' – GUIDELINES FOR WORKING AROUND HYDRO GAS MAINS

Guidelines for Working around Hydro Gas Mains

1. 323.9mm High Pressure Natural Gas Main — Intersection Pacific Ave and Lily Street. (C02):

- Several proposed works are in the vicinity of an existing 323.9 mm high pressure natural gas main. A Manitoba Hydro High Pressure Safety Watch is required for all construction activities within 3.0 in of the high pressure natural gas main.
- Contact “Call before you dig” 2 weeks prior to any work commencing within 3.0 m of the high pressure natural gas main to arrange for a Manitoba Hydro High Pressure Safety Watch at ClickBeforeYouDigMB.com or Call 1-800-940-3447.
- Prior to construction at this location, please expose the main by hand or hydro-excavation in order to confirm elevation of the pipe.
- A minimum 900 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the 323.9mm gas mains. Vibratory compaction cannot be used over or within 3 in of a high pressure main.
- If equipment must cross, travel, or compact over the gas main with less than the minimum depth of cover, earth bridging or steel plates shall be placed over the main and extend a minimum of 1.0 meter on either side at each crossing location.
- When working with less than minimum cover, a minimum 300mm of granular material shall be bladed into place with tracked equipment offset from the pipeline. Then static compaction equipment would be allowed and built up in layers until minimum cover is achieved.
- A smooth edged bucket shall be used for any excavations within 3.0m of a high pressure main.
- » Subbase material shall be bladed into place as opposed to being end dumped over the 323.9mm gas main in areas with less than the minimum cover.
- Caution must be used to ensure the integrity of the pipeline coating. Any damages to the coating must be reported to and repaired at no cost by Manitoba Hydro prior to backfilling.
- The contractor and all site supervisory personnel and equipment operators shall be informed of the risks associated with working adjacent to and over this pipeline by the Resident Inspector. New site personnel during construction shall be orientated as to the significance and constraints associated with working over and around a high pressure natural gas main.

2. 219.1mm Distribution Pressure Natural Gas Main (Sheets 1, 3, and 4):

- Several proposed works are in the vicinity of an existing 219.1mm distribution pressure natural gas main. A Manitoba Hydro High Pressure Safety Watch may be required if any excavations are within 1.0 in of the 219.1mm natural gas main.
- Contact “Click before you dig” 2 weeks prior to any work commencing within 1.0 m of the 219.1mm distribution pressure natural gas main to arrange for a Manitoba Hydro Safety Watch at ClickBeforeYouDigMB.com or Call 1-800-940-3447, if required.
- A minimum 900 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the 219.1mm gas mains. Vibratory compaction cannot be used over or within 1 in of a main.
- If equipment must cross, travel, or compact over the gas main with less than the minimum depth of cover, earth bridging or steel plates shall be placed over the main and extend a

minimum of 1.0 meter on either side at each crossing location.

- When working with less than minimum cover, a minimum 300 mm of granular material shall be bladed into place with tracked equipment offset from the pipeline. Then static compaction equipment would be allowed and built up in layers until minimum cover is achieved.
- A smooth edged bucket shall be used for any excavations within 1.0 m of a large diameter distribution pressure main.
- Subbase material shall be bladed into place as opposed to being end dumped over the 219.1mm gas main in areas with less than the minimum cover.
- Caution must be used to ensure the integrity of the pipeline coating. Any damages to the coating must be reported to and repaired at no cost by Manitoba Hydro prior to backfilling.

3. Insufficient Cover

- Absolutely no work including concrete cutting or pavement breaking may occur over the line (regardless of size) until depth of cover is determined and a safety watch is on site.

4. Catch Basin Installation

Proposed excavations for the removal and installation of catch basins within 1.0 meters a gas main will require exposure to be completed by hand or hydro excavation. Caution must be used when working in the vicinity of the natural gas mains at these locations.

5. Sidewalk Renewals

- Excavations shall be limited to removal of the existing concrete sidewalk. All further excavations within 1.0 meter of any natural gas main or service must be completed by hand or soft dig methods.

6. Asphalt Overlays and Road Reconstruction

- When excavations for concrete works are required within 1.0 meters of any natural gas main, the main must be exposed by hand or soft dig methods to verify the main elevation at intervals to be determined by the site inspector.
- Should a main be exposed to sub-base, the main requires rock wrap and may also require lowering.

7. Service Relocations

- This project may impact services. Services that are to be exposed in the subgrade must be rock wrapped and lowered during construction or replaced prior to construction. Manitoba Hydro will not be able to complete rock wrapping or lowering of any services unless the lowering is minimal (i.e. < 100-150 mm or < 4-6").
- Manitoba Hydro is currently performing lowerings and rock wrapping free of charge to City Of Winnipeg works.
- Under normal circumstances, the amount of time required to mobilize for this work is approximately 2-3 weeks.
- Please contact Shane Heiner at 204-360-5568 for any work required on site.

8. General:

- Please note that all construction operations within the vicinity of natural gas pipelines are to take place in a manner so as not to damage or cause detriment to the integrity of the natural gas pipeline. Any damages to the coating must be reported to and repaired at no cost by Manitoba Hydro prior to backfilling. All natural gas pipelines and service lines

must be properly located and marked by Manitoba Hydro personnel. This can be arranged by visiting ClickBeforeYouDigMB.com or call 1-800-940-3447. Construction operations are not to commence unless these conditions are adhered to.

- All excavations within 1.0 meter of any natural gas main must be completed by hand or Hydro-excavation.
- A minimum vertical separation of 300 mm from gas mains and 100 mm from gas service lines must be maintained between any Manitoba Hydro facility and any new installations.
- A minimum 600 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the 60.3 mm gas mains. Vibratory compaction cannot be used over or within 1 of a main.
- A minimum 450 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the gas service lines. Vibratory compaction cannot be used over or within 1 m of a service.
- If equipment must cross, travel, or compact over the gas main with less than the minimum depth of cover, earth bridging or steel plates shall be placed over the main and extend a minimum of 1.0 meter on either side at each crossing location.
- Caution must be used to ensure the integrity of the pipeline coating. Any damages to the coating must be reported to and repaired at no cost by Manitoba Hydro prior to backfilling.

Manitoba Hydro believes that there should be no problem with this work however; Manitoba Hydro makes no representations or warranties in that regard.