THE CORPORATION OF THE

TOWN OF PELHAM

BY-LAW #271 (1974)

Being a by-law to authorize the Mayor and Clerk to execute an agreement with M. J. Storm Limited for the installation of sanitary sewers.

WHEREAS tenders were called for the installation of sanitary sewers on Cherry & Valiant Streets and the Municipal Square,

AND WHEREAS the lowest tender of M. J. Storm Limited was accepted for the installation of sewers on Cherry & Valiant Streets at this time,

NOW THEREFORE COUNCIL OF THE CORPORATION OF THE TOWN OF PELHAM enacts as follows:

(1) THAT the agreement hereto attached and made part of this by-law between M. J. Storm Limited and the Corporation of the Town of Pelham be approved.

(2) THAT the Mayor and Clerk be and each of them is hereby authorized and instructed on behalf of the Corporation to execute the said agreement and the Clerk is hereby authorized to affix the Corporate Seal thereto.

READ A FIRST, SECOND AND THIRD TIME
AND PASSED IN COUNCIL THIS 30th.
DAY OF September, 1974. A.D.

MAYOR

CLERK

SECTION 01010 - GENERAL

PART 1 GENERAL

Part 1.01 DESCRIPTION OF WORK

1. This Contract is for the construction of the following works in the Town of Pelham, Ontario.

   (A) Storm, sanitary and water services for the Municipal Square.

   (B) Sanitary sewers, sewer laterals and related appurtenances in Cherry Avenue and Valiant Street.

Part 1.02 LIMITS OF SITE

A. The limits of the site are:

   1. The road or street allowances on which work is to be performed.

   2. Such additional land as shown on the Contract Drawings.

   3. Such additional land designated as easements shown on the Contract Drawings.

   4. Such areas of private property adjacent to road or street allowances on which the Contractor is directed, in writing, to enter to carry out work.

Part 1.03 LOCAL LABOUR

A. Give preference to the hiring of local labour. Maintain the labour force to at least 50 percent local labour, provided the labour is available locally and is physically fit and properly qualified by training and experience to meet the Contractor's requirements.

B. Do not apply the foregoing to Superintendent, Timekeeper, Foreman, Machine Operators nor until ten days after the Contractor has actually commenced operations.

C. At all times have labour rolls available for examination by the Engineer in order that he may determine the domicile of any or all of the Contractor's employees. Give assistance that may be necessary for such purpose.

Part 1.04 SETTING OUT OF THE WORK

A. The Engineer will set such stakes as are necessary to mark the location, alignment, elevation and grade of the work. Give adequate notice of the need for such setting out.

Carefully protect and preserve all stakes, lot pins, marks and reference points and replace if destroyed or removed.

Provide grade stakes, masts, scaffolds, batter boards, straight edges, templates and other equipment as may be necessary for laying out, and inspecting the work.

Wherever necessary suspend work temporarily to permit the Engineer to inspect and check the line and grade of any portion of the work.

Part 1.05 CONSTRUCTION SCHEDULE

A. Within 2 weeks after being awarded the Contract, submit proposed construction schedule to the Engineer for approval. In the schedule show proposed progress in weekly stages for the main sections and subsections of the work.

PART 2 PRODUCTS

Part 2.01 TESTS

A. Where required by the Engineer, supply certified copies of all tests upon all materials to be used in the construction of the works, indicating that the materials comply with the specifications. Have an approved testing laboratory make such tests at the Contractor's expense.

Part 2.02 CANADIAN MATERIALS

A. Unless otherwise specifically approved, use materials and equipment of Canadian manufacture in constructing the works.

PART 3 EXECUTION

Part 3.01 WORK ON ROADS

A. Do not perform work on public rights-of-way without the approval of the Road Authority.

Part 3.02 TRAFFIC

A. Perform traffic control on streets in accordance with the rules of the appropriate Road Authority. Flagmen must wear fluorescent red or orange safety vests, arm bands and hats.

B. Streets may be closed to through traffic only with the written permission of the Road Authority. Adequately mark detours on adjacent streets. Erect and maintain barricades on the closed streets and light at night. Inform the Road Authority when a road is re-opened to traffic.

C. On streets that are not officially closed, maintain one lane of traffic in each direction at all times. Should temporary detours be constructed, comply with the requirements of the Road Authority as to location, dimensions, strength, road markings, signing and all other relevant details. Remove detours when no longer needed, and restore all surfaces to the original condition.

D. Whether streets are officially closed or not, maintain reasonable access to adjacent properties for pedestrians and vehicles.

E. Maintain all traffic signs in their original positions. Be sure that the signs are not obscured.

Part 3.03 NOTIFICATIONS

A. When streets are to be closed, or traffic restricted, notify the appropriate Fire and Police Departments, giving at least seven days notice of the closing or restriction.

B. If bus routes are affected, notify the Bus Company, giving at least seven days notice.

C. When streets are to be re-opened, or restrictions removed, notify the Fire, Police and Bus Authorities.

Part 3.04 REQUIREMENTS OF MUNICIPALITIES

A. Be sure that all work complies with the specifications of the municipalities.

B. The Engineer's acceptance of the work may be withheld until the municipalities have issued their approvals.

Part 3.05 MUNICIPAL INSPECTORS

A. Municipal inspectors may be present during the

construction of the work. They have the power to order the Contractor to stop work if the work, in their opinion, is not being done in accordance with the set lines and grades or to the drawings and specifications.

Unless otherwise specified, the cost of municipal inspectors will not be charged to the Contractor.

Part 3.06 USE OF HYDRANTS

A. Keep fire hydrants accessible and free of obstructions.

B. Fire hydrants may be used as a source of water only with the approval of the Water Authority, and subject to its rules and conditions.

Part 3.07 INCLEMENT WEATHER

A. Make adequate protection and take precautions at times of inclement weather.

B. Inclement weather or extra work caused by such weather will not be accepted as reason for additional payment.

Part 3.08 MUD AND DUST

A. Keep clean all streets and other construction areas. If it is necessary to haul wet material, use suitable watertight trucks.

B. Control dust by the use of water or calcium chloride, or both.

Part 3.11 ADJACENT STRUCTURES AND UTILITIES

A. Perform temporary and permanent support and temporary relocation and replacement of underground or overhead utilities and as detailed in the General Conditions.

B. Permanent relocation of underground or overhead utilities will be carried out by others, if necessitated by coincidence of lines or grades, or both.

SECTION 02550 - SITE CLEARING, EXCAVATING, BACKFILLING AND RESTORATION OF TRENCHES

PART 1 GENERAL

Part 1.01 INTENT

A. This section covers the work for site clearing, excavating, backfilling and restoration for sewers and watermains, from two feet beyond the exterior wall of structures. It also covers the site clearing, excavating, backfilling and restoration for valve chambers, manholes and catchbasins.

B. Related work is as follows:

1. Existing Utilities

2. Excavating

3. Sheathing and Shoring

4. Backfilling

5. Restoration

C. Related work specified elsewhere is as follows:

Under Section 02560 Sanitary and Storm Sewers

Under Section 02570 Watermains

Part 1.02 EXISTING UTILITIES

A. Contact the various utility companies prior to commencing work and become informed of the exact location of all utilities and protect them during construction and assume all liability for damage to utilities.

B. Utilities that require relocation will be the responsibility of the Utility Company concerned at no expense to the Contractor. Cooperate with the utility companies who shall have free access to their plant at all times.

C. Where existing pipes, ducts, or other underground services intersect the pipe trench support the pipe trench to the approval of the Engineer and the Utility Company and/or municipality concerned.

D. Where existing overhead pole lines are adjacent to the excavation, temporarily support them to the approval of the Engineer and the Utility Company concerned.

Part 1.03 EXISTING DRAINAGE

A. Maintain temporary and permanent flow in all sewers, drains, gutters, ditches, watercourses, house and inlet connections.

Part 1.04 MEASUREMENT FOR PAYMENT

A. The Engineer will:

1. Measure in place timber sheathing left in the trench on the written order of the Engineer prior to backfilling of the trench. The Engineer will not measure sheathing specified on the drawings to be left in place.

2. Measure rock excavation on a cubic yard basis.

Part 1.05 BASIS FOR PAYMENT

A. Conditions

1. Unless otherwise specified, include temporary access, site clearing, excavating, shoring, sheathing, support of existing utilities, dewatering, testing of material, backfilling, removal of surplus excavation, restoration and all other labour, equipment and materials necessary for the complete installation of the work, in unit prices for sewers, watermains, yard piping, manholes, valve chambers, and catchbasins.

2. Base the cost for all work specified to be carried out in 1975 under Item 8 in the Form of Tender.

3. Base the volume of rock excavation in trenches on a width equal to the outside diameter of the pipe plus one foot and a depth from the top of the exposed rock to 6 inches below the bottom of the pipe.

4. Base the volume of rock excavation for structure on the outside dimension of structures plus one foot and a depth from the top of the exposed rock to the bottom of the structures plus six inches.

B. Items

1. Sheathing left in the trench upon the written order of the Engineer will be paid for at the unit price contained in the Form of Tender. No additional payment will be made for sheathing shown on the Contract Drawings to be left in place.

2. Check elsewhere in this section for definition

of rock excavation.

(A) Rock excavation will be paid for at the unit price contained in the Form of Tender. Include the disposal of rock in the unit price.

PART 2 PRODUCTS

Part 2.01 MATERIALS

A. Granular Materials

1. Granular 'A', 'B' in accordance with MTC Form 1010.

2. Crushed stone - produce from bedded or massive rock formation and from boulders. Break into fragments to conform to the following graduation requirements.

(A)

Sieve Size	Percentage Passing By Weight
1 inch	100
3/4 inch	90-95
No. 4	5-10

B. Hot Mix Asphalt

1. Hot Mix Asphaltic Concrete - MTC Form 310.

C. Surface Treatment

1. Surface treatment with bituminous materials - MTC Form 304.

D. Topsoil

1. Use existing topsoil wherever suitable and as approved by the Engineer. Before re-using the topsoil clean out foreign matter and stones over 2 inches in size.

2. Imported topsoil - medium loam from a meadow or farm area known to be free from weeds.

3. Notify the Engineer at least three days before starting topsoil stripping operations. All sources of supply will require the Engineer's approval before being brought on the job.

PART 3 EXECUTION

Part 3.01 SITE CLEARING

A. Remove trees, shrubs, roots, vegetation, loose surface rock, fences, and other obstructions on the line of the work.

B. Carefully protect trees, fences, shrubs and other vegetation designated by the Engineer and save from injury during the construction operation.

Part 3.02 TOPSOIL

A. If suitable for sodding and seeding, strip the topsoil from within the limits of excavation and from fill areas in advance of construction and stockpile in areas designated by the Engineer.

B. Strip topsoil in such a manner as to prevent any damage to the roots of trees designated to be saved.

C. On completion of the backfill of the trench, spread the topsoil as directed by the Engineer.

Part 3.03 EXCAVATING

A. Dig the trench to the alignment and depth required and only so far in advance of pipe laying as the Engineer will permit.

B. Minimum and maximum trench widths up to a point one foot above top of pipe, for single pipe:

1. Minimum

(A) 1 foot greater than the external diameter of pipe or 2 feet 6 inches for earth excavation or 3 feet to 0 inches for rock excavation whichever is greater, excluding an allowance for shoring.

2. Maximum

(A) Not more than 2 feet greater than the minimum width for 18 inch diameter pipe and larger, excluding an allowance for shoring.

D. The width of the trench at ground level is not to be less than the width at any depth in the trench.

Fill overbreak and slides that have occurred during excavation with approved materials.

E. Where trench excavations are not kept within the design limits of the pipe, the Engineer may order sheathing and shoring, and/or a heavier class of pipe, and/or use of a higher class of bedding.

F. Grade and shape the pipe trench and the specified bedding to give uniform and even bearing for the length of the pipe. Dig bell holes at each joint. Make all corrections in the grade with compacted granular material acceptable to the Engineer, or with fill concrete.

G. Rock

1. Remove rock, boulders and masonry to provide a clearance of at least six inches below and on all sides of the pipe or structure.

2. Rock excavation will be paid for as a separate item.

(A) 'Rock' means boulders exceeding 1/3 cu. yd. in volume or solid ledge rock which requires drilling and blasting, for its removal. No soft or disintegrated rock, no loose shaken or previously blasted rock, no broken stone in rock fillings or elsewhere, no rock which may have fallen into the trench from outside the limits of the excavation will be measured for payment. The removal of existing masonry or concrete foundations, where directed by the Engineer, will be consid- as 'rock'. Frozen ground will not be classified as rock.

(B) Material in the excavation which can not be classified as rock by the above definitions will be termed 'earth'.

H. Where the subgrade in its natural state is inadequate to support the pipe, the Engineer will give instructions as to the proper procedure, and such additional work as ordered will be paid for as described in the Form of Tender.

I. Remove the subgrade where it has been adversely changed and is not adequate to support the pipe. Replace with crushed stone or other approved materal as directed by the Engineer.

J. Trench in existing roadways in a manner to prevent overbreak. Saw cut all pavement in clean straight lines prior to the start of excavation.

Part 3.04 SHEATHING AND SHORING

A. Supply, install and remove temporary sheathing and shoring where directed by the Engineer and in accordance with applicable safety regulations.

B. Drive sheathing so as to be firmly held in place at all times and leave in place until the pipe has been backfilled to a minimum depth of two feet above the pipe. If there is any danger of cave-in, completely backfill the trench before removing the sheathing.

C. Take special care to ensure that all voids left by the sheathing and shoring are refilled with approved material.

D. Withdraw sheathing and shoring as the trenches are being backfilled, except where the Contractor, at his own request and expense, is permitted to leave the same in place. Sheathing left in place on written order of the Engineer will be an addition to the Contract.

E. Cut off sheathing left in place at least three feet below the surface of the ground.

Part 3.05 DEWATERING

A. Maintain the excavation free of water at all times.

B. Do not use sanitary sewers for the discharge of water from the trenches.

Part 3.06 BACKFILLING

A. Backfill trenches from the top of the pipe bedding to the underside of surface restoration with site selected excavated material. Provide backfill free of roots, organic material and stone larger than 4 inches. Place backfill material in lifts not exceeding 12 inches. Compact to 95 percent Standard Proctor Density.

B. If the Engineer decides that the site selected excavation material either wholly or partially, is not suitable for backfill, then provide imported material of a type approved by the Engineer. Compact to 95 percent Standard Proctor Density.

Part 3.06 BACKFILLING (continued)

C. Repair backfill at all times with regard to settlement, potholing and washboarding until acceptance.

D. Backfill all trenches continuously and immediately after the specified bedding has been completed and approved by the Engineer.

E. Responsibility for any damages caused by settlement during the maintenance period are the contractor's.

F. Repair of minor potholes during the maintenance period will be carried out by the Town of Pelham.

Part 3.07 DISPOSAL OF SURPLUS EXCAVATED MATERIAL

A. Cherry-Valiant Site: Remove surplus excavated material from site.

B. Municipal Square: Spread surplus excavated material on the site as directed by the Engineer.

Part 3.07 RESTORATION

A. The Municipal Square

1. Restore paved, surface treated and lawn areas as per section 3.07. Refer to Drawing No. A-74166-P1 for these areas.

B. Cherry - Valiant

1. Reinstate all disturbed lawn areas with No. 1 nursery sod.

2. Top all roadways and shoulder areas with 12 inches of Granular 'A' compacted to 95 percent Standard Proctor Density.

3. Reinstate all asphalt driveways with 3 inches of HL-3 Hot-mix asphalt over Granular 'A' base. Properly cut all joints and paint with bituminous emulsion.

4. Before acceptance, resurface all roadways with a single application of M.T.C. Prime applied at the rate of one-third gallon per square yard.

PART 3 EXECUTION (continued)

Part 3.07 RESTORATION (continued)

B. Cherry - Valiant (continued)

5. In the spring of 1975 re-grade all trench areas in roadways and sweep clean the remaining roads in preparation for surface treatment by the Town of Pelham. Carry out this work within 48 hours after notification by the Engineer.

6. Complete restoration when weather permits as determined by the Engineer.

SECTION 02560 - SANITARY AND STORM SEWERS

PART 1 GENERAL

Part 1.01 INTENT

A. This section covers sewer work and related work including:

1. Pipe
2. Manholes and Catchbasins
3. Sanitary sewer house service connections
4. Storm sewer house service connections
5. Line and grade
6. Bedding
7. Testing
8. Concrete

Part 1.02 TESTING

A. Supply test certificates in accordance with the appropriate specification, for the following materials:

1. Pipe
2. Pre-cast manholes and catchbasins.
3. Concrete

Part 1.03 DELIVERY, STORAGE AND HANDLING

A. Delivery

1. Replace materials found to be defective in manufacture or damaged in handling after delivery including the furnishing of all material and labour required for the replacement of installed material found to be defective.

PART 1 GENERAL (continued)

Part 1.03 DELIVERY, STORAGE AND HANDLING (continued)

B. Handling

1. Load and unload materials so as to avoid shock or damage.

C. Storage

1. Place materials in safe storage. Keep interiors of all pipes, and fittings clean.

Part 1.04 MEASUREMENT FOR PAYMENT

A. The Engineer will:

1. Measure sewers along the centreline of construction from centre to centre of manhole.

2. Measure catchbasin leads along the centreline or construction from the centreline of the main sewer to the centreline of the catchbasin.

3. Measure house service connections along the centreline of construction from the centreline of the main sewer or manhole to the street line.

4. Count each type of manhole.

5. Count each type of catchbasin.

6. Count each type of catchbasin manhole.

Part 1.05 BASIS OF PAYMENT

A. Conditions

1. Unless otherwise specified include all testing of materials, bedding and testing of pipes after installation and the requirements of Section 02550 - Site Clearing, Excavating, Backfilling and Restoration of Trenches.

2. The Engineer will measure the work when completed and the contract price will be increased or decreased in accordance with the final measurement.

PART 1 GENERAL (continued)

Part 1.05 BASIS OF PAYMENT (continued)

B. Items

1. Include in the unit price per lineal foot of sewer, the pipe and the complete installation of the pipe, including the connections to manholes, catchbasins, existing sewers or other facilities.

2. Include in the unit price for each sanitary sewer house service connection as outlined in the Form of Tender, the pipe and the complete installation of the service pipe, all necessary fittings, connection to the main sewer, riser pipe, capping and marking the connection at the street line.

3. Include in the unit price for each storm service connection as outlined in the Form of Tender, the pipe and the complete installation of the service pipe, all necessary fittings, connection to the main sewer and riser pipe, capping and marking the connection at the street line.

4. Include in the unit price for each type of catchbasin, the complete installation of the catchbasin including concrete, brickwork, reinforcing steel, frame and grating as shown on STD. S-4.

5. Include in the unit price for each catchbasin manhole, the complete installation of the catchbasin manhole including concrete, benching, brickwork, reinforcing steel, ladder rungs, drop pipe and safety grating if required, frame and grating as shown on STD. S-3.

6. Include in the unit price for each manhole, the complete installation of the manhole including concrete, benching, brickwork reinforcing steel, ladder rungs, drop and safety grating if required, frame and cover as shown on STD. S-3.

PART 2 PRODUCTS

Part 2.01 GENERAL

A. Quote on the basis of the type of material specified on the drawings and in lthe Form of Tender.

PART 2 PRODUCTS (continued)

Part 2.02 MATERIALS - Conform to latest edition of reference Standards.

A. Concrete Sewer Pipe

1. Concrete Pipe

(A) Non-reinforced circular concrete pipe - ASTM C14.

(B) Reinforced circular concrete pipe - ASTM C76.

2. Pipe diameter and class - as shown on the drawings.

3. Fittings and specials - in accordance with the specification for the type of pipe being used.

B. Asbestos Cement Sewer Pipe

1. Asbestos cement pipe and fittings - ASTM C428

2. Pipe diameter and class - as shown on the drawings.

3. Joints - 'Ring-Tite', 'Fluid-Tite' or approved equal.

4. Supply pipe in standard 10 foot lengths. Supply short lengths, machined as required, to install fittings in the correct locations.

C. Manholes and Catchbasin Manholes

1. Pre-cast concrete manholes and catchbasin manholes - ASTM C478 and as shown on STD. S-3 rubber type gaskets - ASTM C443.

2. Cast Iron covers for sanitary sewer manholes - STD. S-6.

3. Cast Iron covers for storm sewer manholes - STD. S-6.

4. Cast Iron gratings for catchbasin manholes - STD. S-7.

5. Ladder rungs - as shown on STD. S-3.

6. Bricks - ASTM C32, Grade MA.

7. Reinforcing steel - CSA G30.12, Grade 10.

PART 2 PRODUCTS (continued)

Part 2.02 MATERIALS - (continued)

D. Catchbasins

1. Pre-cast concrete catchbasins - construct as shown on STD. S-4.

2. Cast Iron gratings for pre-cast concrete catchbasins - STD S-7.

3. Bricks - ASTM C32, Grade MA.

PART 3 EXECUTION

Part 3.01 LINE AND GRADE

A. Supply, erect and maintain batter boards and site rails to ensure accurate line and grade of all pipes. Have at least three batter boards in use at all times, placed not more than 50 feet apart. Obtain Engineer's approval for alternative methods.

B. Lay pipe to the line and grade shown on the drawings.

Part 3.02 FROZEN GROUND

A. Do not place work on frozen ground. Should the bottom of the trench become frozen, remove and replace the frozen material with bedding material compacted to 95 percent Standard Proctor Density.

Part 3.03 BEDDING

A. Sewer bedding - as specified on E-STD S-2.

B. Granular material - refer to Section 02550

C. Compact granular bedding material to a density of 95 percent Standard Proctor Density.

D. Compact material around the pipe with hand tampers properly shaped to ensure full compaction below the haunches. Do not use mechanical tampers over the top of pipe where cover is less than one foot.

Part 3.04 CONNECTIONS TO EXISTING FACILITIES

A. Connect sewers to existing manholes, catchbasins and other facilities as shown on the drawings or as directed by the Engineer.

B. Obtain permission from the Engineer and the authority responsible for the existing facilities prior to making any connections.

Part 3.05 PIPE LAYING

A. Lay, joint and test pipes and fittings in accordance with the manufacturer's instructions and in the manner hereinafter specified, in the presence of the engineer and subject to his approval.

B. Lower pipe carefully into the trench. Before lowering and while suspended, inspect the pipes for defects. Remove foreign material from inside of the pipe.

C. Use temporary watertight bulkheads to prevent the flow of trench water, storm water, silt and sand within the pipe.

Part 3.06 HOUSE SERVICE CONNECTIONS

A. Lay house service connections from the main sewer to the edge of the street allowance as shown on STD. S-11

Part 3.07 CLEANING AND TESTING OF SANITARY SEWERS

A. Flush and clean sewers and manholes prior to testing. Carry out testing in the presence of the Engineer.

Supply all water for cleaning and testing.

B. Inspect manholes for defects and signs of leakage. Repair visible leaks or faults as approved by or as directed by the Engineer.

C. Carry out testing from manhole to manhole as the work progresses. Test only the length of sewer between any two manholes at any one time.

Part 3.07 CLEANING AND TESTING OF SANITARY SEWERS (continued)

D. Test sewers after backfilling for infiltration in accordance with the following table:

	Test	Permissible Leakage
1.	Infiltration Test - when ordered by Engineer	0.25 Imperial gallons per hour per inch of pipe dia. per 100 feet of sewer

E. Method of infiltration test for sewers is as follows:

1. Isolate the section of sewer to be tested at its upper limits by temporarily plugging the outlet of the upstream manhole.

2. Construct a temporary dyke in the inlet pipe of the downstream manhole. The measurement of infiltration may be determined by timing the flow of water into a calibrated contour, or over a weir, or by any other method acceptable to the Engineer.

3. Do not start until steady state conditions have been established to the satisfaction of the Engineer.

F. No part of the work will be accepted until the sewers are clean and free from sand, earth, mud, or other obstructions, when required by the Engineer pass a pill of 2 inches less in diameter than the sewer from manhole to manhole.

G. Furnish all labour, tools, and equipment necessary to clean and test the sewer.

Part 3.08 CLEANING OF STORM SEWERS

A. Flush and clean sewers, manholes and catchbasins prior to acceptance.

SECTION 02570 - WATERMAINS

PART 1 GENERAL

Part 1.01 Intent

A. This section covers watermains and related work including:

1. Pipe
2. Fittings, specials and joints
3. Hydrants
4. Valves and valve boxes.
5. Line and grade
6. Bedding
7. Testing
8. Disinfecting

Part 1.02 Certificates of Testing

A. Provide test certificates in accordance with the appropriate specification for the following materials:

1. Pipe
2. Fittings, specials and gaskets
3. Valves
4. Hydrants

Part 1.03 Delivery, Storage and Handling

A. Delivery

1. Replace materials found to be defective in manufacture or damaged in handling after delivery including the furnishing of all material and labour required for the replacement of installed material found to be defective.

Part 1.03 Delivery, Storage and Handling (continued)

B. Handling

1. Load and unload materials so as to avoid shock or damage.

2. Handle pipe and fittings so that the coating and lining will not be damaged. If, however, any part of the coating or lining is damaged, then repair in a satisfactory manner.

C. Storage

1. Place materials in safe storage. Keep interiors of all pipes, fittings, and other accessories clean. Store valves and hydrants in a manner that will protect them from damage by freezing.

Part 1.04 Measurement for Payment

A. The Engineer will:

1. Measure watermains along the centreline of construction, straight-through bends, fittings, specials, valve and valve chambers.

2. Measure service connections in the horizontal plane along the centreline of the pipe from the centre of watermains to the street line.

3. Count complete hydrant sets.

4. Count complete valves and valve boxes.

5. Count complete connections to existing mains.

Part 1.05 Basis for Payment

A. Conditions

1. Unless otherwise specified, include in the work all testing of materials, thrust blocks, anchor blocks, bedding, testing and disinfecting the pipes after

PART 1 GENERAL (continued)

Part 1.05 Basis for Payment (continued)

A. Conditions (continued)

1. (continued) installation and the requirements of Section 02550 Site Clearing, Excavating, Backfilling and Restoration.

2. The Engineer will measure the work when completed and the contract price will be increased or decreased in accordance with the final measurement.

B. Items

1. Include in the unit price per lineal foot for watermains the complete supply and installation of the pipe and all necessary fittings as shown on STD. W-2, W-3, and W-4, and connection to existing main.

2. Include in the unit price for each hydrant the complete supply and installation of the pipe from the main, connection to the main, secondary valve and valve box, hydrant, crushed stone backfill and blocking of the hydrant all as shown on STD. W-5.

3. Include in the unit price for each valve and valve box the complete supply and installation of the valve and valve box as shown on STD. W-5.

PART 2 PRODUCTS

Part 2.01 General

A. Quote on the basis of the type of pipe specified in the Form of Tender.

Part 2.02 Materials - Conform to latest edition of reference Standards.

A. Asbestos Cement Pipe

1. Pipe - A.W.W.A. C400

2. Pipe Diameter and class as specified in the Form of Tender.

PART 2 PRODUCTS (continued)

Part 2.20 Materials (continued)

A. Asbestos Cement Pipe (continued)

3. Supply pipe in standard lengths. Supply short lengths machined as required to install fittings and valves in the correct locations.

4. Joints - 'Ring-Tite', 'Fluid-Tite', or approved equal.

B. Fittings and Specials (Asbestos cement pipe)

1. Fittings and specials - comply with the specification for the type of pipe being used.

2. Submit to the Engineer for approval, tabulated layout schedules and drawings of all fittings and specials indicating the internal pressure rating, maximum external load rating, type of joints and identification mark numbers for all component parts.

C. Gate Valves

1. Gate valves - Iron body bronze mounted with inside screw, non-rising spindle opening counter-clockwise, with 2-inch square operating nut. Valve equipped with 'O' rings and mechanical joints. Use Canada Valve No. 55, Jenkins Bros. Fig. 398, McAvity No. 20075-0 or equal.

D. Valve Boxes

1. Valve Boxes - cast iron, auger type similar to Fergusson No. 101 and adjustable to 5'6" or bury.

E. Hydrants

1. Century type as manufactured by Canada Valve or Type M67 as manufactured by McAvity.

2. Bury depth - 5'6"

3. Hydrants - shut off, main valve, CSA B9.2, 6-inch inlet connection with square operating and cap nut, paint red and open counter clockwise.

PART 3 EXECUTION

Part 3.01 Line and Grade

A. Supply, erect and maintain batter boards and site rails to ensure accurate line and grade of all pipes. Have at least three batter boards in use at all times, placed not more than 50 feet apart. Obtain Engineer's approval for alternative methods.

B. On straight lines, lateral deviation in excess of 6 inches will not be tolerated. On straight grades, grade deviation in excess of 3 inches will not be tolerated.

C. For vertical or horizontal bends do not deviate the pipe lines more than 12 inches from line or more than 6 inches from grade as the case may be.

Part 3.02 Frozen Ground

A. Do not place work on frozen ground. Should the bottom of the trench become frozen, remove and replace the frozen material with bedding material compacted to 95 percent Standard Proctor Density.

Part 3.03 Bedding

A. Watermain bedding – as specified on STD. W-2

B. Granular material - refer to Section 02550

C. Compact Granular Bedding material to a density of 95 percent Standard Proctor Density.

Part 3.04 Connection to Existing Watermains

A. Connect new mains to existing mains as shown on the drawings.

B. Obtain permission from the Engineer and the authority responsible for the existing mains prior to making any connections to an existing main. Valves on the existing system will be operated only by the watermain authority. Notify all affected water users in advance of any interruption of service.

Part 3.05 Pipe Laying

A. Lay, join and test pipes and accessories in accordance with the manufacturers instructions and in the manner hereinafter specified, in the presence of the Engineer and subject to his approval.

PART 3 EXECUTION (continued)

Part 3.05 Pipe Laying (continued)

B. Use temporary water-tight bulkheads to prevent the flow of trench water, storm water, silt and sand within the pipe.

C. Carefully lower pipe into the trench. Before lowering and while suspended, inspect the pipe for defects. Remove foreign material from the inside of the pipe.

D. Support bends, tees and bead ends by 3,000 p.s.i. concrete thrust blocks to undisturbed ground as detailed on STD. W-4. Arrange thrust blocks to transfer the full thrust of the deflection at test pressure without exceeding the bearing capacity of the ground.

E. Construct anchor blocks of 3,000 p.s.i. concrete as shown on STD. W-4.

Part 3.06 Valve and Valve Boxes

A. Install valves and valve boxes plumb, centered over the operating nut and supported in place during backfilling with the cover flush with the finished grade.

B. Do not backfill until valves or valve boxes have been inspected by the Engineer, or the inspector of the authority having jurisdiction.

Part 3.07 Hydrants

A. Install hydrants plumb with the nozzles parallel with the watermains.

B. Set hydrants to the established grade with nozzles at least fifteen inches above the ground.

C. Do not backfill until hydrants have been inspected by the Engineer.

Part 3.08 Testing

A. Clean out each valved section of pipe or part thereof by flushing prior to testing.

PART 3 EXECUTION (continued)

Part 3.08 Testing (continued)

B. Apply a hydrostatic test pressure of 150 p.s.i. for at least one hour. Record the amount of water used in this period by pumping from a suitable container of known volume.

C. The allowable leakage under the 150 p.s.i. test pressure is 70 Imperial gallons per inch of diameter per mile per 24 hours.

D. Where the measured leakage exceeds the allowable leakage, locate the leaks and repair. Retest the main. Repeat this process until such time as the allowable leakage requirement is met.

Part 3.09 Disinfection and Flushing

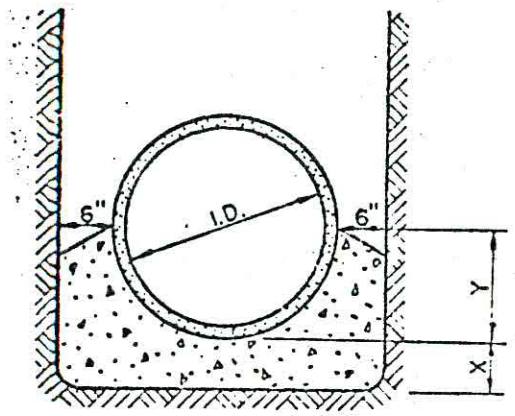
A. Flush the main prior to chlorination.

B. Disinfect the main by introducing a sufficient quantity of Pittchlor HTH or other approved chemical to produce a solution with a chlorine residual of 50 ppm.

C. Leave the chlorine solution in the main for at least 24 hours.

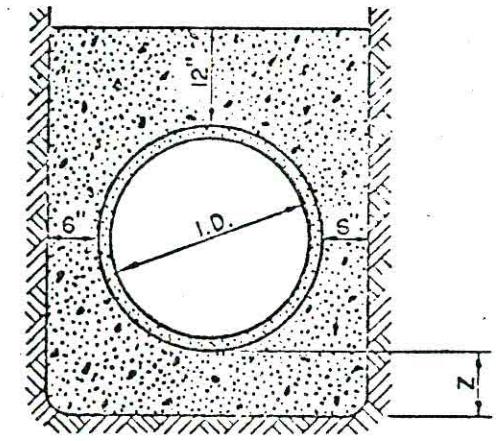
D. After disinfection of the main, again flush until all the chemical is removed.

E. Give the Engineer at least two days notice of the date when disinfection of the system is to start so that the arrangements can be made for others to take samples and test the chlorine residual.



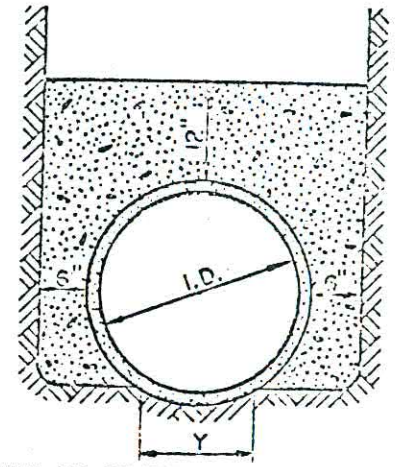
2500 P.S.I. CONC.

CLASS A BEDDING



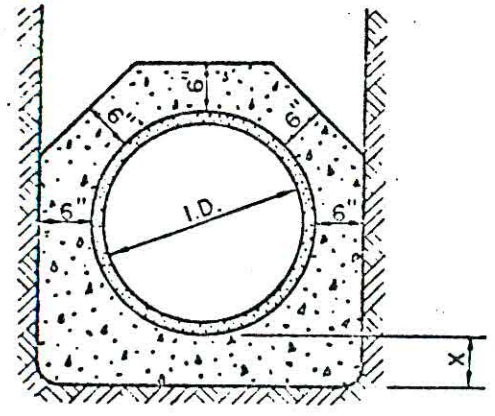
SAND OR SELECT PIT RUN GRAVEL

CLASS B BEDDING



SAND OR SELECT PIT RUN GRAVEL

CLASS C BEDDING



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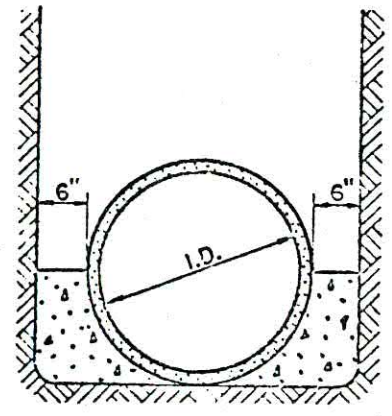
CLASS AA BEDDING



1500 P.S.I. CONC.

CLASS BB BEDDING

NOTES

X = 1/4 INSIDE DIAMETER OF PIPE WITH MIN. OF 6"

Y = 1/2 OUTSIDE DIAMETER OF PIPE

Z = 1/3 INSIDE DIAMETER OF PIPE WITH MIN. OF 6" & MAX. OF 12"

CONCRETE OR GRANULAR MATERIAL TO EXTEND TO SOLID TRENCH WALLS

SELECTED FINE MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE OVER CLASSES 'A' – 'AA' – 'BB'

STANDARD PIPE BEDDING DETAILS

TOWN OF PELHAM STANDARD

August 13th, 1970

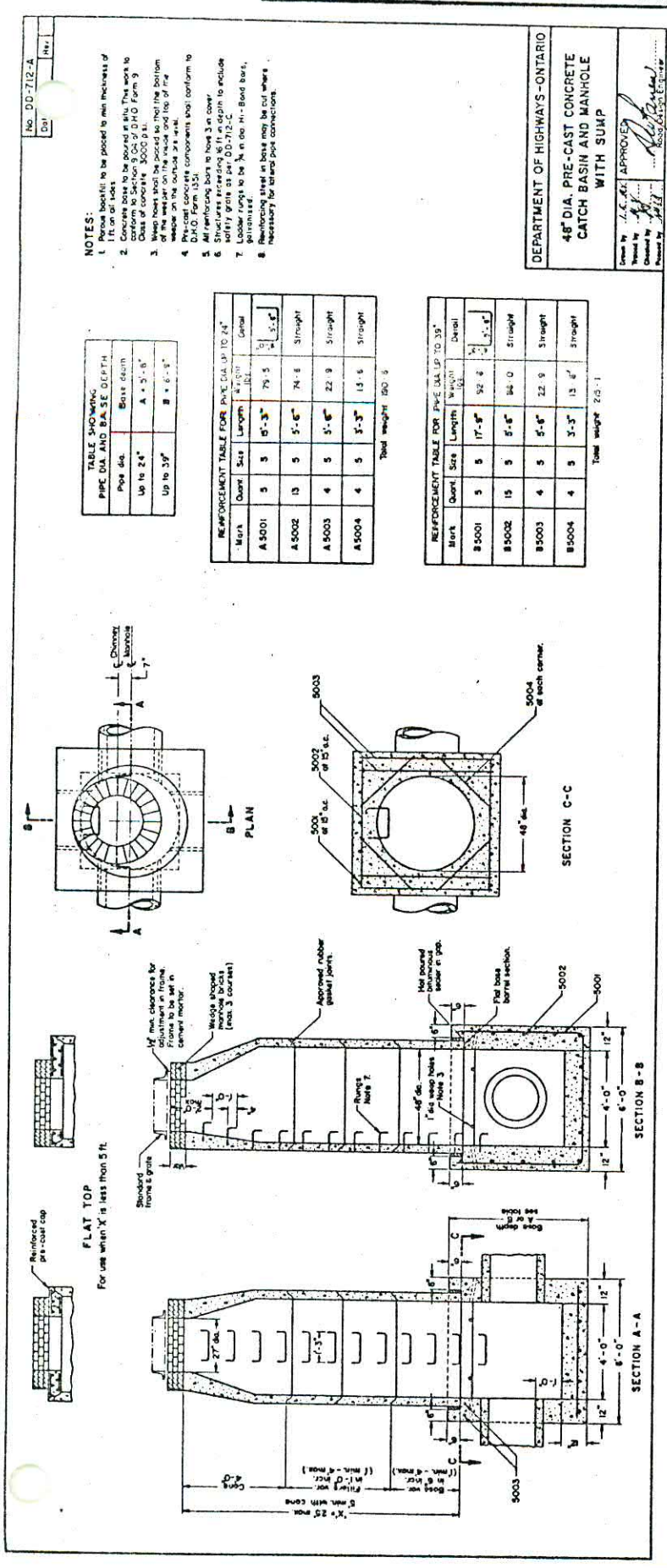
Proctor & Redfern Ltd.

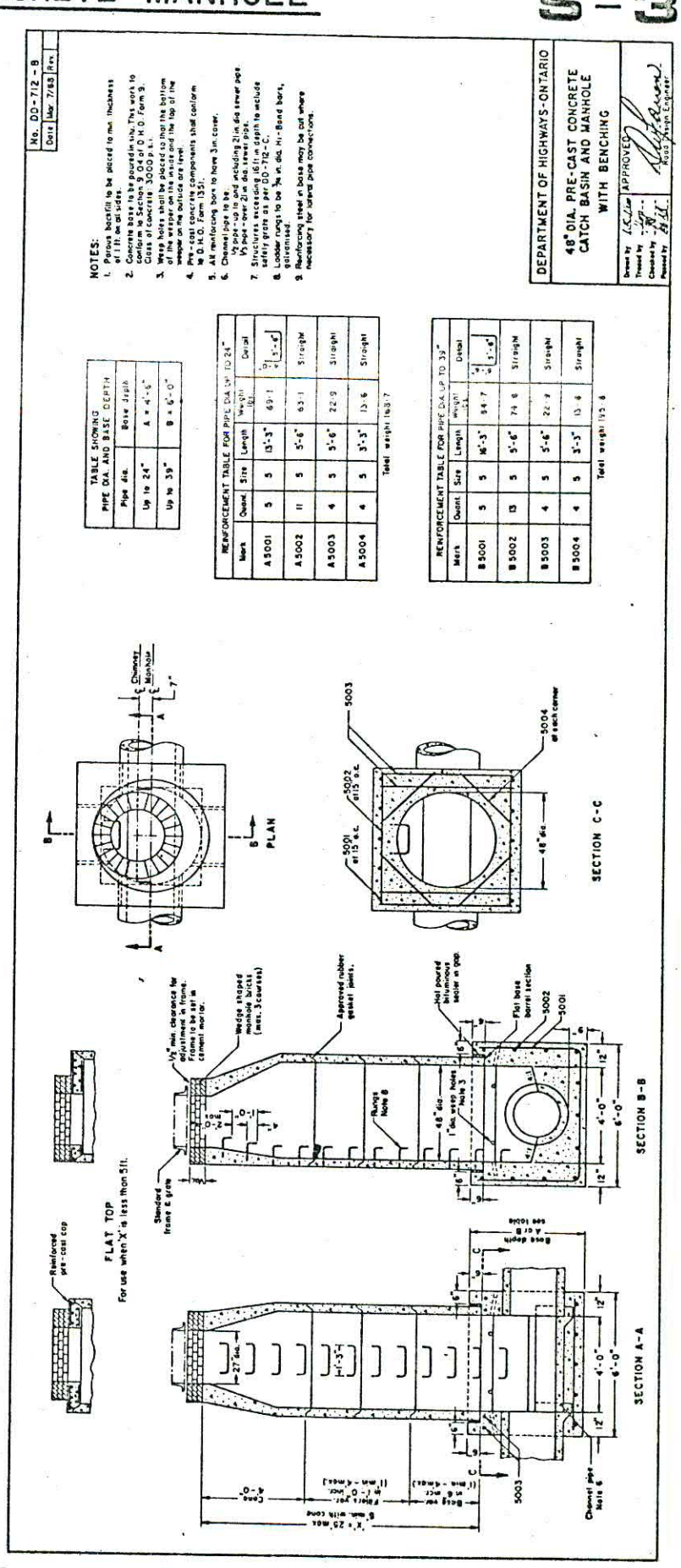
E-STD.2-8

Source: Department of Highways Standards DD-712A and DD-712B

48" DIA. PRE-CAST CONCRETE MANHOLE

S - 3

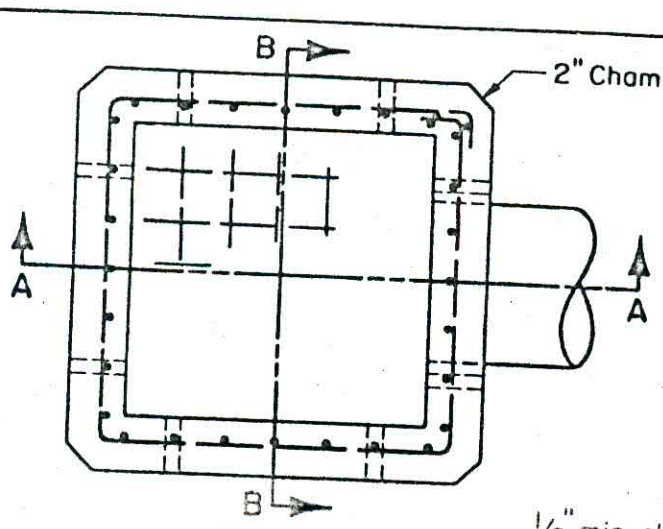




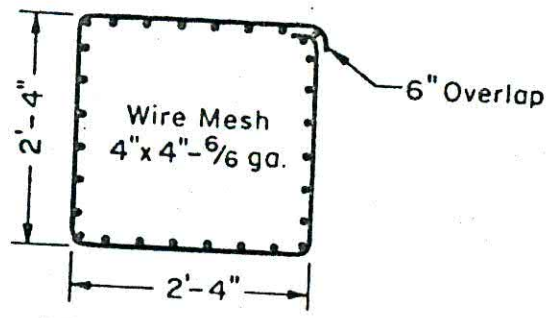
TOWN OF PELHAM STANDARD

August 13th, 1970

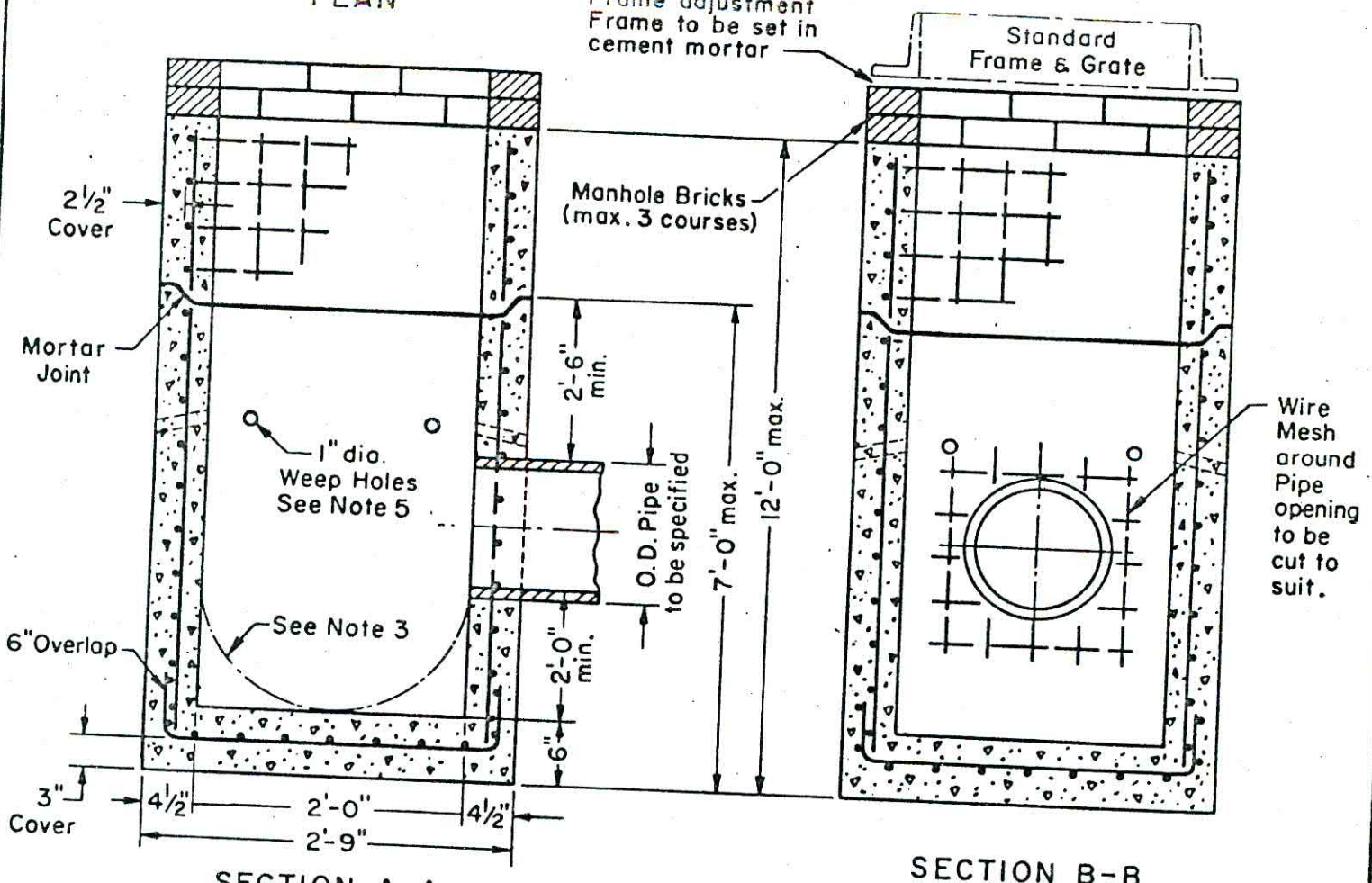
No. DD-711			
Date	Mar. 7/68	Rev.	2



PLAN



DETAIL OF CAGE



SECTION A-A

SECTION B-B
(Dimensions as Section A-A)

NOTES:

1. The catch basin is to be placed on 1' of compacted granular backfill. Porous backfill to be placed to min. thickness of 1' on all sides.
2. All concrete work to conform to Section 9·04 of D.H.O. Form 9. Class of concrete: 4000 p.s.i.
3. To permit use of collapsible forms, semi-circular bottom may be employed at Contractor's option. Lift holes, if required, shall be grouted in with cement mortar prior to placing granular backfill.
5. Weep holes shall be placed so that the bottom of the weeper on the inside and the top of the weeper on the outside are level.
6. This Standard to be read in conjunction with D.H.O. Forms 407 and 1351.

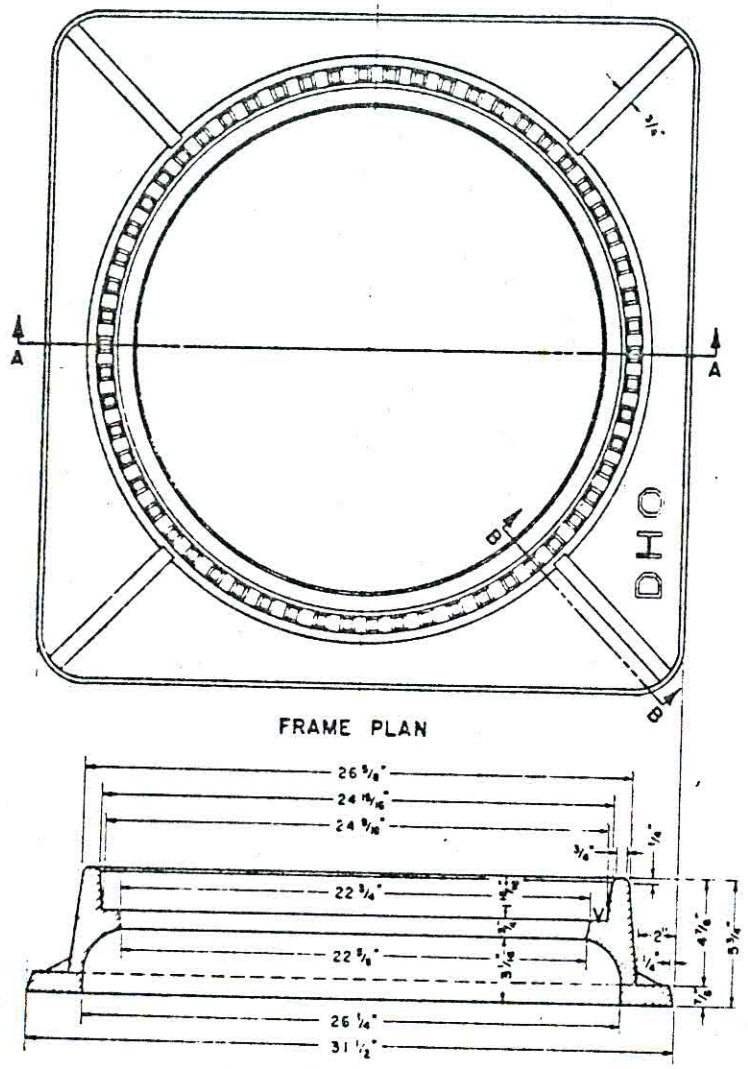
Source: Department of Highways Standard No. DD-711

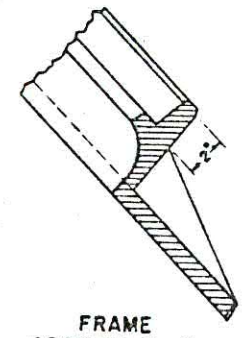
2'x 2' PRE-CAST CONCRETE CATCH BASIN DEPTH 12' MAX.

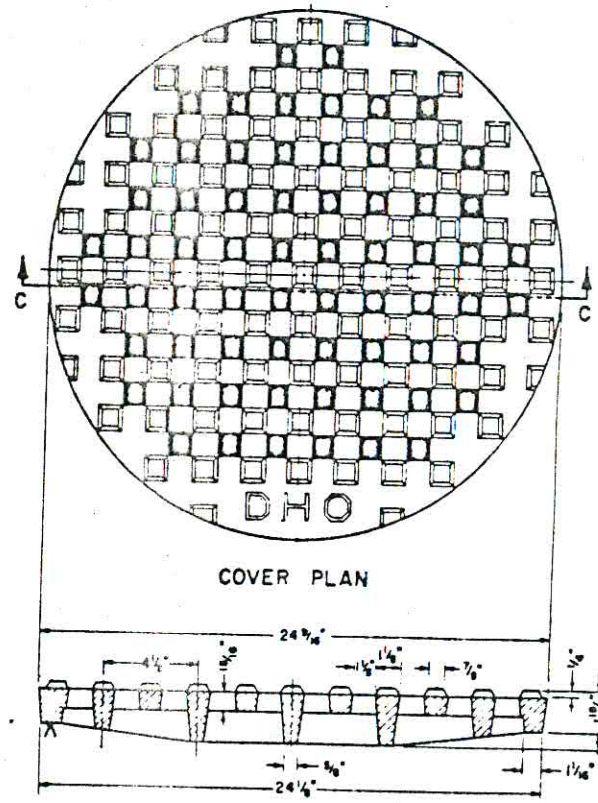
TOWN OF PELHAM STANDARD

August 13th, 1970 W. A. Goodings

No. DD-704			
Date	Nov 18/59	Rev	2







NOTES

1. Allowable tolerances:
   Dimensions 12 in or less – ± 1/8 in.
   Dimensions over 12 in up to and including 36 in – ± 1/4 in.
2. Marking:
   a. 'D.H.O.' is to be cast on both frame and grate as shown in raised letters of 1 in. minimum size.
   b. The initials or mark of the manufacturer are to be distinctly cast in raised letters on both frame and grate

DEPARTMENT OF HIGHWAYS-ONTARIO

MANHOLE COVER

APPROVED

June 21/56
Date

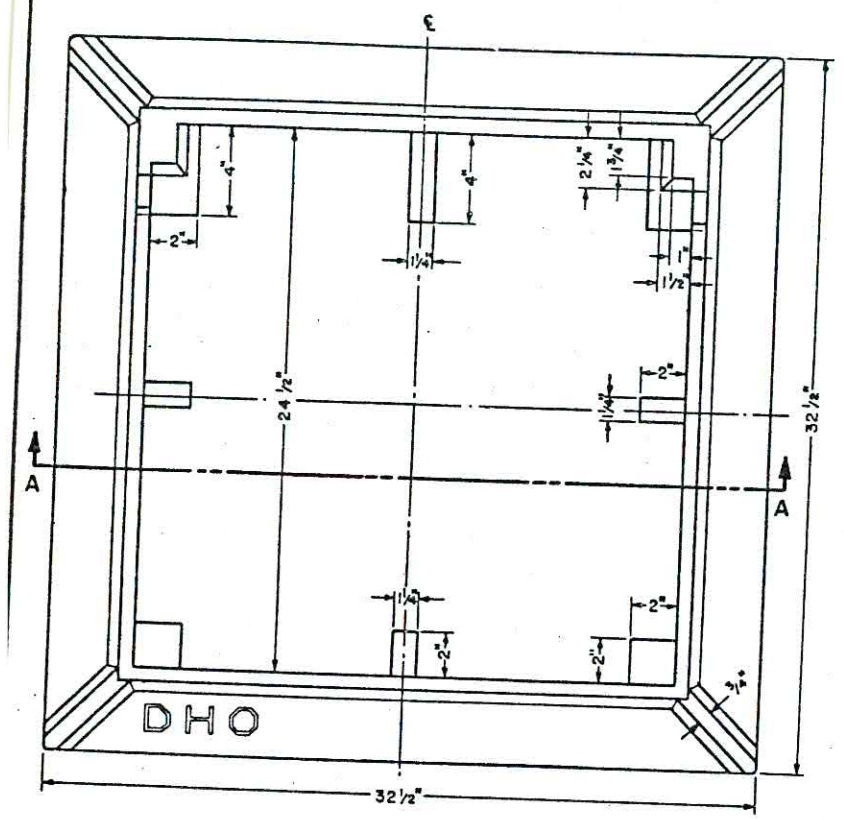
Road Design Engineer

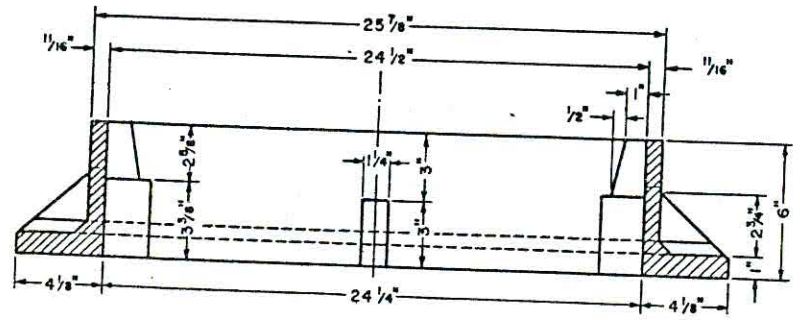
TOWN OF PELHAM STANDARD

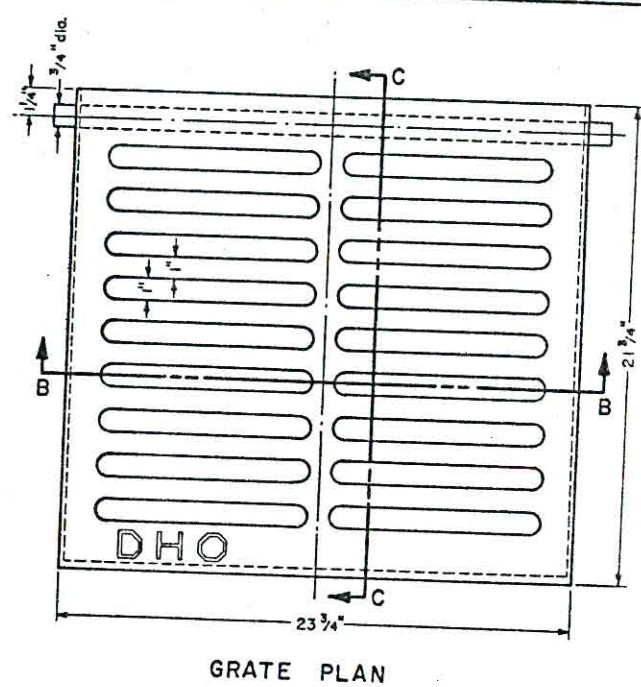
August 13th, 1970

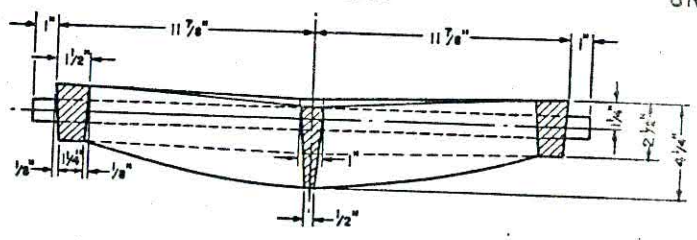
Proctor & Redfern Ltd.

Source: Department of Highways Standard No. DD-704



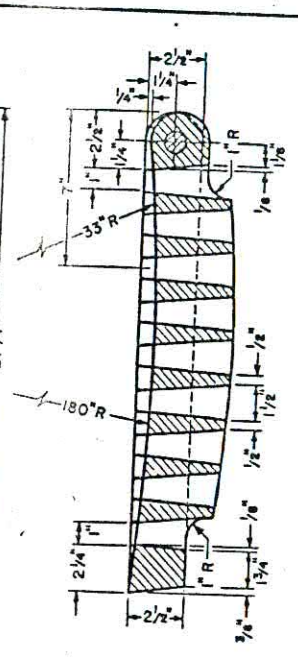


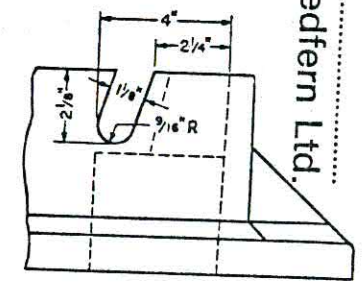




NOTES:

1. Allowable tolerances:
   Dimensions 12 in. or less — ± ⅛ in.
   Dimensions over 12 in. up to and including 36 in. — ± ¼ in.
2. Marking:
   a. D.H.O. is to be cast on both frame and grate as shown, in raised letters of 1 in. minimum size.
   b. The initials or mark of the manufacturer are to be distinctly cast in raised letters on both frame and grate.





TOWN OF PELHAM STANDARD

No. DD-713
Date June 7/67

August 13th, 1970

Proctor & Redfern Ltd.

DEPARTMENT OF HIGHWAYS-ONTARIO

DEPRESSED CATCH BASIN FRAME AND GRATE

Drawn by	S.S.
Traced by	S.S.
Checked by	
Passed by	

APPROVED
Road Design Engineer

Source: Department of Highways Standard DD-713

MAILING ADDRESS:
P. O. BOX 251
FORT ERIE, ONTARIO

PHONE 871-5831

M. J. STORM LTD.

Excavating and Grading Contractor - Top Soil and Clay Fill

1413 SPEAR RD.
(NORTH OF Q. E. WAY)
FORT ERIE, ONTARIO

August 26, 1974.

Proctor & Redfern Limited,
39 Queen Street,
St. Catharines, Ontario.

Attention: G. K. Strachan, P. Eng.

Dear Sir:

re: Contract for Municipal Services, Town of Pelham
Project EO 74166

With reference to your letter of August 22, 1974, we will proceed at this time with the Cherry-Valiant Sanitary Sewer Portion of the contract with the Town of Pelham. It is understood there will be no escalation in the Contract Unit Prices for this part.

The contract unit prices for the construction of the Water and Storm services to the Municipal Square being contingent upon the Ontario Municipal Board approval for the arena, will of course, only be in force for 60 days.

Yours truly,

M. J. STORM LIMITED.

M. J. Storm
President.

MJS/MB

The Proctor & Redfern Group

Proctor & Redfern Limited
Consulting Engineers and Planners
39 Queen Street
St Catharines, Ont. L2R 5G6 Tel: (416)682-8606

August 22, 1974 Project EO 74166

M.J. Storm Limited,
P.O. Box 251,
FORT ERIE, Ontario.

Attention: Mr. M.J. Storm

Dear Sir:

Contract for Municipal Services
Town of Pelham

This letter is to confirm our recent telephone conversation during which we stated that the Town of Pelham is in agreement with you proceeding at this time with the Cherry-Valiant Sanitary Sewer portion of this Contract.

As stated in Clause SC.08 of the Contract Documents, the construction of water and storm services to the Municipal Square is contingent upon Ontario Municipal Board approval for an arena on this site. The hearing on August 19, 1974 was adjourned and will be continued in the very near future. Until this matter is resolved, no work will be permitted on the Municipal Square portion of the work.

The agreement to proceed with the Cherry-Valiant portion of the Contract is made with the understanding that there will be no escalation in the Contract Unit Prices for work to be constructed, within the Contract, at this time or in the future. Future work must, of course, be awarded within 60 days after Tenders were received.

We would appreciate your written confirmation of the above.

Yours very truly

The Proctor and Redfern Group

G.K. Strachan, P.Eng.

GKS:tp

cc: L.C. Hunt

CONTRACT DOCUMENTS

TOWN OF PELHAM, ONTARIO

MUNICIPAL SERVICES

Project EO 74166 August 1974

PROCTOR AND REDFERN LIMITED
Consulting Engineers and Planners

39 Queen Street, St. Catharines
L2R 5G6

GKS/PM
ro

LIST OF CONTRACT DOCUMENTS

The following shall form the Contract Documents:

	Paper Colour	Number of Pages
Addenda Numbered 0 to 0	Green	
List of Contract Documents and Drawings	Pink	2
Tendering Information	Blue	3
Form of Tender	Yellow	14
Agreement	White	1
Agreement to Bond	White	1
Performance Bond (CD-2)	White	1
Labour and Material Payment Bond (CD-2B)	White	2
List of Sub-Contractors (CD-3)	White	1
Tenderer's Experience in Similar Works (CD-4)	White	1
Tenderer's Senior Staff (CD-5)	White	1
Tenderer's Plant (CD-6)	White	1
Supplementary Conditions	Blue	2
General Conditions of Contract (CD-1)	Blue	8
Project Specifications		
Section 01010 - General	White	4
Section 02550 - Site Clearing, Excavating, Backfilling and Restoration of Trenches	White	8
Section 02570 - Sanitary and Storm Sewers	White	7
Section 02570 - Watermains	White	7

Drawing No.

A-74166-P1	Municipal Square Servicing Sanitary and Storm Sewer Plan
A-74166-P2	Municipal Square Servicing Sanitary and Storm Sewer Profile
B-73388-P1	1973 Sewer Extension - Cherry Avenue Station 0+00 to Station 12+50
B-73388-P2	1973 Sewer Extension - Valiant Street Station 0+00 to Station 7+50

Standards

S-2	Bedding and Backfill
S-3	Manhole - with sump, with benching
S-4	Catchbasin - Pre-cast square
S-6	Manhole Cover
S-7	Catchbasin Frame and Grate
S-11	Sanitary Sewer Laterals
W-2	Valve Chamber
W-3	Water Service Connection
W-4	Concrete Thrust Blocks
W-5	Hydrant Assembly

The above standards are bound herein.

GENERAL CONDITIONS OF THE CONTRACT

SUBJECT INDEX

PROCTOR & REDFERN LIMITED

CONSULTING ENGINEERS

75 EGLINTON AVENUE EAST, TORONTO, ONT. M4P 1H3

Form CD-1
(Revised July 1970)

GENERAL CONDITIONS OF THE CONTRACT

1. DEFINITIONS

1. Wherever used in these General Conditions, contract documents, drawings, or any other document forming part of the Contract:

   (a) the word "CONTRACT" means: the Contract to do the work, the Bonds or Securities, the Addenda (if any), the Specifications, the General and Special Conditions, the Tendering Information, the List of Contract Documents, the Drawings, and all other documents referred to or connected with the agreement.

   (b) the word "OWNER" means the person or corporation accepting the Tender.

   (c) the word "CONTRACTOR" means the person or corporation to whom the Contract for the work has been awarded.

   (d) the word "SUBCONTRACTOR" means the person or corporation having a contract with the Contractor (or with another subcontractor) for the execution of a part or parts of the work included in the Contract, or for the supplying of material for the Contract and worked to a special design according to the plans and specifications.

   (e) the word "ENGINEER" means PROCTOR & REDFERN or PROCTOR & REDFERN LIMITED, Consulting Engineers, and their duly authorized agents.

   (f) the word "WORK" means all labour, materials and other things required to be done, that are shown, described or implied in the contract documents, and includes all extra and additional work and material that may be ordered by the Engineer.

2. DOCUMENTS

2. (a) The Contract documents shall be signed and sealed, in triplicate, by the Owner and the Contractor.

   (b) The Contract documents are complementary and what is called for by any one shall be as binding as if called for by all. The intention of the documents is to include all plant, labour and materials (except as specifically excepted) necessary for the complete and proper execution of the work.

   (c) Plans and specifications shall be read and interpreted together. Work and materials not specifically described, but obviously necessary for the satisfactory completion of the work for the purpose intended shall be supplied and performed by the Contractor as though it had been described and shown in the plans and specifications.

   (d) Reference to published standard specifications shall be to the edition current at the time of the signing of the Contract documents.

3. SUB-CONTRACTORS

3. (a) Without the written approval of the Engineer, the Contractor shall not change the subcontractors named in the Contract.

   (b) The Contractor shall be held as fully responsible to the Owner for the acts and omissions of his subcontractors (and of persons directly and indirectly employed by them) as for the acts and omissions of persons directly employed by the Contractor.

   (c) The Contractor shall bind every subcontractor to the terms of the Contract documents, as far as applicable to the subcontractor's work.

   (d) Nothing in the Contract documents shall create any contractual relation between any subcontractor and the Owner.

   (e) Any division of the specifications into sections or subsections shall be only for clarity of reading and reference, and shall not be taken to be a division into trades, sub-trades or sections of work of any kind.

4. NOTICES

4. (a) Any notice or communication to the Contractor shall be deemed to be legally well and sufficiently given and served, if:

   (i) handed to the Contractor or any of his clerks or agents, or

   (ii) posted or sent to the address given in the Tender, or,

   (iii) posted or sent to the Contractor's domicile or usual place of business, or

   (iv) posted or sent to the place where the work is, or is to be, carried on, or

   (v) posted to or left at his last known address.

(b) If the work is closed, suspended or stopped for the winter (or for any other approved reason), the Contractor shall remove all material from streets, sidewalks, boulevards and other public property.

(c) The Contractor shall ensure that the charges of explosives used, and the time at which they are exploded, shall be such as not to cause suffering, inconvenience or injury to persons nor damage to property.

(d) Explosives shall be properly housed and protected, and no explosives that have deteriorated shall be used. Approved methods of handling and thawing frozen explosives shall be followed. In blasting operations, the Contractor shall exercise the greatest care at all times.

(e) The Contractor shall provide, erect and maintain all necessary barriers, fences and other proper protection, and shall provide and maintain watchmen and lights as may be necessary to ensure the safety of the public and others. Unless otherwise specified, the Contractor shall keep all streets and sidewalks open for use by the public, for such width as the Engineer may direct. The Contractor shall provide, erect and maintain a sufficient number of detour signs, and other proper notices, wherever the use of any street or sidewalk is dangerous due to the Contractor's operations.

(f) When work is carried on at night, the Contractor shall provide, erect and operate a sufficient number of lights to enable the work to be performed satisfactorily.

11. PROSECUTION OF THE WORK

11. (a) The Contractor shall complete all the work in accordance with a schedule set down in co-operation with the Engineer at the time of the award of the Contract. Amendments to this schedule may be made by the Engineer, on application by the Contractor.

(b) Should the Engineer be of the opinion that the quantity or quality of labour or plant supplied by the Contractor is not sufficient, or that the methods being employed are not such as will ensure that the work will be completed within the specified time, the Contractor shall forthwith improve the quality and increase the number of men employed, shall make revisions to the plant, and shall employ work methods satisfactory to the Engineer.

(c) Should the Contractor leave the site of the work (either permanently or temporarily), he shall provide and leave a competent and reliable agent or superintendent in charge. Such person shall act in place of the Contractor.

12. OPERATIONAL RISKS

12. (a) All damage, loss, expense and delay incurred or experienced by the Contractor in the prosecution of the work, by reason of unanticipated difficulties, bad weather, strikes, wars, acts of God, or other mischances, shall be borne by the Contractor and shall not be the subject of a claim for additional compensation.

(b) The position of pole lines, conduits, watermains, sewers and other underground and overground utilities and structures is not necessarily shown on the Contract drawings, and, where shown, the accuracy of the position of such utilities and structures is not guaranteed. Before starting work, the Contractor shall inform himself of the exact location of all such utilities and structures, and shall assume all liability for damage to them. Unless otherwise specified, the Contractor shall support all such utilities and structures, or temporarily remove them, and restore them, to the satisfaction of the owners of the utilities and structures.

13. WORKMANSHIP AND MATERIALS

13. (a) All workmanship shall be first-class and material new and of best quality, all to the approval of the Engineer. The Contractor shall pay due regard to the neat and attractive appearance of the finished work.

(b) If ordered by the Engineer, the Contractor shall make such openings in the work as are needed to re-examine the work, and shall forthwith make the work good again. Should the Engineer find the work so opened up to be faulty in any respect, the whole of the expense of opening, inspecting and making good shall be borne by the Contractor. Should the Engineer find the work opened up to be in an acceptable condition, such expense will be borne by the Owner.

(c) The Contractor shall remove and make good all defective work and materials, and the entire cost of such removal and making good shall be borne by the Contractor.

20. (a) The Engineer will make such decisions as are necessary with respect to: **20. THE ENGINEER**

(i) Discrepancies in the Contract documents, or

(ii) Differences of opinion or misunderstanding that may arise as to the meaning of the Contract, or

(iii) Omissions or misstatements in the Contract documents, or

(iv) Quality, dimensions and sufficiency of plant, materials or work, or

(v) The due and proper execution of the work, or

(vi) The measurement, quantity or valuation of the work, including additional work and deductions, or

(vii) Any other questions or matters arising out of the Contract.

The Engineer's decision as to any matter referred to in this clause shall be binding upon the parties concerned.

(b) When the Engineer makes a decision under this clause, the Contractor shall immediately proceed with all work affected by the decision. Additions to or deductions from the Contract price shall be made only as provided for in the Contract, and no revisions to the completion time shall be made, unless approved by the Engineer.

(c) The Engineer may at all reasonable times visit, enter and make inspections at any building, factory, workshop, work or site wherever materials are being prepared, made or treated, or where other work is being done in connection with the Contract. The Engineer may also take such samples as he may consider necessary.

21. (a) Shop drawings will be examined only to check conformance with the design concept of the project and compliance with the Contract Documents. **21. SHOP DRAWINGS**

(b) Where the Engineer requires shop and setting drawings, the Contractor shall submit them in sufficient time to allow for examination by the Engineer and for any corrections that he may require to be made. The Contractor shall not commence work on items covered by shop drawings (where such drawings have been requested) before the Engineer's approval.

(c) The Contractor shall make changes in shop and setting drawings as the Engineer requires consistent with the Contract and shall submit revised prints to the Engineer. When submitting shop and setting drawings, the Contractor shall notify the Engineer of every change made from the Contract Documents.

(d) Approval of shop drawings by the Engineer shall not relieve the Contractor from compliance with requirements of the Contract Drawings and Specifications, nor relieve him of responsibility for errors made in the shop drawings.

(e) The Contractor shall be responsible for confirming and correlating quantities and dimensions; selecting fabrication processes and techniques of construction; and co-ordinating the work of all trades.

22. All Contract documents, including all drawings, specifications, models and similar items supplied by the Engineer are his property. Such documents are not to be used on other work and, with the exception of the signed Contract documents, shall be returned by the Contractor to the Engineer on the completion of the work. **22. OWNERSHIP OF DOCUMENTS**

23. The Contractor shall assume the defence of and shall indemnify and save harmless the Owner from all claims: **23. LIABILITY**

(a) resulting from the prosecution of the work, or

(b) resulting from any of the Contractor's operations, or

(c) caused by reason of the existence, location or condition of the work, or

(d) caused by reason of any material, plant or labour used in the work, or

(e) arising from any act of commission or omission on the part of the Contractor, or

(f) relating to inventions, copyrights, trademarks, patents (and rights to them) used in doing the work, or in the use and operation of work on completion, unless otherwise specified.

30. The Engineer may prohibit the Contractor from carrying on operations during any hour or hours of the day in which the Engineer, in his judgment, deems such operations to be a disturbance or nuisance to the public.

30. HOURS OF WORK

Such prohibition may be made notwithstanding any prior consent, order, agreement or requirement in the Contract that stipulates maximum or minimum hours of work.

31. (a) At monthly intervals, the Contractor and the Engineer shall make a valuation of the work constructed and material supplied under the Contract. Should the Engineer wish to measure any of the work or material, the Contractor shall assist in such measurements and furnish all particulars required.

31. VALUATION

(b) The monthly valuations described in subsection (a) above shall not bind the Owner, the Contractor or the Engineer to any final valuation of the work to be done under the Contract, but shall be construed as approximations only for the purpose of Progress Certificates.

(c) The final valuation of the work shall be prepared as soon as possible after the whole of the works has been completed.

32. The Contractor shall be entitled to receive partial payments upon the certificate of the Engineer of the value of work done and materials supplied.

32. PROGRESS CERTIFICATES

Unless otherwise specified, eighty-five per cent (85%) of the estimated value of the completed work and material supplied will be certified, less any amounts retained under Clause 35.

For Progress Certificates, the Engineer's decision as to the estimated value of completed work and material supplied shall be final, but shall not be binding on him, the Contractor or the Owner in the establishing of the final value of the work, nor shall it be taken as evidence as to ownership of, or payment for the work.

33. (a) When the work required to be done under the Contract has been completed in every respect and is acceptable to the Engineer, a final valuation of the Contract will be prepared by the Contractor and the Engineer.

33. ACCEPTANCE CERTIFICATE

(b) The Contractor shall submit to the Engineer a statement indicating the Contractor's valuation of the work according to records available to the Contractor. The Engineer will review this statement and either approve it or submit detail reasons for revisions that, in his opinion, should be made.

(c) Should the Engineer consider it advisable, the Engineer will prepare a final valuation of the work and submit it to the Contractor who shall either approve it or submit detail reasons for revisions that, in his opinion, should be made.

(d) When the Engineer and Contractor have reached agreement as to the final value of the work, the Engineer will issue an Acceptance Certificate, detailing the valuation of the Contract, and certifying its acceptance at a certain specific date, referred to as the "acceptance date."

(e) Should the Engineer and Contractor be unable to reach agreement as to the final value of the work within a reasonable period, the Engineer will issue his Acceptance Certificate detailing his valuation of the Contract and certifying acceptance of the work at a certain specific date, referred to as the "acceptance date."

34. Holdbacks held under the provision of the Mechanics' Lien Act will be released upon application by the Contractor, and will be subject to the requirements of the Act. The Contractor's applications shall be made in the forms included as Appendices 1 and 2 to these General Conditions.

34. SUBSTANTIAL COMPLETION AND HOLDBACK RELEASE

35. As well as monies held back as required by Provincial Statutes, the Owner may retain a percentage of the value of the completed work under terms set out in the Special Conditions of Contract.

35. PAYMENTS

36. Provided all the provisions of the Contract have been fully met, the Engineer will issue a Final Payment Certificate one year after the acceptance date, unless otherwise specified. The Final Payment Certificate will entitle the Contractor to receive the full amount due under the Contract.

36. FINAL PAYMENT CERTIFICATE

APPENDIX 1 OF THE GENERAL CONDITIONS OF THE CONTRACT

APPLICATION FOR RELEASE OF SUBCONTRACTOR'S HOLDBACK

Owner:

Project:

EO: Contractor:

Subcontract:

Subcontractor:

1. We, the said subcontractor hereby confirm that the work under the said subcontract was completed on , that the subcontract price was $, and hereby request the issue of a certificate that such subcontract work has been completed.

Date:_____ Signature:_____

SEAL:

2. We, the said contractor hereby confirm that the work of the above subcontract has been completed in accordance with the specifications and that the subcontract price was $, and hereby apply for a reduction in holdback with respect to the subcontract, all in accordance with the provisions of the Mechanics' Lien Act.

Date:_____ Signature:_____

SEAL:

APPENDIX 2 OF THE GENERAL CONDITIONS OF THE CONTRACT

APPLICATION FOR RELEASE OF CONTRACTOR'S HOLDBACK

Owner:

Project:

EO: Contractor:

We, the said Contractor,
hereby confirm:

(i) that the work under the above contract is "substantially complete" as defined in the Mechanics' Lien Act, and

(ii) that there are no outstanding liens, garnishees, attachments or other charges affecting the work, and

(iii) that the value of work done to the date of substantial completion is $ and

(iv) that the value of work remaining to be done is $.

and hereby apply for release of holdback monies in accordance with the provisions of the Mechanics' Lien Act.

Date:_____ Signature:_____

SEAL:

PROCTOR & REDFERN LIMITED
Consulting Engineers

July, 1970

TENDERING INFORMATION

TI.01 DELIVERY AND OPENING OF TENDERS

A. Sealed tenders, marked with the name of the project, will be received by

Mr. L.C. Hunt
Clerk-Treasurer
Town of Pelham
P.O. Box 400
Fonthill, Ontario
L0S 1E0

up to Noon, Local Time - WEDNESDAY, AUGUST 7th, 1974.

B. The tenders will be opened publicly as soon after the closing time as possible.

C. Tenders shall be made on the Form of Tender which shall not be detached from the other documents.

TI.02 DISCREPANCIES

A. If a Tenderer finds discrepancies in, or omissions from the contract documents, or if he is in doubt as to their meaning, he shall notify the Engineer, who may issue a written addendum. Neither the Owner nor the Engineer will make oral interpretations of the meaning of the contract documents.

B. Addenda issued during the tendering period shall be allowed for by the Tenderer.

TI.03 EXAMINATION OF SITE

A. The Tenderer shall visit the site of the work before submitting his tender and shall, by personal examination, satisfy himself as to the local conditions that may be encountered during construction of the work. He shall make his own estimate of the facilities and difficulties that may be encountered and the nature of the subsurface materials and conditions.

B. He shall not claim at any time after submission of his tender that there was any misunderstanding of the terms and conditions of the contract relating to site conditions.

TI.04 PROVINCIAL SALES TAX

A. All prices shall exclude Provincial Sales Tax on all materials to be incorporated into the work, except for ready-mix concrete, and hot and cold asphaltic mix.

Except as noted above, the Contractor will be required to obtain a special permit from the Retail Sales Tax Branch and may purchase materials exempt from Provincial Sales Tax by supplying with his orders, a purchase exemption certificate. This procedure shall comply with Ruling 21 of the Retail Sales Tax Branch.

The Contractor may be required to submit to the Owner, statements certifying quantities and strength of ready-mix and hot and cold asphaltic mix, so that the Owner may apply for refund of taxes.

TI.05 FEDERAL SALES TAX

A. All prices tendered for the work shall exclude Federal Sales Tax on material and equipment to be incorporated into the work.

The Contractor may be required to pay Federal Sales Tax on purchases of material and equipment to be incorporated into the work but can recover such tax by application to the Federal Excise Division. Should the Contractor's claim for refund be disallowed by the Excise Division, the Owner will pay to the Contractor a sum equal to the disallowed amount.

TI.06 PROOF OF ABILITY

A. The Tenderer shall be competent and capable of performing the various items of work. The Tenderer shall complete the following statement sheets, which shall form a part of the contract documents:

1. Tenderer's Experience
2. Machinery and plant to be used
3. Tenderer's senior staff.

TI.07 TENDER DEPOSIT

A. Every Tender shall be accompanied by a Bid Bond (or certified cheque) in an amount equal to $12,000.00 made out to the Town of Pelham.

TI.08 SUB-CONTRACTORS

A. The Tenderer shall submit with his tender the names and address of sub-contractors he proposes to use for the sub-trades listed in Form CD-3 'List of Sub-Contractors'.

TI.09 ACCEPTANCE OF TENDERS

A. The lowest or any tender need not necessarily be accepted by the Owner.

TI.10 AGREEMENT TO BOND

A. Every tender shall be accompanied by an 'Agreement to Bond' in the form attached, and shall be completed by a surety company lawfully doing business in the province.

TI.11 EQUIVALENTS

A. When an article is specified by its trade or other name (whether such name is followed by the phrase 'or approved equal' or not), the Tenderer shall base his tender price on the supply of the named article and no other.

After award of the Contract, the Contractor may submit requests to the Engineer for substitution of equivalent material. Such submissions shall be accompanied by complete information on the material proposed for use, together with revisions of cost that would result.

The Contractor shall submit requests for substitution within three weeks of the award of the Contract.

FORM OF TENDER

FT.01 TENDER PRICE

A. Offer by: Name - M.J. Storm Limited

Address - P.O. Box 251, FORT ERIE, Ontario

Date - August 1, 1974

B. To The Corporation of the Town of Pelham.

1. We, the undersigned, having examined the site of the work, having carefully investigated the conditions pertaining to the work and having secured all the information necessary to enable us to submit a bona fide tender, and having inspected all the Contract Documents, hereby agree to enter into a Contract and to perform all the work in a good and workmanlike manner in accordance with the Contract Documents to the satisfaction of the Engineer for the total tender price of - Ninety-Six Thousand, Seven Hundred and Seventy-One Dollars and Sixty-Nine Cents Dollars ($ 96,771.69)

FT.02 CONTINGENCIES AND ALLOWANCES

A. We agree that the tender price includes the contingency sum of $6,000.00 and that no part of this sum shall be expended without the written direction of the Engineer, and any part not so expended shall be deducted from the tender price.

FT.03 QUANTITIES

A. The tender price is compiled from the Schedule of Tender Prices included hereinafter. The quantities in the Schedule be approximate, we agree that the final valuation will be made on the basis of actual quantities measured during and on completion of the work at the prices in the Schedule.

FT.04 ADDITION AND DEDUCTIONS

A. We agree that the valuation of additions to, and deductions from the Contract shall be made as follows:

FT.04 ADDITION AND DEDUCTIONS (Continued)

A. (Continued) ....

1. The prices in the Schedule of Tender Prices shall apply where appropriate.

2. If the prices in the Schedule of Tender Prices are not appropriate, the prices in the Table of Prices shall apply where appropriate.

3. If the prices in Subsections 1 and 2 are not appropriate, valuation will be made by one of the following methods:

   (A) The Engineer may ask the Contractor for a quotation for the proposed work.

   (B) If the quotation referred to in (A) above is not accepted by the Engineer, the actual cost of the work will be determined as the total of only the following:

      (1) Actual cost of labour, including such items as Workmen's Compensation and Unemployment Insurance.

      (2) Actual cost of materials to be incorporated into the work, including such items as freight and taxes.

      (3) For the work done by the Contractor, an amount equal to 15 percent of the totals from Sub-sections (1) and (2) above, which shall constitute overhead and profit of the Contractor.

      (4) For work done by sub-contractors, an amount equal to 20 percent of the totals from sub-section (1) and (2) above, which shall constitute overhead and profit of the Contractor and Sub-Contractors.

      (5) Rental of equipment and plant having a new value greater than $300. Rental rates shall be as set out in the current edition of MTC Form 527.

4. Whenever extra work is being performed under subsection 3(b) above, we agree to submit daily reports in writing, indicating the total chargable costs incurred for the day. Valuation of the extra work being so performed will be made only on the basis of the approved daily reports.

FT.05 ADDENDA

A. We agree that we have received addenda 0 to 0 inclusive, and the Tender Price includes the provisions set out in such addenda.

FT.06 COMPLETION

A. We agree to commence work as specified, to proceed continuously to the completion and to complete all work within ____ weeks from the date of issue of the written order to start work.

FT.07 SCHEDULE OF TENDER PRICES

A. This Schedule is referred to above in Part 3.

Item No.	Description	Unit	Quantity	Unit Price	TOTAL PRICE
	SECTION A - MUNICIPAL SQUARE SERVICES				
1.	SANITARY SEWERS The Tenderer's unit prices bid shall include all necessary excavation, Class 'B' bedding, supply and installation of specified pipe, connection to manholes and backfill as specified.				
(a)	8" AC Pipe (Class 1500) Manhole 1 to Manhole 2	Lin.Ft.	300	$ 10.08	$ 3,024.00
(b)	8" AC Pipe (Class 1500) Manhole 2 to Manhole 3	Lin.Ft.	265	$ 8.69	$ 2,302.85
(c)	8" AC Pipe (Class 1500) Manhole 3 to Manhole 4	Lin.Ft.	265	$ 8.29	$ 2,196.85
(d)	8" AC Pipe (Class 1500) Manhole 4 to Manhole 5	Lin.Ft.	317	$ 9.11	$ 2,887.87
				Sub Total Forward	$ 10,411.57

Item No.	Description	Unit	Quantity	Unit Price	TOTAL PRICE
				FORWARD	$ 10,411.57
(e)	8" AC Pipe (Class 1500) Manhole 5 to Manhole 6	Lin.Ft.	160	$ 9.11	$ 1,457.60
(f)	8" AC Pipe (Class 2400) Manhole 6 to Manhole 7	Lin.Ft.	275	$ 9.44	$ 2,596.00
(g)	8" AC Pipe (Class 2400) Manhole 7 to Manhole 8	Lin.Ft.	135	$ 12.10	$ 1,633.50
(h)	6" AC Pipe (Class 1500) From Municipal Building to Manhole 8	Lin.Ft.	100	$ 10.72	$ 1,072.00
(i)	6" AC Pipe (Class 2400) From South Wall of Arena to Manhole 8	Lin.Ft.	63	$ 11.51	$ 725.13
				Total for Item 1 Sanitary Sewers	$ 17,895.80
2.	SANITARY MANHOLES				
	48-inch diameter pre-cast concrete standard manholes (Drawing S-3) Lump sum price includes all necessary excavation and supply and place all materials including frame and cover, ladder rungs and benching.				
(a)	Manhole 1 (approximate depth 10.0')			Lump Sum	$ 580.05
(b)	Manhole 2 (approximate depth 6.0')			Lump Sum	$ 445.45
(c)	Manhole 3 (approximate depth 6.0')			Lump Sum	$ 419.47
(d)	Manhole 4 (approximate depth 7.0')			Lump Sum	$ 458.37
(e)	Manhole 5 (approximate depth 9.0')			Lump Sum	$ 536.18
				Sub-Total Forward	$ 2,439.52

Item No.	Description	Unit	Quantity	Unit Price	TOTAL PRICE
				FORWARD	$ 2,439.52
2.	SANITARY MANHOLES (continued)				
(f)	Manhole 6 (approximate depth 7.0')			Lump Sum	$ 458.37
(g)	Manhole 7 (approximate depth 9.0')			Lump Sum	$ 536.18
(h)	Manhole 8 (approximate depth 12.0')			Lump Sum	$ 657.86
	Total for Item 2 - Sanitary Manholes				$ 4,091.93
3.	STORM SEWERS				
	The Tenderer's unit prices bid shall include all necessary excavation, Class 'B' bedding, supply and installation of specified pipe, connections to manholes and backfill as specified.				
(a)	27" Mortar Joint Concrete Pipe C-76II (Catchbasin Manhole A to Outlet)	Lin.Ft.	443	$ 14.63	$ 6,481.09
(b)	24" Mortar Joint Concrete Pipe C-76II (Catchbasin Manhole A to catchbasin manhole B)	Lin.Ft.	48	$ 14.23	$ 683.04
(c)	24" Mortar Joint Concrete Pipe C-76II (Catchbasin Manhole B to Catchbasin Manhole C)	Lin.Ft.	80	$ 14.23	$ 1,138.40
	Sub-Total Forward				$ 8,302.53

Item No.	Description	Unit	Quantity	Unit Price	TOTAL PRICE
3.	STORM SEWERS (continued)			FORWARD	$ 8,302.53
(d)	24" Mortar Joint Concrete Pipe C-76II (Catchbasins Manhole C to Manhole D)	Lin.Ft.	140	$ 14.53	$ 2,034.20
(e)	24" dia. Mortar Joint Concrete Pipe C-76II (Manhole D to C.B.M.H. 1)	Lin.Ft.	147	$ 16.33	$ 2,400.51
(f)	21" dia. Mortar Joint Concrete Pipe C-76III (CBMH 1 to CBMH 6)	Lin.Ft.	30	$ 16.55	$ 496.50
(g)	21" dia. Mortar Joint Concrete Pipe C-76III (CBMH 6 to CBMH 9)	Lin.Ft.	61	$ 16.55	$ 1,009.55
(h)	21" dia. Mortar Joint Concrete Pipe C-76III (CBMN 9 to CBMH 10)	Lin.Ft.	90	$ 18.05	$ 1,624.50
(i)	21" dia. Mortar Joint Concrete Pipe C-76II (CBMH 10 to CBMH 11)	Lin.Ft.	57	$ 15.65	$ 892.05
(j)	15" dia. Mortar Joint Concrete Pipe (C-14-ES (CBMH 11 to Catchbasin 12)	Lin.Ft.	80	$ 12.08	$ 966.40
(k)	15" dia. Mortar Joint Concrete Pipe C-14-ES (CBMH 1 to Catchbasin 2)	Lin.Ft.	58	$ 10.41	$ 603.78
(l)	15" dia. Mortar Joint Concrete Pipe C-14-ES (Catchbasin 2 to Catchbasin 3)	Lin.Ft.	60	$ 11.25	$ 675.00
(m)	12" dia. Mortar Joint Concrete Pipe C-14-ES (Catchbasin 2 to Catchbasin 4)	Lin.Ft.	65	$ 8.58	$ 557.70
				Sub-Total Forward	$ 19,562.72

Item No.	Description	Unit	Quantity	Unit Price	TOTAL PRICE
3.	STORM SEWERS (continued)			FORWARD	$ 19,562.72
(n)	12" dia. Mortar Joint Concrete Pipe C-14-ES (Catchbasin 4 to Catchbasin 5)	Lin.Ft.	60	$ 8.58	$ 514.80
(o)	10" dia. Mortar Joint Concrete Pipe C-14-ES (Arena Building to proposed 21" concrete pipe)	Lin.Ft.	33	$ 11.86	$ 391.38
(p)	12" dia. Mortar Joint Concrete Pipe C-14-ES (CBMH 6 to Catchbasin 7)	Lin.Ft.	48	$ 13.21	$ 634.08
(q)	12" dia. Mortar Joint Concrete Pipe C-14-ES (Catchbasin 7 to Catchbasin 8)	Lin.Ft.	235	$ 11.55	$ 2,714.25
(r)	12" dia. Mortar Joint Concrete Pipe C-14-ES (CBMH 12 to Catchbasin 13)	Lin.Ft.	64	$ 9.88	$ 632.32
(s)	12" dia. Mortar Joint Concrete Pipe C-14-ES (CBMH 12 to Catchbasin 14)	Lin.Ft.	95	$ 8.25	$ 783.75
(t)	12" dia. Mortar Joint Concrete Pipe C-14-ES (Catchbasin 14 to Catchbasin 15)	Lin.Ft.	63	$ 8.10	$ 510.30
	Total for Item 3 - Storm Sewers				$ 25,743.60
4.	STORM MANHOLES				
	48-inch diameter pre-cast concrete standard manholes (Dwg. S-3) Lump sum price includes all necessary excavation and supply and place all materials including frame and cover or grate, ladder rungs and benching.				

Item No.	Description	Unit	Quantity	Unit Price	TOTAL PRICE
4.	STORM MANHOLES (continued)			FORWARD	$
(a)	Catchbasin Manhole A (approx. depth 10.5')			Lump Sum	$ 702.17
(b)	Catchbasin Manhole B (approx. depth 6.5')			Lump Sum	$ 541.58
(c)	Catchbasin Manhole C (approx. depth 6.0')			Lump Sum	$ 522.13
(d)	Catchbasin Manhole 1 (approx. depth 10.5')			Lump Sum	$ 702.17
(e)	Catchbasin 2 (approx. depth 8.0')			Lump Sum	$ 355.80
(f)	Catchbasin 3 (approx. depth 8.0')			Lump Sum	$ 355.80
(g)	Catchbasin 4 (approx. depth 7.5')			Lump Sum	$ 342.00
(h)	Catchbasin 5 (approx. depth 6.0')			Lump Sum	$ 300.58
(i)	Catchbasin 6 (approx. depth 12.0')			Lump Sum	$ 760.53
(j)	Catchbasin 7 (approx. depth 7.0')			Lump Sum	$ 328.20
(k)	Catchbasin 8 (approx. depth 6.0')			Lump Sum	$ 300.58
(l)	Catchbasin Manhole 9 (approx. depth 12.5')			Lump Sum	$ 784.95
(m)	Catchbasin 10 (approx. depth 13.5')			Lump Sum	$ 823.86
(n)	Catchbasin Manhole 11 (approx. depth 7.5')			Lump Sum	$ 585.46
				Sub-Total Forward	$ 7,405.81

Item No.	Description	Unit	Quantity	Unit Price	TOTAL PRICE
4.	STORM MANHOLES (continued)			FORWARD	$ 7,405.81
(o)	Catchbasin Manhole 12 (approximate depth 6.0')			Lump Sum	$ 522.14
(p)	Catchbasin 13 (approximate depth 6.0')			Lump Sum	$ 300.58
(q)	Catchbasin 14 (approximate depth 5.5')			Lump Sum	$ 286.78
(r)	Catchbasin 15 (approximate depth 5.5')			Lump Sum	$ 286.78
(s)	Manhole D (approximate Depth 7.0')			Lump Sum	$ 531.90
	Total for Item 4 - Storm Manholes				$ 9,333.99
5.	WATERMAINS				
	For items (a) and (b) the Tenderer's unit prices shall include connection to existing main, all necessary excavation, fittings, plugs, concrete thrust blocks, Class 'B' bedding and specified backfill as shown on Standard Drawing W--2, W-3, and W--4.				
(a)	Supply and place 6" Asbestos Cement water-main Class 200	Lin.Ft.	370	$ 7.68	$ 2,841.60
(b)	Supply and place 4" Asbestos Cement water-main Class 200	Lin.Ft.	24	$ 10.04	$ 240.96
(c)	Supply and install 4" gate valve and cast iron valve box complete	Each	1	$ 205.77	$ 205.77
	Sub-Total Forward				$ 3,288.33

Item No.	Description	Unit	Quantity	Unit Price	TOTAL PRICE
5.	WATERMAINS (continued)			FORWARD	$ 3,288.33
(d)	Supply and install hydrant including tee off main, secondary valves, bedding and thrust blocks as shown on Standard Dwg. W-5.	Each	1	$1,072.31	$ 1,072.31
	Total for Item 5 - Watermains				$ 4,360.64
6.	End Section on Storm Sewers including grading as shown on Drawing A-74166-P1			Lump Sum	$ 225.00

Item No.	Description	Unit	Quantity	Unit Price	TOTAL PRICE

SECTION B - CHERRY-VALIANT SEWERS

NOTE: For Items 1 to 6 inclusive, the unit bid price per lineal foot shall include the following:

Supply and installation of sanitary sewer pipe, all necessary excavation, connection, Class 'B' bedding, backfill with selected compacted native soil and 12-inch granular 'A' topping as shown in the drawing. Restore road, driveway and lawns to original condition (lawns by sodding) (DHO 314, 406 and Project Specifications)

Item No.	Description	Unit	Quantity	Unit Price	TOTAL PRICE
1.	8-inch diameter AC Class 1500 from existing sewer plug at Cherry Avenue to Manhol 1 (Dwg. B-73388-P1)	Lin.Ft.	128	$ 13.10	$ 1,676.80
2.	8-inch diameter AC Class 1500 from Manhole 2 to Manhole 3 (Dwg B-73388-P1)	Lin.Ft.	160	$ 12.78	$ 2,044.80
3.	8-inch diameter AC Class 1500 from Manhole 2 to Manhole 3 (Dwg. B-73388-P1)	Lin.Ft.	278	$ 13.10	$ 3,641.80
4.	8-inch diameter AC Class 1500 from existing 8" sewer plug at Valiant St. to Manhole 4 (Dwg.B-73388-P2)	Lin.Ft.	300	$ 13.68	$ 4,104.00
				Sub-Total Forward	$ 11,467.40

Item No.	Description	Unit	Quantity	Unit Price	TOTAL PRICE
				FORWARD	$ 11,467.40
5.	8-inch dia. AC Class 1500 from Manhole 4 to Manhole 5 (Dwg.B-73388-P2)	Lin.Ft.	345	$ 15.47	$ 5,337.15
6.	5-inch dia. AC Class 1500 sanitary sewer lateral to property line. Rate to include 2"x2" wooden marker stakes	Lin.Ft.	700	$ 8.03	$ 5,621.00
7.	48-inch dia. pre-cast concrete standard sanitary manholes (Dwg. S-3) including all necessary earth excavation, aluminum ladder rungs, manhole frame and cover, benching, 12 inches of granular 'A' topping and restoration of surface to original condition				
	a). Manhole No. 1 (approx. depth 12.5') Drawing B-73388-P1	Lump Sum		$	700.47
	b). Manhole No. 2 (approx. depth 9.5') Drawing B-73388-P1	Lump Sum		$	583.76
	c). Manhole No. 3 (approx. depth. 10.0') Drawing B-73388-P1	Lump Sum		$	603.21
	d). Manhole No. 4 (approx. depth. 12.5') Drawing B-73388-P2	Lump Sum		$	700.47
	e). Manhole No. 5 (approx. depth 12.5') Drawing B-73388-P2	Lump Sum		$	700.47
		Sub-Total Forward			$ 25,713.93

Item No.	Description	Unit	Quantity	Unit Price	TOTAL PRICE
				FORWARD	$ 25,713.93
8.	Surface treatment, including preparation as specified, on travelled roadways (Cherry - Valiant). Work to be carried out in the Spring of 1975	Sq.Yd.	3,340	$ 1.02	$ 3,406.80
				Total for Section B - Cherry-Valiant Sewers	$ 29,120.73
9.	Contingency Allowance			Lump Sum	$ 6,000.00

SUMMARY

Section A - Municipal Square Services

Item 1 -	Sanitary Sewers	$ 17,895.80
Item 2 -	Sanitary Manholes	$ 4,091.93
Item 3 -	Storm Sewers	$ 25,743.60
Item 4 -	Storm Manholes	$ 9,333.99
Item 5 -	Watermains	$ 4,360.64
Item 6 -	End Section	$ 225.00

Total Section 'A'	$ 61,650.96
Section B - Cherry-Valiant Sewers	$ 29,120.73
Contengency Allowance	$ 6,000.00
TOTAL CONTRACT PRICE BID	$ 96,771.69

TOTAL CONTRACT PRICE BID $ 96,771.69

OFFERED ON BEHALF
OF THE CONTRACTOR

W J Storm
Signature

Contractor's Seal

Signature

L. L Green
Witness

M.J. Storm Limited
Company Name

P.O. Box 251
FORT ERIE, Ontario
Address

August 1, 1974
Date

Proctor & Redfern Limited
Project EO 74166

TOWN OF PELHAM, ONTARIO

MUNICIPAL SERVICES

AGREEMENT

This Agreement made in triplicate this 22nd day of August , 1974 between

M.J. Storm Limited hereinafter called 'The Contractor'

AND

The Town of Pelham hereinafter called 'The Owner'.

WITNESSETH, that the Contractor agrees with the Owner to perform all the work in accordance with the contract documents referred to in the tender of the Contractor dated the 1st day of August 1974 (which shall be deemed to form part of this Contract) to the satisfaction of the Engineer for the total contract price of $ 90,771.69 which contract documents are attached hereto and which are hereby expressly made part of this Contract.

The Owner hereby agrees with the Contractor, that in consideration of the work being performed by the Contractor as specified, the Owner shall pay the Contractor for said work in accordance with the prices set out in the Form of Tender attached hereto, and in accordance with the provisions set out in the attached contract documents.

IN WITNESS WHEREOF the parties hereto have set their hands and seals the day and year first written above.

EXECUTION BY OWNER -

Name The Town of Pelham

Officers _____

_____

_____

Date _____

EXECUTION BY CONTRACTOR -

Company Name M.J. Storm Limited

Signatures _____

_____

Witness _____

Date Aug 22/74

AGREMENT TO BOND

Date _____ 1974

Project EO 74166

*

Gentlemen:

Municipal Services - Town of Pelham, Ontario
Municipal Square and Cherry-Valiant Sewers

In consideration of the Owner accepting the tender of and executing an agreement with

(hereinafter referred to as 'The Tenderer'), for the construction of municipal services in the Town of Pelham, Ontario, subject to the express condition that the Owner receive the Performance Bond and the Payment Bond in accordance with the said tender, we the undersigned hereby agree with the Owner to become bound to the Owner as surety for the tenderer in a Performance Bond in an amount equal to 100 percent of the tender price, and a Payment Bond in an amount equal to 50 percent of the tender price, in the forms of Performance Bond and Payment Bond bound herein and in accordance with the said tender; and we agree to furnish the Owner with the said bonds within seven (7) days after notification of the acceptance of the said tender and execution of the said Agreement by the Owner, has been mailed to us.

Yours very truly

*Enter the name of the surety company at the top of this page.

Form CD-2

PERFORMANCE BOND

No.

KNOW ALL MEN BY THESE PRESENTS THAT

as Principal,

hereinafter called the Principal, and

as Surety,

hereinafter called the Surety, are held and firmly bound unto

as Obligee,

hereinafter called the Obligee, in the amount of

Dollars

($) lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a written contract with the Obligee, dated the day of 19 , for

in accordance with the plans and specifications submitted therefor which contract, plans and specifications and amendments thereto, to the extent herein provided for, are by reference made part hereof and are hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly and faithfully perform said Contract then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Whenever Principal shall be, and declared by Obligee to be, in default under the Contract, the Obligee having performed Obligee's obligations thereunder, the Surety may promptly remedy the default, or shall promptly

(1) Complete the Contract in accordance with its terms and conditions, or

(2) Obtain a bid or bids for submission to Obligee for completing the Contract in accordance with its terms and conditions, and upon determination by Obligee and Surety of the lowest responsible bidder, arrange for a contract between such bidder and Obligee and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price", as used in this paragraph, shall mean the total amount payable by Obligee to Principal under the Contract, less the amount properly paid by Obligee to Principal.

Any suit under this Bond must be instituted before the expiration of one (1) year from date on which final payment under the Contract falls due.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Obligee named herein or the heirs, executors, administrators, or successors of Obligee.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its Attorney-in-fact, this day of 19 .

LABOUR AND MATERIAL PAYMENT BOND
(Private Contracts - Trustee Form)

NOTE - This Bond is issued simultaneously with another Bond in favour of the Obligee conditioned for the full and faithful performance of the Contract.

KNOW ALL MEN BY THESE PRESENTS THAT

hereinafter called the Principal, and as Principal,

hereinafter called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto as Surety,

hereinafter called the Obligee, for the use and benefit of the Claimants, their and each of their heirs, executors, administrators, successors and assigns in the amount of as Trustee,

($) of lawful money of Canada for the payment of which sum well and truly to be made the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns jointly and severally, firmly by these presents. Dollars,

SIGNED AND SEALED this day of 19 .

WHEREAS the Principal has entered into a written contract with the Obligee dated the day of 19 , for

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the Principal shall make payment to all Claimants for all labour and material used or reasonably required for use in the performance of the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A Claimant for the purpose of this Bond is defined as one having a direct contract with the principal for labour, material, or both, used or reasonably required for use in the performance of the Contract, labour and material being construed to include that part of water, gas, power, light, hear, oil, gasoline, telephone service or rental equipment directly applicable to the contract provided that a person, firm or corporation who rents equipment ot the Principal to be used in the performance of the Contract under a contract which provides that all or any part of the rent is to be applied towards the purchase price thereof shall only be a Claimant to the extent of the prevailing industrial rental value of such equipment for the period during which the equipment was used in the performance of the Contract. The prevailing industrial rental value of equipment shall be determined, insofar as it is practical to do so, in accordance with and in the manner provided for in the latest revised edition of the publication of the Canadian Construction Association entitled 'Rental Tates on Contractors' Equipment' published prior to the period during which the equipment was used in the performance of the Contract.

2. The Principal, and the Surety hereby jointly and severally agree with the Obligee as Trustee that every Claimant who has not been paid as provided for under the terms of his contract with the Principal before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's work or labour was done or performed or materials were furnished by such Claimant, may as a beneficiary of the trust herein provided for, sue on this Bond, prosecute the suit to final judgement for such sum or sums as may be justly due to such Claimant under the terms of his said contract with the Principal and have execution thereon. Provided that the Obligee is not obliged to do or take any act, action or proceeding against the Surety on behalf of the Claimants or any of them to enforce the provisions of this Bond. If any act, action or proceeding is taken either in the name of the Obligee or by joining the Obligee as a party to such proceedings then such act, action or proceeding shall be taken on the understanding and basis that the Claimants or any of them who take such act, action or proceeding shall indemnify and save harmless the Obligee against all costs, charges and expenses or liabilities incurred thereon and any loss or damage resulting to the Obligee by reason thereof. Provided still further that, subject to the foregoing terms and conditions, the Claimants or any of them may use the name of the Obligee to sue on and enforce the provisions of this Bond.

3. No suit or action shall be commenced herunder by any Claimant:

   (a) unless such Claimant shall have given written notice with the time limits hereinafter set forth to each of the Principal, surety and Obligee, stating with substantial accuracy the amount claimed. Such notice shall be served by mailing the same by registered mail to the Principal.

Surety and Obligee at any place where an office is regularly maintained for the transaction of business by such persons or served in any manner in which legal process may be served in the Province or other part of Canada in which the subject matter of the contract is located. Such notice shall be given (i) in respect of any claim for the amount or any portion thereof required to be held back from the Claimant by the Principal under either the terms of the Claimant's contract with the Principal or under the Mechanics' Liens legislation applicable to the Claimant's contract with the Principal whichever is the greater within one hundred and twenty (120) days after such Claimant should have been paid in full under the Claimant's contract with the Principal; (ii) in respect of any claim other than for the holdback or portion thereof referred to above within one hundred and twenty (120) days after the date upon which such Claimant did or performed the last of the work or labour or furnished the last of the materials for which such claim is made under the Claimant's contract with the Principal.

(b) After the expiration of one (1) year following the date on which Principal ceased work on the Contract including work performed under the guarantees provided in the Contract.

(c) Other than in a court of competent jurisdiction in the Province or District of Canada in which the subject matter of the Contract or any part hereof is situated and not elsewhere, and the parties hereto agree to submit to the jurisdiction of such court.

4. The amount of this Bond shall be reduced by and to the extent of any payment or payments made in good faith and in accordance with the provisions hereof, inclusive of the payment by the Surety of Mechanics' Liens which may be filed of record against the subject matter of the Contract, whether or not claim for the amount of such lien be presented under and against this Bond.

5. The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its Attorney-in-fact the day and year first above written.

_____

_____

_____

Form
CD-3

LIST OF SUB-CONTRACTORS

SUB-TRADE	NAME OF SUB-CONTRACTOR	ADDRESS OF SUB-CONTRACTOR

Form
CD-4

TENDERER'S EXPERIENCE IN SIMILAR WORK

YEAR COMPLETED	DESCRIPTION OF CONTRACT	FOR WHOM WORK PERFORMED	VALUE

Proctor & Redfern Limited
Consulting Engineers
June 11, 1969
AS:hs

Form
CD-5

TENDERER'S SENIOR STAFF

NAME	APPOINTMENT	QUALIFICATIONS AND EXPERIENCE

Proctor & Redfern Limited
Consulting Engineers
June 11, 1969
AS:hs

Form
CD-6

TENDERER'S PLANT

The Tenderer shall list the plant, machinery and equipment he proposes to use on the work.

PLANT UNDER TENDERER'S CONTROL:

PLANT TO BE RENTED:

PLANT TO BE PURCHASED:

Proctor & Redfern Limited
Consulting Engineers
June 11, 1969
AS:hs

SUPPLEMENTARY CONDITIONS

SC.01 GUARANTEE PERIOD

A. The guarantee period for the Contract shall be twelve months, unless an extended guarantee period is called for in any specific section.

SC.02 DEFINITION

A. 'Department of Highways' and 'DHO' means 'The Ministry of Transportation and Communications' and 'MTC'.

B. 'Town' or 'Corporation' means 'The Corporation of the Town of Pelham'.

C. The word 'provide' shall mean - supply all labour, materials, equipment, handling and cartage required for complete installation of the item concerned.

SC.03 INSURANCE CLAIMS

A. Claims or alleged claims received by the Contractor shall be dealt with immediately by the Contractor. If a claim is settled to the satisfaction of the claimant, the Contractor shall submit to the Engineer a copy of the claimant's release.

B. If a claim or alleged claim is rejected by the Contractor and/or his insurance company, the Contractor shall report this fact in writing to the Engineer.

C. Should 30 days elapse after the claim or alleged claim has been received by the Contractor, and the Contractor is not able to report settlement or rejection of the claim, he shall report to the Engineer the steps being taken with respect to the claim.

SC.04 PAYMENTS

A. As well as monies held back by Provincial Statutes the Owner will retain 2 % of the value of work done, such amount being held back from each progress payment. This additional holdback will be retained for a period of one year from the 'acceptance date' which is described in Article 33 of the General Conditions.

SC.05 PAYMENT BOND

A. The Contractor, together with a surety company approved by the Owner and authorized by law to carry on business in the Province shall furnish a 50 percent Labour and Materials Payment Bond to the Owner in the form attached. The bond shall remain in effect until the issue by the Engineer of the final payment certificate.

SC.06 PERFORMANCE BOND

A. The provisions of the General Conditions shall apply except that C.C.A. Document (S) 21 shall be used.

SC.07 INSURANCE

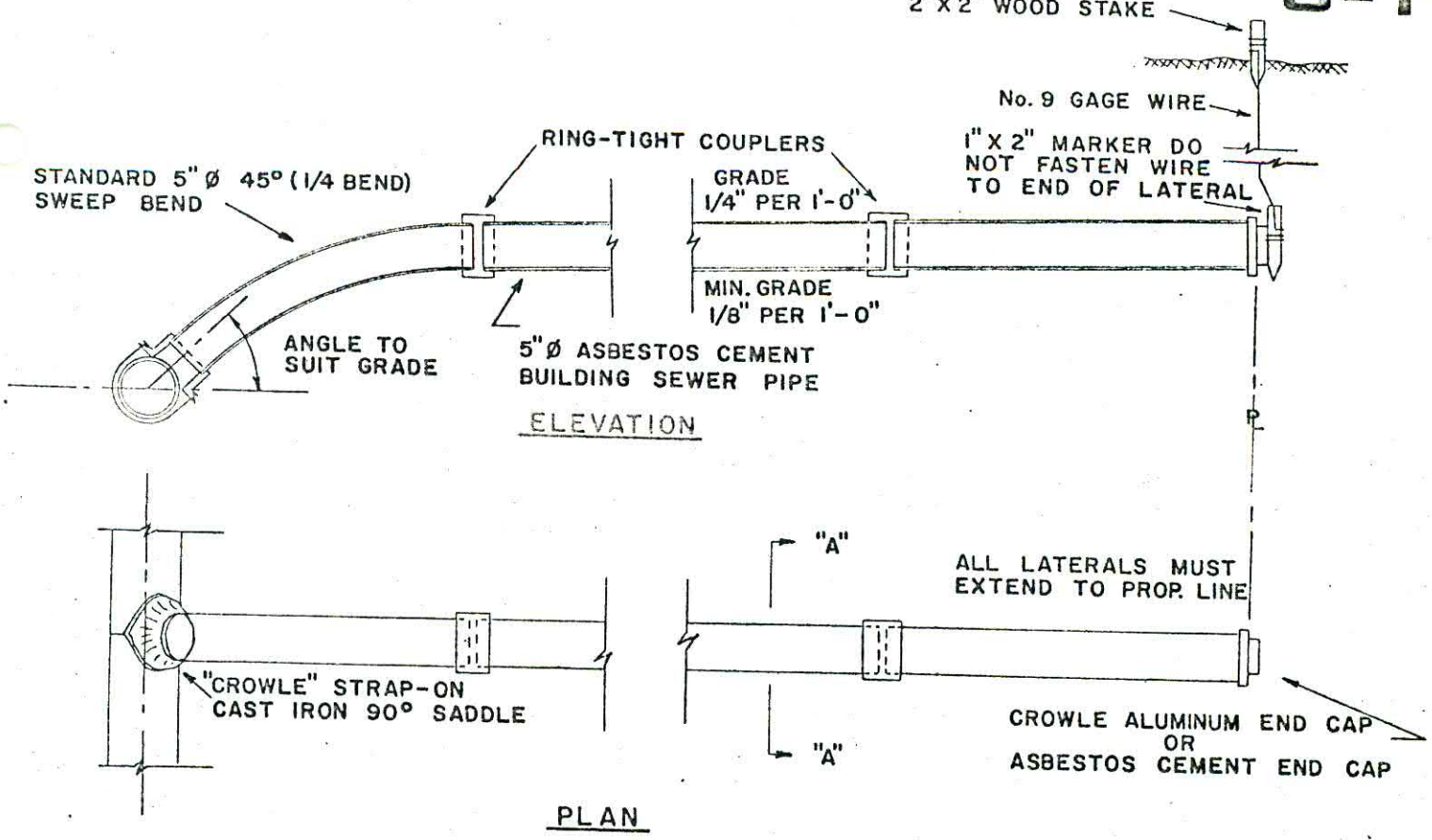
A. Notwithstanding the provisions of Clause 28 of the General Conditions, no 'damage insurance' will be required on this Contract.

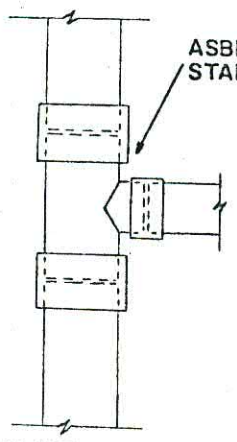
SC.08 ONTARIO MUNICIPAL BOARD APPROVAL

A. The construction of water services and storm services to the Municipal Square is contingent upon Ontario Municipal Board approval for an arena on this site. The Ontario Municipal Board hearing is scheduled for August 19th, 1974.

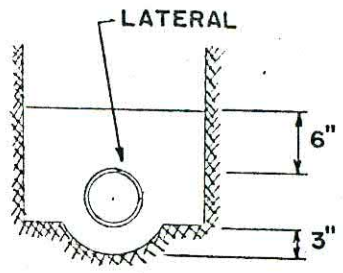
The sanitary services to the Municipal Square and the Cherry - Valiant Area will be constructed regardless of the outcome of this hearing.

S-17





ALTERNATE CONNECTION TO A.C. SEWER MAIN



SECTION "A"–"A"

STANDARD LATERAL BEDDING DETAIL
CLASS "A" GRANULAR MATERIAL

NOTE:-

SUBSTITUTE STANDARD 22 1/2° BEND FOR SHALLOW LATERALS (1/8 BEND)

6"Ø CONCRETE SADDLE SHALL BE SUBSTITUTED FOR "CROWLE" SADDLE WHEN INSTALLING LATERALS TO EXISTING CONCRETE PIPE SEWER MAIN

DEPTH OF LATERAL AT PROPERTY LINE
FOR VACANT LOTS MIN. 7'-0"
FOR LOTS WITH EXISTING DWELLINGS 3'-0" BELOW BASEMENT FLOOR ELEV.

SANITARY SEWER LATERAL DETAIL

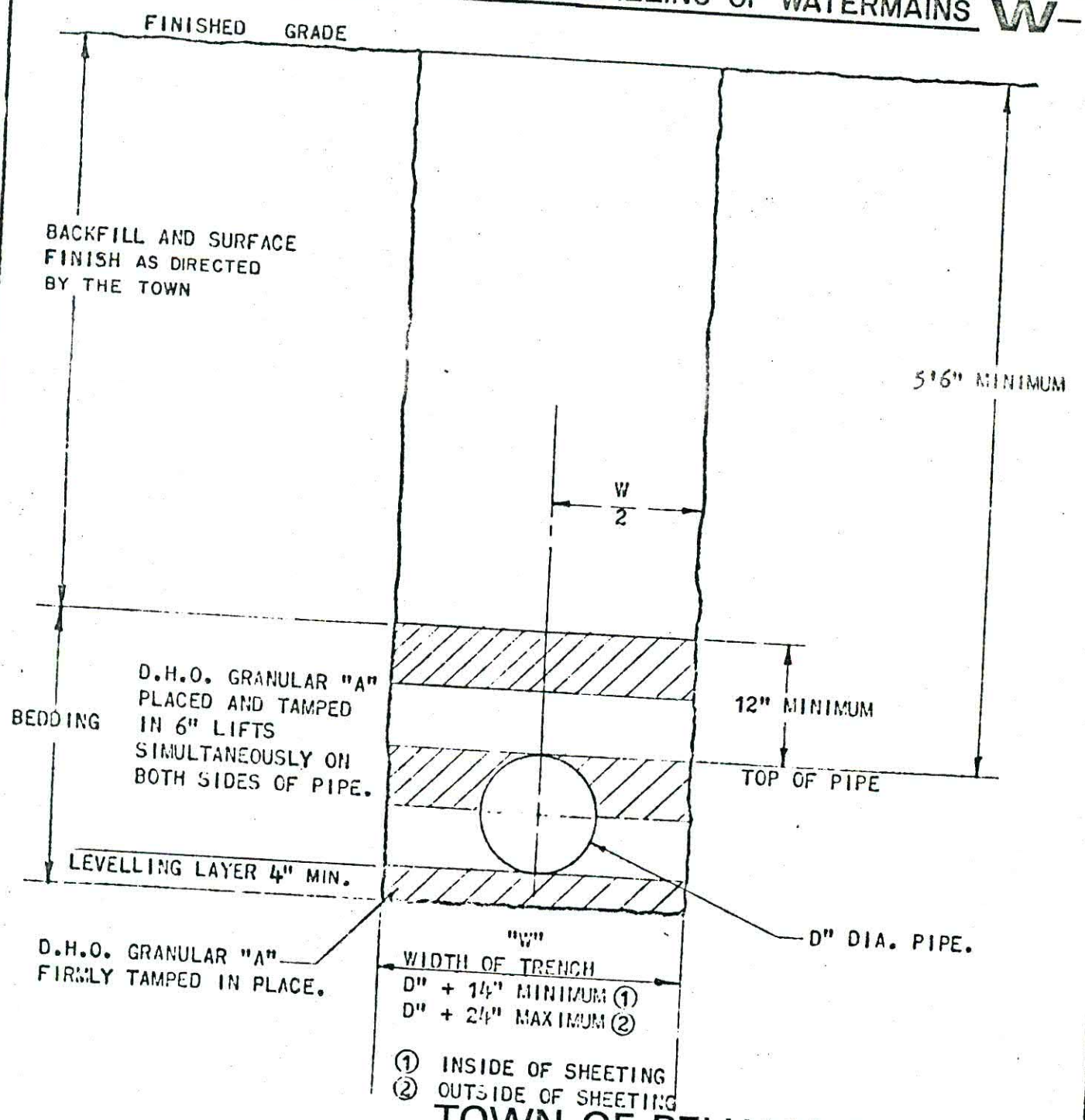
SOURCE:
CITY OF ST. CATHARINES
DWG. S-671

TOWN OF PELHAM STANDARD

August 13th, 1970

Proctor & Redfern Ltd.

STANDARD BEDDING AND BACKFILLING OF WATERMAINS W-2



TOWN OF PELHAM STANDARD

August 13th, 1970

Proctor & Redfern Ltd.

Source: City of Welland Water Department Drawing No. S-26

NOTE

(1) GRANULAR MATERIAL SHALL MEET D.H.O. GRANULAR "A" SPECIFICATIONS (FINE TRAFFIC BOUND OR SCREENINGS) THROUGHOUT EXCEPT WHERE WATER IS ENCOUNTERED 3/4" CLEAR CRUSHED STONE SHALL BE SUBSTITUTED.

(2) WHERE THE BOTTOM OF THE TRENCH IS FOUND TO BE UNSTABLE OR OTHERWISE UNACCEPTABLE IT SHALL BE EXCAVATED TO THE WIDTH AND DEPTH ORDERED BY THE INSPECTOR AND REFILLED AND COMPACTED TO THE BOTTOM OF THE PIPE WITH 2" CRUSHER RUN CRUSHED STONE.

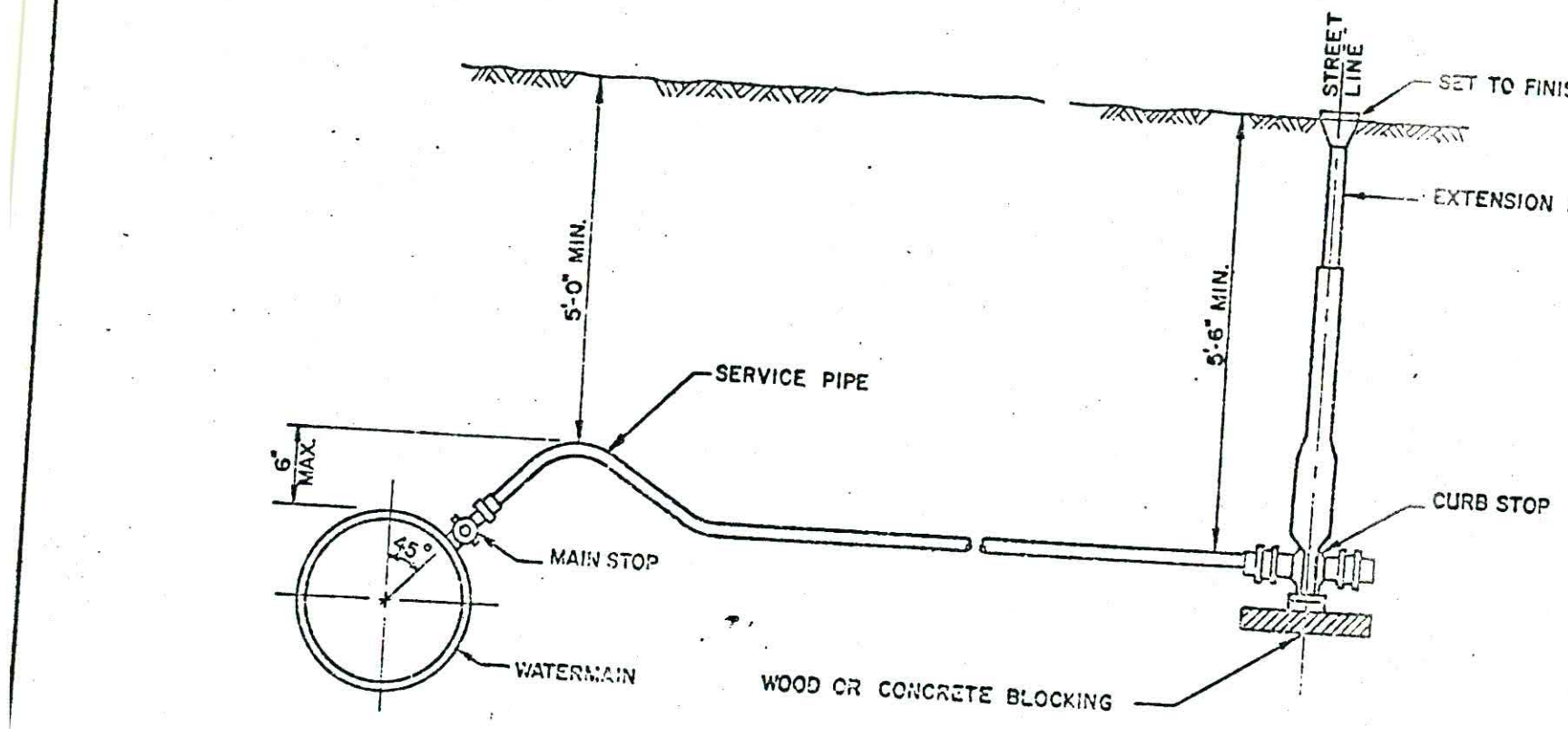
(3) IN NO CASE SHALL FROZEN MATERIAL BE USED FOR BEDDING OR BACKFILLING.

W-1

TOWN OF PELHAM STANDARD

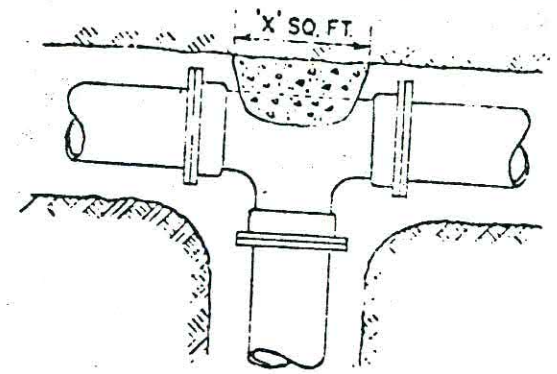
August 13th, 1970

Proctor & Redfern Ltd

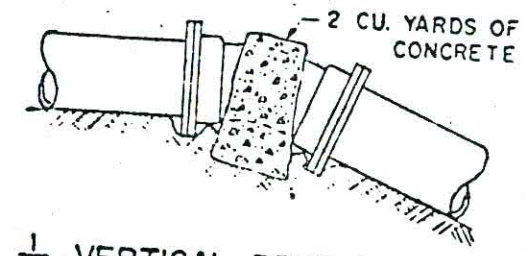


STANDARD WATER SERVICE CONNECTION

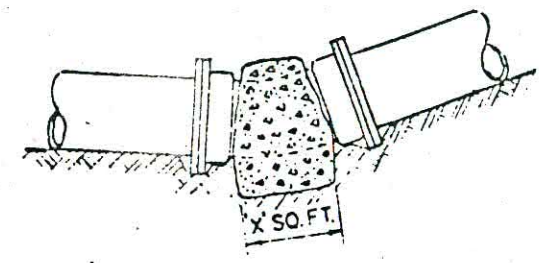
NOTE: CONCRETE FOR THRUST BLOCKS TO BE 3000 P.S.I. LAID TO UNDISTURBED GROUND



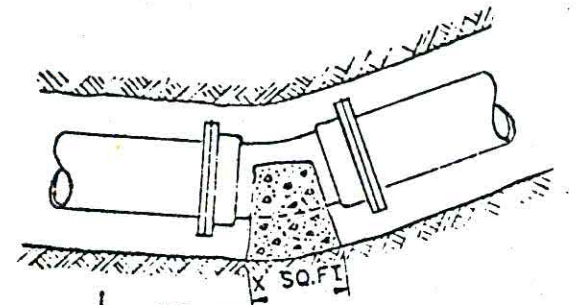
TEE JUNCTION



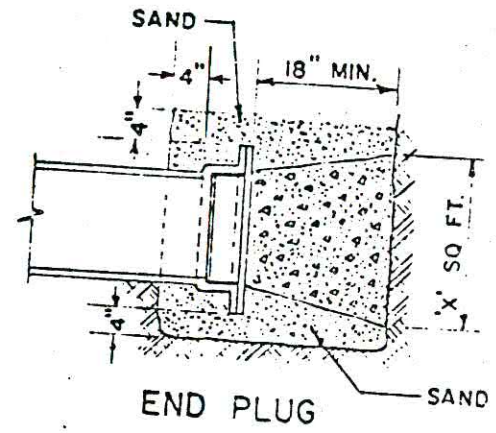
1/16 VERTICAL BEND-DOWN



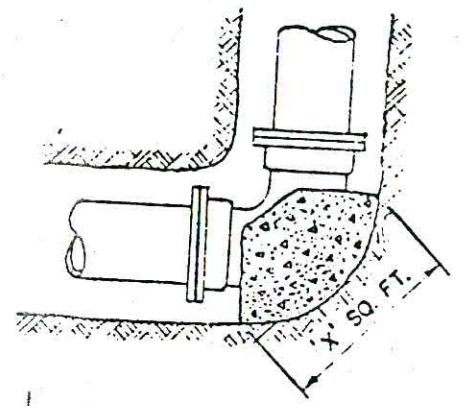
1/16 VERTICAL BEND-UP



1/16 HORIZONTAL BEND



END PLUG



1/4 HORIZONTAL BEND

TYPE OF SOIL	SIZE OF THRUST BLOCKS 'X' SQ. FT.																					
	1/16 BEND						1/8 BEND						1/4 BEND						TEE, CROSS & END PLUG			
	4"	6"	8"	10"	12"	16"	4"	6"	8"	10"	12"	16"	4"	6"	8"	10"	12"	16"	4"	6"	8"	10"	12"	16"
SOFT SOIL OR CLAY		1	2	3	4			2	3	5	7			3	5	9	12			2	4	7	9	
LOOSE SAND & GRAVEL		1	1	2	2			1	2	3	4			2	3	4	6			1	2	4	5	
COMPACT SAND & GRAVEL OR FIRM CLAY		1	1	1	1			1	1	2	2			1	2	3	4			1	2	2	3	
SHALE OR ROCK		1	1	1	1			1	1	2	2			1	1	2	3			1	1	2	2	

CONCRETE THRUST BLOCKS TO FITTINGS

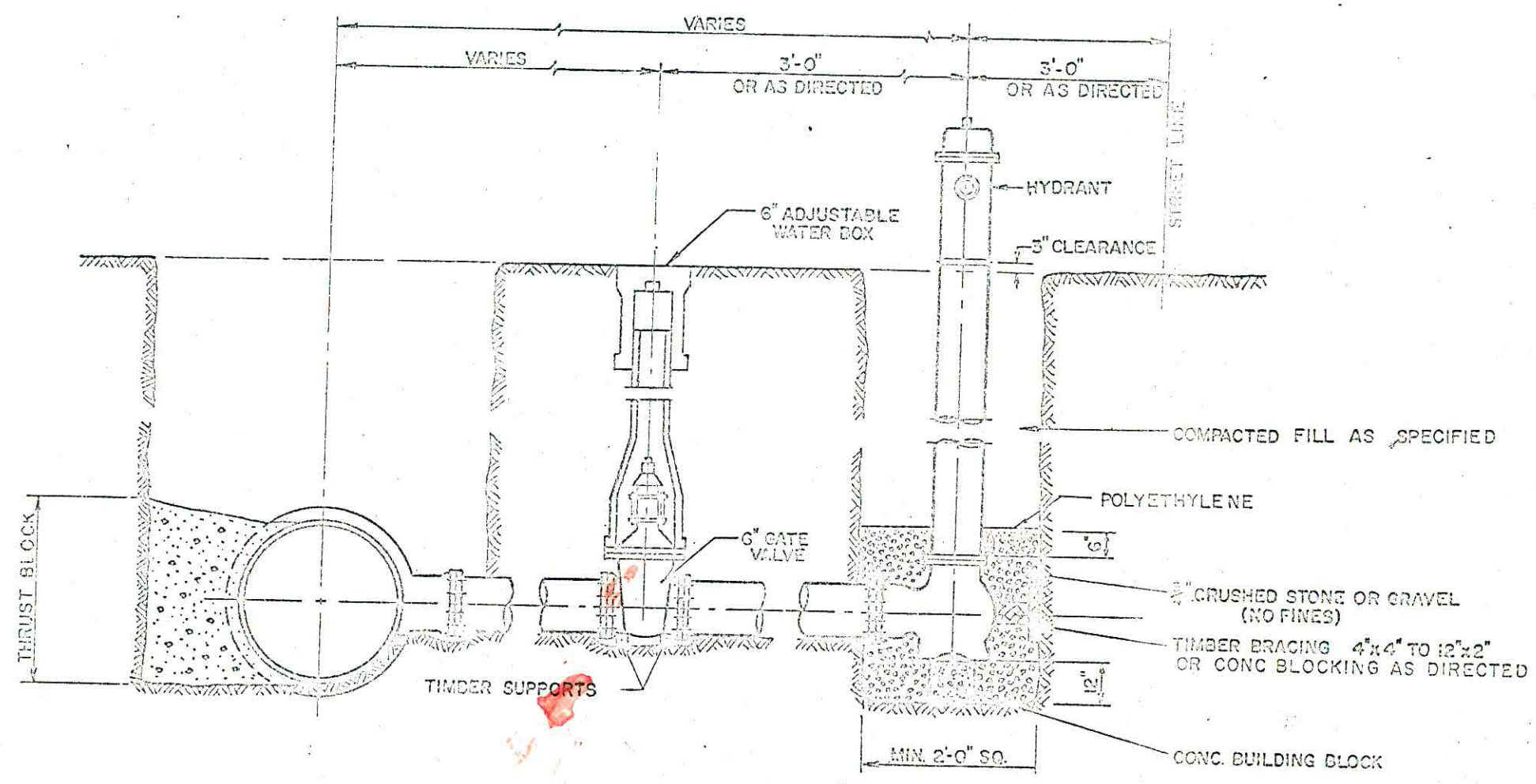
TOWN OF PELHAM STANDARD

August 13th, 1970

Proctor & Redfern Ltd.

STANDARD HYDRANT ASSEMBLY

W-5



NOTE: HYDRANT TO BE SET PLUMB WITH STEM EXTENSIONS TO SUIT DEPTH OF LEAD. LEAD TO BE SET LEVEL.

E-STD-1-3

TOWN OF PELHAM STANDARD

Aug. 13th, 1970

Proctor & Redfern Ltd.

DETAILS OF HYDRANT AND LEAD

WITH SECONDARY VALVE