

Presented To:	City Council
Presented:	Tuesday, Aug 14, 2018
Report Date	Tuesday, Jul 31, 2018
Type:	Presentations

## For Information Only

### Depot Master Plan - Frobisher, St. Clair, Suez, Black Lake & Whitefish

#### Resolution

For Information Only

#### Relationship to the Strategic Plan / Health Impact Assessment

The City of Greater Sudbury, through Council's Corporate Strategic Plan (2015-2018) is committed to responsive, fiscally prudent, open governance.

The proposed recommendation plans a new centralized administration office with adequate meeting spaces required to create collaborative work spaces. The improved centralized depots for each service zone will promote the health and safety of depot staff by providing adequate dry facilities, and creating muster rooms for daily staff deployment training on site.

#### Report Summary

In 2015, the City of Greater Sudbury conducted a Facility Rationalization Study. The study recommended closing several public works depots and renovating or modifying numerous other existing facilities. This report carries forward the Facility Rationalization Study and related building condition reviews and identify opportunities to develop efficient and long-term site planning and building infrastructure solutions to support Linear Infrastructure Services, Environmental Services, Water / Waste Water Services, Infrastructure Capital Planning Services and Engineering Services.

#### Financial Implications

There are no direct financial implications from this report. There are funds of \$5 million allocated from 2018 and previous Capital Budgets to complete the Phase 1 and 2 detailed design for this project. The construction cost of each of the facilities will be included within the Capital Prioritization process for the 2020 Capital Budget.

#### Signed By

**Report Prepared By**

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**Division Review**

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**Financial Implications**

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**Recommended by the Department**

Tony Cecutti  
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**Recommended by the C.A.O.**

Ed Archer  
Chief Administrative Officer  
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## PROJECT BACKGROUND

In 2015, the City of Greater Sudbury conducted a Facility Rationalization Study, the first to take a detailed review of the depots since amalgamation. The municipal amalgamation process resulted in the retention and continued use of many service locations that were part of the various cities and townships in which they were located. Some of these locations were redundant and many were close to the end of their useful service life. The study recommended closing several public works depots and renovating, expanding, or modifying numerous other existing facilities. This recommendation was based on the cost of maintaining the status quo being higher than rebuilding many of the depots over a ten year planning horizon.

This Depot Master Plan carries forward on the recommendations of the Facility Rationalization Study completed in 2015, including related building condition reviews that identified significant deficiencies in existing infrastructure, programming analysis, and opportunities to improve operations.

On January 26, 2016 Council approved the following recommendations related with the various public works facilities located throughout the City (CC2016-16 to 22).

1. Declare the following depots surplus:
  - Levack Municipal Building (55 Levack Drive, Levack)
  - Dowling Public Works Garage (61 Main Street, Dowling)
  - Rayside Balfour Old MTO (3098 Highway 144, Chelmsford)
  - Valley East Public Works Building (4614 Desmarais Rd, Hanmer)
  - Skead PWD Depot (1921 Skead Rd, Garson)
  - Moonlight Beach Forestry Facility
  - Nickel Centre Garage (3610 Falconbridge Rd, Garson)
2. Negotiate alternate depot arrangements in Levack.
3. Consolidate the Lively Parks Depot (251-261 First Ave, Lively) into the Walden Public Works Garage (25 Black Lake Rd, Lively), and review the lively Parks Depot for alternate use and/or decommissioning.
4. Initiate a detailed site study of the Walden Public Works Garage with the goal to include the consolidation of the salt dome at the Naughton Depot to the Walden Public Works Depot.
5. St. Clair, Frobisher, Suez, and Black Lake Depots will remain and operations will be centralized at these locations.
6. Whitefish Depot will remain as a materials depot only.
7. A new administration facility is required and should be constructed at either St. Clair or Frobisher Depot.
8. Perform a detailed site study of the St. Clair Public Works Office / Depot, Frobisher Depot, and Suez Depot for best fit of operational use, with the report to include details as outlined below:

- Property Requirements
- Best use of existing buildings (reuse or demolition)
- Supplemental building requirements
- Financial Strategies / Funding Models”

Since the January 26, 2016 resolution the above recommendations have been completed and surplus depot facilities have been sold, with the exception of the following:

1. Valley East Public Works Building – Offer of purchase and sale has been accepted and closure is pending.
2. Moonlight Beach Forestry Facility – property will not be sold as it is part of Moonlight Beach Park and the building has been repurposed for cold storage, and hydro disconnected.
3. Nickel Centre Garage – Leased to Sudbury Trail Plan.
4. Alternate Levack Depot – A new site to suit the depot requirements in this area has been determined and is under negotiation.

This report presents the key findings of the Depot Master Plan that satisfy recommendations 5, 6, 7 and 8.

## **KEY FINDINGS**

A detailed needs assessment and programming analysis was undertaken to identify opportunities to develop efficient and long-term site planning and building infrastructure solutions to support Linear Infrastructure Services, Water / Wastewater Services, Infrastructure Capital Planning Services and Engineering Services at the following existing Public Works depots; Frobisher, St. Clair, Suez, Black Lake, and Whitefish.

Key concerns identified and addressed throughout this project are as follows:

1. The depots have reached or are reaching the end of their life cycle, and repairs are becoming costly without extending the life cycle of the asset.
2. The Provincial Source Water Protection Plan requirements and best practices require the storage and loading of salt and sand to be reconsidered.
3. Aging facilities have been repurposed but do not support the functional requirements adequately.
4. Existing spaces do not support best practices.
5. Facilities are inadequately sized and at times not present.
6. Employees are located across the City in various depots creating a barrier to collaboration and impacting the efficiency and production of the administration staff.
7. Vehicular circulation routes are hazardous and unsecured.
8. The lack of covered and heated vehicle storage is reducing the life expectancy of the equipment and materials stored in the vehicle, as well as creating inefficiencies with preparing the vehicle at the

start and end of each shift.

The Depot Master Plan is divided into three phases. Phase 1 and 2 will address the key concerns listed above, while phase 3 addresses vehicle storage.

### Salt/sand Domes (Phase 1)

Lake water quality is of great importance to Sudbury and the management of road salt is important to minimizing impact to lake water quality. Currently salt at the depot sites is stored in covered domes, and pickled sand stockpiles are not covered. Trucks are loaded outside which contributes to infiltration of salt into the underlying soils and runoff to nearby water bodies.

As outlined in the 2017, CGS commissioned Risk Management Plan for the Frobisher Depot, and the 2018 Salt Optimization Plan; the preferred solution to manage road salt storage within the Ramsey Lake intake protection zone is to redevelop the existing site using best management practices (i.e. build a dome for the pickled sand and salt storage, and provide indoor loading)

This Master Plan proposes to build new types of salt /sand domes that will capture salt runoff and divert it from returning to surrounding water bodies and create a more efficient operational environment for handling materials and loading plows.

The following is a summary table of existing and proposed salt and sand dome areas.

	Existing Areas				Proposed Areas			
Site	Outdoor Sand Storage (sf)	Indoor Salt storage (sf)	Outdoor loading (sf)	Indoor loading (sf)	Indoor Sand Storage (sf)	Indoor Salt storage (sf)	Outdoor loading (sf)	Indoor loading (sf)
Frobisher	20,000	10,900	18,000	NA	7,400	3,700		11,100
St. Clair	13,000	9,500	11,000	NA	9,100	4,600		13,700
Suez	18,000	2,000	15,000	NA	6,700	3,400		10,100
Blake Lake Road	13,000	-	12,000		6,700	3,400		10,100
Whitefish	10,000	-	7,000	NA	900	400		1,300
Rayside Old MTO	10,000	800	7,000					
Rayside N/W	19,000	2,400	19,000		19,000	2,400	19,000	-
Valley East		1,200						
Skead	7,000	1,000	6,000					
Capreol Garage		1,600						
Naughton	6,000	2,100	5,000	NA				
Sub-Total	116,000	31,500	100,000	0	49,800	17,900	19,000	46,300
<b>Total</b>	<b>247,500</b>				<b>133,000</b>			

Furthermore; the City has changed its material handling strategy to reduce the size of the proposed sand / salt domes. Instead of ordering and receiving the full winter order of sand and salt in the fall, the City will spread the delivery over several months to reduce the total quantity on-hand at any one time. This significantly reduces the amount of indoor storage required, reducing capital costs. This is highlighted by the reduction in storage space required for sand from 116,000 sq. ft. to 49,800 sq. ft. and the reduction of storage space required for salt from 31,500 sq. ft. to 17,900 sq. ft. This has almost cut the overall storage space required in half to a total of 133,000 sq. ft.

In addition to the short comings of the dome at Frobisher, there are ongoing structural issues with the domes at St Clair and Suez as they have reached the end of their life cycle. In fact, the Naughton dome had to be demolished as it was beyond repair and the City has made alternate short term arrangements with MTO for the supply of salt until a new dome can be constructed at the Black Lake Depot.

Also recently outlined in a report titled "[Use of Road Deicer](#)" to Operations Committee; CGS commissioned a Risk Management Plan (RMP) for the Frobisher Facility and a Salt Optimization Plan (SOP). The RMP for the Frobisher Facility suggested that there were two measures available to the CGS to manage the risks associated with road salt storage within the Ramsey Lake intake protection zone. They include;

- "Maintain Site operations and implement Best Management Practices (BMPs) with monitoring to evaluate the effectiveness of BMPs;
- Maintain Site operations and implement Best Management Practices (BMPs) with monitoring to evaluate the effectiveness of BMPs. Relocate the winter maintenance material storage to a new site, located outside of any area where road salt storage and handling is deemed a significant threat, preferably within an area of low salt vulnerability as identified in the CGS Salt Optimization Plan."

The [RMP](#) for the Frobisher Facility concluded "that considering the additional costs associated with relocating the depot, in association with the benefits provided by the low-lying down gradient swamp which provides salt attenuation and a buffer from salt travel, redeveloping the existing Site using BMPs (i.e., build a dome for the pickled sand, install a monitoring network) would be the most economical and practical option."

#### Office/Administration (Phase 2)

At present administration and professional staff are located at Frobisher, St. Clair, and Tom Davies Square. The proposed Office/Administration Facility creates a central, collaborative and consolidated office environment for staff of Engineering, Linear Infrastructure, Water/Wastewater and Infrastructure Capital Planning Services. Business can place a focus on collaboration through culture and governance, workplace design, and technology. A well-designed workplace can help facilitate collaboration through lowering the barrier to employee interactions and providing readily available collaboration spaces. These spaces include small offices, outdoor areas, meeting rooms, break-out space, and an open concept design. The recent reorganization of Growth & Infrastructure has placed a focus on collaboration through culture and governance. The City is also progressing with technology innovation through the adoption of new software, such as CityWorks, and updating how field data is collected as a few examples.

Recent studies have indicated that the benefits of collaboration for general businesses for time saving and productivity of employees can be worth around \$1,600 per year per employee, the quality of work output improvements can be worth around \$2,500 per year per employee. For example, the travel time for one

employee to attend a meeting at a separate site can be 30 to 45 minutes per meeting, and there can be several meetings scheduled for different locations throughout the day. Centralizing at one location will minimize the need for travel. This is approximately a 10% - 15% productivity improvement, excluding additional benefits that included innovation, employee engagement and reduced turnover.

This will also free up space at Tom Davies Square (TDS) for other purposes. The potential reuse of this space will be reviewed under a separate report.

In addition, the existing buildings (excluding TDS) cannot be retrofit economically in order to comply with AODA requirements and meet the accessibility needs of city staff and the public.

The intent of the 2016 rationalization study was to accommodate the centralized office/administration building at the St. Clair site. However, upon further review it was determined that given the space constraints on the St. Clair site and the impact that intensification of the site would have on the surrounding residential uses, the Frobisher site is the better choice for the centralized facility.

Improved access from the Frobisher site to Falconbridge will be facilitated by extending Frobisher Street through the adjacent commercial development to outlet at the existing Auger traffic signals. Arrangements for this connection have been made with the adjacent landowners.

The following is a summary table of existing and proposed Engineering and Administration Office areas, and number of employees.

Site	Existing Areas			Proposed Areas		
	Admin Office (sf)	# of employees	floor area/ employee (sf)	Admin Office (sf)	# of employees	floor area/ employee (sf)
Frobisher	11,000	60	183	26,370	148	178
St. Clair	5,950	40	149			
TDS Engineering	9,400	48	196	700		
Total	26,350	148	178	27,070	148	183

### Depot Facilities (Phase 2)

The health and safety of depot staff is paramount to running an effective operations and maintenance program. Current facilities are inadequately sized and at times not present. Locker rooms for field staff are too small and cannot accommodate all required users.

The improved centralized depots for each service zone address these concerns by providing adequate dry facilities, and creating muster rooms for daily staff deployment/training on site.

The following is a summary table of existing and proposed depot office / shops / amenity areas, and number of employees.

	Existing					Proposed				
Site	Shop/ Office (sf)	Shop Amenities (sf)	Storage (sf)	# of employees	floor area/ employee (sf)	Shop/ Office (sf)	Shop Amenities (sf)	Storage (sf)	# of employees	floor area/ employee (sf)
Frobisher	23,100	3,000	1,500	149	175	17,550	13,500	9,500	162	192
St. Clair	13,490	1,640		46	329	1,900	4,790		43	156
Suez	1,950	720	2,980	21	127	2,110	3,580		34	167
Blake Lake Road	7,020	2,500		31	307	9,520	2,500		31	388
Whitefish	300	100		-						
Levack	800	290		-						
Dowling			1,800	-						
Rayside Old MTO	1,000	350		-						
Rayside N/W	2,960	1,300	3,560	30	142	2,960	1,300	3,550	30	142
Valley East	3,000	1,000	2,960	10	400					
Skead	500	-	960	-						
Moonlight Beach			650	-				650		
Nickel Centre	1,000	330	4,100	-						
Capreol Garage	1,200	400	3,560							
Total	56,320	11,630	22,070	287	196	34,040	25,670	13,700	300	199

## PROPOSED WORK

A summary of the proposed works at the five depots is noted below with further details included in a separate summary report from 3<sup>rd</sup> Line Studios entitled, City of Greater Sudbury Depot Master Plan Summary dated, June 20, 2018.

### Frobisher

- Consolidate the Linear Infrastructure Operations, Infrastructure Capital Planning, Engineering Services, and Water/Wastewater Staff currently spread throughout the City from St. Clair Depot, Frobisher Depot, and Tom Davies Square, to a new centralized facility at Frobisher adjacent to each other. (Phase 2)
- Replace and improve the salt/sand storage facilities. (Phase 1)
- Renovate and expand the works building to consolidate Linear Infrastructure Operations Staff and warehousing, currently spread throughout the City at St. Clair Depot, Rayside Belfour Depot, and Frobisher Depot. (Phase 2)

- Renovate the former Transit Building to make more efficient use of the Linear Infrastructure vehicle storage requirements along with existing Leisure Services and Conservation Sudbury storage requirements. (Phase 2)
- Provide a new Waste Management vehicle storage facility separate from vehicle storage for Linear Infrastructure vehicles. (Phase 2)
- Extend Frobisher Street to the signalized intersection at Auger. (Phase 1)
- Improve vehicular circulation patterns, exterior material storage, employee/works vehicle parking, fuelling stations, water refilling station, weigh scales, storm water management systems and landscape buffers. (Phase 1 and 2)

#### St. Clair

- Replace and reduce the size of the aging works facility to accommodate roads depot staff only. (Phase 2)
- Replace and improve the salt/sand storage facilities. (Phase 1)
- Improve vehicular circulation patterns, exterior material storage, employee/works vehicle parking, fuelling stations, water refilling station, storm water management systems and landscape buffers. (Phase 1 and 2)

#### Suez

- Replace the aging works and vehicle storage facility. (Phase 2)
- Replace and improve the salt/sand storage facilities. (Phase 1)
- Improve vehicular circulation patterns, exterior material storage, employee/works vehicle parking, fuelling stations, water refilling station, storm water management systems and landscape buffers. (Phase 1 and 2)

#### Black Lake

- Replace and improve the salt/sand storage facilities. (Phase 1)
- Improve vehicular circulation patterns, exterior material storage, storm water management systems and landscape buffers. (Phase 1)

#### Whitefish

- Replace and improve the Sand storage facilities. (Phase 1)
- Improve vehicular circulation patterns, vehicle storage facilities, exterior material storage, storm water management systems and landscape buffers. (Phase 1)

## **CONCLUSION**

Detailed analysis of the St. Clair site has confirmed that the site cannot be utilized as a centralized location for the main depot, and administration area.

The Frobisher site has been determined to be a viable location for a Centralized facility to meet the requirements of Linear Infrastructure Services, Water / Wastewater Services, Infrastructure Capital Planning Services and Engineering Services. The St. Clair, Suez, Walden, and Whitefish depots will be

utilized for road maintenance crews and salt /sand storage only.

The upgrades to the depot facilities will provide best practices in order to meet the requirements of our Source Water Protection Plan, improve worker health and safety, and make deployment and management of the operations more efficient.

In addition, relocating engineering services from Tom Davies Square to a centralized administration facility at Frobisher Depot will free up approximately 8,700 square feet of space in TDS for other purposes. A detailed design incorporating best practices for office space design suggests that a new administration facility at Frobisher Depot can be constructed using the same area as the existing administration facilities proposed to be demolished, while improving amenity areas and relocating 5 existing administration areas into 1 administration building.

Renovations of the old transit office within the Frobisher site can be completed within existing budget allocations, and will provide necessary temporary relief of existing Health and Safety Issues, and will provide convenient temporary office space for future City renovation projects.

Preliminary financial analysis has shown that the cost of the proposed new structures and long term maintenance costs will be less expensive than refurbishing existing buildings over similar design life. Final financial analysis will be completed and presented to Council after the detailed design is complete.

## **NEXT STEPS**

To address the most immediate Health and Safety concerns, related to inadequate locker room sizes, office space and storage areas at the Frobisher site, the City is currently undertaking detailed design work to renovate the existing office space at the transit building, and the existing storage areas in the works and Transit buildings.

The next steps are preparing detailed designs for each phase. Next, capital budget proposals will be prepared for consideration as part of the capital prioritization process in 2020 and future capital budgets. Then construction would commence following budget approval. There is currently \$5.0M allocated from 2018 and previous Capital Budgets to complete the Phase 1 and 2 detailed design for this project. The detailed design fee does not include contract administration or site review.

The detailed design will include updating the cost estimate and implementation schedule. Each of the facilities will be prioritized and presented separately to Council.

## References

**City of Greater Sudbury Depot Master Plan Summary 2018 06 20**, 3 RD Line Studio, Polestar CM INC, 2018: <https://agendasonline.greatersudbury.ca/admin/index.cfm?feedFile=24383.pdf>

**Use of Road Deicers**, City of Greater Sudbury, May 2018:  
<http://agendasonline.greatersudbury.ca/index.cfm?pg=feed&action=file&agenda=report&itemid=2&id=1255>

**Risk Management Plan Assessment – Frobisher Depot City of Greater Sudbury**, GHD, January 2018:  
<http://agendasonline.greatersudbury.ca/index.cfm?pg=feed&action=file&attachment=23312.pdf>

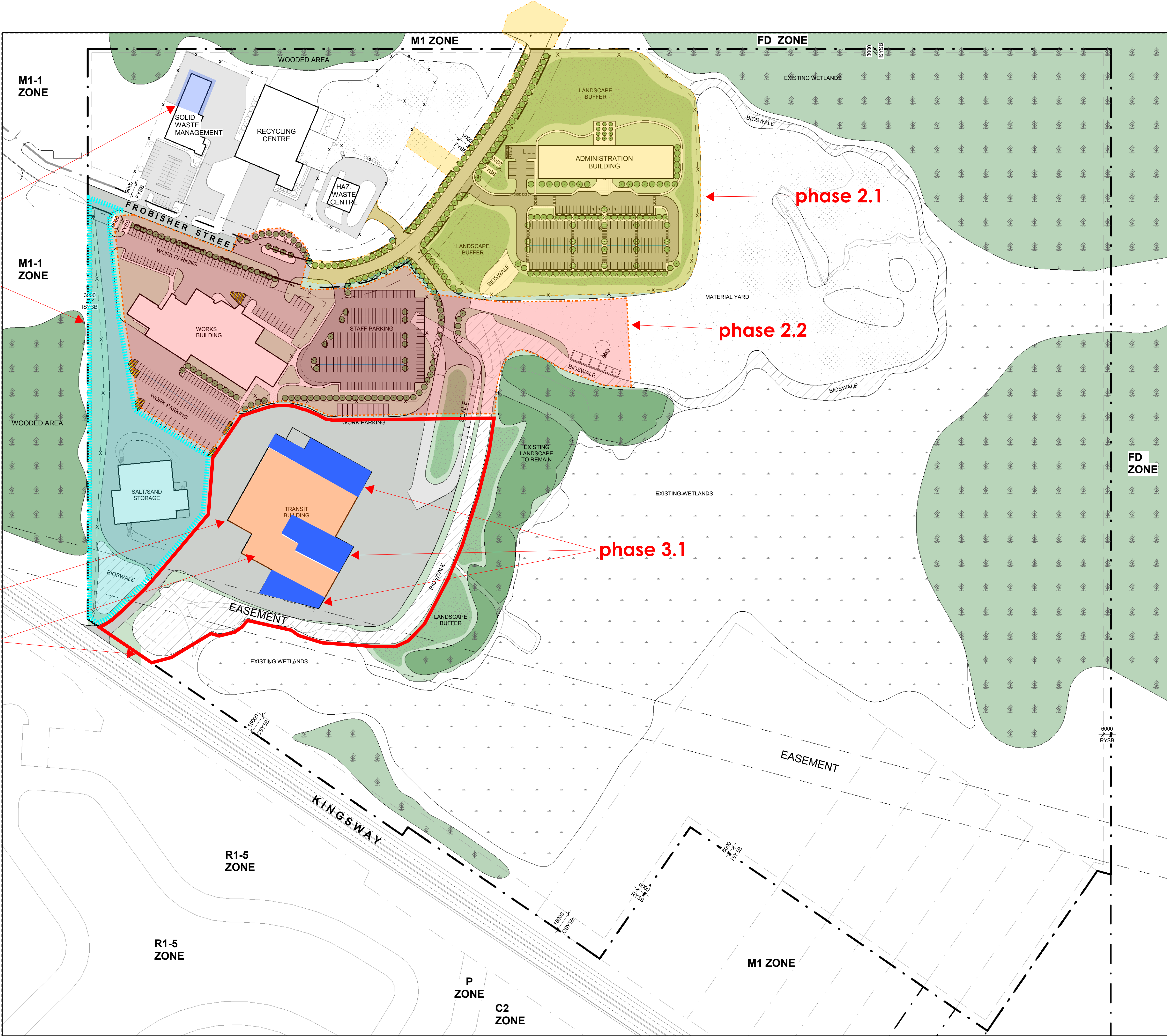
**The Collaborative Economy**, Deloitte Access Economics, 2014:  
<https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Economics/deloitte-au-economics-collaborative-economy-google-170614.pdf>

## APPENDIX A

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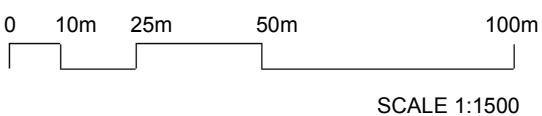
### Site Plan Drawings showing project phasing

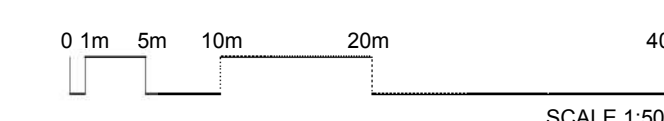
- Frobisher - B5 Option
- St. Clair – A4 Option
- Suez – E1 Option
- Black Lake – C1 Option
- Whitefish – D1 Option

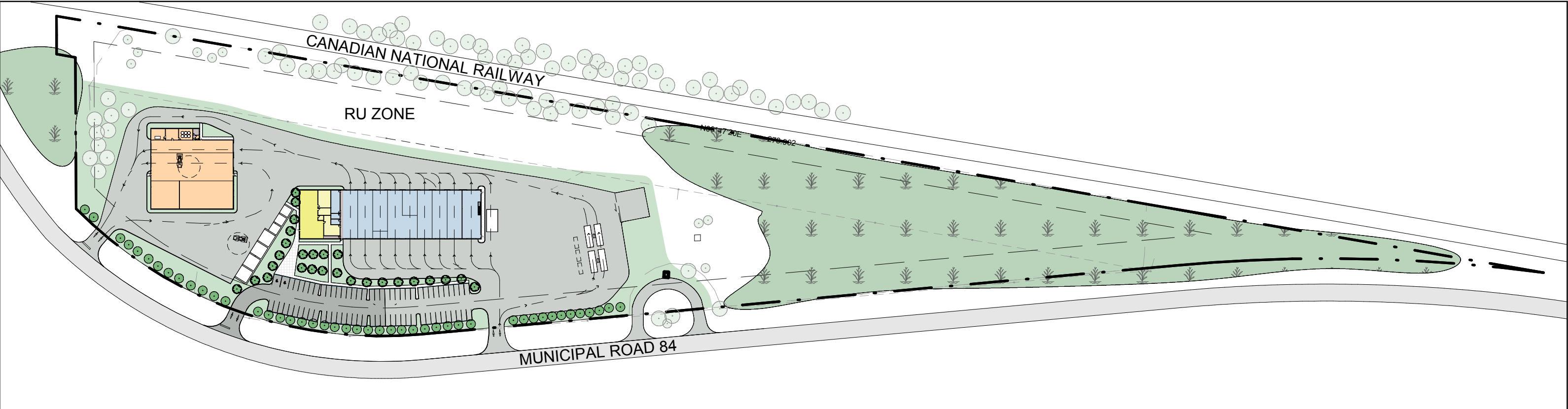


SITE LEGEND	
	DENOTES PROPERTY LINE
	DENOTES SETBACK LINE
	DENOTES NEW FENCE
	DENOTES OVERHEAD WIRES
	DENOTES DIRECTION OF TRAFFIC
FYSB	DENOTES FRONT YARD SET BACK
SYSB	DENOTES SIDE YARD SET BACK
CSYSB	DENOTES CORNER SIDE YARD SET BACK
ISYSB	DENOTES INTERIOR SIDE YARD SET BACK
RYSB	DENOTES REAR YARD SET BACK
	DENOTES GRAVEL
	DENOTES NEW CONCRETE WALKWAY/ CONCRETE CURBS
	DENOTES NEW SOD
	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 4.4m x 6.0m
	DENOTES TYPICAL PARKING SPACE 2.75m x 6.0m
	DENOTES PEDESTRIAN CROSSWALK LINE PAINTING
	DENOTES NEW SLIDING GATE
	DENOTES CATCH BASIN
	DENOTES MAN HOLE
	DENOTES HYDRO POLE
	DENOTES BELL UTILITY POLE
	DENOTES LIGHT STANDARD
	DENOTES EXISTING ITEM

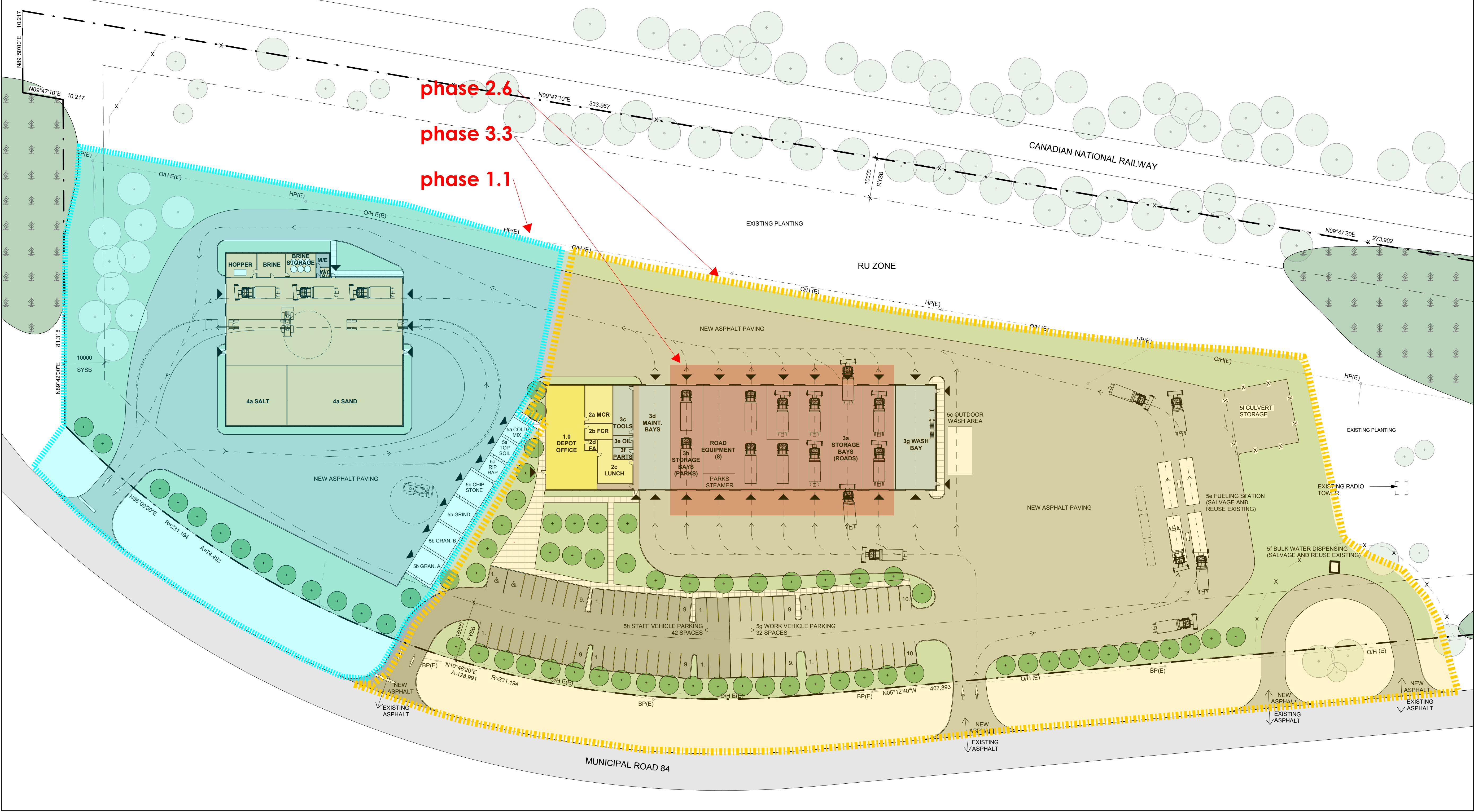
M2 ZONING INFORMATION:	
PERMITTED USE:	PUBLIC UTILITY PUBLIC WORKS YARD
MIN. LOT AREA:	1500.0m²
MIN. LOT FRONTAGE:	45.0m
MIN. RECD FRONT YARD:	9.0m (15.0m FRONT AN ARTERIAL ROAD)
MIN. RECD CORNER SIDE YARD:	3.0m (9.0m ADJACENT A RESIDENTIAL ZONE)
MIN. RECD INTERIOR SIDE YARD:	6.0m (15.0m ADJACENT A RESIDENTIAL ZONE)
MIN. RECD REAR YARD:	50%
MAX. LOT COVERAGE:	5%
MIN. LANDSCAPE OPEN SPACE:	15.0m
MAX. BUILDING HEIGHT:	3.0m
MIN. BUILDING SEPARATION:	





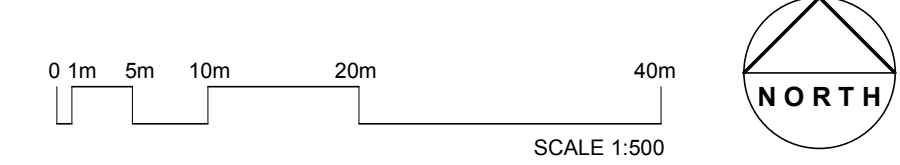


SUEZ DEPOT SITE KEY PLAN  
1 : 2000



- SITE LEGEND**
- — — — — DENOTES PROPERTY LINE
  - — — — — DENOTES SETBACK LINE
  - X- -X- DENOTES NEW FENCE
  - OH- DENOTES OVERHEAD WIRES
  - -> DENOTES DIRECTION OF TRAFFIC
  - FYSB DENOTES FRONT YARD SET BACK
  - SYSB DENOTES SIDE YARD SET BACK
  - CSYSB DENOTES CORNER SIDE YARD SET BACK
  - ISYSB DENOTES INTERIOR SIDE YARD SET BACK
  - RYSB DENOTES REAR YARD SET BACK
  - [Pattern] DENOTES GRAVEL
  - [Pattern] DENOTES NEW CONCRETE WALKWAY/ CONCRETE CURBS
  - [Pattern] DENOTES NEW SOD
  - [Pattern] DENOTES EXISTING ASPHALT PAVING
  - [Pattern] DENOTES STAFF ASPHALT PAVING
  - [Pattern] DENOTES WORK ASPHALT PAVING
  - [Pattern] DENOTES WOODED AREA
  - [Pattern] DENOTES FLOOD PLAIN
  - ▼ DENOTES BUILDING ENTRANCE
  - DENOTES NEW DECIDUOUS TREE
  - DENOTES EXISTING DECIDUOUS TREE
  - DC [Pattern] DENOTES DEPRESSED CURB
  - [Symbol] 1. DENOTES BARRIER FREE PARKING SPACE 4.4m x 6.0m
  - [Symbol] 1. DENOTES TYPICAL PARKING SPACE 2.75m x 6.0m
  - [Symbol] DENOTES PEDESTRIAN CROSSWALK LINE PAINTING
  - X- [Symbol] DENOTES NEW SLIDING GATE
  - [Symbol] CB DENOTES CATCH BASIN
  - MH DENOTES MAN HOLE
  - HP DENOTES HYDRO POLE
  - BP DENOTES BELL UTILITY POLE
  - LS DENOTES LIGHT STANDARD
  - (E) DENOTES EXISTING ITEM

- PROGRAM AREAS**
- [Color] 1.0 DEPOT STAFF OFFICE
  - [Color] 2.0 EMPLOYEE AMENITIES
  - [Color] 3.0 HEATED GARAGE
  - [Color] 4.0 SAND/SALT STORAGE
  - [Color] CIRCULATION



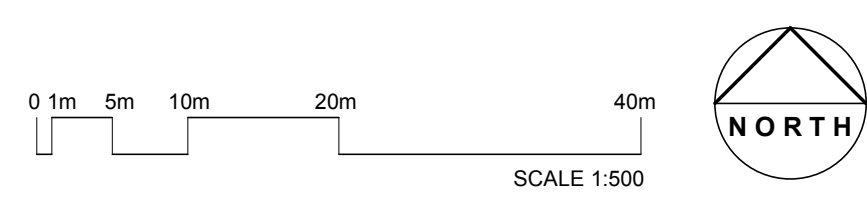


- SITE LEGEND**
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  - ISYSB DENOTES INTERIOR SIDE YARD SET BACK
  - RYSB DENOTES REAR YARD SET BACK
  - [Pattern] DENOTES GRAVEL
  - [Pattern] DENOTES NEW CONCRETE WALKWAY/ CONCRETE CURBS
  - [Pattern] DENOTES NEW SOD
  - [Pattern] DENOTES EXISTING ASPHALT PAVING
  - [Pattern] DENOTES STAFF ASPHALT PAVING
  - [Pattern] DENOTES WORK ASPHALT PAVING
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  - \*MH DENOTES MAN HOLE
  - \*HP DENOTES HYDRO POLE
  - \*BP DENOTES BELL UTILITY POLE
  - \*LS DENOTES LIGHT STANDARD
  - (E) DENOTES EXISTING ITEM

- PROGRAM AREAS**
- [Orange Box] 1.0 SAND/SALT STORAGE
  - [Grey Box] CIRCULATION

**I(2) ZONING INFORMATION:**

PERMITTED USE:	INSTITUTIONAL
MIN. LOT AREA:	900.0m <sup>2</sup>
MIN. LOT FRONTAGE:	30.0m
MIN. REQD FRONT YARD:	10.0m
MIN. REQD SIDE YARD:	10.0m
MIN. REQD REAR YARD:	10.0m
MAX. LOT COVERAGE:	50%
MIN. LANDSCAPE OPEN SPACE:	15%
MAX. BUILDING HEIGHT:	50.0m
MIN. BUILDING SEPARATION:	3.0m



C1 OPTION - BLACK LAKE SITE PLAN  
1 : 500

BLACK LAKE DEPOT

**3RDLINE.STUDIO** 289 CEDAR STREET  
SUDBURY, ON P3B 1M8  
1 705.674.2300

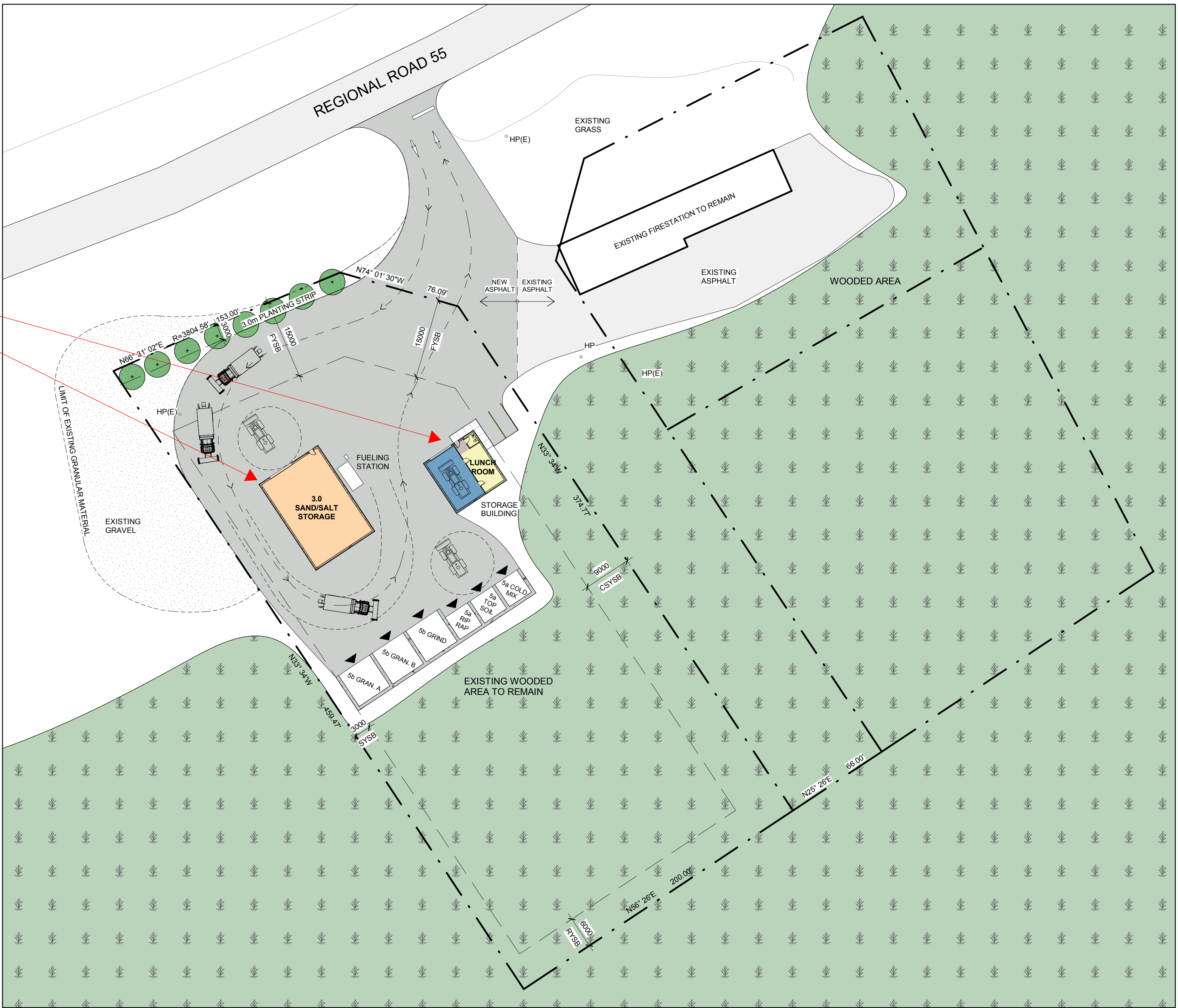
Project No:16116 Scale: 1 : 500

C1 OPTION - BLACK LAKE SITE PLAN

2017 05 24



phase 1.3



SITE LEGEND

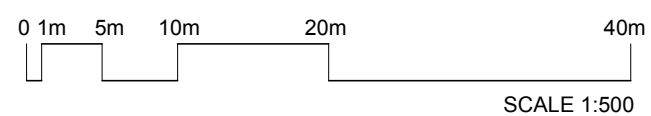
- DENOTES PROPERTY LINE
- DENOTES SETBACK LINE
- DENOTES NEW FENCE
- DENOTES OVERHEAD WIRES
- DENOTES DIRECTION OF TRAFFIC
- DENOTES FRONT YARD SET BACK
- DENOTES SIDE YARD SET BACK
- DENOTES CORNER SIDE YARD SET BACK
- DENOTES INTERIOR SIDE YARD SET BACK
- DENOTES REAR YARD SET BACK
- DENOTES GRAVEL
- DENOTES NEW CONCRETE WALKWAY/ CONCRETE CURBS
- DENOTES NEW SOD
- 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 4.4m x 6.0m
- DENOTES TYPICAL PARKING SPACE 2.75m x 6.0m
- DENOTES PEDESTRIAN CROSSWALK LINE PAINTING
- DENOTES NEW SLIDING GATE
- DENOTES CATCH BASIN
- DENOTES MAN HOLE
- DENOTES HYDRO POLE
- DENOTES BELL UTILITY POLE
- DENOTES LIGHT STANDARD
- DENOTES EXISTING ITEM (E)

PROGRAM AREAS

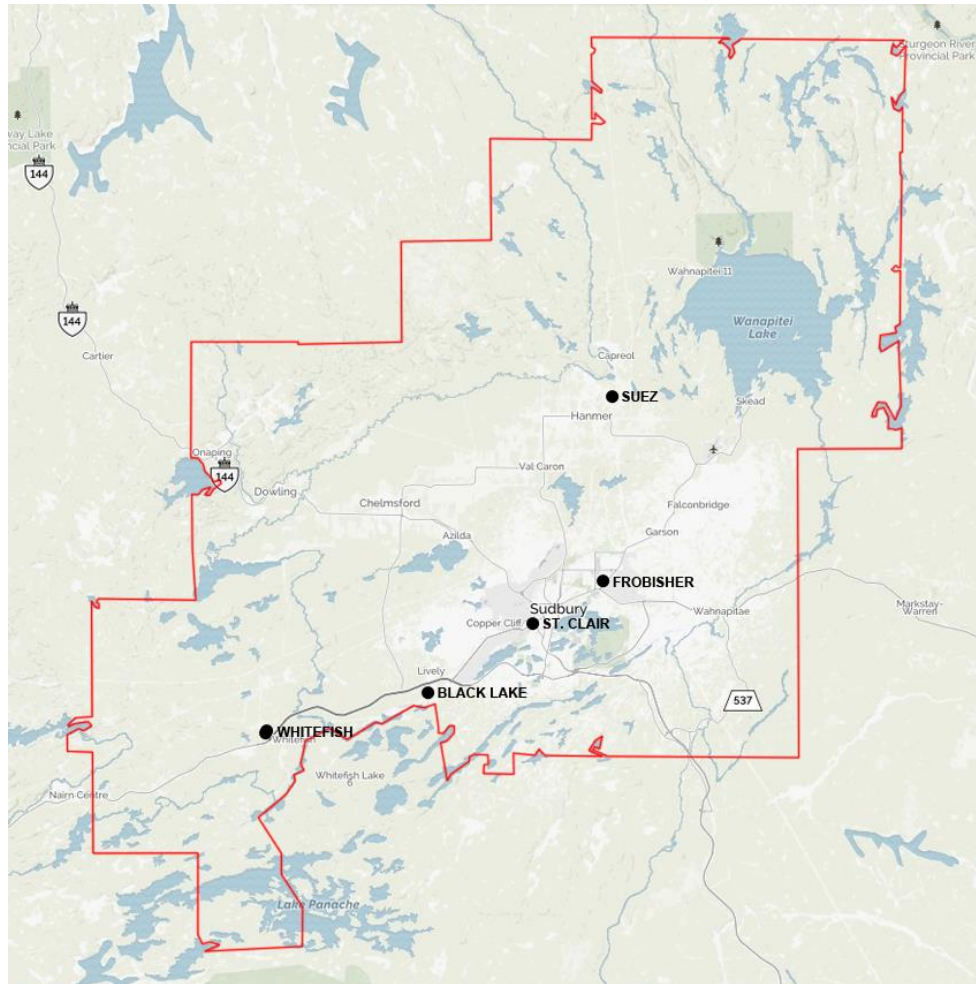
- 1.0 HEATED INDOOR STORAGE
- 2.0 EMPLOYEE AMENITIES
- 3.0 SAND/SALT STORAGE
- CIRCULATION

M1 ZONING INFORMATION:

- | PERMITTED USE:               | MIXED LIGHT INDUSTRIAL/ SERVICE COMMERCIAL |
|------------------------------|--|
| MIN. LOT AREA:               | 1500.0m <sup>2</sup>                       |
| MIN. LOT FRONTAGE:           | 45.0m                                      |
| MIN. REQ'D FRONT YARD:       | 15.0m                                      |
| MIN. REQ'D SIDE YARD:        | 3.0m                                       |
| MIN. REQ'D CORNER SIDE YARD: | 9.0m                                       |
| MIN. REQ'D REAR YARD:        | 6.0m                                       |
| MAX. LOT COVERAGE:           | 50%  |
| MIN. LANDSCAPE OPEN SPACE:   | 5%   |
| MAX. BUILDING HEIGHT:        | 12.0m                                      |
| MIN. BUILDING SEPARATION:    | 3.0m                                       |



# 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 suz.

## 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 changerrooms 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 it from returning to our lakes and create a more efficient operational environment for handling 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 21<sup>st</sup> 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.

**1** 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.**

**2** 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.

**3RDLINE STUDIO**



**Timothy James, BES BAArch OAA MRAIC**  
**Architect / Partner**

Fn: O:\1 PROJECTS\2016\16116 - CGS - 5 Depot Facilities and New Administration Building\1.0 (Blue) Client\1.11 Reports and Briefs\16116 - cgs depot design summary.docx

						year	1	2	3	4	5	6	7	8	9	10
phase / task		option	design fees (\$000,000.00) 2018 dollars	project value (not including design fees) (\$000,000.00) 2018 dollars	project value (\$000,000.00) 2018 dollars	duration (mos)										
PHASE 1 - SALT SAND FACILITIES			\$3.22	\$30.53	\$33.76	23	PHASE 1									
salt sand facilities			\$3.22	\$30.53	\$33.76	23	salt sand facility d+c duration									
1.1	suez	e1	\$0.63	\$5.89	\$6.51	20	d3	cd3	t2	construction 12						
1.2	black lake	c1	\$0.68	\$6.25	\$6.93	20	d3	cd3	t2	construction 12						
1.3	whitefish	d1	\$0.23	\$1.89	\$2.12	15	d2	cd2	t2	construction 9						
1.4	st clair	a4	\$0.95	\$9.21	\$10.16	22	d3	cd3	t2	construction 14						
1.5	frobisher	b5	\$0.74	\$7.30	\$8.04	20	d3	cd3	t2	construction 12						
PHASE 2 - REQUIRED FACILITY IMPROVEMENTS			\$5.35	\$52.49	\$57.84	67	PHASE 2									
frobisher			\$4.33	\$42.75	\$47.08	58	frobisher facility design and construction duration									
2.1	admin facility	b5	\$1.74	\$17.20	\$18.94	30	d6	cd6	t2	construction 16						
2.2	works facility	b5	\$1.81	\$17.85	\$19.65	32		d5	cd5	t2	construction 20					
2.3	vehicle storage- renovate transit building interiors + site	b5	\$0.69	\$6.77	\$7.46	28			d5	cd5	t2	construction 16				
2.4	waste management vehicle storage	b5	\$0.09	\$0.94	\$1.03	20			d3	cd3	t2	construction 12				
st clair			\$0.54	\$5.21	\$5.75	34	st clair facility d + c duration									
2.5	depot facility	a4	\$0.54	\$5.21	\$5.75	22		d4	cd4	t2	construction12					
suez			\$0.48	\$4.53	\$5.01	45	suez facility d + c duration									
2.6	depot facility	e1	\$0.48	\$4.53	\$5.01	20	d4	cd4	t2	construction 10						
PHASE 3 - FACILITY OPTIMIZATION IMPROVEMENTS			\$2.33	\$22.63	\$24.96	50	PHASE 3									
frobisher			\$1.35	\$13.33	\$14.68	41										
3.1a	vehicle storage facility - additions	b5	\$0.85	\$8.35	\$9.19	41										
3.1b	vehicle storage - transit bldg shell replacement	b5	\$0.50	\$4.98	\$5.48	21										
st clair			\$0.52	\$5.07	\$5.60	22										
3.2	vehicle storage facility	a4	\$0.52	\$5.07	\$5.60	22										
suez			\$0.45	\$4.24	\$4.69	22										
3.3	vehicle storage facility	e1	\$0.45	\$4.24	\$4.69	22										
total construction value			\$10.90	\$105.66	\$116.56	122										

legend

suez facility design and construction duration

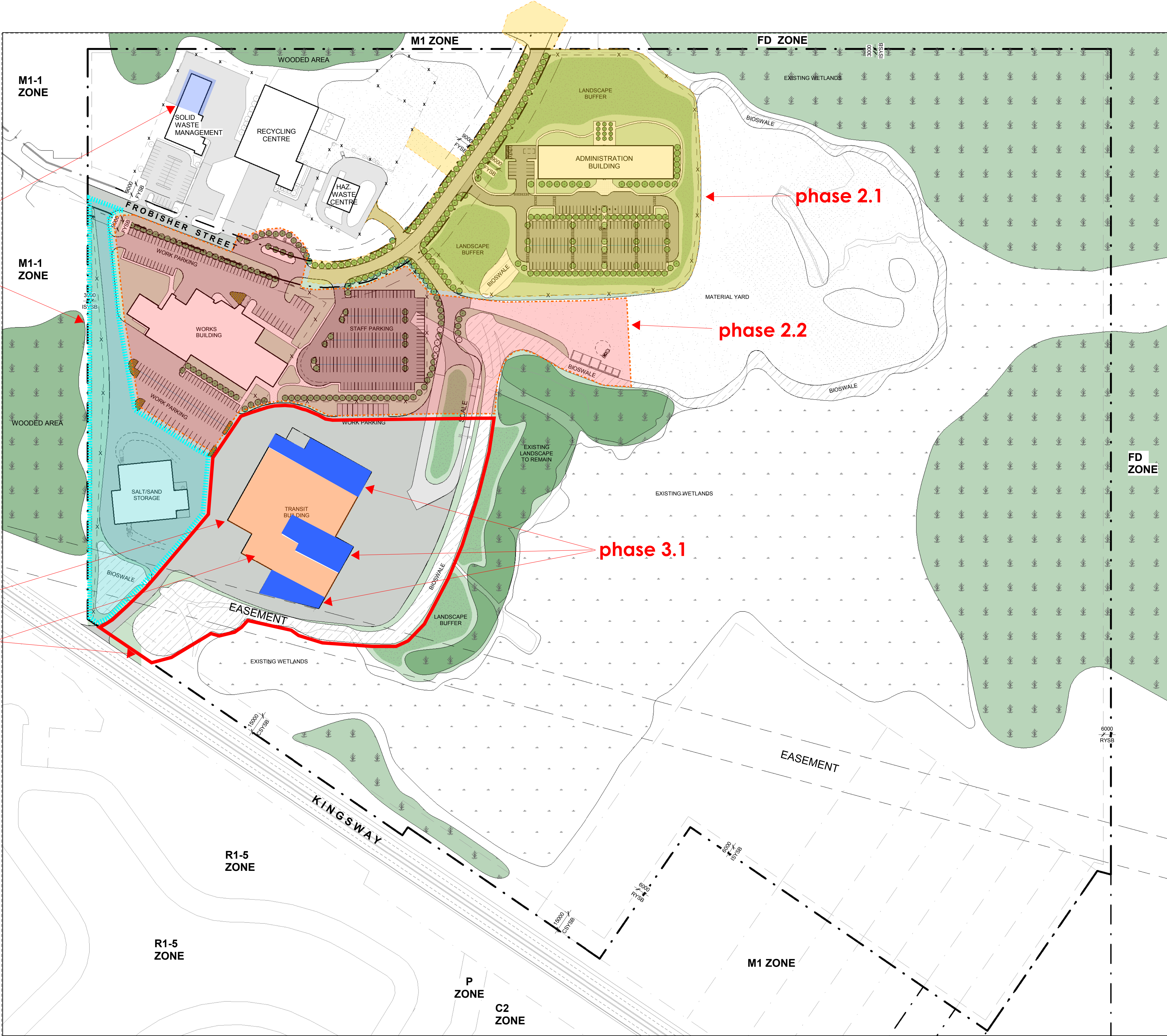
d4 design phase, with duration noted in months

cd4 contract documents phase, with duration noted in months

t2 tender phase, with duration noted in months

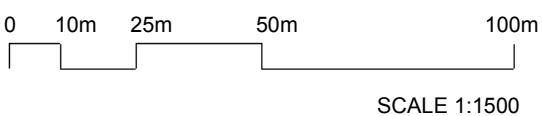
const construction phase, with diration noted in months

o occupancy



SITE LEGEND	
	DENOTES PROPERTY LINE
	DENOTES SETBACK LINE
	DENOTES NEW FENCE
	DENOTES OVERHEAD WIRES
	DENOTES DIRECTION OF TRAFFIC
	DENOTES FRONT YARD SET BACK
	DENOTES SIDE YARD SET BACK
	DENOTES CORNER SIDE YARD SET BACK
	DENOTES INTERIOR SIDE YARD SET BACK
	DENOTES REAR YARD SET BACK
	DENOTES GRAVEL
	DENOTES NEW CONCRETE WALKWAY/ CONCRETE CURBS
	DENOTES NEW SOD
	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
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	DENOTES BARRIER FREE PARKING SPACE 4.4m x 6.0m
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	DENOTES NEW SLIDING GATE
	DENOTES CATCH BASIN
	DENOTES MAN HOLE
	DENOTES HYDRO POLE
	DENOTES BELL UTILITY POLE
	DENOTES LIGHT STANDARD
	DENOTES EXISTING ITEM

M2 ZONING INFORMATION:	
PERMITTED USE:	PUBLIC UTILITY PUBLIC WORKS YARD
MIN. LOT AREA:	1500.0m²
MIN. LOT FRONTAGE:	45.0m
MIN. RECD FRONT YARD:	9.0m (15.0m FRONT AN ARTERIAL ROAD)
MIN. RECD CORNER SIDE YARD:	3.0m (9.0m ADJACENT A RESIDENTIAL ZONE)
MIN. RECD INTERIOR SIDE YARD:	6.0m (15.0m ADJACENT A RESIDENTIAL ZONE)
MIN. RECD REAR YARD:	50%
MAX. LOT COVERAGE:	5%
MIN. LANDSCAPE OPEN SPACE:	15.0m
MAX. BUILDING HEIGHT:	3.0m
MIN. BUILDING SEPARATION:	

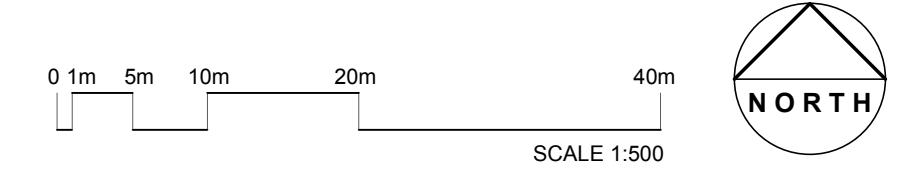




- SITE LEGEND**
- DENOTES PROPERTY LINE
  - DENOTES SETBACK LINE
  - X- -X- DENOTES NEW FENCE
  - OH- DENOTES OVERHEAD WIRES
  - > DENOTES DIRECTION OF TRAFFIC
  - FYSB DENOTES FRONT YARD SET BACK
  - YSB DENOTES SIDE YARD SET BACK
  - CSYSB DENOTES CORNER SIDE YARD SET BACK
  - ISYSB DENOTES INTERIOR SIDE YARD SET BACK
  - RYSB DENOTES REAR YARD SET BACK
  - DENOTES GRAVEL
  - DENOTES NEW CONCRETE WALKWAY/ CONCRETE CURBS
  - DENOTES NEW SOD
  - DENOTES EXISTING ASPHALT PAVING
  - DENOTES STAFF ASPHALT PAVING
  - DENOTES WORK ASPHALT PAVING
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  - DENOTES PEDESTRIAN CROSSWALK LINE PAINTING
  - GATE DENOTES NEW SLIDING GATE
  - CB DENOTES CATCH BASIN
  - \*MH DENOTES MAN HOLE
  - \*HP DENOTES HYDRO POLE
  - \*BP DENOTES BELL UTILITY POLE
  - \*LS DENOTES LIGHT STANDARD
  - (E) DENOTES EXISTING ITEM

- PROGRAM AREAS**
- 1.0 ADMINISTRATIVE
  - 2.0 SHOP OFFICES
  - 3.0 SHOPS
  - 4.0 HEATED GARAGE
  - 5.0 HEATED INDOOR STORAGE
  - 6.0 EMPLOYEE AMENITIES
  - 7.0 SAND/SALT STORAGE
  - CIRCULATION

**M1(1) ZONING INFORMATION:** MIXED LIGHT INDUSTRIAL/ SERVICE COMMERCIAL  
PERMITTED USE:  
MIN. LOT AREA: 1500.0m²  
MIN. LOT FRONTAGE: 30.0m  
MIN. REQ'D FRONT YARD: 9.0m  
MIN. REQ'D SIDE YARD: 6.0m  
MIN. REQ'D REAR YARD: 3.0m  
MAX. LOT COVERAGE: 50%  
MIN. LANDSCAPE OPEN SPACE: 5%  
MAX. BUILDING HEIGHT: 12.0m  
MIN. BUILDING SEPARATION: 3.0m



A4 OPTION - ST. CLAIR SITE PLAN  
1:500

ST. CLAIR DEPOT

**3RDLINE.STUDIO**  
289 CEDAR STREET  
SUDBURY, ON P3B 1M8  
1 705.674.2300

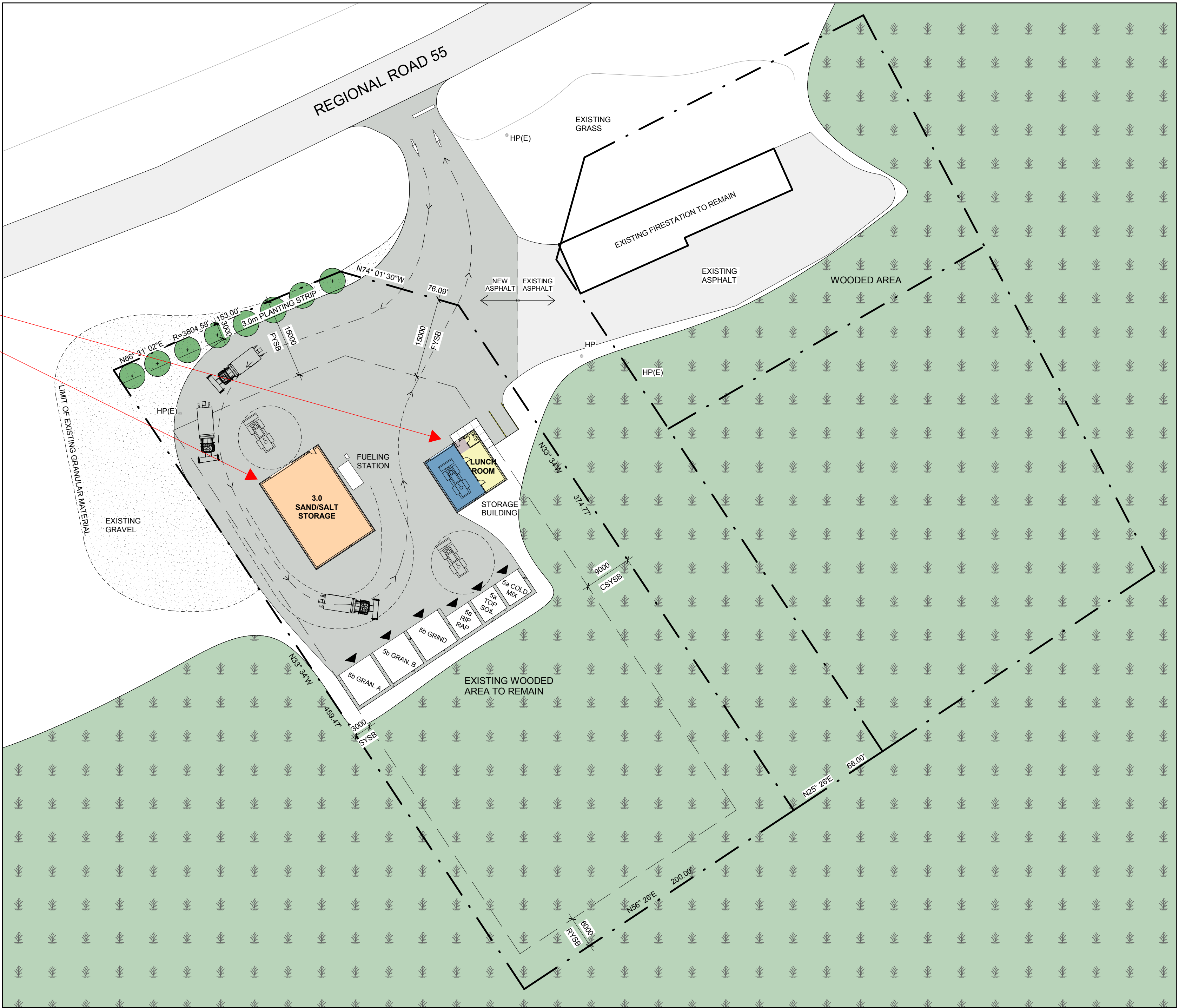
Project No:16116 Scale: 1:500

A4 OPTION - ST. CLAIR SITE PLAN

2017 05 24



phase 1.3



SITE LEGEND

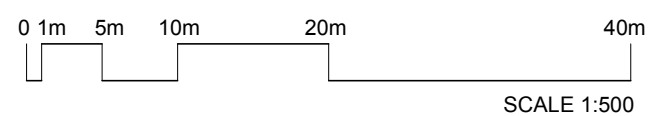
- DENOTES PROPERTY LINE
- DENOTES SETBACK LINE
- X- DENOTES NEW FENCE
- OH- DENOTES OVERHEAD WIRES
- -> DENOTES DIRECTION OF TRAFFIC
- FYSB DENOTES FRONT YARD SET BACK
- SYSB DENOTES SIDE YARD SET BACK
- CSYSB DENOTES CORNER SIDE YARD SET BACK
- ISYSB DENOTES INTERIOR SIDE YARD SET BACK
- RYSB DENOTES REAR YARD SET BACK
- [Pattern] DENOTES GRAVEL
- [Pattern] DENOTES NEW CONCRETE WALKWAY/ CONCRETE CURBS
- [Pattern] DENOTES NEW SOD
- [Pattern] DENOTES EXISTING ASPHALT PAVING
- [Pattern] DENOTES STAFF ASPHALT PAVING
- [Pattern] DENOTES WORK ASPHALT PAVING
- [Pattern] DENOTES WOODED AREA
- [Pattern] DENOTES FLOOD PLAIN
- ▼ DENOTES BUILDING ENTRANCE
- DENOTES NEW DECIDUOUS TREE
- DENOTES EXISTING DECIDUOUS TREE
- DC DENOTES DEPRESSED CURB
- [Symbol] 1. DENOTES BARRIER FREE PARKING SPACE 4.4m x 6.0m
- [Symbol] 1. DENOTES TYPICAL PARKING SPACE 2.75m x 6.0m
- [Symbol] DENOTES PEDESTRIAN CROSSWALK LINE PAINTING
- X- GATE DENOTES NEW SLIDING GATE
- [Symbol] CB DENOTES CATCH BASIN
- \*MH DENOTES MAN HOLE
- \*HP DENOTES HYDRO POLE
- \*BP DENOTES BELL UTILITY POLE
- \*LS DENOTES LIGHT STANDARD
- (E) DENOTES EXISTING ITEM

PROGRAM AREAS

- [Color] 1.0 HEATED INDOOR STORAGE
- [Color] 2.0 EMPLOYEE AMENITIES
- [Color] 3.0 SAND/SALT STORAGE
- [Color] CIRCULATION

M1 ZONING INFORMATION:

- |                              |  |
|------------------------------|--|
| PERMITTED USE:               | MIXED LIGHT INDUSTRIAL/ SERVICE COMMERCIAL |
| MIN. LOT AREA:               | 1500.0m <sup>2</sup>                       |
| MIN. LOT FRONTAGE:           | 45.0m                                      |
| MIN. REQ'D FRONT YARD:       | 15.0m                                      |
| MIN. REQ'D SIDE YARD:        | 3.0m                                       |
| MIN. REQ'D CORNER SIDE YARD: | 9.0m                                       |
| MIN. REQ'D REAR YARD:        | 6.0m                                       |
| MAX. LOT COVERAGE:           | 50%  |
| MIN. LANDSCAPE OPEN SPACE:   | 5%   |
| MAX. BUILDING HEIGHT:        | 12.0m                                      |
| MIN. BUILDING SEPARATION:    | 3.0m                                       |



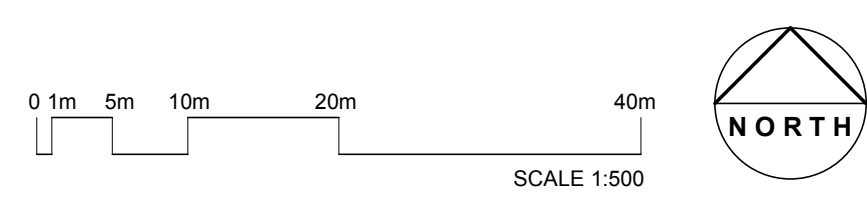


- SITE LEGEND**
- DENOTES PROPERTY LINE
  - DENOTES SETBACK LINE
  - X-X- DENOTES NEW FENCE
  - OH- DENOTES OVERHEAD WIRES
  - -> DENOTES DIRECTION OF TRAFFIC
  - FYSB DENOTES FRONT YARD SET BACK
  - SYSB DENOTES SIDE YARD SET BACK
  - CSYSB DENOTES CORNER SIDE YARD SET BACK
  - ISYSB DENOTES INTERIOR SIDE YARD SET BACK
  - RYSB DENOTES REAR YARD SET BACK
  - [Pattern] DENOTES GRAVEL
  - [Pattern] DENOTES NEW CONCRETE WALKWAY/ CONCRETE CURBS
  - [Green] DENOTES NEW SOD
  - [Pattern] DENOTES EXISTING ASPHALT PAVING
  - [Pattern] DENOTES STAFF ASPHALT PAVING
  - [Pattern] DENOTES WORK ASPHALT PAVING
  - [Green] DENOTES WOODED AREA
  - - - DENOTES FLOOD PLAIN
  - ▲ DENOTES BUILDING ENTRANCE
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  - DENOTES EXISTING DECIDUOUS TREE
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  - \*HP DENOTES HYDRO POLE
  - \*BP DENOTES BELL UTILITY POLE
  - \*LS DENOTES LIGHT STANDARD
  - (E) DENOTES EXISTING ITEM

- PROGRAM AREAS**
- [Orange] 1.0 SAND/SALT STORAGE
  - [Grey] CIRCULATION

**I(2) ZONING INFORMATION:**

PERMITTED USE:	INSTITUTIONAL
MIN. LOT AREA:	900.0m <sup>2</sup>
MIN. LOT FRONTAGE:	30.0m
MIN. REQD FRONT YARD:	10.0m
MIN. REQD SIDE YARD:	10.0m
MIN. REQD REAR YARD:	10.0m
MAX. LOT COVERAGE:	50%
MIN. LANDSCAPE OPEN SPACE:	15%
MAX. BUILDING HEIGHT:	50.0m
MIN. BUILDING SEPARATION:	3.0m



C1 OPTION - BLACK LAKE SITE PLAN  
1 : 500

BLACK LAKE DEPOT

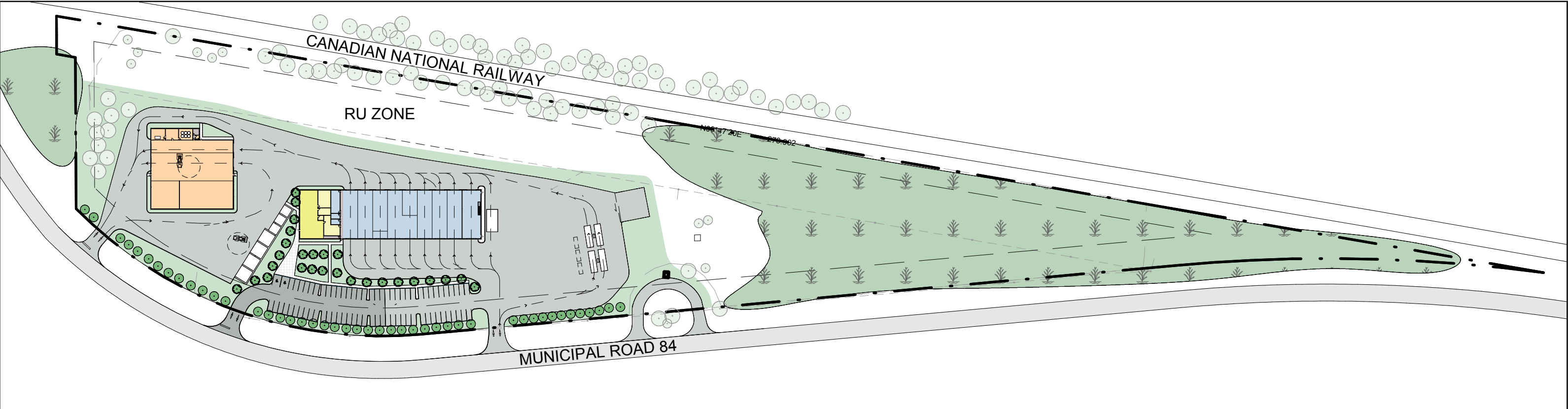
**3RDLINE.STUDIO** 289 CEDAR STREET  
SUDBURY, ON P3B 1M8  
1 705.674.2300

Project No:16116 Scale: 1 : 500

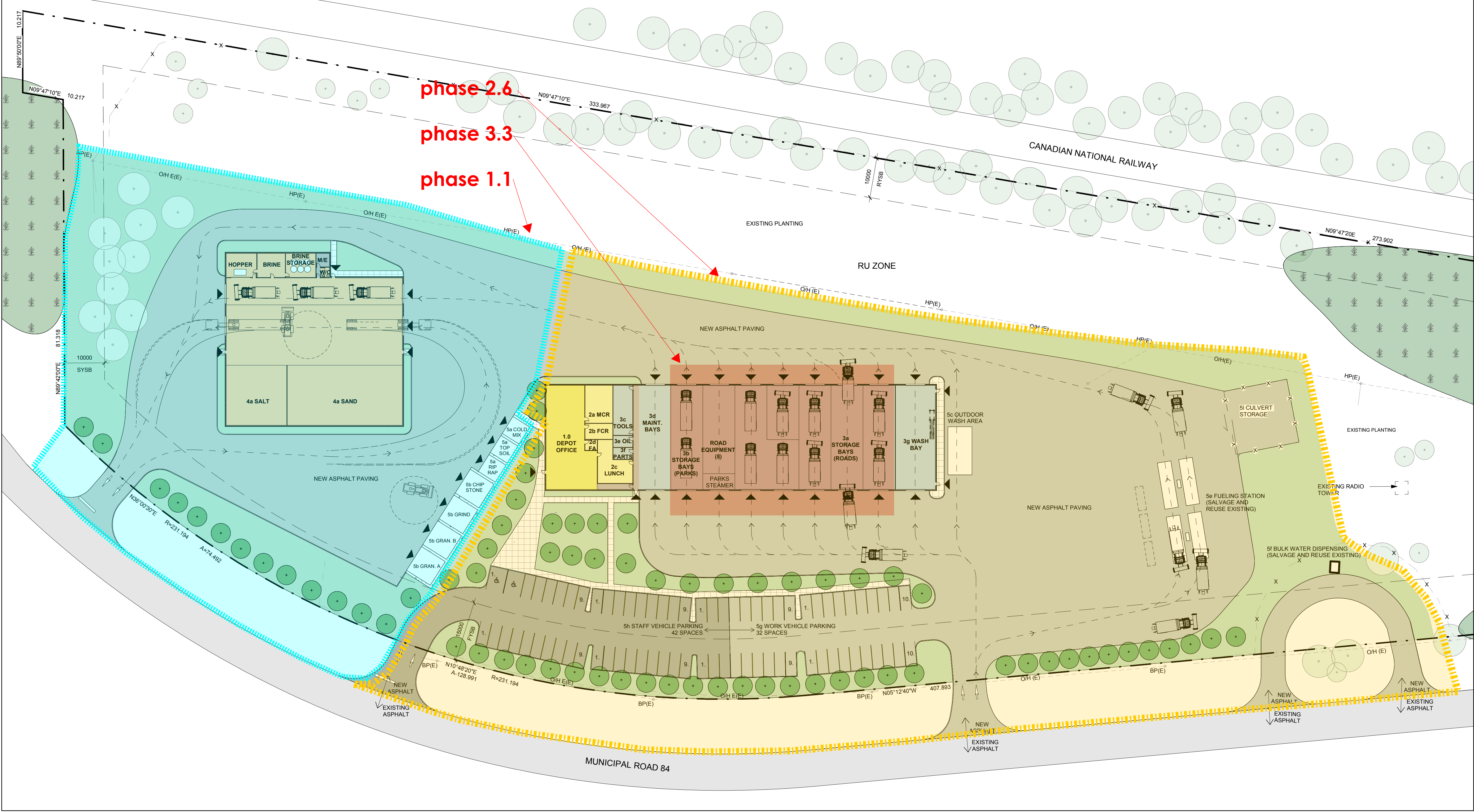
C1 OPTION - BLACK LAKE SITE PLAN

2017 05 24



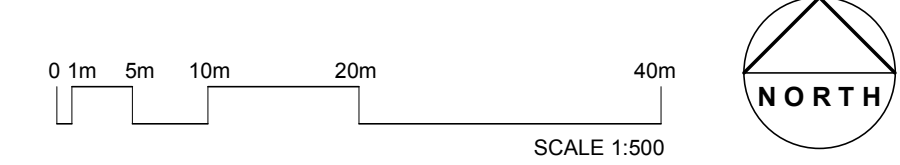


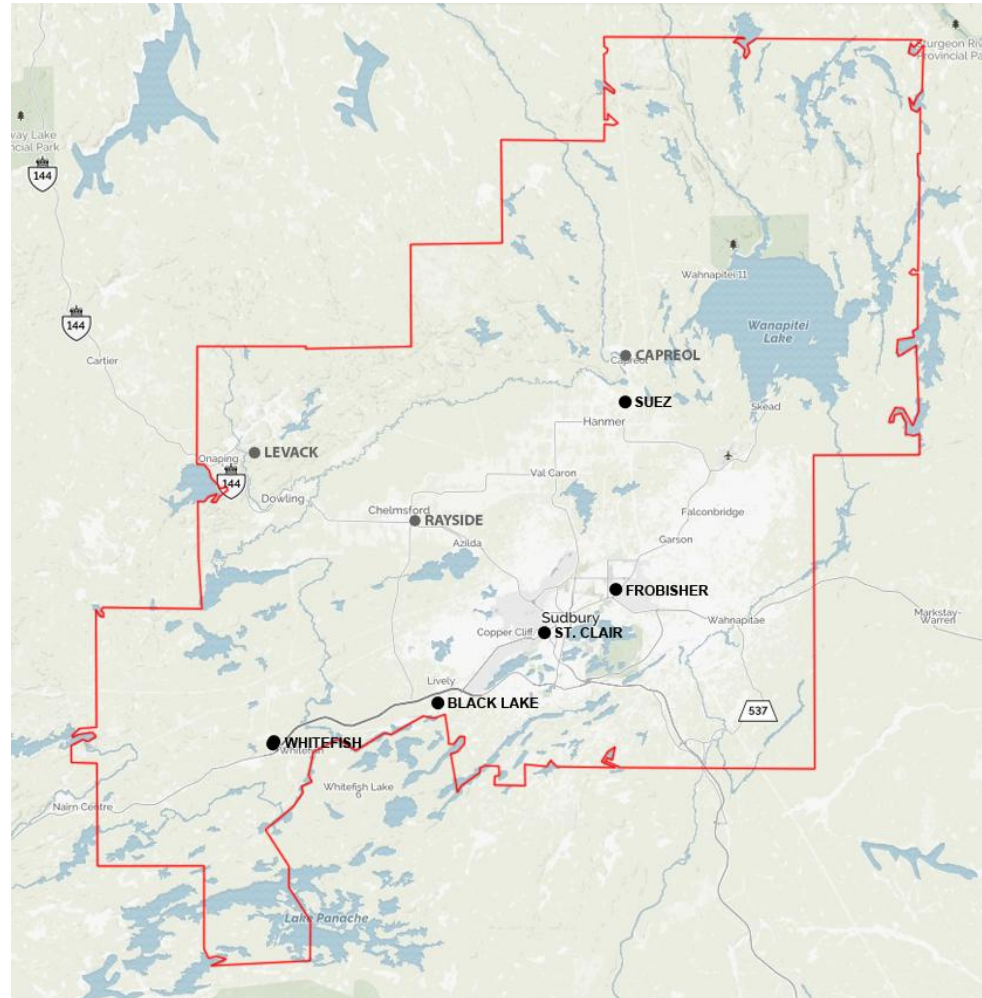
SUEZ DEPOT SITE KEY PLAN  
1 : 2000



- SITE LEGEND**
- — — — — DENOTES PROPERTY LINE
  - — — — — DENOTES SETBACK LINE
  - X- -X- DENOTES NEW FENCE
  - OH- -OH- DENOTES OVERHEAD WIRES
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  - BP DENOTES BELL UTILITY POLE
  - LS DENOTES LIGHT STANDARD
  - (E) DENOTES EXISTING ITEM

- PROGRAM AREAS**
- 1.0 DEPOT STAFF OFFICE
  - 2.0 EMPLOYEE AMENITIES
  - 3.0 HEATED GARAGE
  - 4.0 SAND/SALT STORAGE
  - CIRCULATION





# city of greater sudbury depot master plan



# background

- This Depot Master Plan is the first detailed review of the depots since amalgamation.
- Builds on the 2015 Facility Rationalization Study.
- Master Plan focuses on renewing existing infrastructure and incorporating best practices.

city of greater sudbury depot master plan



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Stirling **Rothesay**  
CONSULTING, INC.

# scope

- Improves works environments for **450** staff.
- Renews **327,400 gsf of building + 47 acres of site.**
- 3 phases; 1-**protect**, 2-**renew**, 3-**optimize**

city of greater sudbury depot master plan

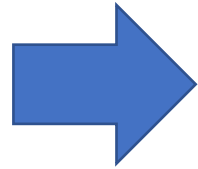


**3RDLINE.STUDIO**

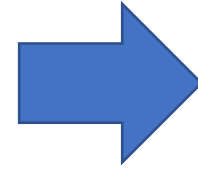
**Stirling Rothesay**  
CONSULTING, INC.

# outcome

renewed  
workplace  
(better tools)



*increased  
productivity*



**improved  
roads +  
infrastructure**

city of greater sudbury depot master plan

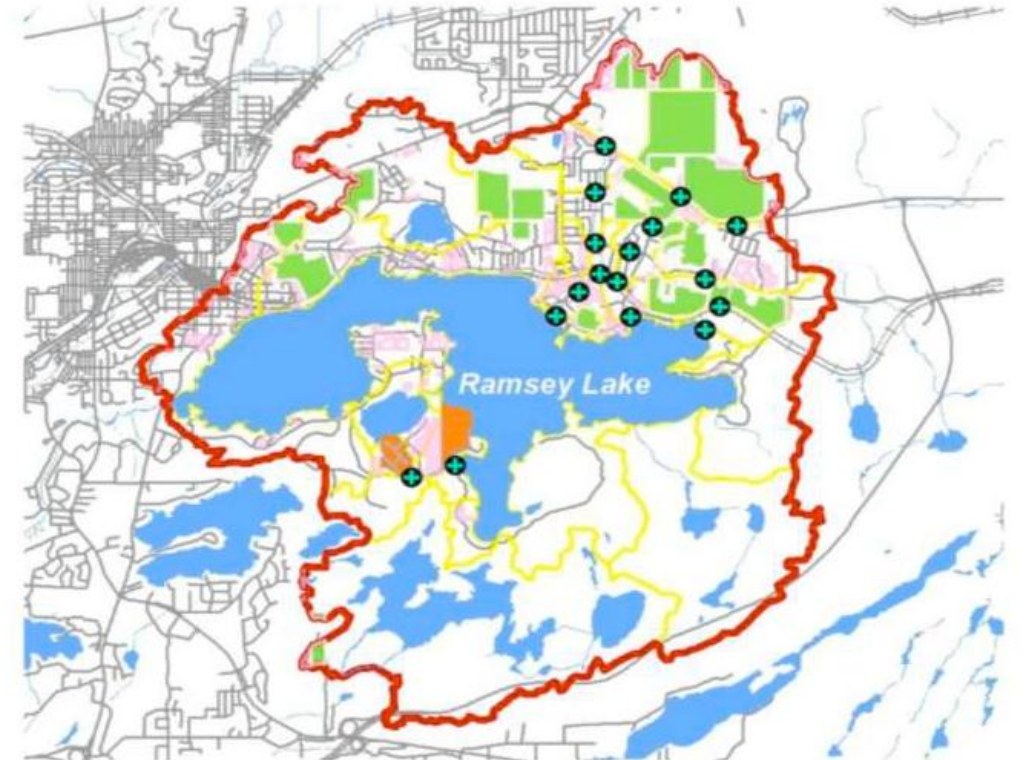


**3RDLINE.STUDIO**

**Stirling Rothesay**  
CONSULTING, INC.

# key concerns

- Our commitment to Provincial Source Water Protection.



city of greater sudbury depot master plan



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# key concerns

- Existing spaces do not support best practices.



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# key concerns

- Facilities are inadequately sized.

too few lockers

not enough showers

no headroom



city of greater sudbury depot master plan

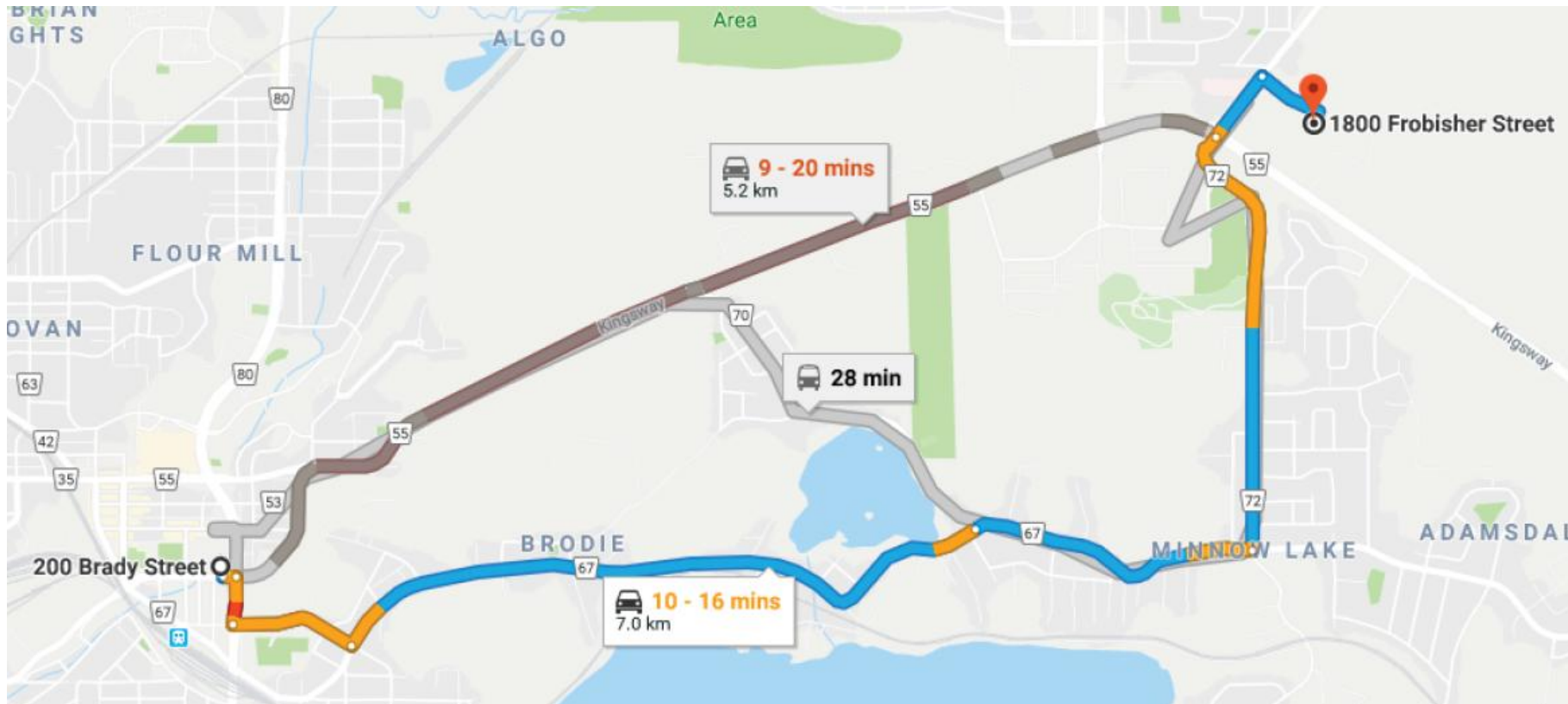


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# key concerns

- Employees are located across the City.



city of greater sudbury depot master plan



# key concerns

- Outdoor storage reduces productivity and shortens lifecycle of vehicles.
- Vehicular circulation routes are hazardous and not secure.



city of greater sudbury depot master plan



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# salt/sand domes

- Salt is currently stored indoors with sand and loading outside.
- Domes have reached the end of their life cycle.
- Proposing indoor storage and loading.



city of greater sudbury depot master plan

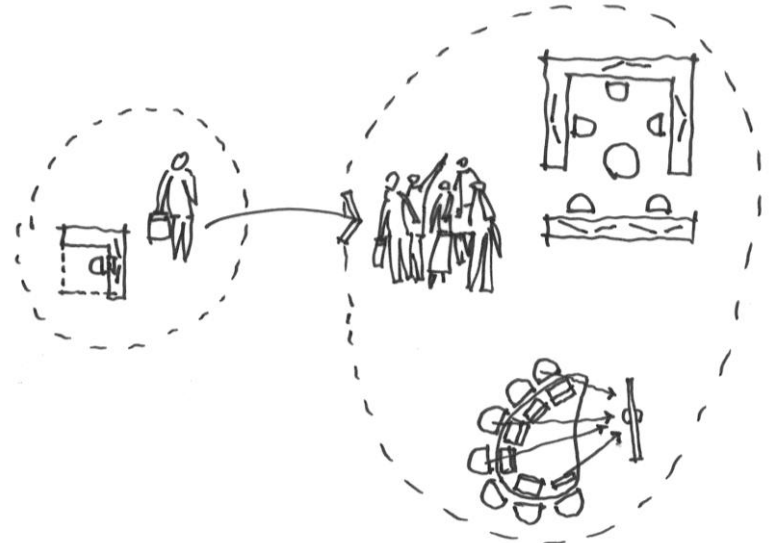
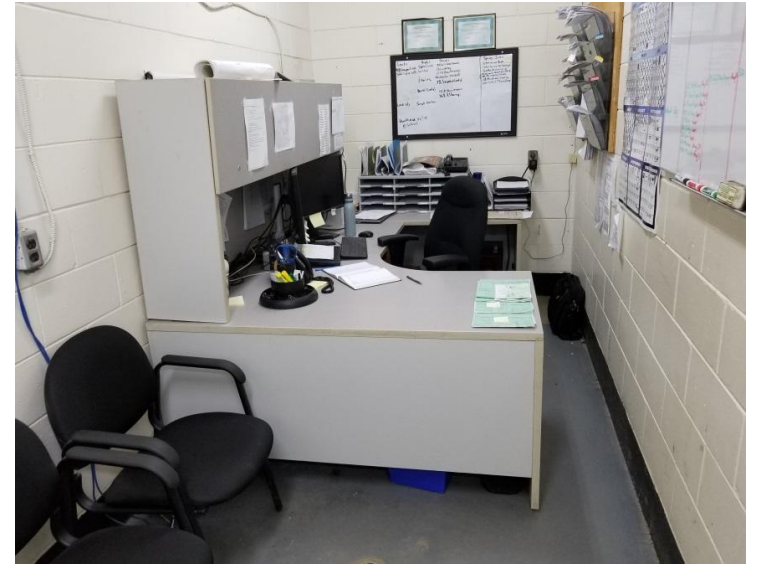


3RDLINE.STUDIO

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CONSULTING, INC.

# office and admin spaces

- Staff located across City.
- Focusing on collaboration through culture and governance, workplace design, and technology.
- Benefits include time-saving, productivity, quality of work, innovation, employee engagement, and reduced turnover.



city of greater sudbury depot master plan

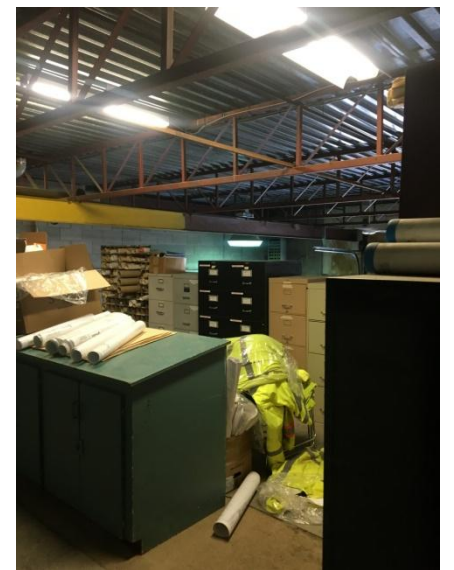
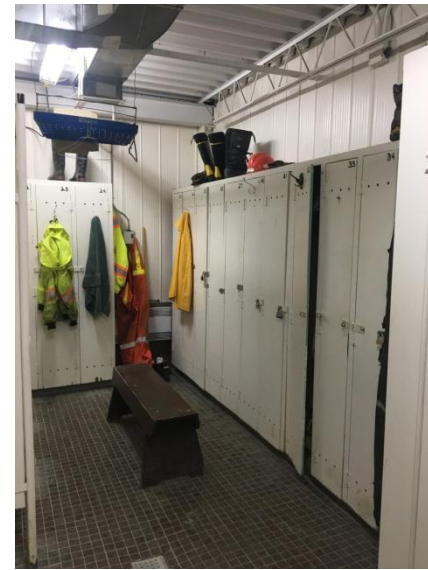
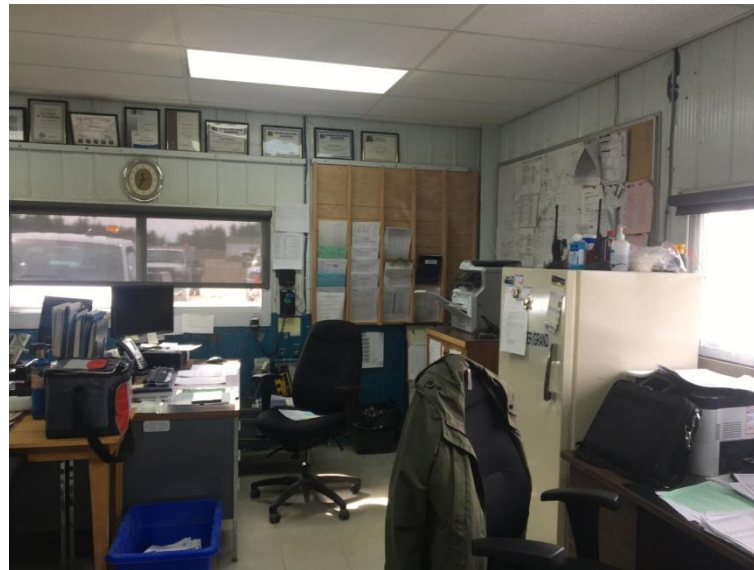


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# depots

- Current facilities are inadequately sized.
- Aged facilities are at the end of their life cycle.
- Proposed work reduces office space and increases the shop amenities area.



city of greater sudbury depot master plan

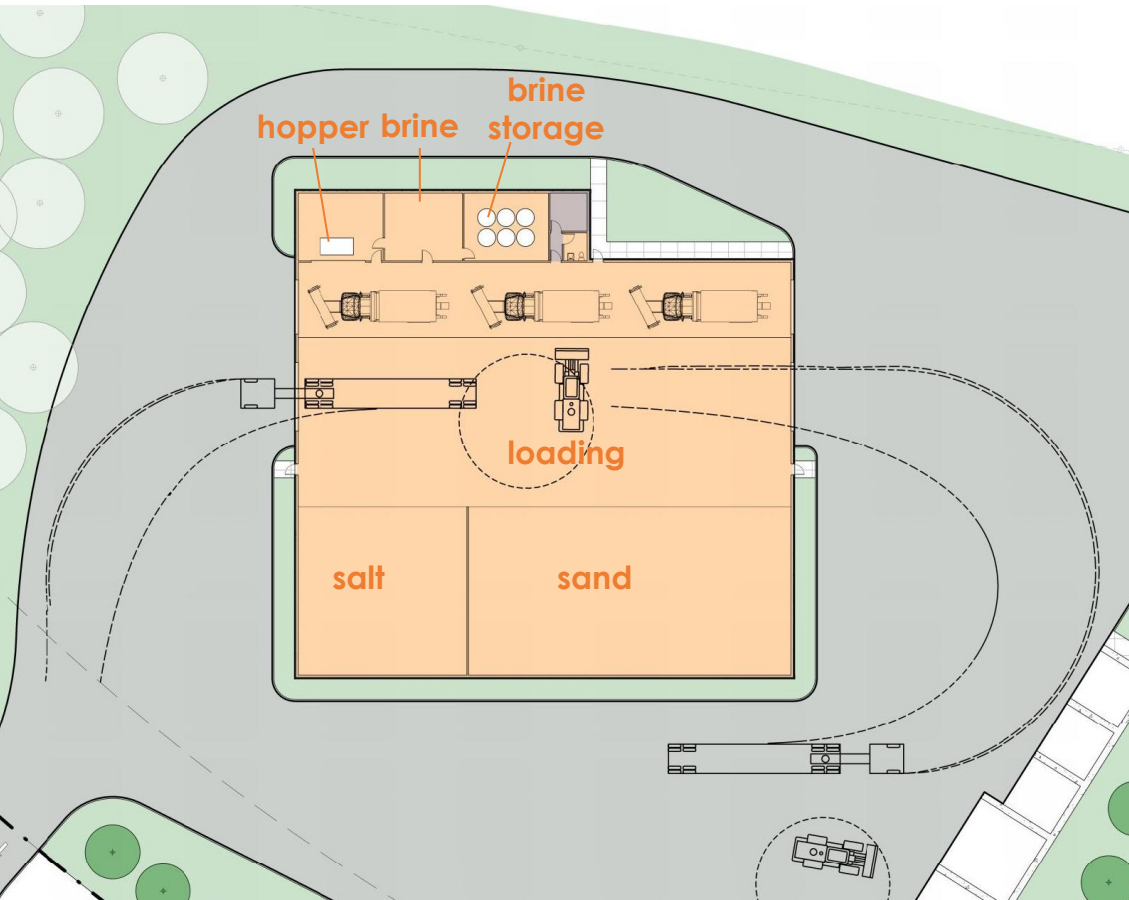


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# industry best practices for depot design

- full containment of sand/salt storage and loading.
- indoor loading and storage.
- left hand turn protocol.
- rationalized salt/sand volumes.



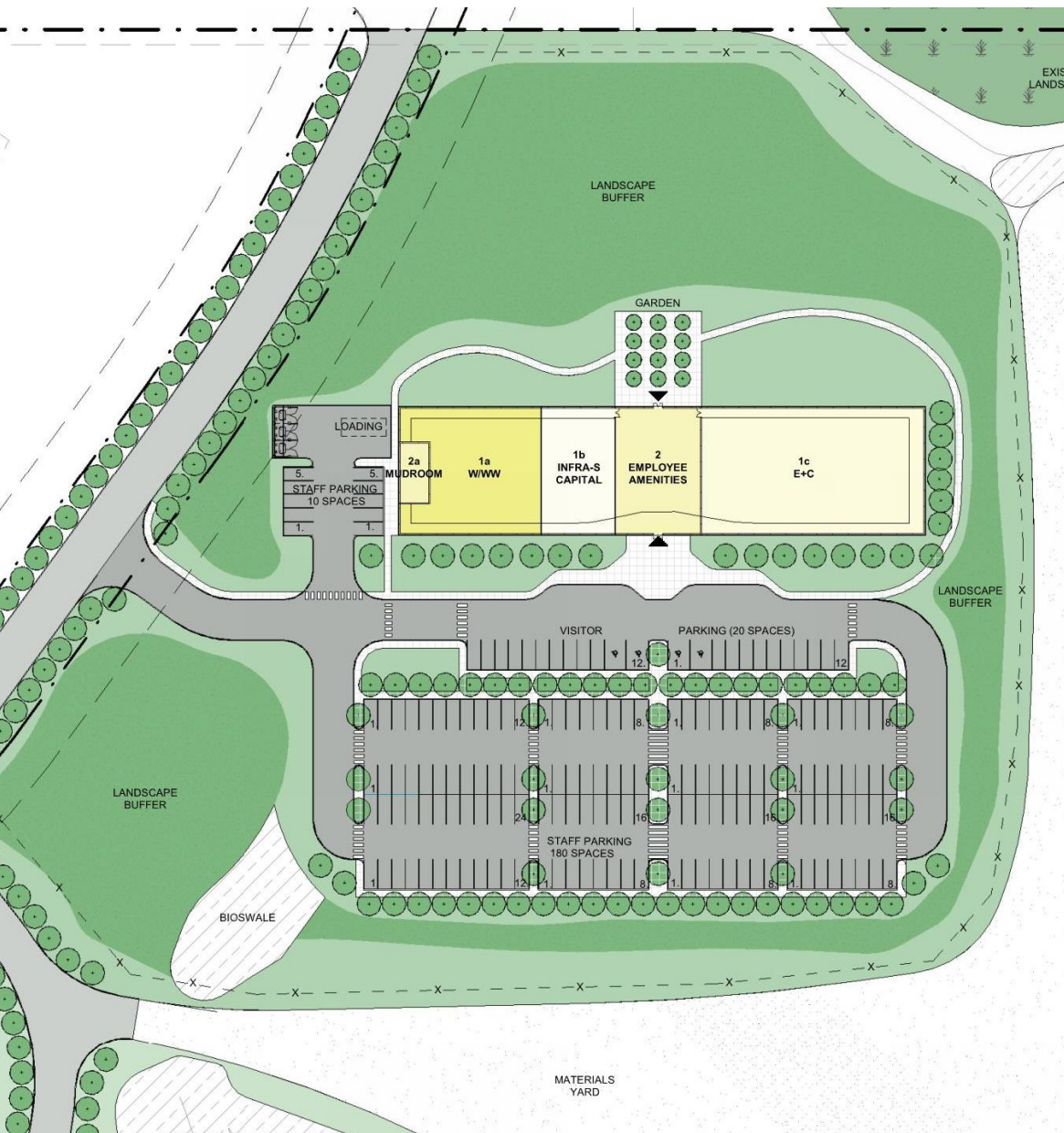
**salt/sand facility**

city of greater sudbury depot master plan



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# industry best practices for depot design

- Bring together four (4) departments.
- Create collaborative work spaces.
- Make spaces flexible, quiet and daylit.
- Use sustainable strategies.
- Share common spaces.
- Link interiors to landscape.

administration offices

## sustainable elements

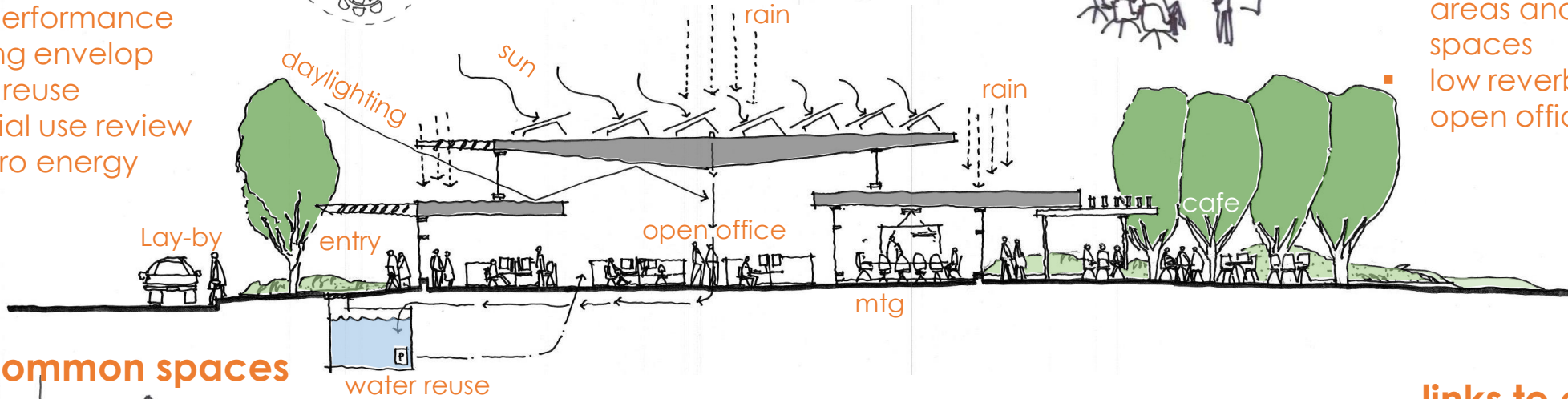
- daylighting
- passive solar orientation
- high performance building envelop
- water reuse
- material use review
- net zero energy

## collaborative space types

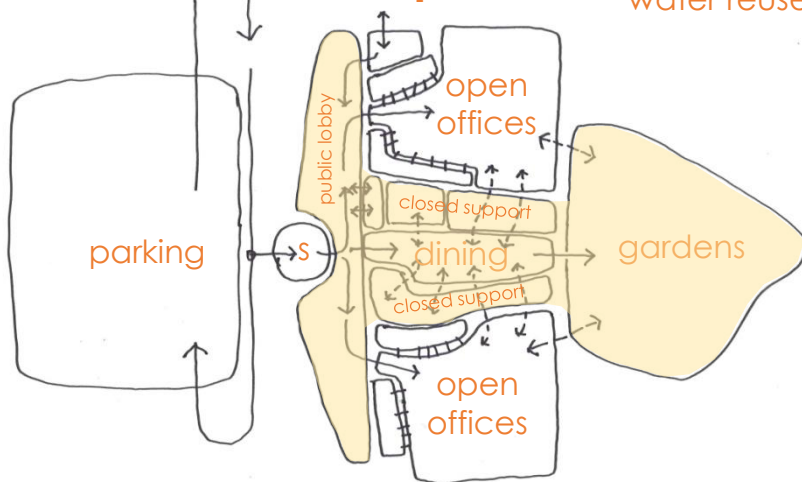


superior acoustics

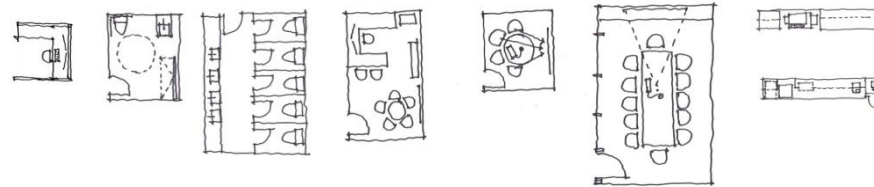
- low transmission between common space / open works areas and support spaces
- low reverb time in open office areas



## shared common spaces



## collaborative support space types



links to exterior  
landscape elements

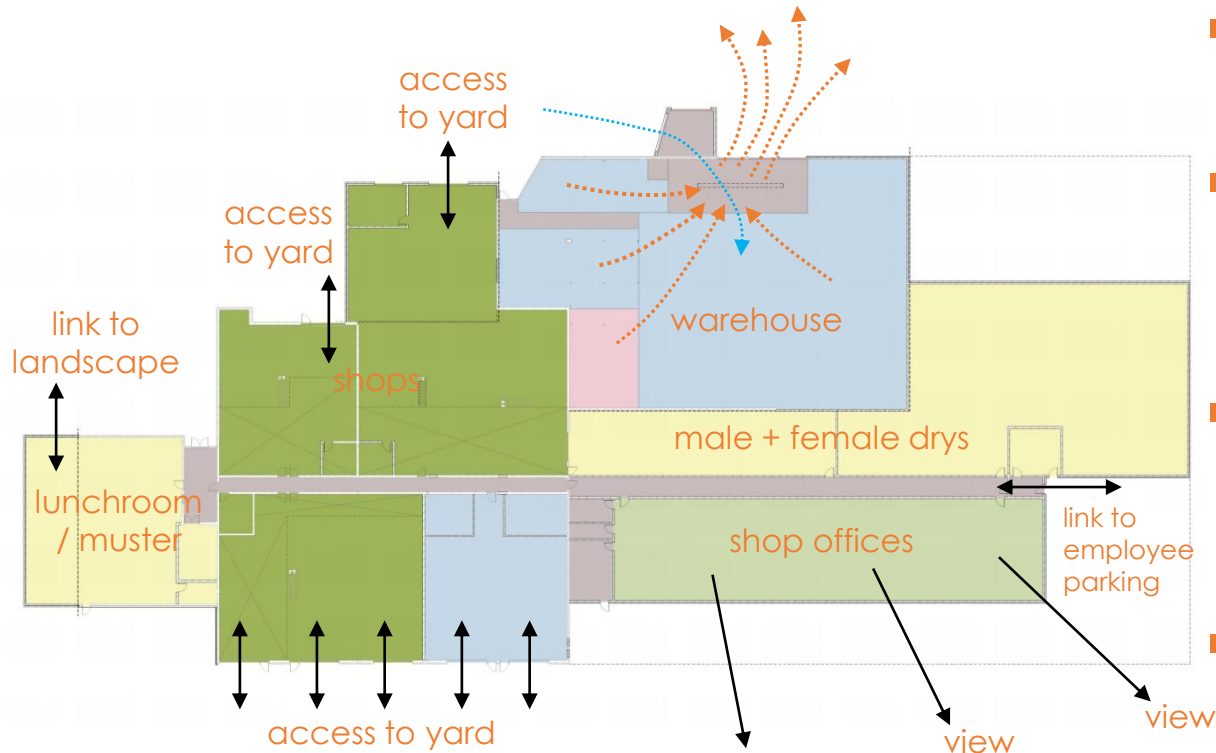
## administration offices

# city of greater sudbury depot master plan

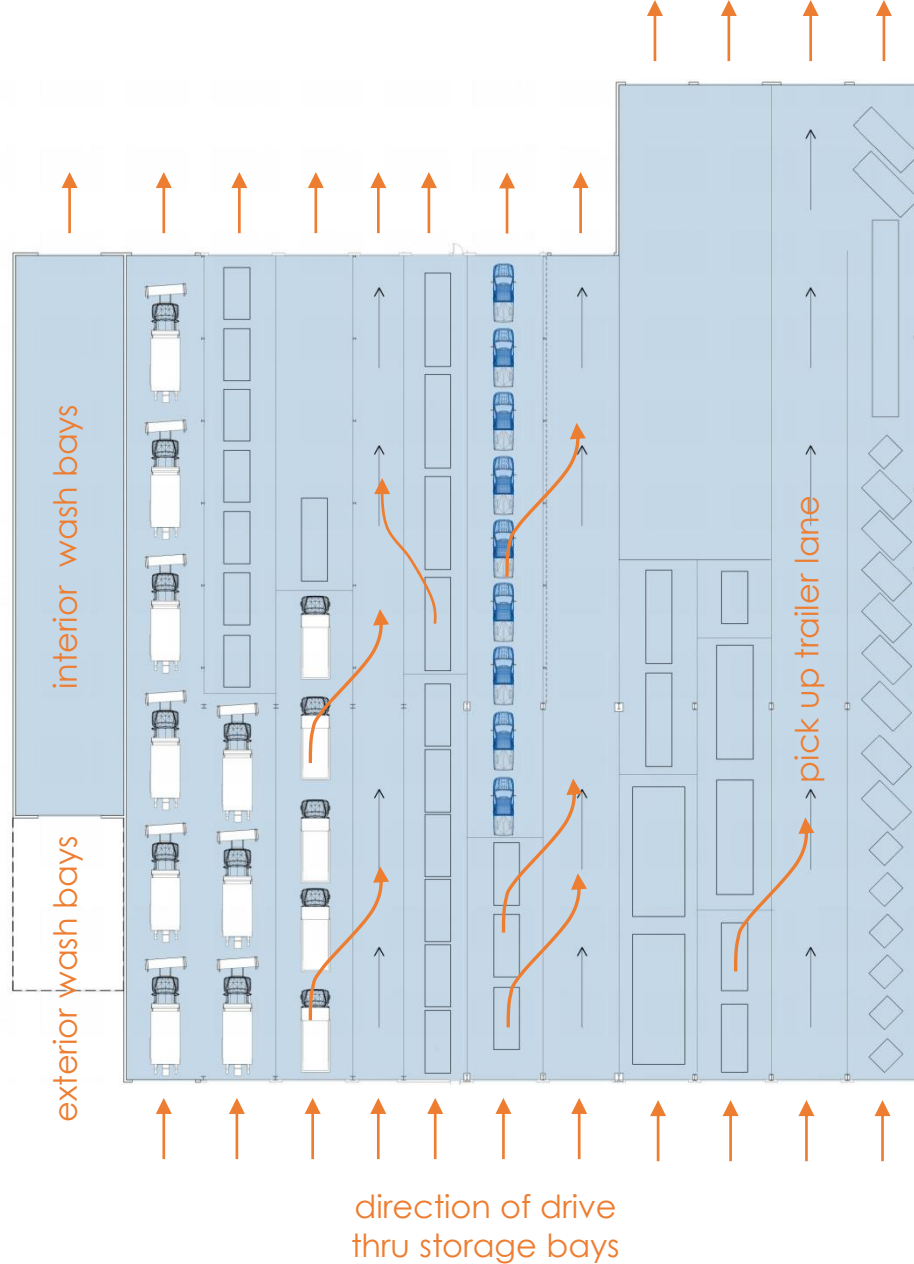
# industry best practices for depot design

- Create efficient warehouse spaces.
- Create dries / changerooms to support clean / dirty wear strategies.
- Develop flexible lunchroom / muster / training facilities.
- Develop purpose made shops.
- Consolidate employ amenities, shops and admin support spaces.

city of greater sudbury depot master plan



**centralized  
dries/warehouse/shops**



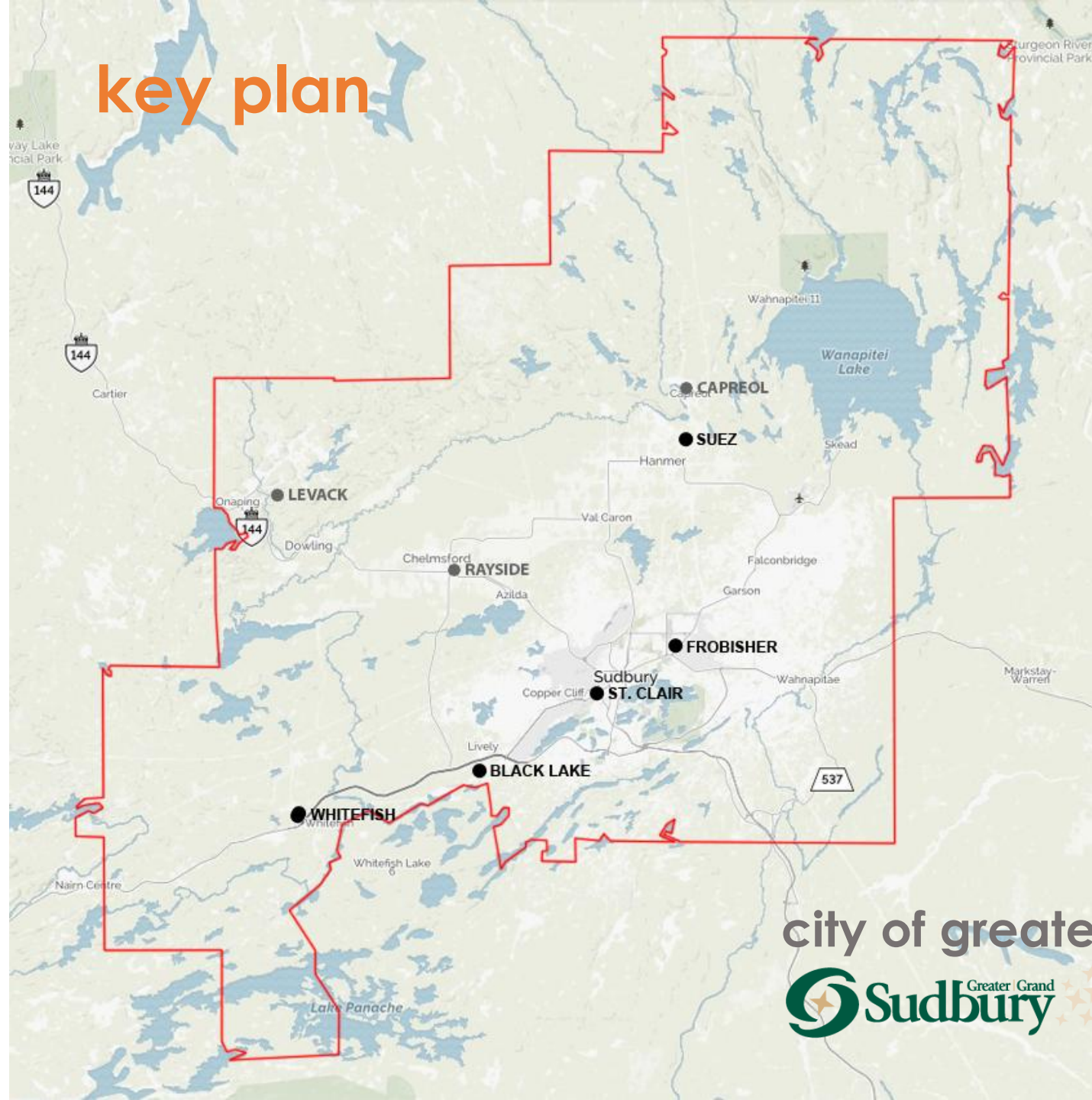
## vehicle storage

## industry best practices for depot design

- Use washbays / vehicle storage bays to extend vehicle life cycles.
- Develop distinct and secure traffic routes on all sites.
- Create efficient drive-thru storage for vehicles.
- Use drive thru lanes to permit flexible access to trailers / vehicle types.

city of greater sudbury depot master plan

key plan

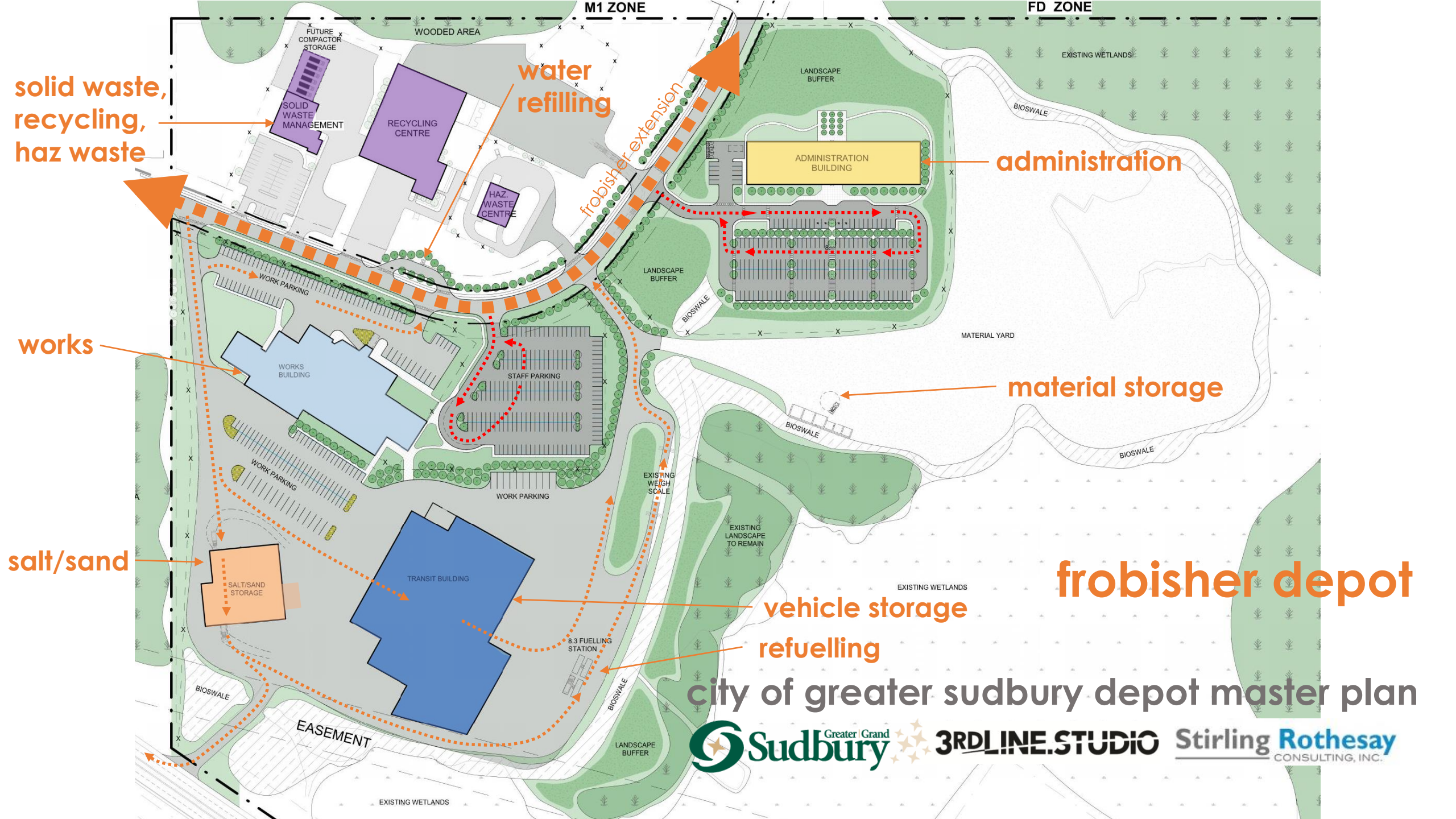


city of greater sudbury depot master plan



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solid waste,  
recycling,  
haz waste

water  
refilling

works

salt/sand

administration

material storage

vehicle storage  
refuelling

frobisher depot

city of greater sudbury depot master plan

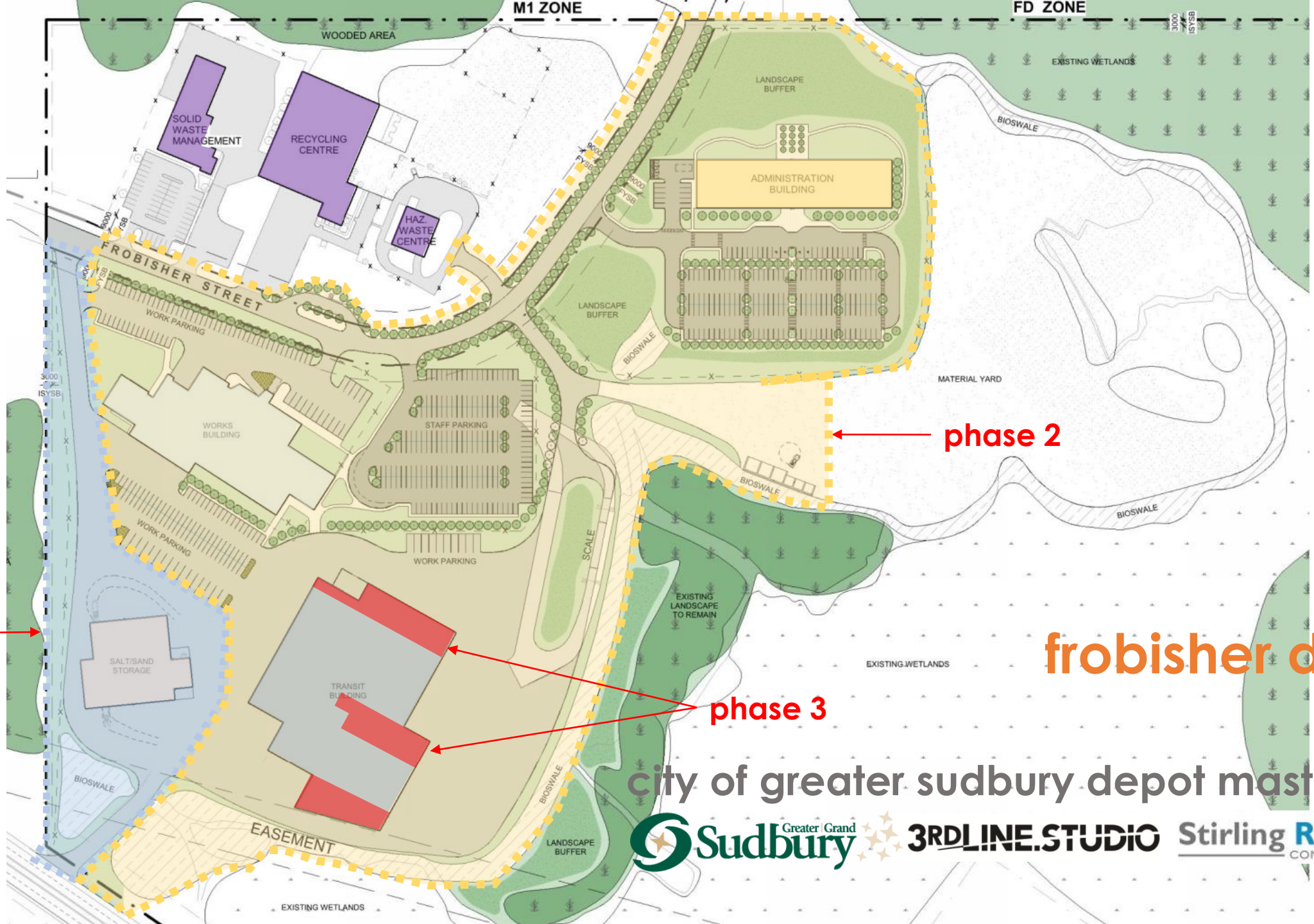
phase 1 →

← phase 2

← phase 3

frobisher depot

city of greater sudbury depot master plan



industrial

martindale road

residential

lawson street

st clair street

elementary school

junction creek

residential

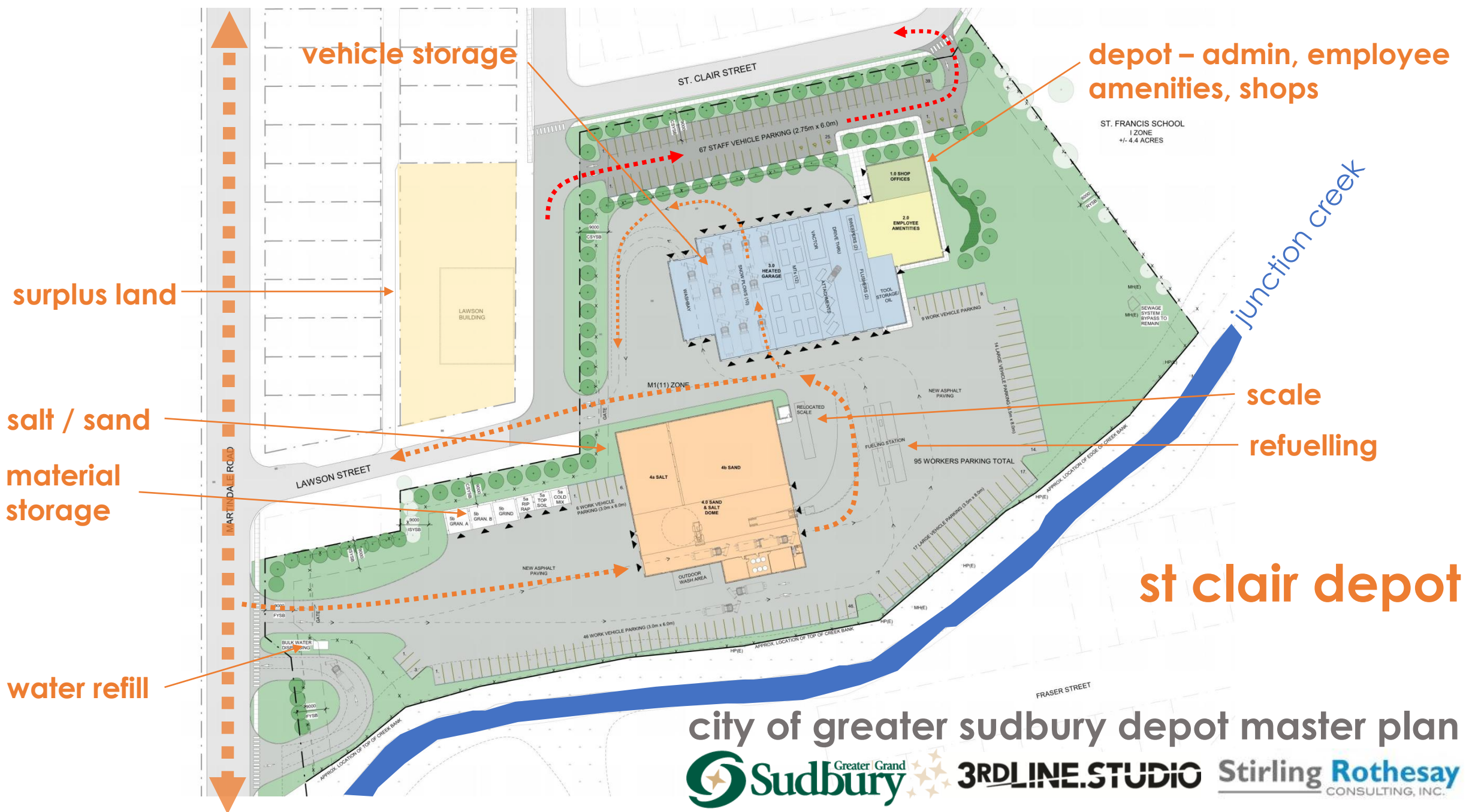
st clair depot

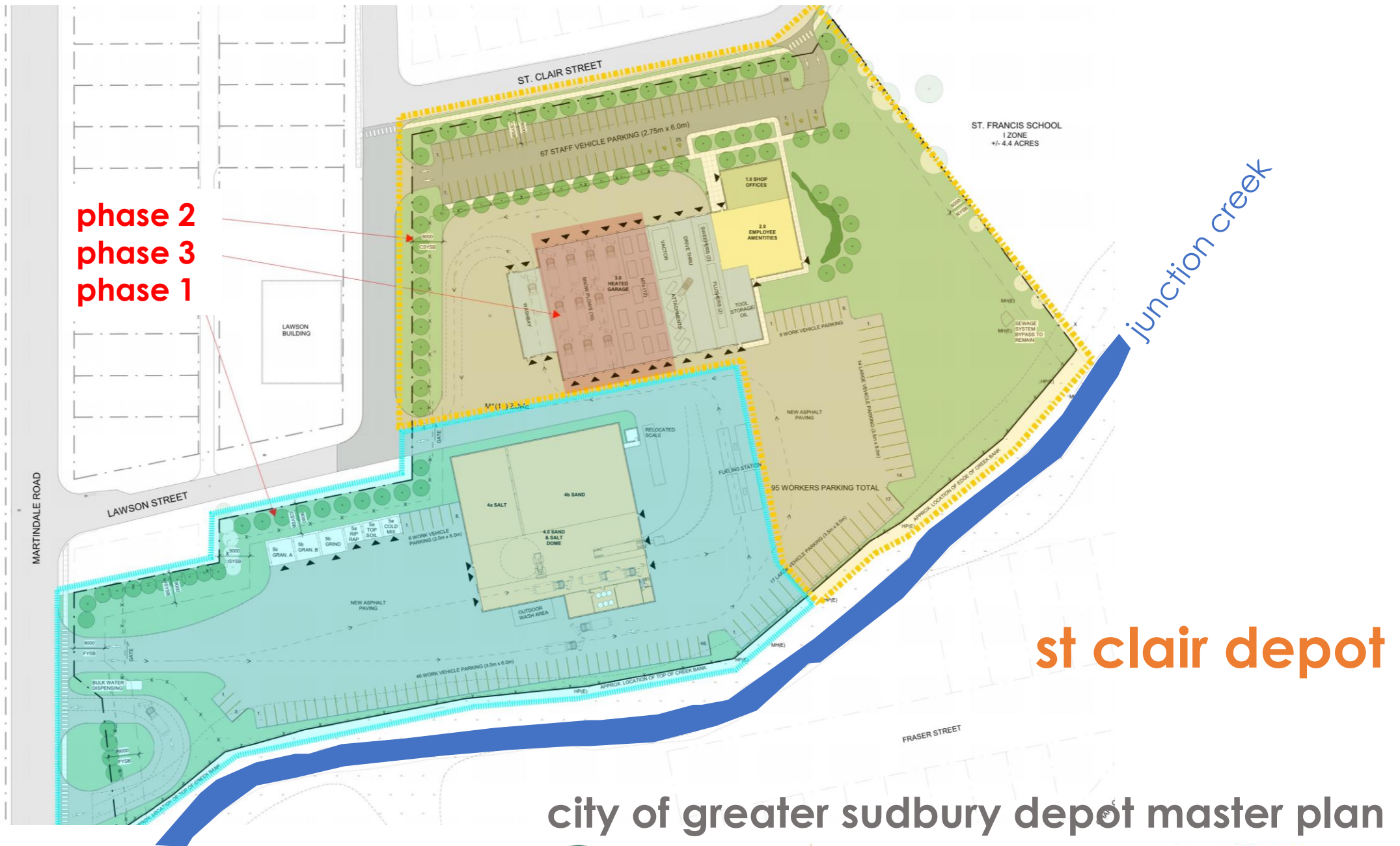
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# city of greater sudbury depot master plan



Greater Sudbury 3RD LINE STUDIO Stirling Rothesay CONSULTING, INC.





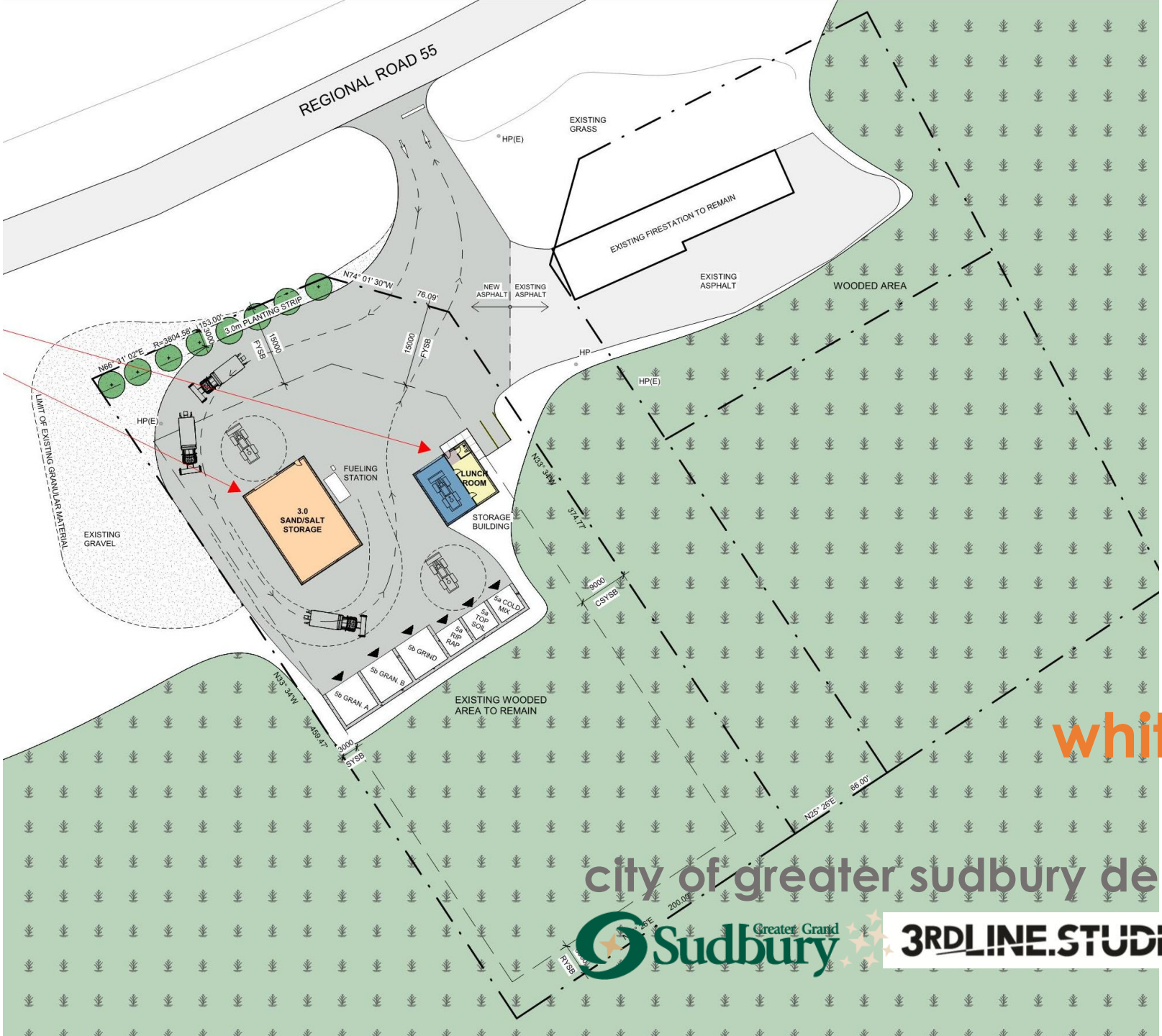
# city of greater sudbury depot master plan



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vehicle storage  
salt/sand



whitefish depot

city of greater sudbury depot master plan



3RD LINE STUDIO

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CONSULTING, INC.

# next steps

- Detailed design for Phases 1 and 2.
- Cost estimates and implementation schedule will be updated.
- Prepare capital budget proposals for the capital prioritization process in 2020.

city of greater sudbury depot master plan



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# questions



city of greater sudbury depot master plan



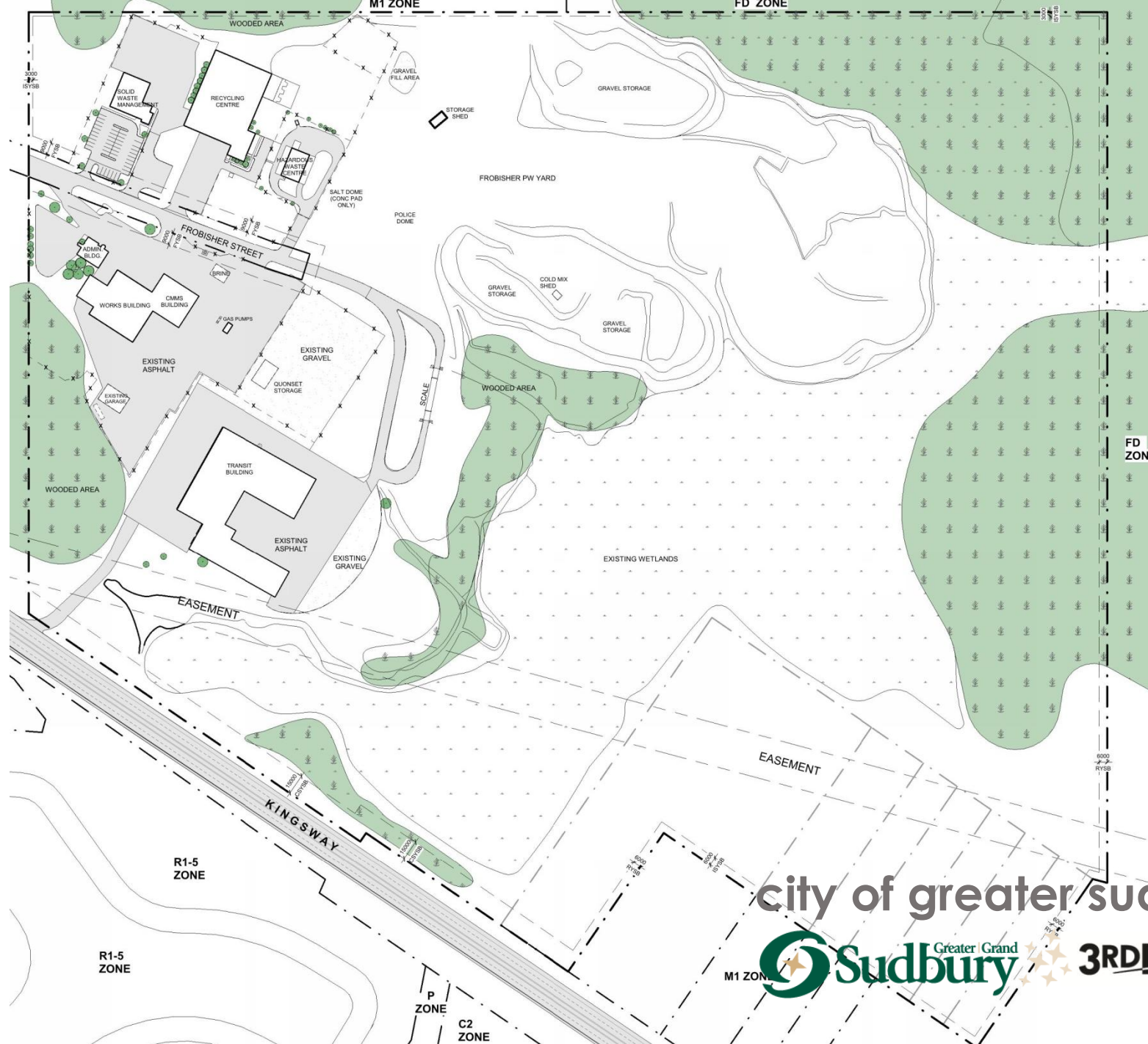
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back up reference slides

city of greater sudbury depot master plan



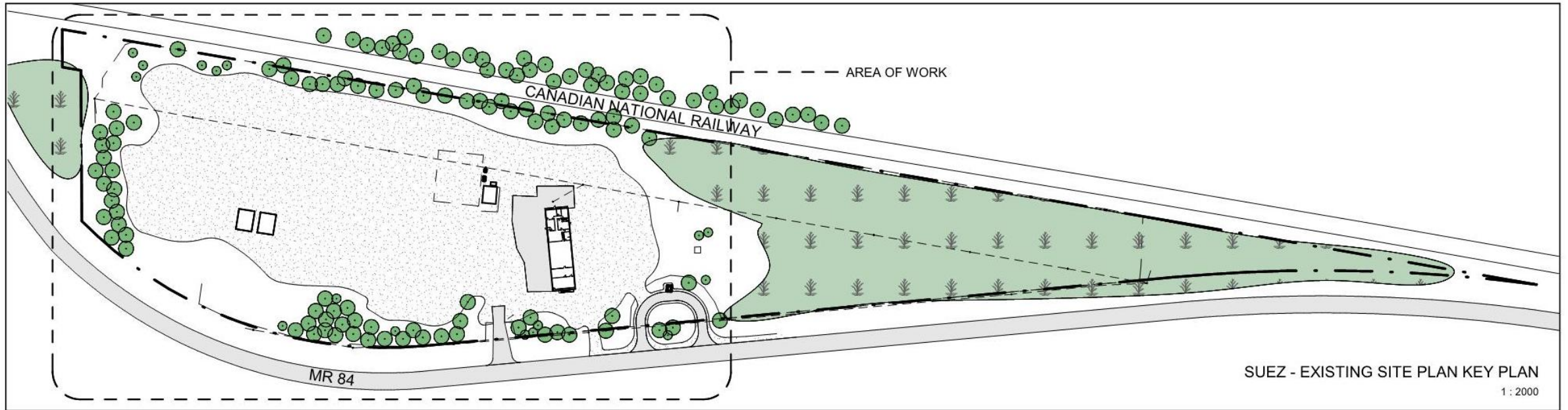


frobisher depot

city of greater sudbury depot master plan



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suez depot

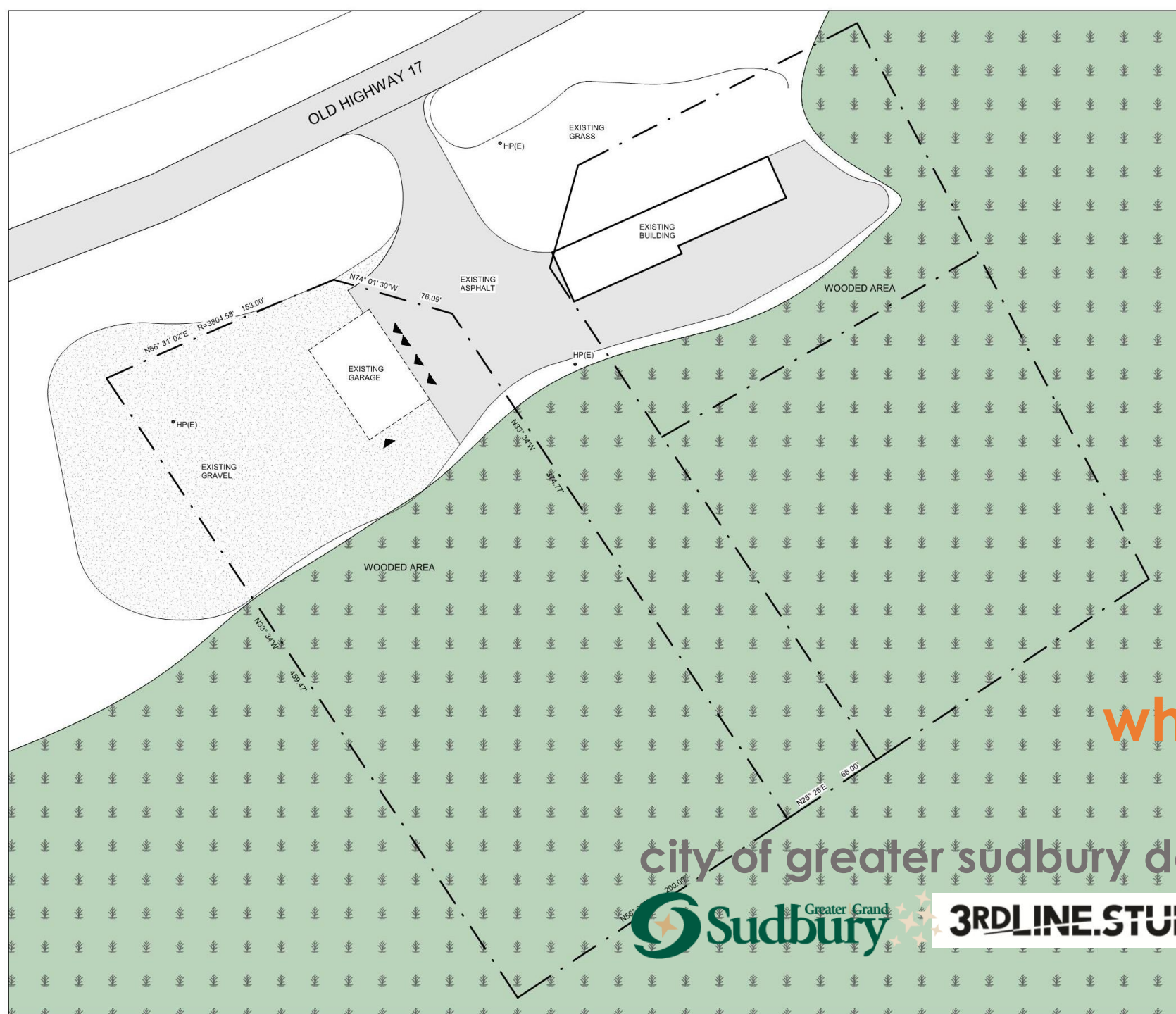
city of greater sudbury depot master plan



suez depot

city of greater sudbury depot master plan





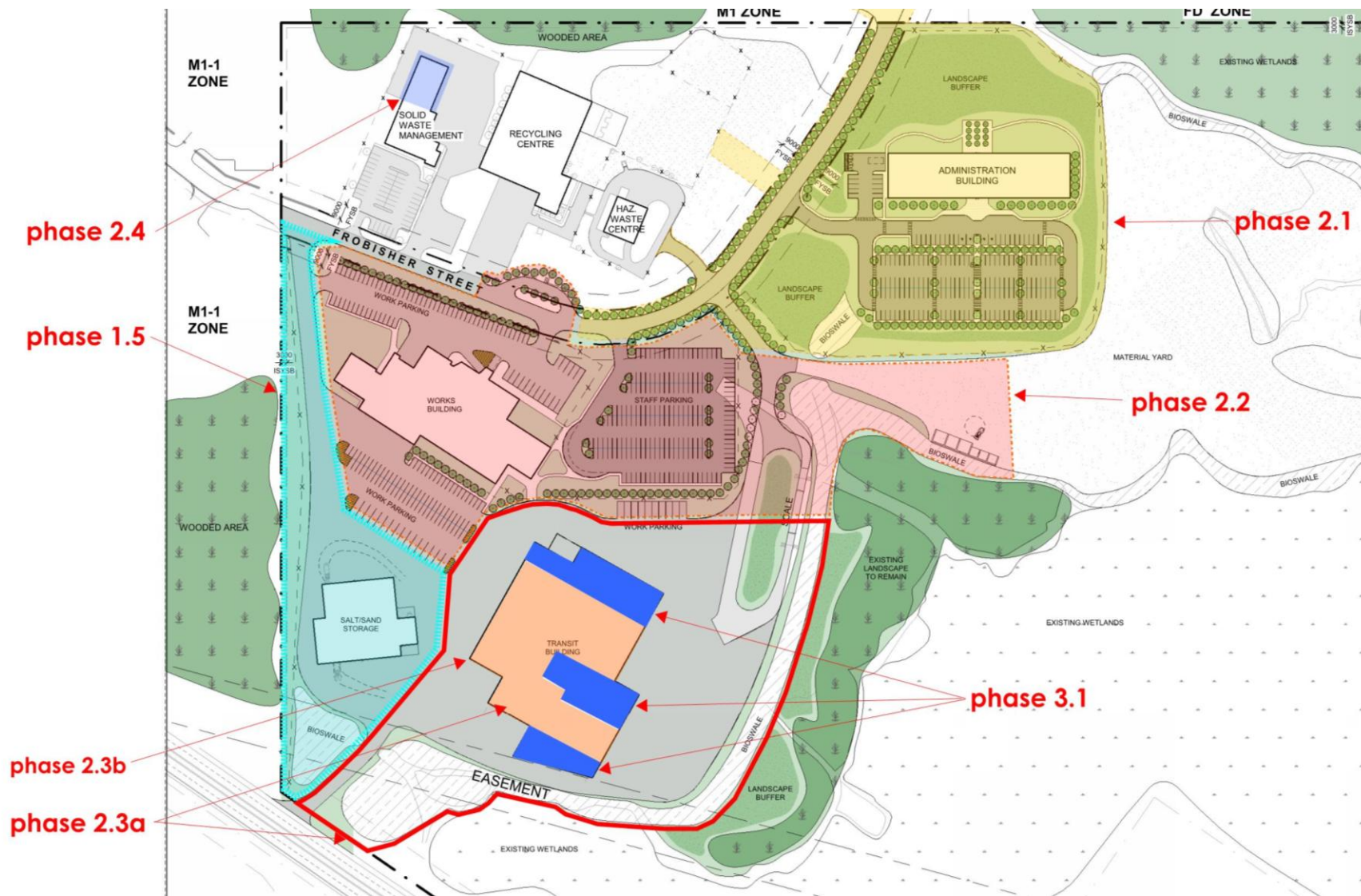
whitefish depot

city of greater sudbury depot master plan



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Stirling Rothesay  
CONSULTING, INC.



frobisher depot

city of greater sudbury depot master plan