

PROJET DE CONSTRUCTION DU POSTE SAINT-JEAN À 315-25KV ET D'UNE LIGNE D'ALIMENTATION À 315KV À DOLLARD-DES-ORMEAUX

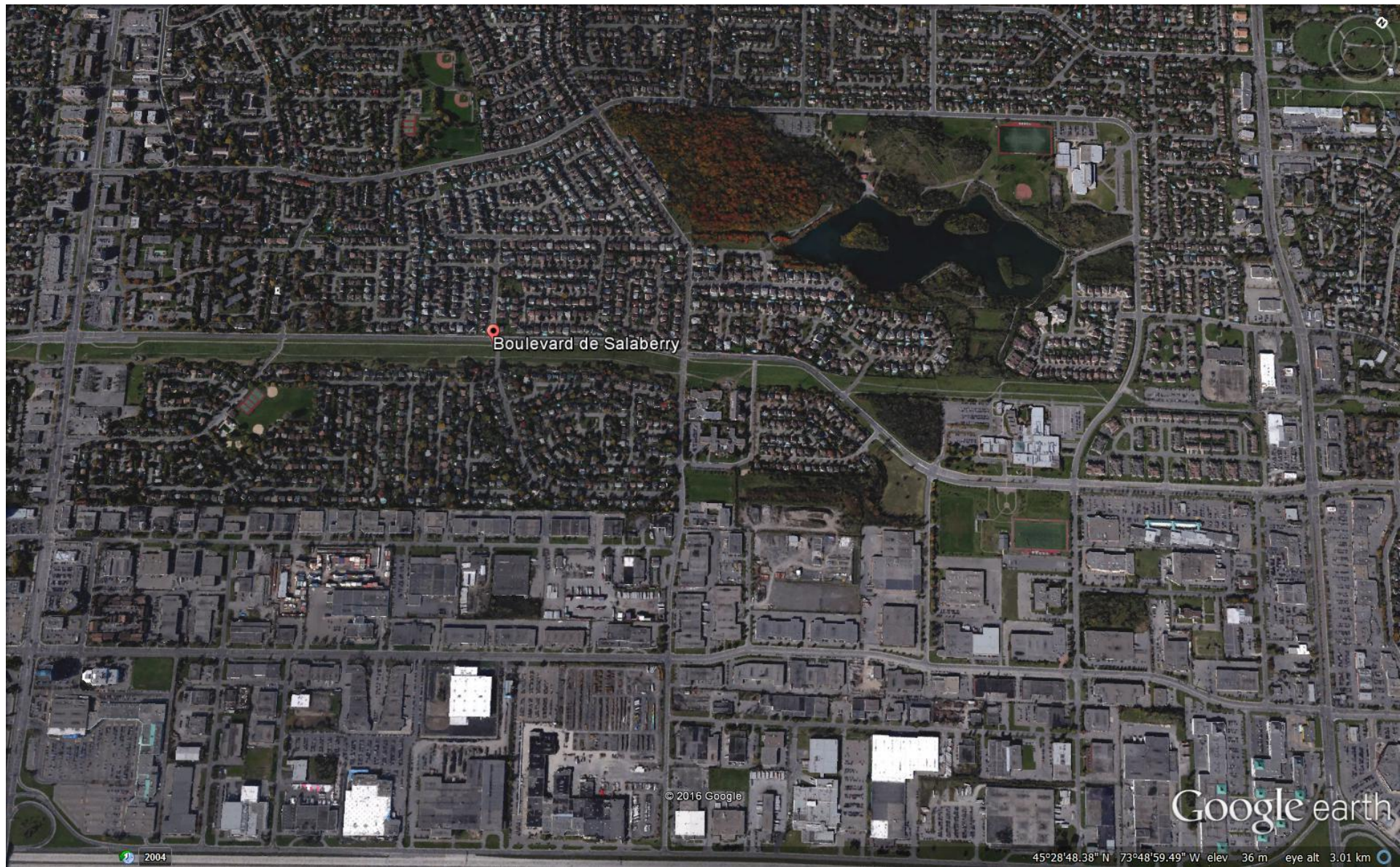
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**Build it Underground DDO (BIUDDO)
Construisez-la souterrain**

May, 2016

Preface

- The residents of Dollard-Des-Ormeaux recognize the reported reasons underlying the proposed project (currently operating at 80% capacity with no growth for past 5 years).
- We remain steadfastly opposed to the *aerial construction* of a new 315kV line linking Hydro Quebec's substations (Boul. Des Sources and Boul. St Jean).
- The proposed 315kV line will be constructed along the heavily inhabited, densely populated, De Salaberry Rd corridor in the heart of the city.



Boulevard de Salaberry

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Google earth

2004

45°28'48.38" N 73°48'59.49" W elev 36 m eye alt 3.01 km

Who is Impacted?

Town Houses



DDO Civic Center



Senior Citizen
Residences





Boul. De Salaberry

Private Residences



The Project Preview



Now

Ligne d'Alimentation à 315 kV

Le poste Saint-Jean projeté sera alimenté par une nouvelle ligne biterne (deux circuits) à 315 kV qui sera construite dans une emprise où se trouvent déjà des lignes de distribution d'électricité et une ligne de transport à 120kV.



After





Preface

Hydro Quebec's proposal involves the construction of 11-15 additional towers/pylons that will be adjacent to the existing 120kV line and pylons.



Preface

- The city and its residents dispute a large number of HQ's statements of "factual evidence".
- HQ has selectively omitted empirical evidence contrary to their position (some of which was financially supported by HQ).
- HQ has failed to provide adequate/substantial public consultation.
- HQ has failed to provide impartial evidence by independent experts.

Preface

Regie de l'énergie's requirement:

“Hydro Quebec must submit the best possible project that is technically, economically, environmentally and socially sound that benefits its customers.”

The overhead solution was approved on the basis of economic and technical perspective without regard for environmental and social issues in spite of record breaking profits (2014, \$3.38 billion).

HQ, a crown corporation, has a responsibility and obligation to provide accurate and factual information to the government and its citizens.

Informed Citizens' Concerns

Inadequate Public Consultation

- Misrepresentation that 200 residents signed a petition.
- Unilingual notice from Hydro Quebec received by some of the community during the week of November 24th, 2014.
- Hydro Quebec information session held on Dec 2nd, 2014 at the Civic Center (giving the community less than 2 weeks notice).
- December 9th, 2014; Dollard-des-Ormeaux Mayor and city councillors unanimously pass a resolution requesting that the new 315 kV line be constructed underground.
- Nov. 2014 – Present: Group of citizens and volunteers is formed to raise awareness and petition signatures – (Build it Underground DDO – BIUDDO).
- April 20th, 2015: Community reaches 1,000 petition signatures.
- April 30th, 2015: Community members meet with Hydro Quebec.
 - Hydro Quebec “never seriously considered an underground solution”.
- Consultation consists of multiple newspaper advertisements & limited distribution of leaflets the day preceding the BAPE hearings.
- **Promised consultation never occurred.**
- **Request for delay denied – timeline escalated by 2 years.**

Le Projet Limoilou

Inquiétudes

C'est justement celui-ci qui soulève les passions. Pour éliminer les 16,5 km de lignes à haute tension aériennes (230 kV) qui longent la 41e Rue et le boulevard Henri-Bourassa, Hydro prévoit enfouir les lignes dans les rues de Limoilou.

Les citoyens, inquiets des champs électromagnétiques et de leurs effets sur leur santé et celle de leurs enfants, estiment qu'ils ont été tenus dans l'ignorance trop longtemps. Ce n'est que récemment qu'ils ont commencé à se mobiliser pour demander à Hydro de modifier le tracé.

Community was
heard

Underground is
widespread

À Québec, ce sera la première fois qu'un tel projet sera réalisé, mais à Montréal, 190 km de lignes sont enfouies sous les rues de la ville. Dans le monde, il y a environ 127 000 km de lignes souterraines, surtout dans les grandes villes comme New York et Boston.

Health Risks

- National Institute of Environmental Health Science (1998) – EMF exposure is a possible human carcinogen.
- International Agency for Research on Cancer (IARC) (2001) EMF exposure a Group 2b carcinogen.
- American Cancer Society (1996) – possible relationship between brain cancer & EMF exposure.
- Bioinitiative Reports (2007, 2012), multiple international research scientists conclude a relationship between EMFs and health-related concerns exist.
- Theriault's study (1994) funded by HQ- showed inconsistent results with some groups showing elevated risks associated with EMF exposure and others did not.

In explaining his results, he suggested it “was tough to do. I felt it was my duty not to create panic, but I could not hide what I saw either. I had to say there might be a risk here. But it's minimal.” “Something is going on that still evades our comprehension.” (Theriault, 1995).HQ pulls the data and prohibits further analysis (Microwave News, 1994, Volume XIV, No.6)

- Coghill (1996) increased risk of childhood leukemia, cancer headaches, depression & SIDS.
- World Health Organization (2001) EMFs are a Class 2b carcinogen.
- Draper (2005) study - 29,000 cases in the U.K. found elevated rates of childhood cancer.

Health Risks

- Kundi (2012) studies suggest link between childhood leukemia and EMFs.
- International Agency for Research on Cancer (IARC) have classified EMFs as a possible human carcinogen.
- Drs. Kheifets, Repacholi, Saunders & van Deventer (2004) concluded that when risks are small or complex or an established cause-effect is absent or the scientific findings are not sufficiently quantifiably robust, “the need for timely preventative action makes a precautionary approach an essential part of policy making”.
- World Health Organization has argued for a precautionary preventative approach as has the DRSP (Direction régionale de santé publique) in Limoilou.
- In other jurisdictions in North America (e.g., California, Connecticut, New Hampshire) and Europe (e.g., The Netherlands), government policies limit EMF exposure through distancing high-voltage lines from the public or by placement of high-voltage lines underground.

Environmental, Ecological, Visual and Aesthetic Factors

- Pylons and aerial wires remain aesthetically unappealing and detract from the urban landscape.
- Proposal for 11 additional pylons considerably taller than the existing pylons.

HQ “will create an exemplary property with the collaboration of the municipality by creating recreation and landscaping in the existing Hydro Quebec property”



This is how HQ has taken care of it's model right-of-way



“The installations would permit a harmonious cohabitation in the long term between vegetation and the electrical lines.”



Property/Market Values of Residences

- HQ contends no loss of residential market values.
- Overwhelming evidence indicates market values of homes are negatively impacted when near aerial lines and large towers.
- Professor Des Rosier (Laval University) (an HQ funded study in Brossard) concluded that “severe visual encumbrances due to a direct view on a pylon or conductors does exert a significantly negative impact on property values, with depreciations ranging from 5% to well in excess of 20%” (Des Rosier, 2002).
- BC Hydro purchased 104 homes from residents, and incurred a net loss of \$23 million (the cost of underground cabling was \$24 million).
- Over 20 studies have supported these findings.
- Perception = Market Value.

Cost Projections

- All costs are borne by the general population.
- Costs are amortized over 80 years.
- No detailed cost analyses are provided – 20% miscellaneous costs.
- 8% finance charge when Hydro Quebec's net profits are almost \$4 billion, with excessive retirement packages and huge salaries for its administrators.

**Ligne souterraine à 315 kV
entre les postes Saint-Jean et des Sources**

Tableau des coûts (en dollars constants 2014)

Avant-projet et ingénierie	7,6 M\$
Approvisionnement <ul style="list-style-type: none"> • Matériaux civils et électriques Câbles électriques à 315 kV, extrémités de câbles, jonction de câbles, parafoudre et accessoires électriques, conduits et charpentes métalliques 	24,7 M\$
Construction <ul style="list-style-type: none"> • Travaux civils et électriques Canalisations, forage, fondations, charpentes métalliques et travaux de trage des câbles 	13,9 M\$
Frais financiers et autres	12,6 M\$
Coûts totaux paramétriques	58,8 M\$

Ligne d'alimentation du poste St-Jean à 315 kV
Analyse comparative de deux projets souterrains avec l'estimation paramétrique du projet St-Jean

	Projet Viger/De Lorimier	Projet Limoilou	Projet St-Jean (0 à 40 ans)	Projet St-Jean (41 à 60 ans)
Tension	315 kV	250 kV	315 kV	315 kV
Nombre de circuits	2	2	2	2
Longueur totale de circuit (km)	14,3	10,8	7,5	7,5
Section d'âme	1775 mm ²	800 mm ²	1000 mm ²	2500 mm ²
Localisation	Centre-ville de Montréal	zone urbaine de Québec	ouest de l'île de Montréal	ouest de l'île de Montréal
Coûts (k\$)				
Avant-projet	1 039 k\$	1 475 k\$	1 122 k\$	1 122 k\$
Ingénierie	2 459 k\$	1 581 k\$	879 k\$	879 k\$
Expertise immobilière	81 k\$	260 k\$	90 k\$	90 k\$
Approvisionnement	25 862 k\$	13 723 k\$	11 205 k\$	13 432 k\$
Travaux	13 738 k\$	14 435 k\$	6 255 k\$	7 467 k\$
Gérance de projet	2 454 k\$	2 126 k\$	1 639 k\$	1 639 k\$
Frais financier et autres	13 611 k\$	7 137 k\$	5 867 k\$	6 886 k\$
Coût total	59 243 k\$	40 736 k\$	27 076 k\$	31 735 k\$
Coût total, St-Jean				58 611 k\$
Coût (M\$/km de circuit)	4,14	3,77	3,61	4,23

Notes

La longueur totale de circuit est la somme des longueurs des deux tracés retenus (deux circuits) et nécessaires pour chaque projet.
 Les coûts d'approvisionnement sont directement liés à la tension du projet (kV) et à la section d'âme des câbles.
 Les coûts de travaux de Limoilou incluent la reprise de certains travaux de canalisations associés à un changement de tracé en cours de projet.
 Les coûts des projets Viger/De Lorimier et Limoilou sont en dollars de réalisation.
 L'estimation paramétrique des coûts du projet St-Jean est en dollars constants 2014 avec frais d'emprunts (sans inflation).

Hydro-Québec, avril 2016

Pour la commission d'enquête du BAPE concernant
 le projet du poste St-Jean à 315-25 kV et sa ligne d'alimentation à 315 kV

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DA27

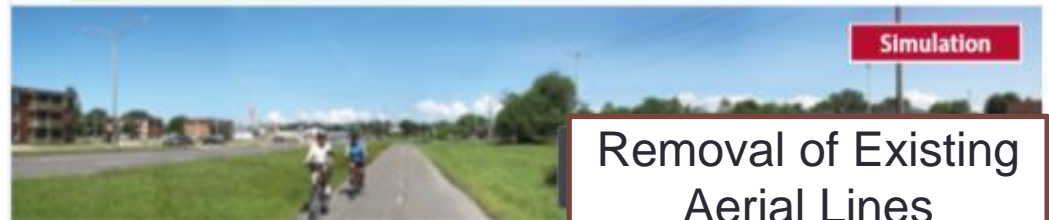
Projet de construction du poste St-Jean
 à 315-25 kV et d'une ligne d'alimentation à 315 kV
 à Québec Des Ormeaux

6211-06-067

Le Projet Limoilou

- ~6.0 KM of underground line in suburban setting
- Currently in Construction
- Estimated costs of \$3m per KM

Partnership with
Community



Removal of Existing
Aerial Lines

Footprint of the Saint-Jean Substation to be significantly expanded in
close proximity to residential homes



Sound Emissions

- High-voltage lines emit sounds and the resulting audible noises are affected by the condition of the air—including humidity, air density, wind and water in the form of rain, drizzle and fog.
- No external engineering reports have been provided substantiating the reduction of noise from new equipment.
- The building of a sound wall suggests the opposite may be true.

Physical Safety

- High-voltage power lines present safety hazards including the risk of electrocution, electrical arcing, fire and the possibility of pylon/tower failure under severe weather conditions (such as those encountered in the ice storm of 1998).
- Aerial lines are vulnerable to harsh weather including snow/ice storms or high velocity winds, jeopardizing the reliability of the power grid.

Better Living in Neighborhoods with Underground Lines

Future homeowners

[Ins and outs of undergrounding](#)

[Advantages of undergrounding](#)

[A look at the system](#)

[Planning the neighborhoods of tomorrow](#)

[Need to dig?](#)

[Documentation](#)

[Useful links](#)

Future Homeowners

Advantages of Undergrounding

Safe

A pool skimmer waved high in the air or branches too close to power lines, these can spell trouble. An underground system helps reduce the risk of accident.

Attractive

With their unobstructed views and potential for beautiful green spaces, neighborhoods with underground lines are hard to resist. With more room for planting, you'll be able to create a backyard with greater privacy. And since there's no need for servitudes (rights of access), you can easily add a patio, a swimming pool or a garden shed.

Worthwhile

It's a known fact: trees add beauty and value to a property. They also have a cooling and calming effect on public streets. With an underground distribution system, there are no poles or overhead lines, so there's no need to prune or fell trees to meet standards and regulations, which is appealing to buyers looking for property with mature trees and varied vegetation. And resale values tend to be higher in neighborhoods with underground systems.



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Advantages of Undergrounding

- **Attractive**

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- **Worthwhile**

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<http://www.hydroquebec.com/livingwirefree/avantages.html>

Summary

- HQ has done an inadequate job of informing the community, has failed to properly consult with residents.
- HQ does not have public support for this project.
- No independent verification of acoustical reports, home evaluations, engineering reports, have been made.
- HQ has selectively omitted **important** research, misrepresented the findings of some research, and has provided inadequate documentation.
- City Council of DDO has signed a unanimous resolution against the project as proposed.
- The Community remains very concerned re: the potential negative health and environmental impacts.
- The residents are concerned with diminished property market values and material changes to the landscape.

Summary

- The proposed project fails to take into account the required social and environmental impacts.
- Little consideration has been given to the residents bordering the current right-of-way.
- HQ has provided insufficient details and explanations of the true costs and revenues associated with this project.
- HQ has failed to adopt its own principles of “prudent management” and intent to continue to build lines underground in residential neighborhoods.
- HQ has accelerated the project calendar by 2 years, not permitting independent studies and consultation.

Summary

- HQ prides itself on its international and responsible leadership
- HQ's 4 pillars of project development
 - Social viability
 - Economic concerns
 - Technical feasibility
 - Environmental impact
- Hydro Quebec's own "Prudent Management Position"
(www.hydroquebec.com/fields/pdf/position_hq_cem.pdf)
- *They acknowledge potential health risks associated with EMFs*
- *They acknowledge the uncertainty could be a concern to its employees, customers and the general public*
- *"Hydro Quebec also intends to exercise caution by contributing to research efforts, being constantly attuned to new knowledge, sharing such knowledge with its partners and the public, as necessary, in its electrical equipment designs and practices."*

Premiere Phillippe Couillard, "The well-being of our loved ones, our children, is what we have that is most precious." (May 2, 2016).

Recommendations

- We urge the BAPE to strongly recommend to the Ministers that the project be rejected in its current form and be significantly modified incorporating an underground solution before being approved.
- That both the BAPE and HQ consider the significant social and environmental impacts of the proposed project upon the community and not merely the projected costs and technological ease of installation.
- We urge HQ to adhere to its own prudent management policies in promoting the health and well-being of the citizens of DDO.

Recommendations

- We urge HQ to show leadership and reconsider the use of the overhead transmission lines in a high density residential area in the heart of DDO.
- We urge HQ to offer fair and equitable compensation to homeowners in close proximity to the expanded substation.
- We urge HQ to remove the existing powers with the 120kV line upon completion of the expanded project.