

APPENDIX 'C' – R1

**GUIDELINES FOR WORKING AROUND
HYDRO GAS MAINS**

Guidelines for Working Around Hydro Gas Mains

1. Special Concerns

Upon review, it was noted that a 323.9 mm high pressure gas main on Pacific Ave along the entire length of the project, and a 219.1 mm distribution pressure gas main crossing Pacific Ave at the back lane immediately east of Main St may be in conflict with street, curb and gutter renewals, depending on depth of pipe.

2. High Pressure Natural Gas Main - Intersection Along Pacific Ave from Main St to Lily St.

(Sheets 1 & 2):

- Proposed road renewal crosses over 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 m of the high pressure natural gas main.
- Contact "Click before you dig" a minimum of 2 weeks prior to any work commencing within 3.0 m of the high pressure natural gas main to arrange for the pipeline to be properly located and marked by Manitoba Hydro personnel at ClickBeforeYouDigMB.com or Call **1-800-940-3447**. Upon receiving clearances, the excavator will be provided with the phone number of the appropriate District in order to coordinate a Manitoba Hydro High Pressure Safety Watch.
- A minimum 900 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the 323.9 mm gas mains. Vibratory compaction cannot be used over or within 3.0 m 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 m 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 3.0 m of a high pressure main.
- Subbase material shall be bladed into place as opposed to being end dumped over the 323.9 mm 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.

3. 219.1mm Distribution Pressure Natural Gas Main — Crossing Pacific Ave at back lane immediately east of Main St. (Sheet 1)

- Proposed road renewal crosses over an existing 219.1 mm distribution pressure natural gas main. A Manitoba Hydro Safety Watch may be required if any excavations are within 1.0 m of the 219.1 mm natural gas main.
- Contact "Click before you dig" a minimum of 2 weeks prior to any work commencing within 1.0 m of the 219.1 mm distribution pressure natural gas main to arrange for the pipeline to be properly located and marked by Manitoba Hydro personnel at ClickBeforeYouDigMB.com or Call **1-800-940-3447**. Upon receiving clearances, the excavator will be provided with the phone number of the appropriate District in order to coordinate a Manitoba Hydro Safety Watch, if required.
- A minimum 900 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the 219.1 mm gas mains. Vibratory compaction cannot be used over or within 1.0 m 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 m 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 in of a large diameter distribution pressure main.
- Subbase material shall be bladed into place as opposed to being end dumped over the 219.1 mm 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.

4. Insufficient Cover

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

5. Tree Installation

- A minimum 1.9 m of separation shall be maintained in all areas between the center line of new trees and gas mains. Under no circumstances are trees approved to be planted closer.
- The minimum separation may be reduced to 1.0 in if an approved root barrier system is used. For further details on approved products contact Andrew Greaves at agreaves@hydro.mb.ca.

6. Catch Basin Removal and Installation

- Proposed excavations for the removal and installation of catch basins appear to be within 1.0 m of a gas main, in which case 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.
- A minimum vertical separation of 300 mm shall be maintained between any Manitoba Hydro facility and new underground structures.

7. Sidewalk Renewals

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

8. Asphalt Overlays and Road Reconstruction

- When excavations for concrete works are required within 1.0 m of any distribution pressure gas main or 3.0 m of any high pressure 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.

9. General:

- Please note that the requirements of Manitoba Hydro's Safe Excavation and Safety Watch guidelines shall apply. 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 in 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 900 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the 219.1 mm, and 323.9 mm gas mains. Vibratory compaction cannot be used over or within 1.0 in for Distribution pressure and 3.0 m for high pressure gas mains.
- 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 1.0 m of a service.

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- 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 m on either side at each crossing location.
- 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.

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