

Building Permit Submission Checklist

The following checklist contains standard Building Permit (BP) submission requirements for buildings connected to the City of North Vancouver's community energy system. The following items are required as a minimum, but are not exhaustive. Additional comments will be provided as part of the BP application review.

The Coordinating Registered Professional (CRP) is responsible for completing this checklist. Please email the completed checklist to **info@lonsdaleenergy.ca**. A failure to provide the required information could result in a delay of the permit review and permit issuance.

Building Permit Submission Requirements		Completed
1.	General	
	1.1. All drawings will be authenticated in accordance with EGBC	
	requirements.	
	1.2. All drawings will be submitted following CNV BP submission	
	requirements.	
	1.2.1. All revised drawings will be submitted as a full set of drawings	
	with revisions clouded. Indicate revision clouds with a revision	
	triangle & number.	
	1.2.2. Do not change page/drawing numbers. If adding additional	
	pages, please number differently.	
2.	Architectural	
	2.1. Owner is responsible for sealing of any penetrations through interior or	
	exterior walls for Lonsdale Energy's services, including waterproofing,	
	fireproofing, or smoke sealing. Indicate on drawings and provide detail	
	for review.	
	2.2. Owner is responsible for the cost of providing penetrations through	
	interior or exterior walls for the Lonsdale Energy service connection.	
	Exact locations to be coordinated with Lonsdale Energy. Indicate on	
	drawings.	
	2.3. Indicate proposed Lonsdale Energy service connection location on site	
	plan.	
	2.4. Ensure all permanent objects or obstructions are kept 1.5m clear of the	
	proposed Lonsdale Energy service connection (e.g., planters, trees,	

lighting, bicycle parking, soil cells, rain gardens, catch basins,	
stormwater detention tanks, etc.).	
2.5. Provide dedicated mechanical space for Lonsdale Energy's Energy	
Transfer Station (ETS). Indicate clear dimensions on drawings.	
2.5.1. An estimated minimum space of 3m x 2.5m x 2.75m high is	
required (to be confirmed by Lonsdale Energy following receipt of	
the mechanical consultant's heating load letter).	
2.5.2. Provide either:	
A dedicated room with out-swinging lockable door, or	
A lockable fenced space with out-swinging gate located	
within the building mechanical room.	
2.6. Provide section through Lonsdale Energy space. Indicate clear	
dimensions on drawings.	
2.7. Ensure proposed interior Lonsdale Energy piping is coordinated with all	
other services.	
2.8. For level and location where proposed Lonsdale Energy service	
connection is to enter the building, confirm the following elevations.	
2.8.1. Finished floor.	
2.8.2. Ceiling.	
2.9. Email the following AutoCAD files to Lonsdale Energy:	
2.9.1. Parkade levels	
2.9.2. Grade level	
2.9.3. N-S section through Lonsdale Energy space	
2.9.4. E-W section through Lonsdale Energy space	
3. Civil	
3.1. Show Lonsdale Energy distribution piping and proposed service	1
connection in plan and profile, and all existing and proposed utilities.	
3.2. Ensure Lonsdale Energy distribution piping and proposed service	+
connection are coordinated with other utilities and service connections.	
3.2.1. Provide 1.5m clear separation between Lonsdale Energy service	
connection and other service connections.	
3.2.2. Minimum vertical clearance for utilities crossings is 0.3m.	
3.2.3. Minimum 1.7m wide clear corridor required for Lonsdale Energy	
trench.	
3.2.4. Note inverts at all crossovers.	
3.3. Ensure all permanent objects or obstructions are kept 1.5 m clear of	
proposed Lonsdale Energy service connection (e.g., lighting, soil cells,	
rain gardens, catch basins, stormwater detention tanks, etc.).	
3.4 Include the following text in drawings:	
Please see Lonsdale Energy's pipe requirements:	
If the developer's contractor exposes Lonsdale Energy's pipes, the	

developer's contractor must backfill pipes per standards (including temporary protection from granular bedding material being washed out) with compacted (Sechelt) sand and proper imported backfill material as per the trench detail as it is/was submitted to them. Note, to have sand available at the construction site at the time of exposing pipes.

Photos and inspection report of backfilling pipes must be provided by the developer's civil engineer. If the contractor doesn't backfill open pipes as per Lonsdale Energy's request, the developer may be held responsible for any broken equipment related within or around Lonsdale Energy's system.

Contractor will only use hydro-vac equipment (hydro-vacuum truck) for excavation. Lonsdale Energy pipes are 2, pre-insulated steel pipes carry pressurized hot water, generally running along with RPVC communication conduits (2 of Lonsdale Energy's communication conduits). The preinsulated pipes must be fully embedded (surrounded) in 300mm (Sechelt) sand compacted to 95% Modified Proctor Density. Follow geotechnical recommendations on how to properly embed the pipes with the sand.

Once Lonsdale Energy's pipes are exposed, Lonsdale Energy is not liable for any bodily injury or company/personal property damage working around pipes. No person is allowed to step on pipes and touch the pipes with bare hands.

Contractor must contact Lonsdale Energy at 236-874-0176 or info@lonsdaleenergy.ca 72 hours (minimum) prior to start of work.

If a civil contractor installs a drainpipe (perforated pipe) or storm water infiltration/exfiltration system / soil cells crossing Lonsdale Energy's trench, or the drainpipe/drainage system is in the vicinity Lonsdale Energy's pipes (6.0m within pipes), the contractor must make sure that the trench is not compromised.

The storm pipe crossing Lonsdale Energy's trench must be a solid pipe. The trench must be protected from storm water drainage/exfiltration/ infiltration system. The contractor must use non-permeable PVC cloth/membrane (or similar approved equivalent product) to prevent any percolation from the exfiltration/infiltration system. Photos and inspection report of backfilling Lonsdale Energy's pipes must be provided by the developer's civil engineer.

Lonsdale Energy's pipes require compacted sand around the pipes for protection and thermal restraint.

3.5. Provide the following AutoCAD files:	
3.5.1. Topographic survey plans.	
3.5.1.1. Offsite.	
3.5.1.1.1. Roads.	
3.5.1.1.2 Municipal corridor.	
3.5.1.2. Onsite (if the proposed Lonsdale Energy service connection is	
extended on site).	
3.5.2. Civil drawings.	
3.5.2.1. Key plan	
3.5.2.2. Site servicing plan	
3.5.2.3. Roadworks	
3.5.2.4. Watermain	
3.5.2.5. Sanitary	
3.5.2.6. Storm	
3.5.3. All proposed third-party utilities	
3.6. Developer is responsible for the final trench restoration including mill	
and overlay and road marking. This should be done as part of the off-	
site civil work or at anytime upon request by City forces. Provide note on	
drawings.	
3.7. Developer and its contractors/subcontractors are required to facilitate	
and follow Lonsdale Energy's traffic management plan during Lonsdale	
Energy construction. Failure to do so will make developer solely	
responsible and liable for all additional costs resulting from any	
construction delays. Provide note on drawings.	
3.8. Developer is responsible to provide Lonsdale Energy with all the	
approved and proposed third-party utility designs to avoid potential	
conflicts with Lonsdale Energy's district energy connection alignment.	
and lights for all the additional cost including design shanges, sytra	
meteriale, and construction delays to receive such conflicts resulting	
from approved and proposed third party utility decigns. Note that this is	
additional to the agreed upon recoverable cost	
additional to the agreed-upon recoverable cost.	
4. Landscape	
4.1. Indicate proposed Lonsdale Energy service connection location on site	
plan.	
4.2. Ensure all permanent objects or obstructions are kept 1.5m clear of	
proposed Lonsdale Energy service connection (e.g., planters, trees,	
lighting, rain gardens, etc.).	

	4.3. Ensure Lonsdale Energy's installed valves and junction boxes are not	
	buried by landscaping. Valves and junction boxes will be kept visible and	
	accessible for future maintenance. Provide note on drawings.	
5.	Mechanical	
	5.1. Indicate proposed Lonsdale Energy service connection on site plan and	
	appropriate floor plan.	
	5.2. Indicate Lonsdale Energy heat exchanger on appropriate floor plan.	
	5.3. Owner is responsible for the cost of providing housekeeping pad for	
	Lonsdale Energy equipment. Indicate on appropriate plan. Exact size	
	and location to be field coordinated.	
	5.4. Ensure proposed interior Lonsdale Energy piping is coordinated with all	
	other mechanical services.	
	5.5. Indicate on drawings a clear path to install/access/remove Lonsdale	
	Energy equipment.	
	5.6. Provide ventilation for Lonsdale Energy room/space. Allow for 2 kW heat	
	gain from Lonsdale Energy equipment standby losses. Room	
	temperature not to exceed 35C. Provide calculations for review.	
	5.7. Lonsdale Energy room/space is dedicated to Lonsdale Energy	
	equipment. Keep all other equipment clear of this space unless required	
	by code. Any items required by code are to be fully coordinated with	
	Lonsdale Energy prior to construction. Provide note on drawings	
	E. 9. Confirm there is sufficient enable for building mechanical equipment. An	
	estimated minimum space of 3m x 2 5m x 2 75m high is required for the	
	Lonsdale Energy equipment (to be confirmed by Lonsdale Energy	
	following the mechanical consultant's total heating load estimate)	
	5.9 Provide dedicated strainer on building common heating water return	
	nining back to Lonsdale Energy ETS Locate outside of Lonsdale	
	Energy room/space	
	5 10 Maximum building supply water temperature provided by Lonsdale	
	Energy ETS is 65°C.	
	5.11. Maximum building return water temperature permitted is 43°C.	
	5.12. Provide building permit drawings complete for their intended purpose	
	with sufficient detail. For example:	
	5.12.1. Schematics,	
	5.12.2. Riser diagrams,	
	5.12.3. Mechanical room plans,	
	5.12.4. Equipment schedules,	
	5.12.5. Specifications, and	
	5.12.6. Sequence of operations for all heating systems including	
	domestic water heating, space heating, ventilation heating, etc.	

6. Electrical	
6.1. Provide one 120V/15A circuit with dedicated neutral to Lonsdale Energy	
room for Lonsdale Energy control panel.	
6.1.1. Bring power into bottom right of panel (coordinate with Lonsdale	
Energy on site).	
6.1.2. Lonsdale Energy electrician will land in panel. Label dedicated	
circuit in circuit breaker with "Lonsdale Energy".	
6.2. Receptacles located in Lonsdale Energy room are to be Ground Fault	
Circuit Interrupter (GFCI) type.	
6.3. Ensure proposed interior Lonsdale Energy piping is coordinated with all	
electrical services.	
7. Structural	
7.1. Indicate proposed Lonsdale Energy service connection location.	
7.2. Provide note on drawings to "coordinate coring and/or block-out	
locations for Lonsdale Energy service connection with Lonsdale	
Energy."	

Please provide the contact information for each consultant listed below.

Architectural Consultant		
Company		
Primary Contact		
Email		
Phone		
Civil Consultant		
Company		
Primary Contact		
Email		
Phone		
Landscape Cons	sultant	
Company		
Primary Contact		
Email		
Phone		
Mechanical Consultant		
Company		
Primary Contact		

Email			
Phone			
Electrical Consultant			
Company			
Primary Contact			
Email			
Phone			
Structural Consultant			
Company			
Primary Contact			
Email			
Phone			

Declaration:

I have completed this checklist and provided all requested information to the best of my knowledge.

Signature	
Name	
Title	
Company	
Date	