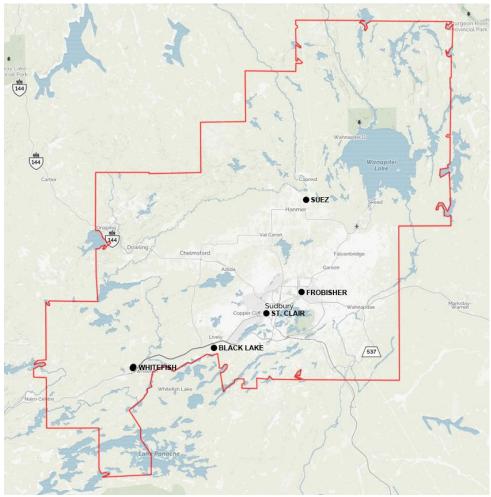
city of greater sudbury depot master plan summary 2018 06 20



keyplan - Location of the five depots are noted above; whitefish, black lake, st.clair, frobisher and suez.

master plan summary

This summary articulates fundamental assumptions used in preparing the concept design solutions for the redevelopment of five (5) depot sites in Greater Sudbury; Frobisher, St Clair, Suez, Black Lake and Whitefish. **Refer to key plan on the cover page of this summary for location of the five depots.**

The project flows from previous planning studies and building condition reviews that identified significant deficiencies in existing infrastructure.

The report represents a summary of issues and decisions made by the City of Greater Sudbury Staff and members of the design team in the course of developing the project's concept design.

This study identifies opportunities to develop efficient and long-term site planning and building infrastructure solutions to support Linear Infrastructure, Infrastructure Capital Planning, Water / Waste Water and Engineering Support at the following existing depots; Frobisher, St. Clair, Suez, Black Lake, and Whitefish.

The project was created to address the following issues;

- The existing infrastructure is aged and in some cases beyond the end of its lifecycle. Significant resources are required to upgrade, repair critical infrastructure including services, building and sites.
- Aging facilities have been repurposed but do not support the functional requirements adequately. Over time the reuse of existing buildings has addressed short term functional requirements. However, repurposing existing buildings for new function doesn't always create efficient outcomes. As a result, new functional programs hobble around existing, unyielding conditions.
- Existing spaces do not support best practices. Functional spaces required to support best practices and health and safety issues are not present or are inadequate.
- Facilities are inadequately sized and at times not present. Changerooms for field staff are too small and cannot accommodate all required users. The project develops new male and female changerooms to permit staff to prepare for the workday in appropriate work clothing and safely remove, dispose of soiled work clothing cloths and shower before returning home. Changeroom and lockers will be designed to accommodate the safe storage of clean and dirty personal items in a safe and effective manner. Muster / lunch rooms have been programmed to provide appropriately sized spaces for staff to use for multiple functions; muster, meetings, lunch, training.
- New systems are required to protect the environment. The development of new type of salt / sand dome will capture salt runoff and divert if from returning to our lakes and create a more efficient operational environment for handing materials and loading plows.
- An efficient / centralized warehouse saves time by managing stock and providing effective access and control of material / tools. At present

warehouse facilities are dispersed making control / stocking tasks difficult to manage and inefficient.

- New centralized offices are required to create collaborative work spaces. A 21st century employee environment promotes / permits collaboration and creates an effective / diverse work environment having the following characteristics:
- Standardized office and workstation sizes will be used. The new work environment will permit flexible accommodation of staff; permitting suitcase move to accommodate the creation of project teams, as well as growth and change between and within departments.
- A more flexible work environment will permit laptop mobility with access to resources via wireless connections.
- More variety of types of meeting, working and collaborative spaces using both enclosed and open spaces will be available for staff to work in. At present staff are spread across the city and housed in poorly planned, inflexible, inadequate and remote facilities.
- Vehicular circulation routes are hazardous and unsecured. Existing sites routinely combine public, employee, industrial traffic flows and do not restrict public access to industrial parts of the city sites. The resulting crossing of public and industrial traffic are hazardous.
- Vehicle storage saves equipment and operating costs. It can be shown that storing equipment, like plows in tempered, interior spaces saves money, reducing operational time and maintenance / replacement costs of equipment. At present plows and other equipment are generally stored outside.

Planning and concept design is intended to create facilities that will adequately support required departmental functions for 25 years.

Over the 5 depot sites, 15 planning options were reviewed to accommodate the functional programs.

The majority of the time during both the programming and concept design phases of the study was focussed on the St Clair and Frobisher sites. The terms of the reference for the study sought to develop a collaborative centre at St. Clair that included the administration offices for staff of Linear Infrastructure, Water / Wastewater (W/WW), Infrastructure Capital Planning and Engineering, and centralize shops, employee amenities and vehicle storage at this location.

The St Clair site is attractive to Water / Waste Water (W/WW) because it is central to the city's aging infrastructure; positioning staff at this location would reduce travel time to a significant number of work sites. Three options for the St Clair site were developed and it became clear that the site was not physically large enough to accommodate the scope of the programming.

While it's central location at St Clair was attractive to one of the three departments (W/WW), having W/WW included in the collaborative environment was deemed essential to creating long term efficiencies for all of the groups.

The St. Clair site has long been an important site for municipal infrastructure. Over time the city has grown up around the 9.6 acre site. At present it is bounded by Junction Creek, an elementary school and numerous residential properties. While zoning supported the continued use of the site, intensifying industrial activity at the site is at odds with the surrounding uses. For these reasons it was determined that the original functional program did not fit on the site and it was recommended that the functional program be scaled back to provide accommodation of a typical depot only.

The existing Frobisher site is much larger in area; 111.7 acres, bounded by other industrial and commercial uses. The 10.6 acre site to the north accommodates Solid Waste Management; administration office, recycling centre and the hazardous waste centre. The Frobisher site provides adequate site area to accommodate the proposed functional program, the site has significant existing buildings that can be renovated and expanded (the Works and Transit buildings), and can provide reasonable access to adjacent primary arterial streets. A number of concept plans were prepared for the site. During this process it became evident that the added size of the site and the existing buildings permitted efficient and adequate planning solutions to be developed that fully accommodated the functional program. The site is located in a source water protection area and will require storm water management systems that ensure water quality leaving the site is appropriate.

Final concept design work for each of the sites illustrates the following strategies at the noted sites:

frobisher

- Administration Facility A new administrative facility creates a central, collaborative and consolidated office environment for staff of Linear Infrastructure, Water / Waste Water, Infrastructure Capital Planning and Engineering Support.
- Works Facility The works facility renovates and expands the existing works building to accommodate depot office, employee amenities, shops and warehouse functions for the Frobisher site.
- Vehicle Storage Facility The existing transit building is renovated and expanded to accommodate heated vehicle storage and storage for additional departments; Leisure Services, NDCA.
- Waste Management Vehicle Storage Facility An addition on the existing
 waste management facility will be constructed to accommodate the
 heated storage of garbage / recycling trucks.
- Salt Sand Facility A new indoor salt sand facility is developed to accommodate salt / sand storage, preparation of brine solutions and loading of materials to plows.
- **Sitework** A number of existing buildings are demolished to make way for new facilities and exterior program elements. The site is renovated and expanded to accommodate vehicular circulation patterns, exterior material storage, employee / work vehicle parking, fuelling stations, water refilling station, weigh scales, storm water management systems and landscape buffers.
- Frobisher Extension Frobisher Street is extended to the north of the site
 and connected to a new commercial development thereby providing
 access to a new signalized access to Falconbridge Road at Auger Street.
- Interim Changerooms + Warehouse Minimal construction work will be completed at the existing Transit Building to reuse and repurpose existing

office / changeroom spaces for Linear Infrastructure staff. Similarly, interior renovations of warehouse shelving will be completed in the Works building and the use of open space in the Transit Building will be used to support reorganization of the warehouse for Linear Infrastructure and Water / Waste Water. This work is required to address health and safety issues that result from a lack of space available in the existing Works building and to accommodate additional staff from the Rayside Depot.

st clair

- Depot Facility A new depot facility will be constructed to replace the aging existing infrastructure. The new depot is designed to accommodate depot staff and support facilities only. Other existing program elements will be accommodated on the Frobisher site.
- Vehicle Storage Facility A new vehicle storage facility will allow indoor storage of plows and equipment.
- Salt Sand Facility A new indoor salt sand facility is developed to accommodate salt / sand storage, preparation of brine solutions and loading of materials to plows.
- Sitework A number of existing buildings are demolished to make way for new facilities and exterior program elements. The site is renovated and expanded to accommodate vehicular circulation patterns, exterior material storage, employee / work vehicle parking, fuelling stations, water refilling station, storm water management systems and landscape buffers.

suez

- Depot Facility A new depot facility will be constructed to replace the aging existing infrastructure.
- Vehicle Storage Facility A new vehicle storage facility will allow indoor storage of plows and equipment.
- Salt Sand Facility A new indoor salt sand facility is developed to accommodate salt / sand storage, preparation of brine solutions and loading of materials to plows.
- **Sitework** A number of existing buildings are demolished to make way for new facilities and exterior program elements. The site is renovated and expanded to accommodate vehicular circulation patterns, exterior material storage, employee / work vehicle parking, fuelling stations, water refilling station, storm water management systems and landscape buffers.

black lake

- Salt Sand Facility A new indoor salt sand facility is developed to accommodate salt / sand storage, preparation of brine solutions and loading of materials to plows.
- Sitework The site will be renovated and expanded to accommodate vehicular circulation patterns, exterior material storage, storm water management systems and landscape buffers to suit the proposed salt sand dome only.

whitefish

- Sand Facility A new sand facility is developed to accommodate pickled sand storage, storage of loader and the provision of a washroom / lunchroom on the site.
- Sitework The site will be renovated and expanded to accommodate vehicular circulation patterns, exterior material storage, fueling station, storm water management systems and landscape buffers to suit the new buildings.

Concept design drawings of existing conditions, proposed outcomes are attached to this summary

The estimated cost of the project is \$116.56M. A table of construction values based on 2018 construction dollars is included as part of the implementation plan. Construction values do not include escalation of costs beyond 2018 and HST. Construction costs do not include additional scopes of work required to support the phasing plan. During the development of the project more detailed phasing and costing studies will be required. Scope of cost documentation is included in the concept design report.

A high level implementation plan has been developed in order to articulate the sequential construction of the project across a 10 year time frame. Each project phases includes time periods for design, construction documents, tender and construction of the work.

The implementation plan is a gantt type schedule that graphically illustrates the project phases. Each project phase includes the following phases;

- **design** (d) In the phase design of the facility is prepared and refined.
- contract documents (cd)—In this phase detailed drawings and specifications that documents and described the scope of the construction are prepared for the tender phase.
- **tender (t)** During the tender contract documents are distributed to bidders and bidder are asked to prepare and submit a price to complete the work.
- construction (construction) The final phase of the project is the construction of the work.
- **occupancy** (o) Occupancy denotes the completion of the work. At this time the project is ready for its intended use and occupancy by city staff.

Sketches for the Frobisher, St Clair and Suez sites that illustrate the location and extent of multiple phases on these sites are included in this section for reference. Sketches for the Black Lake and Whitefish sites that illustrate the location and extent of single phases on these sites are included in this section for reference.

The implementation plan has three (3) distinct phases.

The first phase develops new salt sand facilities at each of the 5 depots. New salt sand facilities at four (4) of the depots; Frobisher, St Clair, Suez and Black Lake are large brine production, indoor salt, sand material storage and loading facilities (refer to items 1.1, 1.2, 1.4 and 1.5 in the implementation plan). Each facility has a significant amount of site work required to support industrial traffic flow to / from the new facility.

At the fifth depot; Whitefish, a smaller indoor sand facility with remote loader storage and required site modifications will be constructed (refer to item 1.3).

Phase one work will complete all scheduled improvements at the Whitefish and Black Lake depots.

Phase one design / contract documents work will be completed all at once. Subsequently four (4) of the projects will go immediately to tender. Occupancy of the work is scheduled for 23 months after the start of the design.

Phase 1 is estimated at \$3.22M (design, contract administration, site review) + \$30.53M (construction) and has a duration of 23 months.

The second phase of the project develops required facility improvements at the remaining three facilities; Frobisher, St Clair and Suez.

The first project will be the new administration building at Frobisher (item 2.1) facilitating the movement of Linear Infrastructure, Water / Waste Water, Infrastructure Capital Planning and Engineering Support in a new collaborative environment. The new administration building project will include the extension of Frobisher Street to a signalized intersection at Auger Street. The new Frobisher Street alignment will allow subsequent vehicular circulation routes to the Frobisher depot to be appropriately developed and provide safer and more efficient entrance and exit from the site.

Phase 2 work at the St Clair and Suez depots will await the completion of the phase 1 salt sand facilities. Once the construction contracts for phase 1 salt sand facilities are completed, design / contract documents for the **Depot Facilities** at each site, that houses offices, staff amenities and shops (refer to items 2.5, 2.6) will generally be ready for tender and this part of the project on both the Suez and St. Clair sites can move ahead. Over the next 32 months this work will be completed and will complete all phase 2 work at the St. Clair and Suez depots

Phase 2 work at the Frobisher Depot has three (3) additional parts; the renovation / addition to the **Works Facility** (item 2.2), the interior renovation of the existing **Transit Building** (item 2.3) and the **Compactor Addition to the Solid Waste Management Building** (item 2.4).

The Works Facility; that houses a significant amount of depot offices, shops, employee amenities, warehouse spaces and related sitework for employee parking and work vehicle parking is scheduled to be completed prior to Transit and generally parallel with the addition to Compactor Addition to the Solid Waste Management Building.

The phase 2 **Transit Building** will renovate and upgrade interior systems and complete site work around the existing transit building, including a new fuelling station. This part of the project is scheduled to start in year 4 and be completed 28 months later.

Phase 2 is estimated at \$5.35M (design, contract administration, site review) + \$57.84M (construction) and has a duration of 67 months.

3 The third phase of the project develops facilities that optimize function of the

depots. Phase three includes additions and renovations to the Frobisher Depot's Transit Building (items 3.1a, 3.1b), and building additions at St Clair's Depot (item 3.2) and Suez's Depot (items 3.3) to accommodate vehicle storage. Tender and construction of the work is scheduled to occur simultaneously on all three sites starting in year 6.5 / 7 of the program.

Phase 3 is estimated at \$2.33M (design, contract administration, site review) + \$24.96M (construction) and has a duration of 50 months. Phase 3 is the concluding phase for the project.

Should you have any questions or require additional information, please do not hesitate to contact me.

3 R D L I N E S T U D I O

Timo hy James, BES BArch OAA MRAIC

Archwect / Partner

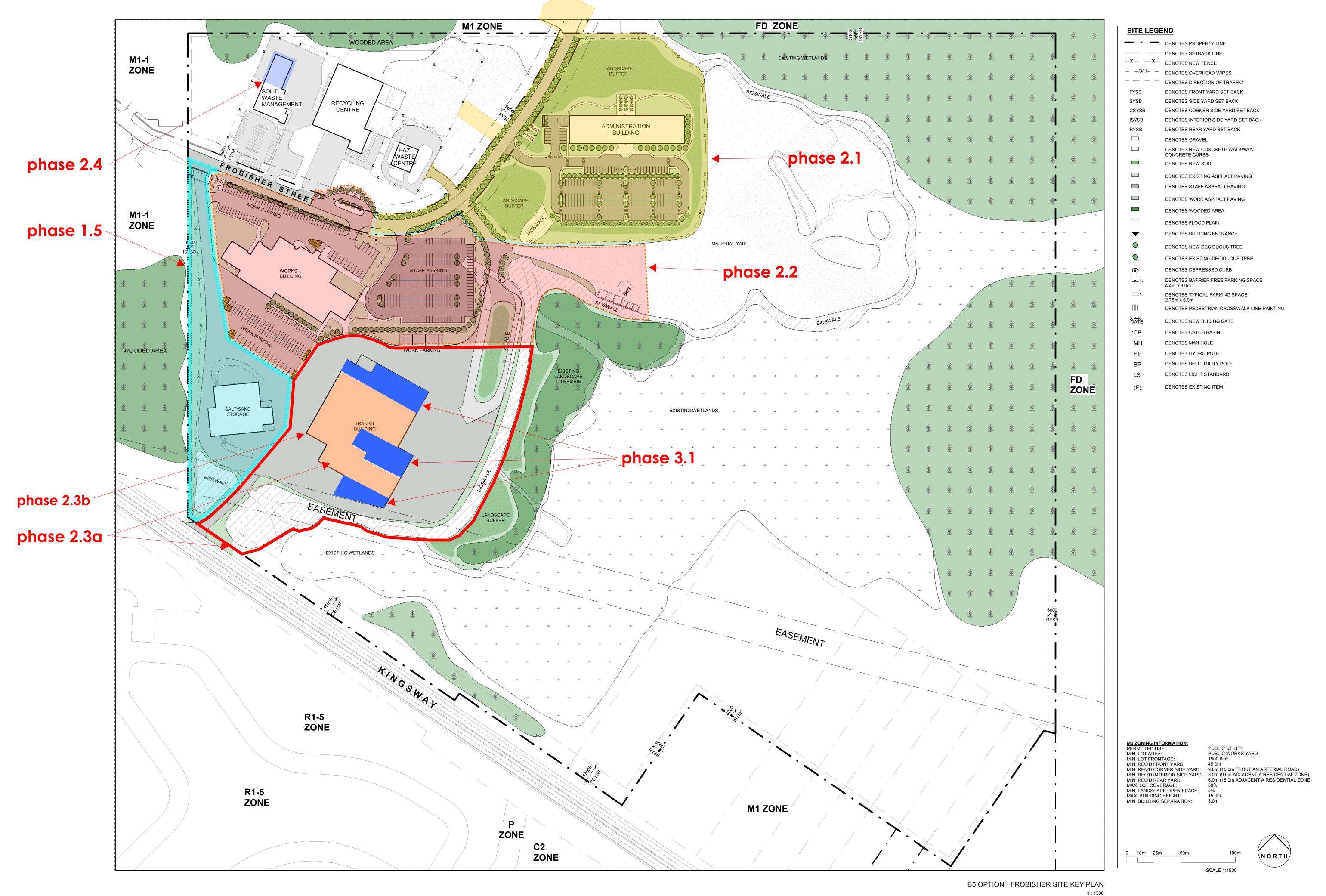
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City of Greater Sudbury Depot Master Plan - Implementation Plan revised 2018 06 20

a 2018 06 20						year	2 3	4	5	6	7	8	9
phase / task		option		project value (not including design fees) (\$000,000.00) 2018 dollars	project value (\$000,000.00) 2018 dollars	duration (mos)							
PHASE 1 - SALI	SAND FACILITIES		\$3.22	\$30.53	\$33.76	23	PHASE 1						
salt sand facilities			\$3.22	\$30.53	\$33.76	23	It sand facility d+c duration						
	suez	e 1	\$0.63	\$5.89	\$6.51	20	cd3 t2 construction 12						
)	black lake		\$0.68	\$6.25	\$6.93	20	cd3 t2 construction 12 O						
3	whitefish		\$0.23	\$1.89	\$2.12	15	cd2 t2 construction 9 O						
1 5	st clair		\$0.95	\$9.21	\$10.16	22	cd3 t2 construction 14						
)	frobisher	b5	\$0.74	\$7.30	\$8.04	20	cd3 t2 construction 12						
PHASE 2 - REQ	UIRED FACILITY IMPROVEMENTS		\$5.35	\$52.49	\$57.84	67				PHASE 2			
frobisher			\$4.33	\$42.75	\$47.08	58	bisher facility design and construction duration						
	admin facility	h£	\$1.74	\$17.20	\$18.94	30	cd6 t2 construction 16						
<u>1</u> 2	works facility		\$1.74 \$1.81	\$17.85	\$19.65	32	d5 cd5 t2	construction 20	0				
	rage- renovate transit building interiors + site		\$0.69	\$6.77	\$7.46	28	u3 Cu3 12		t2 construction	n 16			
	waste management vehicle storage		\$0.09	\$0.94	\$1.03	20	d3 cc	13 t2 construction 12	O				
st clair			\$0.54	\$5.21	\$5.75	34	st clair facility d +	c duration					
5	depot facility	a4	\$0.54	\$5.21	\$5.75	22	d4 cd4 t2	construction12 O					
suez			\$0.48	\$4.53	\$5.01	45	suez facility d + c duration						
6	depot facility	e1	\$0.48	\$4.53	\$5.01	20	d4 cd4 t2 construction 10 (
	3000.133,		40	4	Ψο.σ.								
PHASE 3 - FAC	ILITY OPTIMIZATION IMPROVEMENTS		\$2.33	\$22.63	\$24.96	50							
frobisher			\$1.35	\$13.33	\$14.68	41							
а	vehicle storage facility - additions	h.E	\$0.85	\$8.35	\$9.19	41					dE odE	t2 construction 20	
	nicle storage - transit bldg shell replacement		\$0.50	\$4.98	\$5.48	21				d3 cd4 t2	construction 12	Construction 20	
	note storage marking stag strong operation.												
st clair			\$0.52	\$5.07	\$5.60	22							
2	vehicle storage facility	a4	\$0.52	\$5.07	\$5.60	22					d4 cd4	t2 construction 12	0
suez			\$0.45	\$4.24	\$4.69	22							
		_										10	
	vehicle storage facility	eı	\$0.45	\$4.24	\$4.69	22					Q4 CQ4	t2 construction 12	<u> </u>
<u></u>	total construction value		\$10.90	\$105.66	\$116.56	122							
			Ş10.70	3105.00	7110.50	122		ļ	I		Į	I	

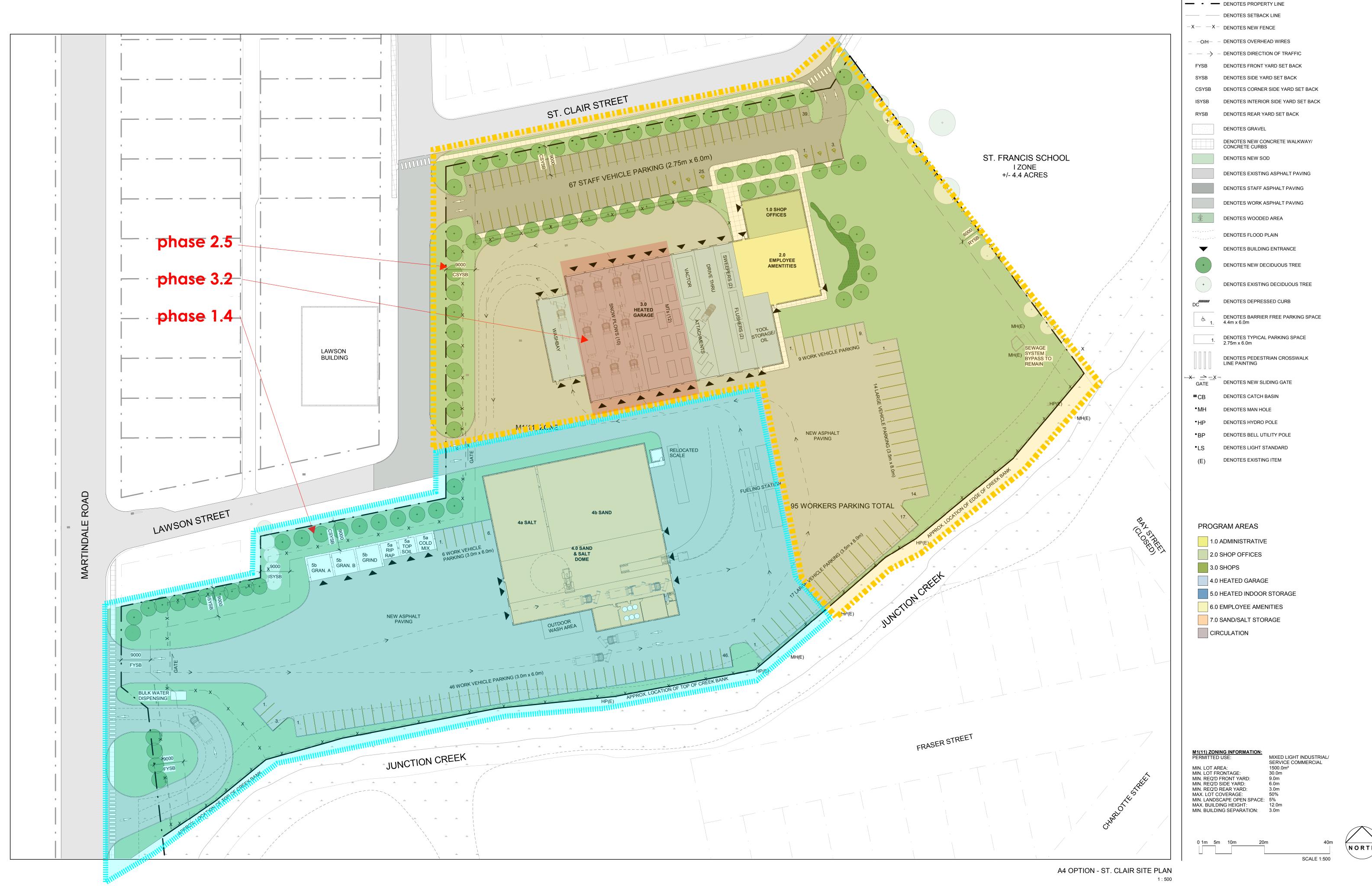
legend
suez facility design and construction duration

d4 design phase, with duration noted in months
cd4 contract documents phase, with duration noted in months
tender phase, with duration noted in months
const
construction phase, with diration noted in months
o occupancy



FROBISHER DEPOT

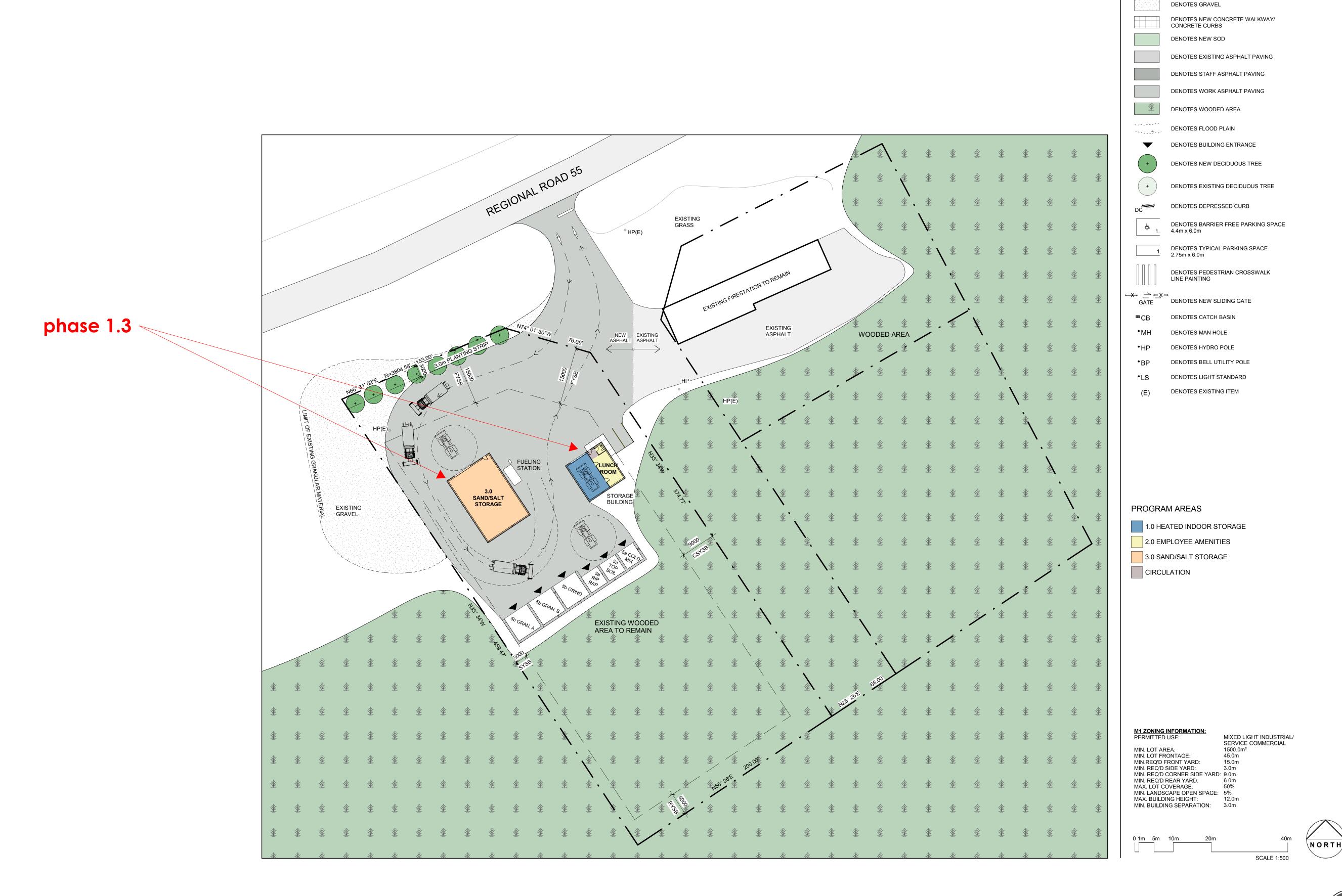
B5 OPTION - FROBISHER SITE KEY PLAN



ST. CLAIR DEPOT

A4 OPTION - ST. CLAIR SITE PLAN
2017 05 24

SITE LEGEND



WHITEFISH DEPOT

SITE LEGEND

DENOTES PROPERTY LINE

---- DENOTES SETBACK LINE

-X- -X- DENOTES NEW FENCE

− O/H− − DENOTES OVERHEAD WIRES

- \rightarrow - DENOTES DIRECTION OF TRAFFIC

SYSB DENOTES SIDE YARD SET BACK

DENOTES FRONT YARD SET BACK

DENOTES REAR YARD SET BACK

DENOTES CORNER SIDE YARD SET BACK

DENOTES INTERIOR SIDE YARD SET BACK



BLACK LAKE DEPOT

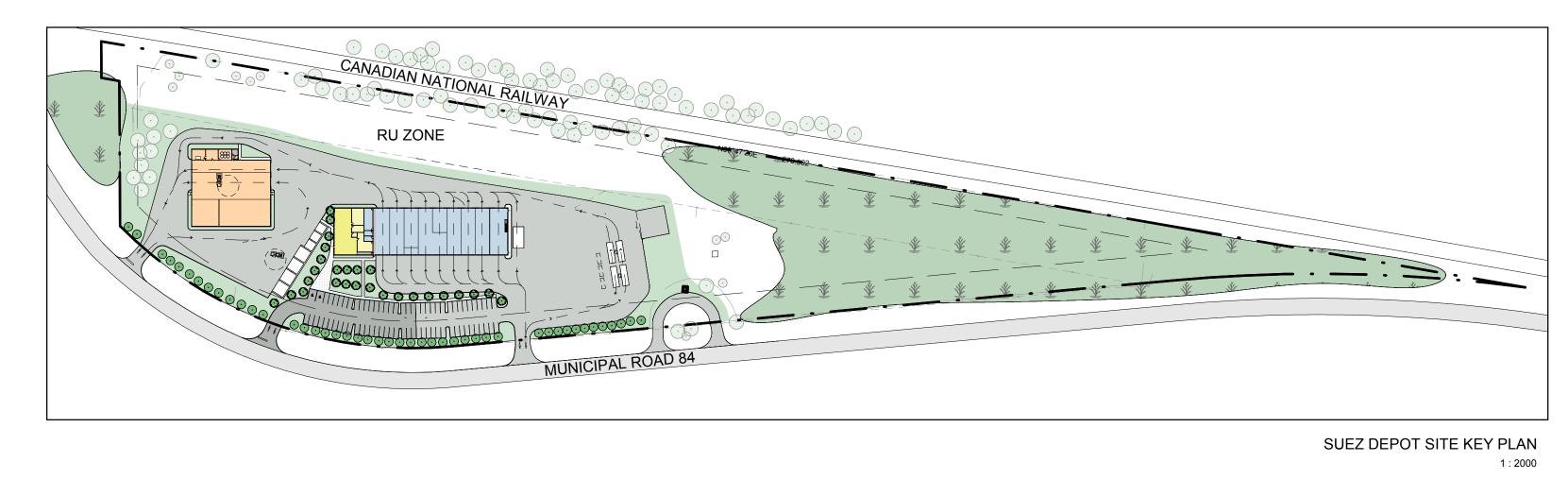
phase 1.2

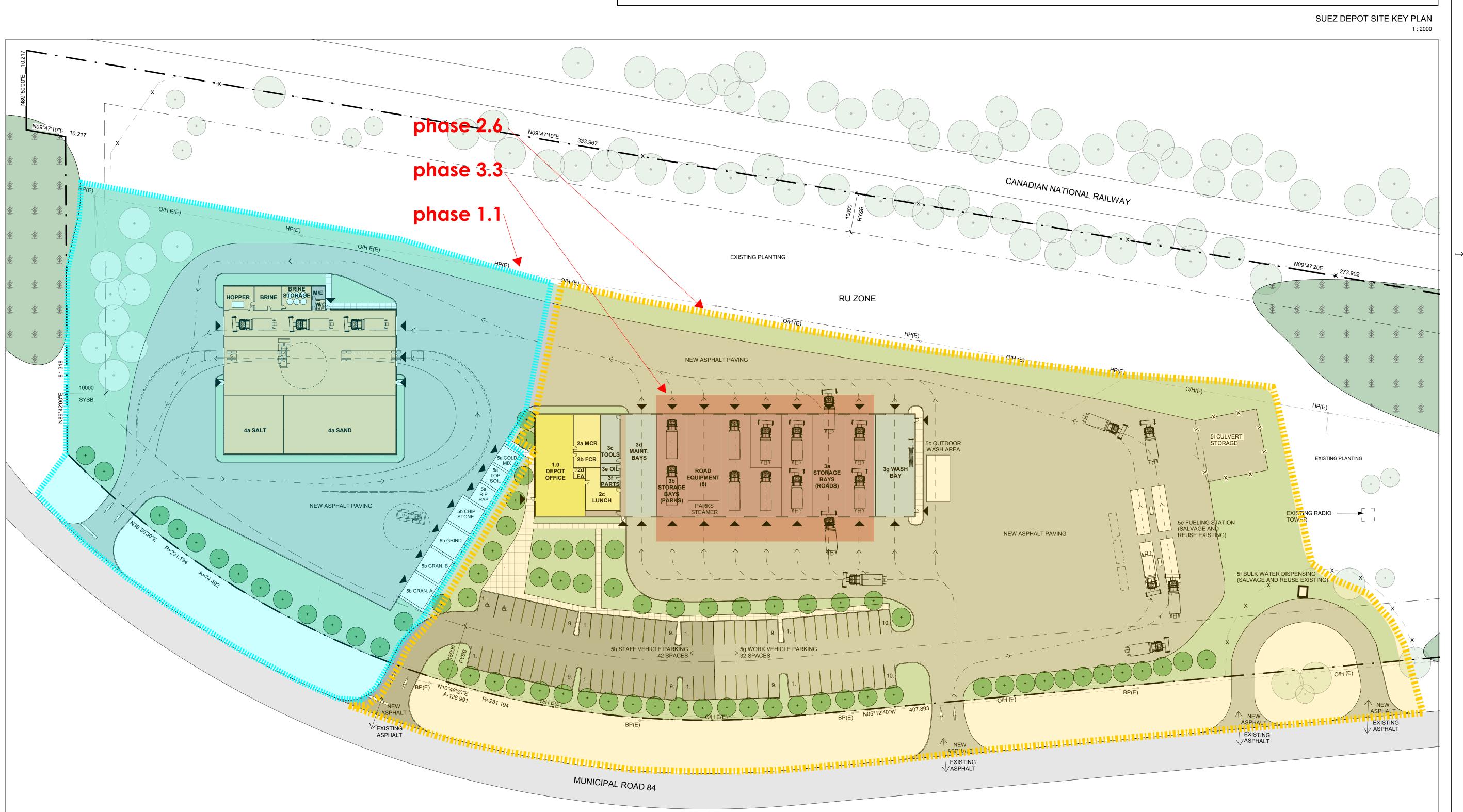
C1 OPTION - BLACK LAKE SITE PLAN
2017 05 24
BL-2

SITE LEGEND

DENOTES PROPERTY LINEDENOTES SETBACK LINE

-X- -X- DENOTES NEW FENCE





DENOTES EXISTING ASPHALT PAVING DENOTES STAFF ASPHALT PAVING DENOTES WORK ASPHALT PAVING DENOTES WOODED AREA DENOTES FLOOD PLAIN DENOTES BUILDING ENTRANCE DENOTES NEW DECIDUOUS TREE DENOTES EXISTING DECIDUOUS TREE DENOTES DEPRESSED CURB DENOTES BARRIER FREE PARKING SPACE DENOTES TYPICAL PARKING SPACE 2.75m x 6.0m DENOTES PEDESTRIAN CROSSWALK LINE PAINTING GATE DENOTES NEW SLIDING GATE DENOTES CATCH BASIN DENOTES MAN HOLE DENOTES HYDRO POLE DENOTES BELL UTILITY POLE DENOTES LIGHT STANDARD DENOTES EXISTING ITEM PROGRAM AREAS 1.0 DEPOT STAFF OFFICE 2.0 EMPLOYEE AMENITIES 3.0 HEATED GARAGE 4.0 SAND/SALT STORAGE CIRCULATION

SITE LEGEND

DENOTES PROPERTY LINE

—— DENOTES SETBACK LINE

-O/H− − DENOTES OVERHEAD WIRES

DENOTES GRAVEL

CONCRETE CURBS

DENOTES NEW SOD

- \rightarrow - DENOTES DIRECTION OF TRAFFIC

DENOTES FRONT YARD SET BACK

DENOTES CORNER SIDE YARD SET BACK

DENOTES INTERIOR SIDE YARD SET BACK

DENOTES NEW CONCRETE WALKWAY/

DENOTES SIDE YARD SET BACK

DENOTES REAR YARD SET BACK

−X — X − DENOTES NEW FENCE

