

5 Eireann Quay – Information Report

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| Date: | May 7, 2012 |
| To: | Toronto and East York Community Council |
| From: | Director, Toronto Building, Toronto and East York District & Director, Community Planning, Toronto and East York District |
| Wards: | Ward 20 - Trinity-Spadina |
| Reference Number: | 11-314425 STE 20 SA |

SUMMARY

At its meeting on April 17, 2012, Toronto and East York Community Council (TEYCC) requested the Director of Toronto Building and Deputy Chief Building Official, in consultation with the Director, Community Planning, Toronto and East York District, to submit a report to the May 15, 2012 TEYCC meeting on whether a batching plant complies with the existing zoning on the site. The purpose of this report is to provide information related this request.

Based on the information provided by the applicant on the proposed temporary mobile concrete batching facility and an analysis of the existing zoning on the site, it is staff’s opinion that the proposal complies with current zoning permissions.

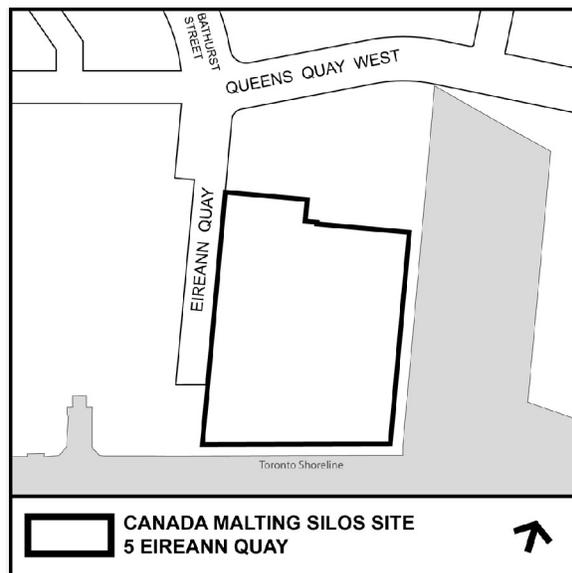
RECOMMENDATIONS

The Toronto Building Division recommends that:

1. Toronto and East York Community Council receive this report for information.

Financial Impact

The recommendations in this report have no financial impact.



DECISION HISTORY

At its meeting on July 12, 2011, City Council adopted recommendations from the City Manager report - Item CC10.5 Toronto Port Authority Pedestrian Tunnel and Related Issues. Among other matters, Council directed the City Manager and City Solicitor to enter into a Master Agreement with the Toronto Port Authority (TPA) to secure the City's interest in including two sanitary forcemains and a watermain as part of the TPAs pedestrian tunnel construction to the Billy Bishop Toronto City Airport. The Agreement also included lease terms between the City and TPA for portions of 5 Eireann Quay site. The decision document can be accessed at this link:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2011.CC10.5>.

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<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2012.TE15.6>.

ISSUE BACKGROUND

The TPA retained PCL and Forum Equity Partners Inc. to construct the pedestrian tunnel and City watermain and forcemains. As part of the construction, PCL is proposing a temporary mobile concrete batching facility on a portion of the lease lands. Attachment 1 of this report is a memo from PCL containing additional information on and specifications of the proposed batching facility.

COMMENTS

Harbourfront Zoning By-law (289-93)

The lands on which the temporary mobile concrete batching facility is proposed to be operated from is identified as Parcels BQ 11 & BQ12 in Harbourfront Zoning By-law 289-93, as amended. The property is zoned G by the Zoning By-law, which permits parkland and other public recreational uses including associated buildings and structures and accessory uses.

Section 37 of the Harbourfront Zoning By-law permits the use of property by the City for any purposes of the public service provided that specific criteria are met.

The by-law requires that any building or structure erected on the site be located a minimum of 1.4 metres from Eireann Quay (formerly Bathurst Street). The by-law also limits the height of any such structure to a maximum of 12 metres on the portion of the lands described as parcel BQ 11 and a maximum height of 35 metres on the portion of the lands described as parcel BQ 12, as shown on Map Area 50 G of Appendix B to the by-law. The zoning map identifies that the area in the general vicinity of the existing malting silos east of the proposed taxi corral is limited to the height of 35 metres whereas the

remainder of the site including the area occupied by the Urban Forestry operations building is limited to 12 metres.

Existing Uses

The lands are owned by the City of Toronto and have been used by Urban Forestry for maintenance purposes, the storage of heavy equipment and aggregate materials, and associated facilities. Applying Section 37 of the Harbourfront By-law, the Urban Forestry uses are permitted on the site, which would otherwise not be permitted on a site that is zoned G. It is staff's understanding that Urban Forestry used the lands for their operations and maintenance purposes since 1996.

Proposed Uses

The applicant proposes a temporary mobile concrete batching facility on a portion of the leased lands. The proposed facility would use aggregate and other materials shipped to the site daily for use in the plant for the production of concrete. The concrete produced would be trucked to the immediately adjacent lands to the south-west for use in the construction of a below grade pedestrian tunnel and for the construction of City sewer and water services. The transportation of the concrete produced by the plant would be restricted to the site remaining within the area designated for construction staging (see Attachment 1).

The existing building on the site has been temporarily vacated by Forestry staff in order that the building may also be used for the operational needs associated with the construction project. Included in the tunnel construction is a series of other tunnels that have been secured by the City for the purposes of providing necessary public infrastructure to the Toronto Island residents. These City services would be constructed together with the pedestrian tunnel using concrete batched on the City's land.

The proposed temporary mobile concrete batching facility has a height of approximately 8 metres and is proposed to be located approximately 50 metres from the property line at Eireann Quay.

Zoning Compliance

The City has secured public infrastructure to serve the Toronto Island residents as part of the construction. Also secured is the temporary use of the City land for construction staging, including the operation of a temporary mobile concrete batching facility. The proposed use of the property for the operation of a temporary mobile concrete batching facility is permitted by Section 37 as a public service associated with the secured public infrastructure.

The permitted use is subject to an additional qualification on storage in the Harbourfront Zoning By-law. The by-law requires that any goods, material or equipment (not intended for daily usage) not be stored in the open. It is staff's understanding that the intended operation of the site would include "just-in-time" delivery of goods where materials would be placed in a lay-by area for immediate use and not be stored on site, thus reducing the need for overnight or short term container storage.

Based on the information submitted by the applicant (Attachment 1 to this report), it is Toronto Building staff's opinion that the proposed temporary mobile concrete batching facility meets the required setback from Eireann Quay and would be located in an area where it would be below the maximum height set out in the by-law. Toronto Building, in consultation with Planning staff and Legal Services staff have determined that proposed temporary mobile concrete batching facility does not constitute development as defined in the *Planning Act* and therefore does not require Site Plan Approval.

CONTACT

Tony D'Arpino, Planning Consultant
Tel. No. 416-392-7632
Fax No. 416-392-0721
Email: tdarpin@toronto.ca

SIGNATURE

Mario Angelucci, Director,
Toronto Building
Toronto and East York District

ATTACHMENTS

Attachment 1: PCL Memo - Batch Plant Operation (dated April 20, 2012)

Attachment 1: PCL Memo - Batch Plant Operation (dated April 20, 2012)



CONSTRUCTION LEADERS

Memorandum

Date: April 20, 2012

Re: Batch Plant Operation

- I. Mobilization and set up
 - a. The batch plant to be utilized on this project is Con-E-CO's Lo-Pro427 model (see specifications).
 - b. Batch plant is a mobile truck towed unit which is pre-set up (wired and assembled) and takes about a day to configure on site.
 - c. Plant will be set up in the area immediately to the east of the Canada Malting Silos (refer to sketch).
 - d. Material storage area will be set up with pre-cast concrete blocks storage compartments for the granular materials to be used in concrete production.
- II. Materials to be used in concrete production
 - a. Aggregates (sand and gravel) will be delivered to the project site by trucks and will be temporarily stockpiled in storage compartments constructed of pre-cast concrete blocks.
 - b. Cement will be delivered to the project by trucks and material will be loaded into the batch plant's silo for storage.
 - c. Water will be supplied through a 50mm water service directly into the batch plant.
- III. Loading of materials for production
 - a. Granular materials will be loaded into the batch plant's hoppers using a front end loader. Electrically powered conveyor belts will move the materials into the mixing area within the batch plant.
 - b. Cement from the silo will be loaded internally into the mixing area of the plant.
 - c. Water will be added as needed through the plant's internal systems.
- IV. Concrete production
 - a. The process of mixing concrete (including loading of materials into the batch plant) will take approximately 10 minutes per load.
 - b. Loading and production of the plant will be dependent on the project's requirements and task at hand. More information is available in the concrete plant's specifications.
 - c. Once concrete is mixed and ready to be batched, it will be loaded from the plant directly into concrete trucks which will transport it to the construction and placement area.



April 20, 2012

- V. Traffic, dust and noise controls
- a. Utilizing an onsite concrete batch plant will allow for significant reduction of truck traffic loading on the local roads. This reduction will in turn eliminate the potentially increased traffic congestion, reduce traffic noise and safety risks associated with traffic.
 - b. The concrete batch plant will be equipped with dust control devices as to contain potential dust created during the batching process. A skirt enclosure will be used to contain the trucks delivering cement. Cement will be loaded into the plant's silo using a piping system and filter bag which will allow for an enclosed process. The plant will also be equipped with a dust collector system with design efficiency of 99.9%.
 - c. The granular materials stored on site prior to use into the plant will be kept in material containment units which will prevent spreading of material. All granular materials will be washed aggregates which will further reduce the potential for dust to be created. Material stockpiles will be kept damp as an additional precaution.
 - d. The entire batch plant area will be covered by concrete pavement in order to reduce the potential for creating dust and mud tracking. The area will be maintained clean using a sweeper on a regular basis.
 - e. The batch plant systems (conveyors, mixing units, etc.) will be powered by electrical motors which will eliminate noise and exhaust created by internal combustion engines.
 - f. The sound levels created by the batch plant will be 68 to 70 dBA measured at a distance of 200 feet. Noise levels will diminish exponentially with distance; however, even at 200 feet the levels should be neither objectionable nor hazardous.
 - g. Refer to the attached sound emission tests for more information on sound levels. As noted in that document, the sound levels of all Con-E-Co Lo-Pro models will have the same sound producing effects.
 - h. Air and noise quality baseline monitoring programs will be implemented on site.

N:\District Office\Projects\0900435 - BBPT\04 - Subcontractors\020000 - Sitework\024000 - Tunnel\Batch Plant\Memo - April 20, 2012.docx



| LEGEND GATE 8'0" HIGH HOARDING | | | | | | | | | | | | | | | | | | | | | |
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| CLIENT: PCL-1 DATE: April 20, 2012 DRAWING NO: CONCRETE BATCH PLANT AREA DRAWING BY: | <table border="1"> <thead> <tr> <th>NO.</th> <th>REV.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> | NO. | REV. | DATE | DESCRIPTION | | | | | | | | | | | | | | | | |
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CON-E-CO®

An Oshkosh Truck Corporation Company

Lo-Pro® 427



Expandability

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Performance!

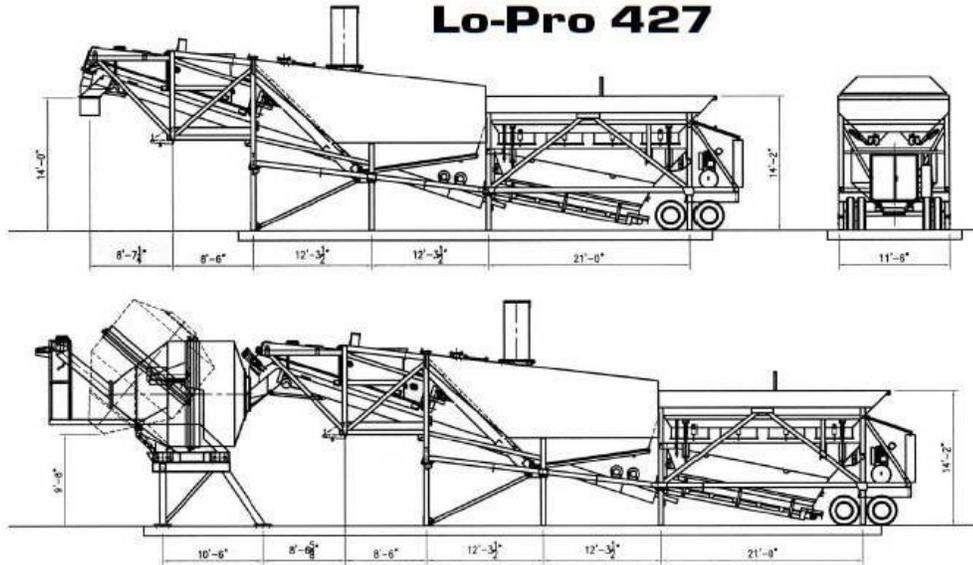
- 12 cubic yard batcher capacity, up to 300 yards per hour
- 14-ft. discharge height, 180° truck access
- 427-barrel on-board cement bin
- optional 409-barrel on-board split compartment cement bin
- low profile, reduced-height aggregate bin
- hydraulic self-erect, self-leveling; no crane needed
- expandable cement and aggregate storage
- overhead dust control system
- expandable to central mix option
- optional portable foundation compatibility

CON-E-CO®

An Oshkosh Truck Corporation Company

*The industry leader in **concrete batch plants** and **mixers!***

Lo-Pro 427



SPECIFICATIONS

PRODUCTION CAPACITY:

Theoretical capacity — 2-1/2 to 3 minute cycles

BATCHER CAPACITY:

Aggregate — 12 cubic yards (9.2 cubic meters)
Cement — 12 cubic yards (9.2 cubic meters)
Scales — load cells

AGGREGATE BATCHER CONVEYOR:

30" wide (762 mm), 10 or 15 horsepower drive. Optional 36" (914 mm), 20 horsepower

AGGREGATE DISCHARGE CONVEYOR:

30" wide (762 mm), 35" trough with 15 horsepower drive. Optional 36" (914 mm), 20 or 40 horsepower

CEMENT BATCHER BLENDING SCREW:

14" diameter (360 mm), 15 horsepower. Optional 18" diameter (460 mm), 20 or 25 horsepower

CEMENT FEEDER SCREWS:

Two 9" diameter (230 mm) with 15 horsepower drive. Optional 12" diameter (300 mm), 20 horsepower

CEMENT AERATION:

5 horsepower, high volume, low pressure blowers

HIGH PRESSURE AIR COMPRESSOR:

7.5 horsepower with 80 gallon (0.30 cubic meters) receiver. Optional 10, 15, 20 or 30 horsepower, 120 gallon (0.45 cubic meters)



Mobile tow-away self-erecting batch plant.

ELECTRICAL:

460 volt, 3-phase with 120 VAC transformer for control voltage. All motors are TEFC. All motor circuit wiring protected by individual circuit breakers. Electrical components housed in NEMA steel enclosures. Wiring in conduit.

BATCH CONTROL SYSTEM:

Semi-automatic cut-off cement by presets on digital readouts. Push-button for electric over air on gates. Optional fully-automatic computerized batch control system

WATER METER:

CON-E-CO 2" diameter (50 mm) all-electronic, stainless steel turbine. 25 to 300 gallons (87 to 1,740 liters) per minute. Optional 3" diameter (77 mm) with up to 500 gallons (1,740 liters) per minute or weighed water with holding tank

TRANSPORTATION SYSTEM:

Rear-mounted, tandem axle with eight tires, wheels, air brakes, heavy duty spring suspension, tail end brake lights, and fifth wheel rub plate with king pin

STORAGE BIN CAPACITIES:

| | AGGREGATE | HEAPED VOLUME |
|-----------|--------------|---|
| | | 50 to 100 cubic yards (38 to 76 cubic meters) |
| CEMENT I | GROSS VOLUME | 1,708 cubic feet (47.5 cubic meters) |
| CEMENT II | GROSS VOLUME | 1,340 to 3,060 cubic feet (37 to 85 cubic meters) |

DIMENSIONS:

| | |
|---------------------------|--------------------------------------|
| Towing length | 60' 0" (18,000 mm) |
| Towing height | 14' 0" (4,200 mm) |
| Towing width | 11' 6" (3,450 mm) |
| Empty weight, total | 55,000 lbs (24,750 kg) |
| Shipping volume | 11,300 cubic feet (340 cubic meters) |

NOTE:

In accordance with CON-E-CO's policy of constantly improving its products, the above specifications are subject to change without notice. CON-E-CO assumes no responsibility for foundation design. Consult factory for column loadings.

Proud Member of



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CON-E-CO®

An Oshkosh Truck Corporation Company

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Blair, NE 68008

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E-Mail: sales@con-e-co.com



To whom it may concern:

All CON-E-CO batch plants have the same design as the CON-E-CO Model 10 (10 yard concrete batch plant) except for the sizes of the cement silos and weigh hoppers and the size of the aggregate bins and weigh hoppers. The weigh hoppers themselves produce no sound except when rock falls on their steel sides. All other components which produce sound are interchangeable from one plant to another. Both plants have rock falling on steel, blowers, air compressors, cement screws, belt conveyors with components, and vibratory devices.

Because all CON-E-CO plants have the same sound producing components as the Model 10, they will have the same sound producing effects, and the published test is valid for all models.

Call me if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Lawrence L. Wickstrom".

Lawrence L. Wickstrom, PE, MBA
Chief Engineer.



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MARCON
SYSTEMS, INC.

23 ALTARINDA ROAD/SUITE 203 • P O BOX 537
ORINDA, CALIF 94563 • (415) 254-8696

February 20, 1987

SOUND EMISSION TESTS
CON-E-CO LO-PRO MODEL 10
TRANSIT-MIX CONCRETE PLANT

1. PURPOSE:
To determine the level of sound emissions at a typical ready-mixed concrete plant during operation on an average business day.
2. TEST SITE LOCATION:
Merced, California at a CON-E-CO LO-PRO Model 10 (S/N C-3255) owned and operated by CENTRAL VALLEY CONCRETE (see photo).
3. DATE AND TIME OF TEST:
Thursday, February 19, 1987 between the hour of 10:30am and 1:00pm.
4. WEATHER CONDITIONS:
Clear and calm with temperatures in 63°F to 68°F range.
5. INSTRUMENTS AND EQUIPMENT USED:
A REALISTIC Model 33-2050 Sound Level Meter with seven (7) sound-level ranges from 50 dB to 126 dB (referenced to 0.0002 μ bar) with A and C weightings, with SLOW and FAST response settings. The level meter was mounted on a professional quality camera tripod to eliminate hand noises and to minimize the effects of sounds reflected from the bodies of test personnel. All dB readings were taken with the microphone pointed directly at the sound source and observed from a position at right angles to the axis of the meter/microphone to further reduce distortion of readings.
6. INSTRUMENT SETTINGS:
RESPONSE: "SLOW", dampened to indicate average-value sound levels.
WEIGHT: "A" weighting for frequencies in the 500 to 10,000 Hz range, the area of greatest sensitivity of the human ear.
RANGE: To suit ambient sound levels and equipment emission levels as required during actual testing.

Continued . . .

7. TEST RESULTS:

The dBA readings and the distance between the source and the sound level meter (10 ft., 20 ft., and 30 ft.) are shown in Figure 1 of this report. Comments regarding specific readings are also shown where deemed appropriate for clarification.

8. CONCLUSIONS:

These test results revealed that there are only two (2) operating conditions where noise levels exceeded 90 dBA. These were as follows:

- a. While filling an EMPTY overhead aggregate bin compartment with 3/4" rock. (Maximum rock-on-steel was 90 dBA at 30 feet.)
- b. While beginning to batch 3/4" rock into an EMPTY aggregate weigh hopper. (Maximum rock-on-steel was 101 dBA at 10 feet.)

In both instances as soon as the 3/4" rock reached a point where rock was falling upon rock instead of rock upon bare steel (which produces a drum-head effect) the noise level dropped off significantly. (Maximum rock-on-rock was 80 dBA for bin or batcher at 30 feet.)

Various machinery components which are integral parts of the plant did not produce noise levels that were objectionable.

- c. The cement aeration blower generated 90 dBA at 10 feet.
- d. The high pressure air compressor produced 78 dBA at 10 feet.
- e. Both devices operate intermittantly for relatively short periods of time during the batching cycle and both are driven electrically.
- f. All other machinery such as cement screws and belt conveyors are driven by electric motors through rubber V-belts and sheaves with totally enclosed reduction gears.
- g. The vibratory devices used to empty the cement and aggregate batchers during the discharge cycle are air operated/cushioned piston type vibrators manufactured specifically for this application. Even with both vibrators operating simultaneously the combined noise level was found to be only 88 dBA at 10 feet from the side of the plant at a point midway between the vibrators.

Continued . . .

9. COMMENTS:

In-as-much as noise levels diminish exponentially with distance from the sound source, it is apparent that even at 200 feet the noise from these concrete plants should be neither objectionable nor hazardous. Readings taken during the loading cycle of a transit-mix truck with the engine "revved-up" were as follows:

- a. At 100 feet, average = 74 to 76 dBA.
- b. At 200 feet, average = 68 to 70 dBA.

Even if these levels were found to be bothersome the two (2) above mentioned "noisest sources" (8-a and 8-b) can be reduced to lower levels simply by installing rubber liners (conveyor belting) at the point where the 3/4" (or larger) rocks strike the bare steel in the empty aggregate bin compartment or the empty aggregate batcher.

Beyond such measures, and only if proven to be absolutely necessary, the subsequent installation of shrubbery, trees, acoustical barriers, walls (buildings), etc., can be considered to absorb and/or deflect whatever objectionable noise emissions may still exist.

10. OTHER EQUIPMENT:

Transit-mix trucks were coming and going during these tests. Some were standing with their engines idling, waiting to be loaded-out. Others were "revved-up" during the mixer-loading cycle. Sound level readings taken during various plant functions are shown in Figure #1. The sound level at 10 feet from the front of a transit-mix truck with the engine idling was only 76 dBA. The sound level during the loading cycle with the engine "revved-up" was 88 dBA maximum at a distance of 10 feet from the side of the plant.

11. TEST PERSONNEL:

These tests were conducted by Mark G. Garfield who holds a B.S. degree in Civil Engineering from U.C. Davis and Robert C. Clark who holds a B.S. degree in Mechanical Engineering from U.C. Berkeley. Both are highly familiar with the design, fabrication and operation of concrete plants.

Respectfully submitted,



A handwritten signature in black ink that reads "Robert C. Clark".

Robert C. Clark, P.E.

MARCON SYSTEMS, INC.

