Southeast LRT Compendium of Functional Planning Studies

Transit Planning Calgary Transit

December 2010

PURPOSE

This compendium summarizes the approved plans (as of January 2010) for the future Southeast Light Rail Transit (LRT) line. Calgary's CTrain network map and an overview of the Southeast LRT alignment are provided in **Exhibits 1 and 2 (Appendix A)**.

A detailed drawing set showing plan and profile views of the full alignment is provided in **Appendix B**. Additional details on stations and design decisions can be found in the individual studies, which are listed in Table 1. A list of the land requirements is shown in **Appendix C**.

ROLE

Southeast LRT is one of six lines that forms Calgary's long term LRT network. The service will eventually replace a parallel street-based Bus Rapid Transit (BRT) service based on ridership growth and funding. It is anticipated that the Southeast LRT will be required before Calgary's population reaches 1.25 million.

<u>ROUTE</u>

Planning for Southeast LRT began in 1987 with the **South East Mass Transit Corridor Study**. This study examined projected growth in south Calgary and concluded that a dedicated Southeast LRT line would one day be needed.

Since 1987, Southeast LRT has been planned in segments. The first planned and council-approved segments were identified and acquired as part of new community planning in southeast Calgary. Planning after 1999 involved connecting the suburban Southeast LRT alignment with Calgary's downtown.

The Southeast LRT alignment generally follows rail and road rights-of-way. Designing LRT along existing and planned corridors provides access into existing and planned areas while minimizing cost and property impacts. In brief, Southeast LRT will:

- Leave the downtown via an underground alignment along 2 Street SW. Two stations are planned along 2 Street W; with the first between 1 Avenue and 3 Avenue S; and the second between 5 Avenue and 7 Avenue S.
- Turn east at 10 Avenue S with a station (either above or below grade) at Centre Street. At 4 Street E, a multi-modal station will be constructed with the future high speed rail station for the line that will travel between Calgary and Edmonton.
- Travel east along the Canadian Pacific Railway (CPR) corridor between the communities of Inglewood and Ramsay. A shared station will be built on the Ramsay side west of 12 Street E.
- Turn south near 11 Street E in Ramsay. Near the Cross Roads Market, the alignment will shift from the CPR corridor to travel along the Canadian National (CN) rail line. A station will be built just south of 26 Avenue S.
- Cross over Blackfoot Trail and travel south along CN right of way with a station near Highfield Boulevard.
- Travel over Deerfoot Trail and the Bow River, still parallel to CN rail, travelling east with an elevated station near Lynnview Ridge.

- Turn south travelling parallel to Ogden Road and within the CPR right of way. A station will be located at 69 Avenue S to serve the Ogden community.
- Travel at-grade through the future Glenmore Trail and Ogden Road interchange. A South Hill station and park and ride facility will be located at 86 Avenue SE.
- Travel parallel to 24 Street E with a station and park and ride facility near Quarry Park Boulevard.
- Turn east, still north of 114 Avenue S with a station and park and ride facility in Douglas Glen at 29 Street E.
- Tunnel beneath Barlow Trail and then head east through the Shepard industrial area with a station near 48 Street SE. The line will continue east to 52 Street SE where it will turn to travel south.
- Tunnel under 130 Avenue and travel south along the west side of 52 Street SE with stations and park and ride facilities at Prestwick and McKenzie Towne.
- Travel south over Highway 22x with a station and park and ride facility serving the new communities of Auburn Bay and Mahogany.
- Swing west from 52 Street SE via a tunnel with a station and shared park and ride facility just south of the South Health Campus.
- Turn to travel south with a terminal station near the Seton employment centre. A park and ride facility and storage tracks will be constructed near the station, south of Back Street.

Since Southeast LRT does not connect with other CTrain lines, a storage and maintenance facility will be needed to support it. Prior to construction of Southeast LRT, an appropriately sized and located site will need to be identified within the first phase of the line. A land parcel between 8 and 10 hectares in size and located in close proximity to the alignment is required.

SERVICE AREAS

Southeast LRT will serve four distinct areas; all of which are east of the Bow River. These can be described as follows and are shown in **Exhibit 3 (Appendix A)**:

- **Re-developing area**: consists of older residential and industrial communities north of 114 Avenue SE, bounded by the Bow River and Ogden Road. The communities and employment centres forming this area are close to the city's core and are experiencing transition. Some examples where intensification is planned includes residential growth in Inglewood and Ramsay, as well as the Quarry Park, a mixed use (office & residential) transit oriented development.
- **Industrial area**: contains the majority of the jobs in southeast Calgary and is generally bounded by 50 Avenue, Ogden Road, 130 Avenue SE and the city limits to the east. Density is generally low, although increasingly offices are being built in this area.
- **Established area**: contains recently built single family residential communities with some higher density towards the south. This area is generally bounded by Deerfoot Trail to the north, the Bow River along the west, 52 Street SE in the east and Highway 22X in the south.
- **Developing area**: represents a large segment of most recent and future growth in southeast Calgary. This area includes the new South Hospital and future residential, retail and employment developments. This area is bounded to the north by Highway 22X, the west by the Bow River, the east and south by the city boundary.

Intensifying the lands near future stations along Southeast LRT will mean more passengers will find it convenient to use Southeast BRT and Southeast LRT once it is constructed. According to the report **Southeast LRT Future Population, Employment and Ridership** adding transit-supportive land uses near Southeast LRT will increase ridership by approximately 20 % (Calgary Transit, 2005).

PLANS Table 1 lists information on the plans that describe Southeast LRT. These plans should be consulted for information on the design process and public consultation.

Table 1:	Southeast	LRT PI	anning	Studies
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Study	Boundaries	Author	Approval &	
(year)			Date	
South East Mass Transit Corridor Study	South Calgary	Reid Crowther &	Internal study	
(1987)		Partners Ltd.		
South East LRT Functional Planning Study	Glenmore Trail <i>to</i>	Reid Crowther & Partners Ltd.	2000 February TTP99-69	
(1999)	107 Avenue S	Faithers Ltu.		
Southeast LRT 52 Street S Functional Planning Study	107 Avenue <i>to</i>	Earth Tech	2002 April TTP2002-10	
(2002)	196 Avenue S			
Southeast LRT Functional Planning Study Phase III	Elbow River to	Clifton ND Lea	2004 April LPT2004-17	
(2004)	Glenmore Trail			
Downtown LRT Feasibility Study	Downtown <i>to</i>	Clifton ND	2006 April	
(2006)	Elbow River	Lea	LPT2006-27	
52 Street SE Functional Planning Study	Auburn Bay Drive		Outcome of:	
(2006)	<i>t</i> o Seton Boulevard S	Stantec	East McKenzie ASP	
Southeast Centre Area Structure Plan	196 Avenue to	City of Calgary	2004 June	
(2004)	212 Avenue S	Cargary	Bylaw 8P2004	
Southeast LRT near Quarry Park	85 Avenue <i>to</i>	City of	2009 November	
(2009)	107 Avenue S	Calgary	LPT2009-72	
Southeast LRT McKenzie Towne to Seton Functional Planning Study	McKenzie Towne <i>to</i> Seton	Stantec Engineering	2010 Refinement of approved alignment	

SOUTHEAST LRT FLEET CONSIDERATIONS

Southeast LRT will operate independently of all other CTrain lines in Calgary. Because of this, low floor vehicles can be used. Low floor trains are operated throughout North America and have low profile platforms (about curb height) that are more accessible, shorter and are more easily integrated into communities. Figure 1 shows photos of low floor stations in San Jose, CA.

The Southeast LRT fleet can also be selected to with double-articulation which will help trains negotiate several tight turns that will be constructed along Southeast LRT in order to permit integration into existing and planned development. Two examples are near the end of line in Seton, as well as in the downtown where the line will turn from 2 Street W to 10 Avenue S.



Figure 1: Low-Floor Light Rail Transit in San Jose

APPENDIX A

Exhibits

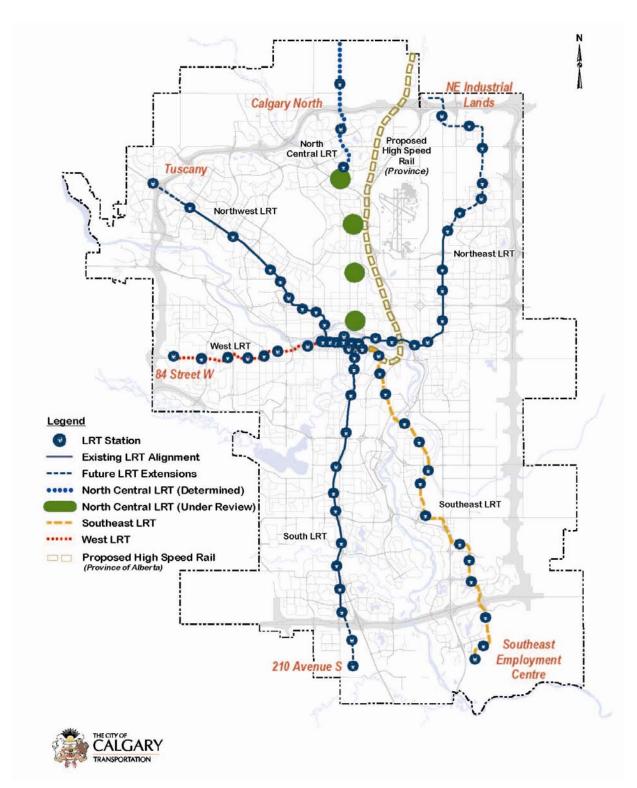


Exhibit 1: Future Calgary LRT Network

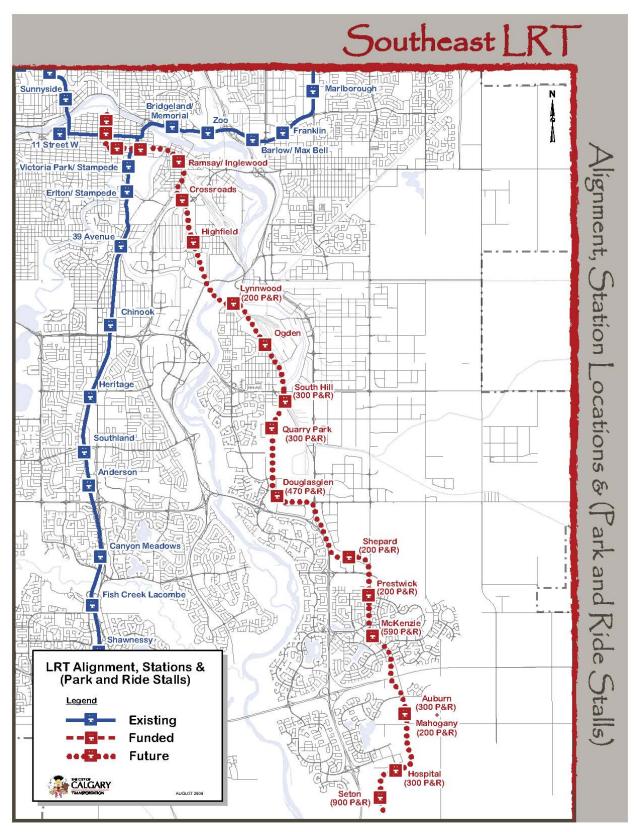
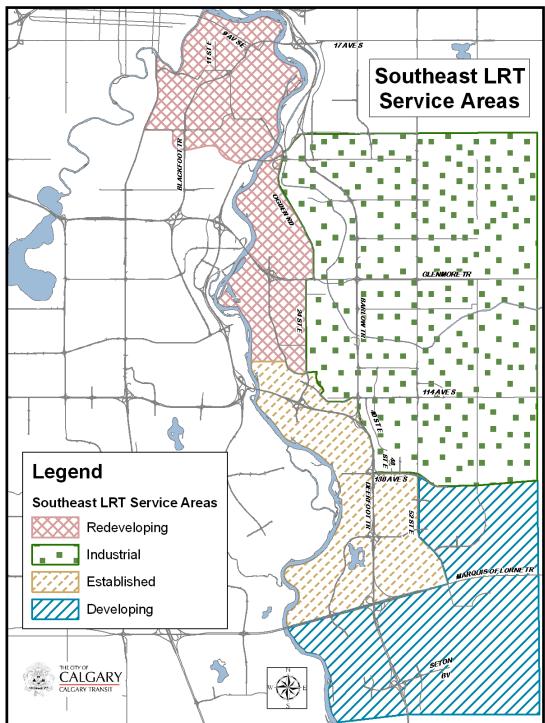


Exhibit 2: Southeast LRT Alignment & Station Locations

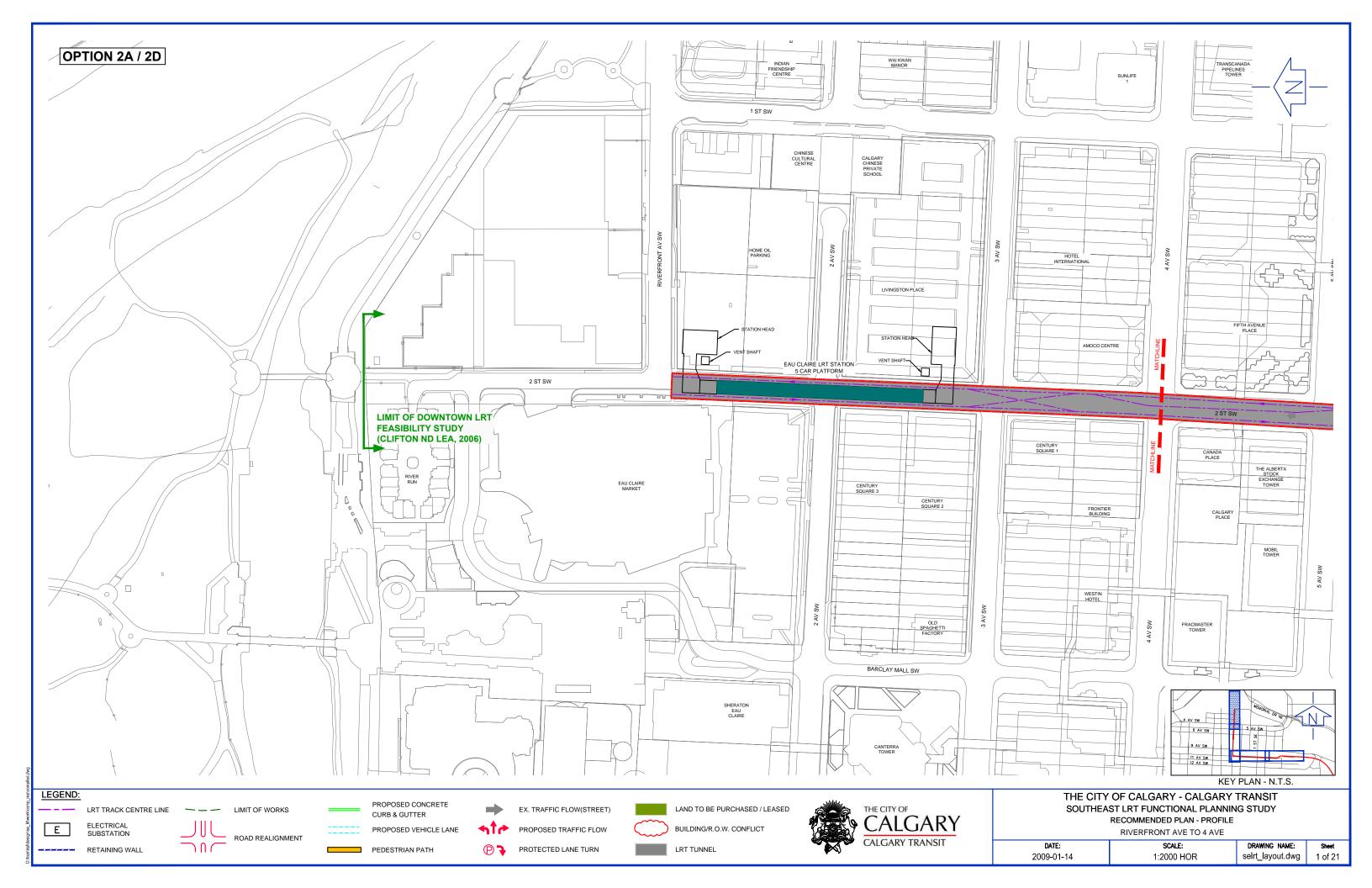


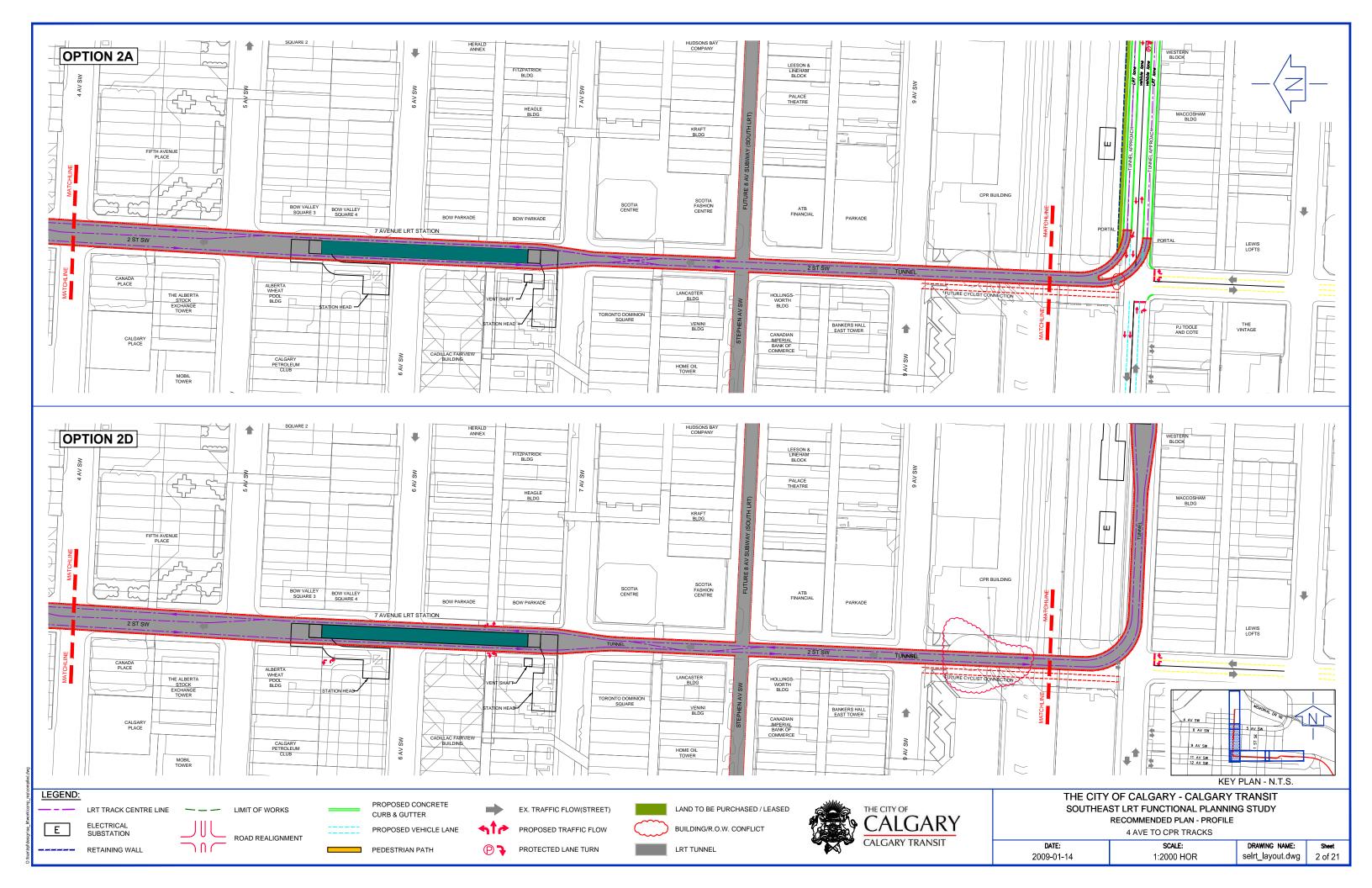
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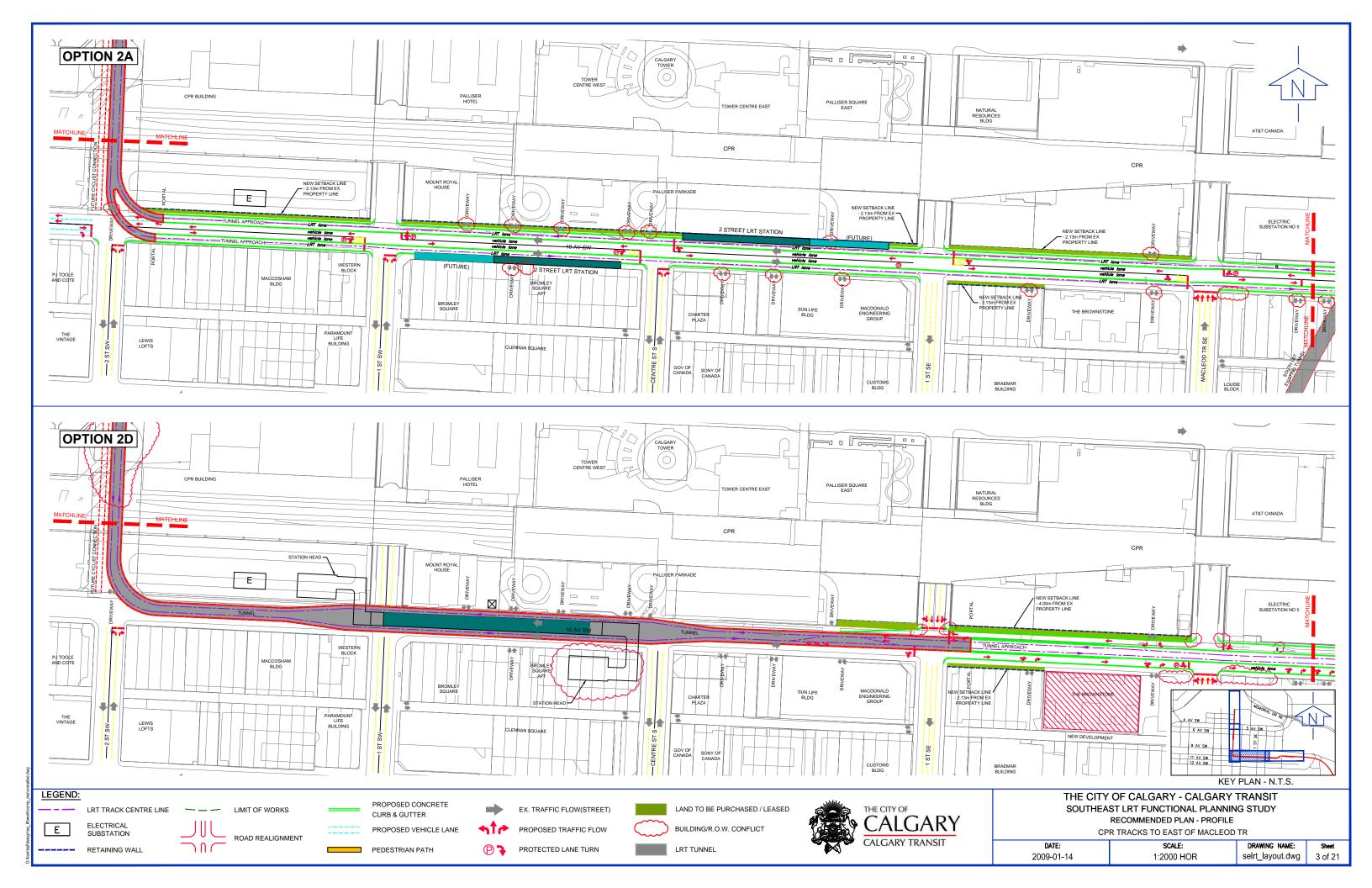
Exhibit 3: Southeast LRT Service Area Map

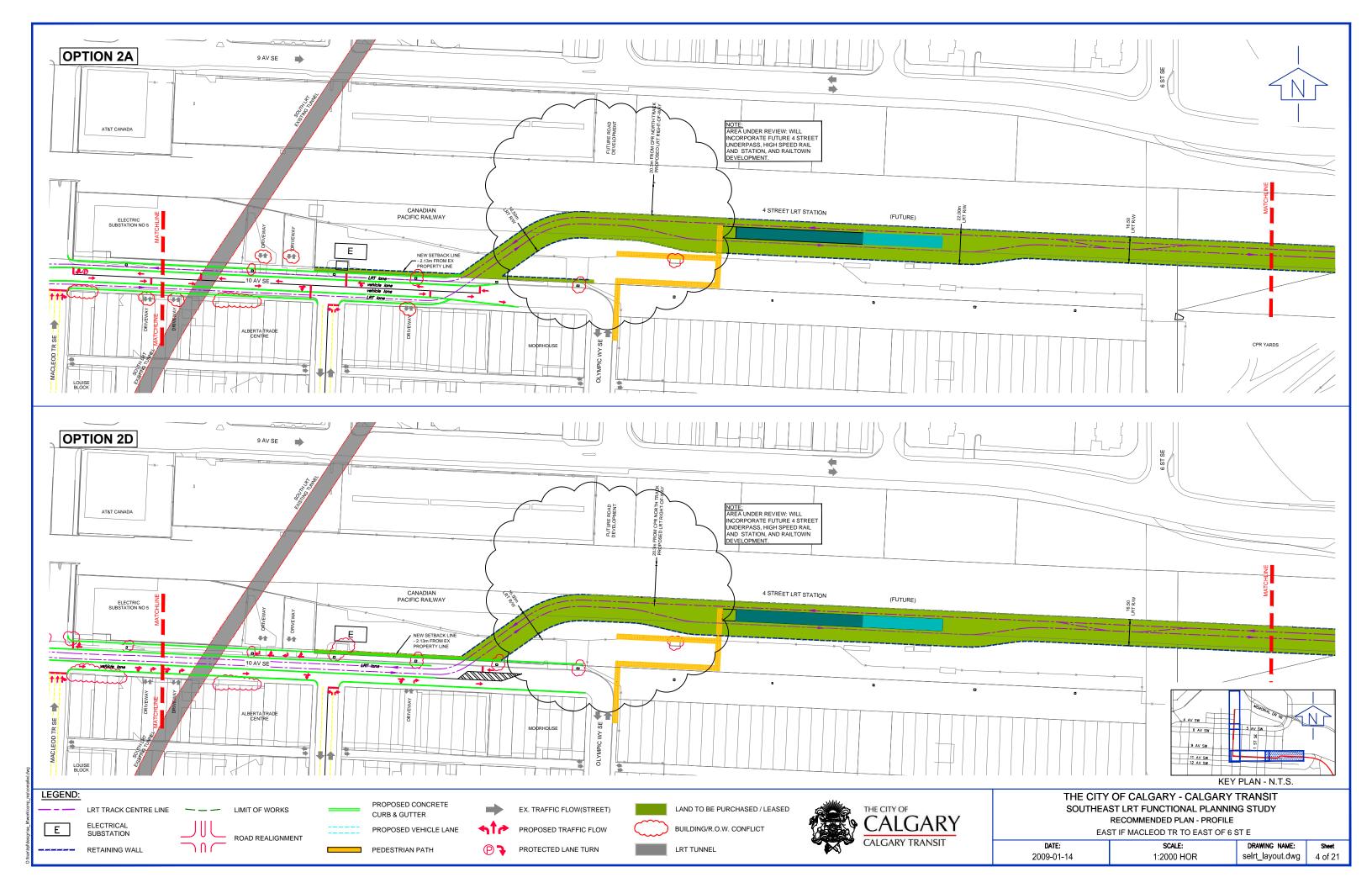
APPENDIX B

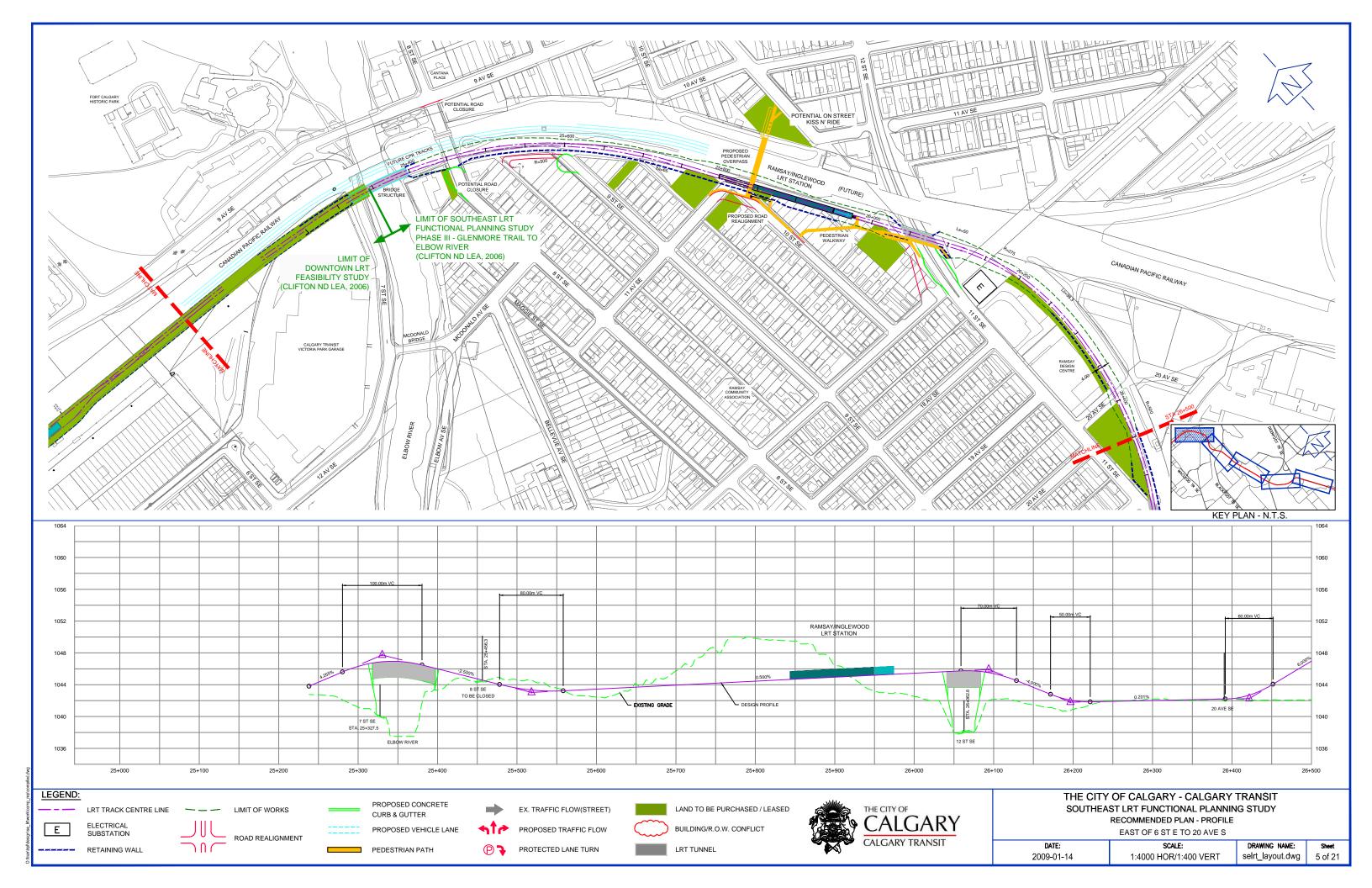
Southeast LRT Alignment: Plans and Profiles

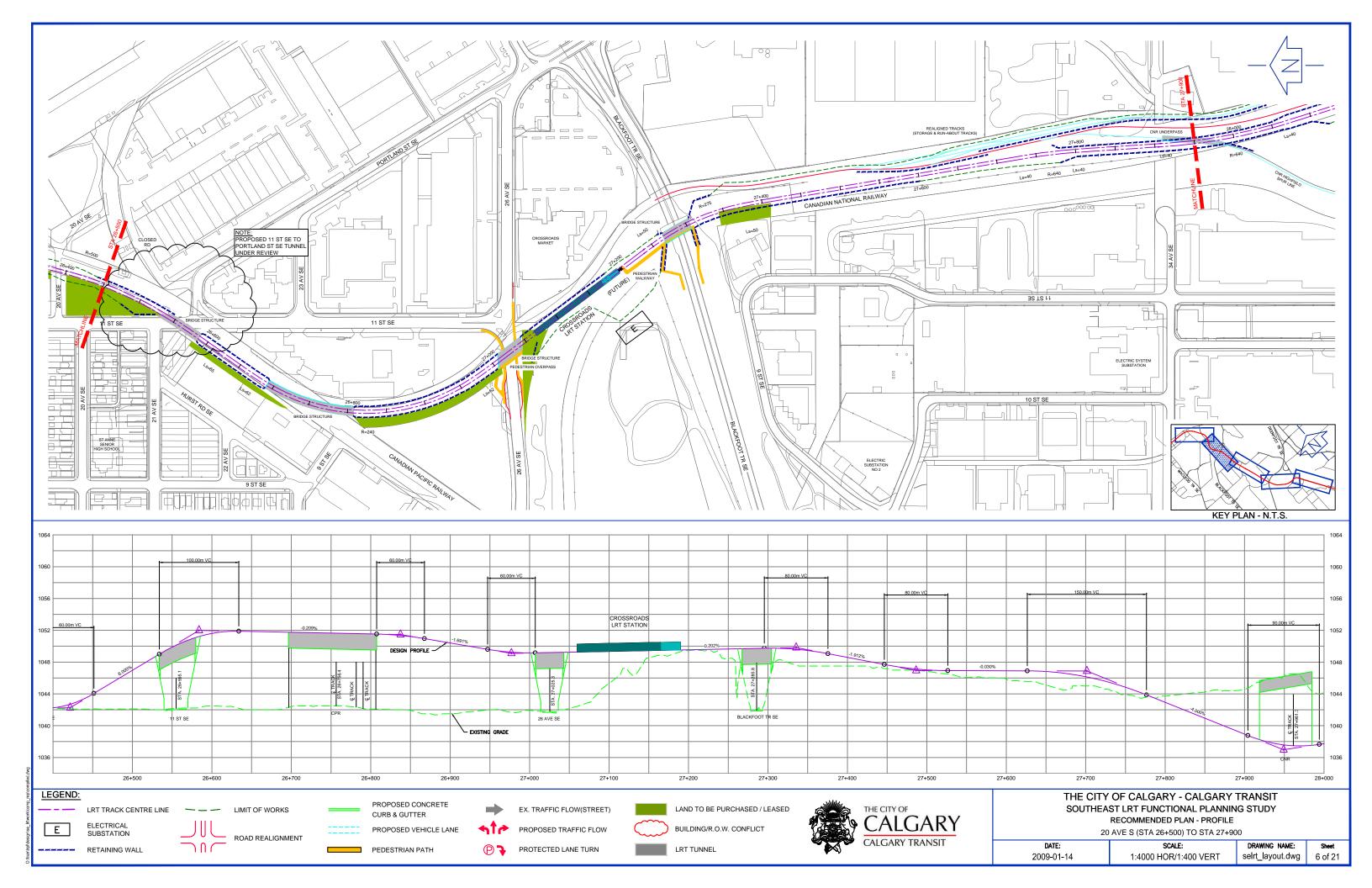


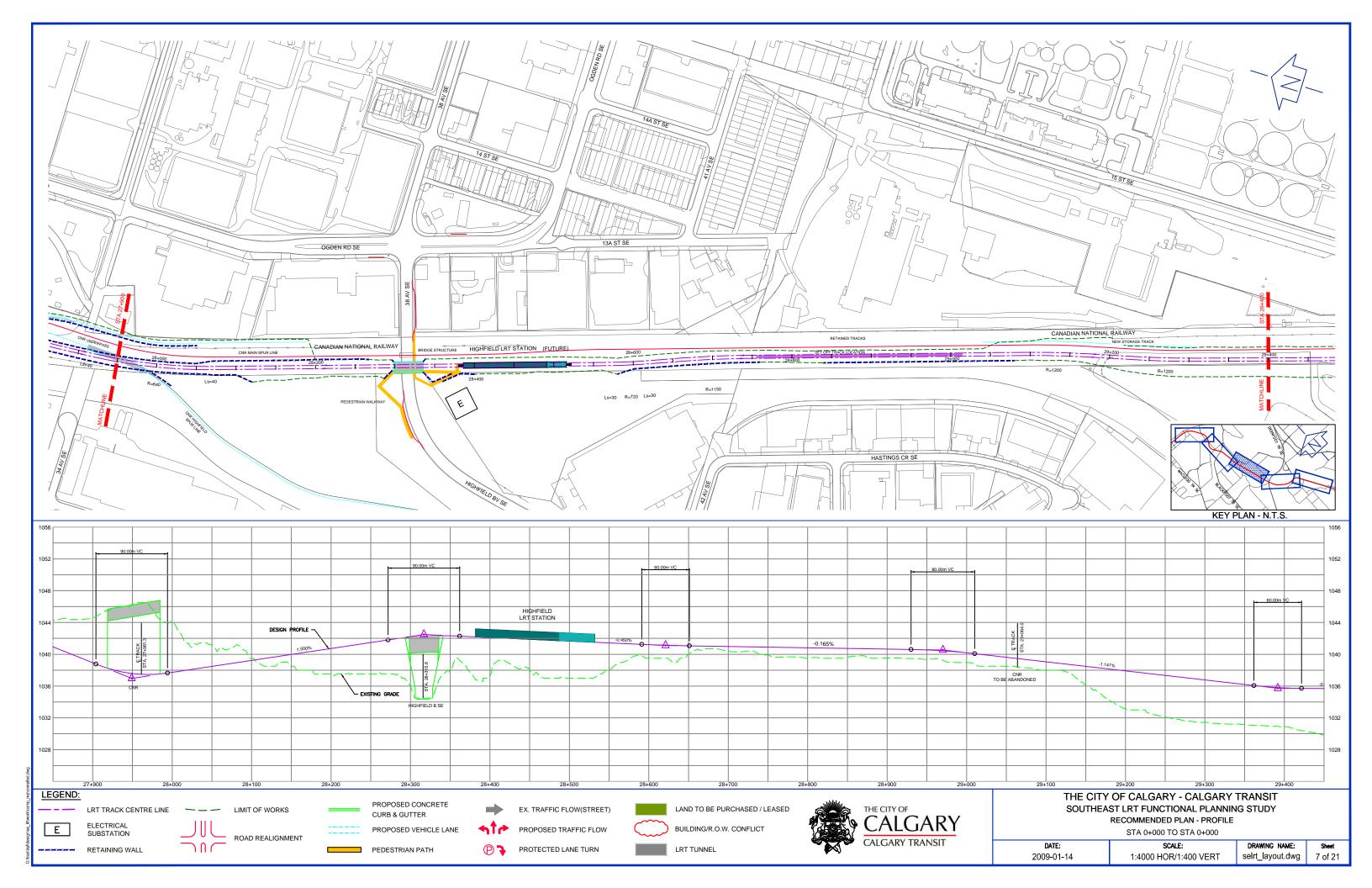


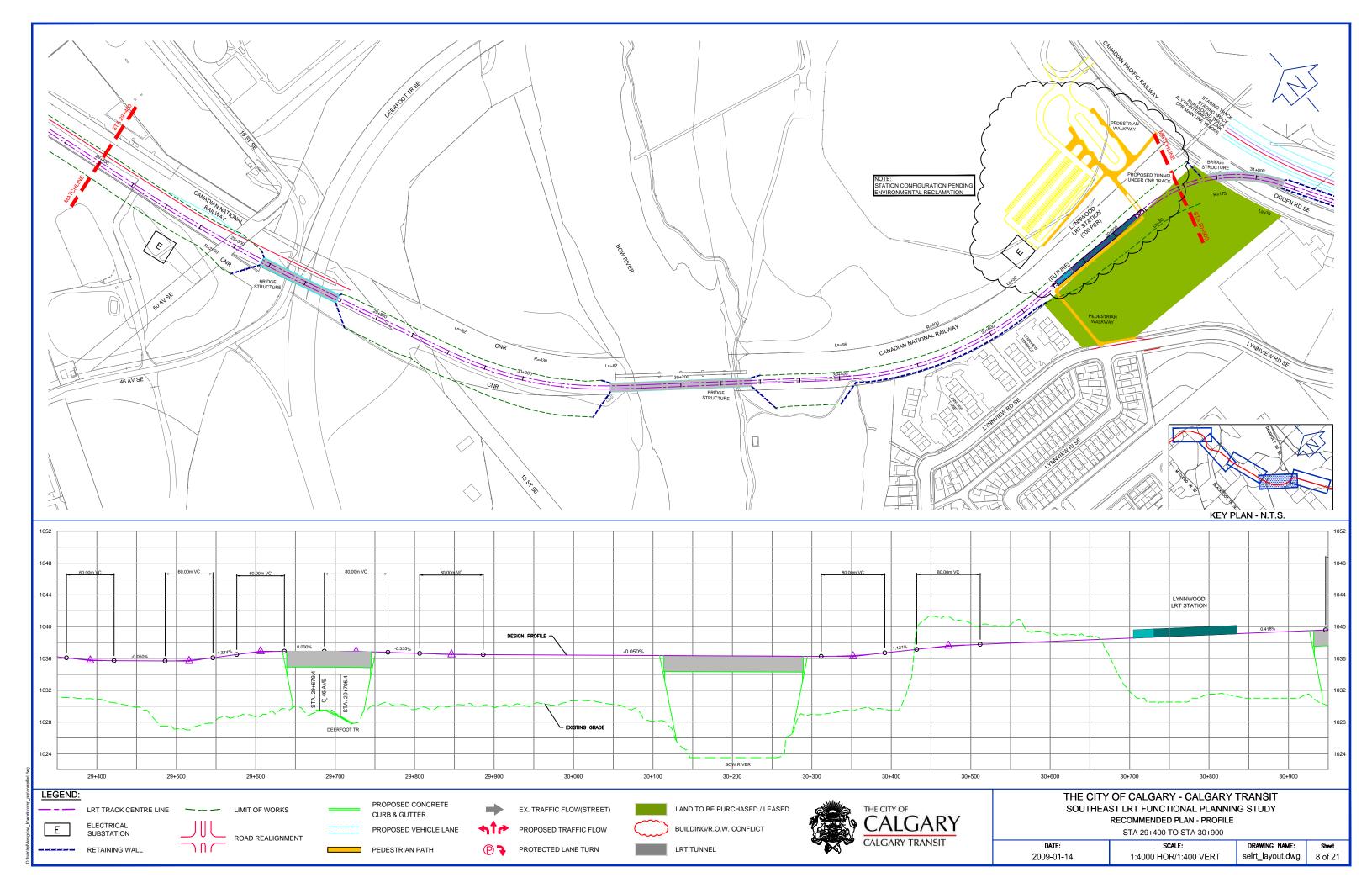


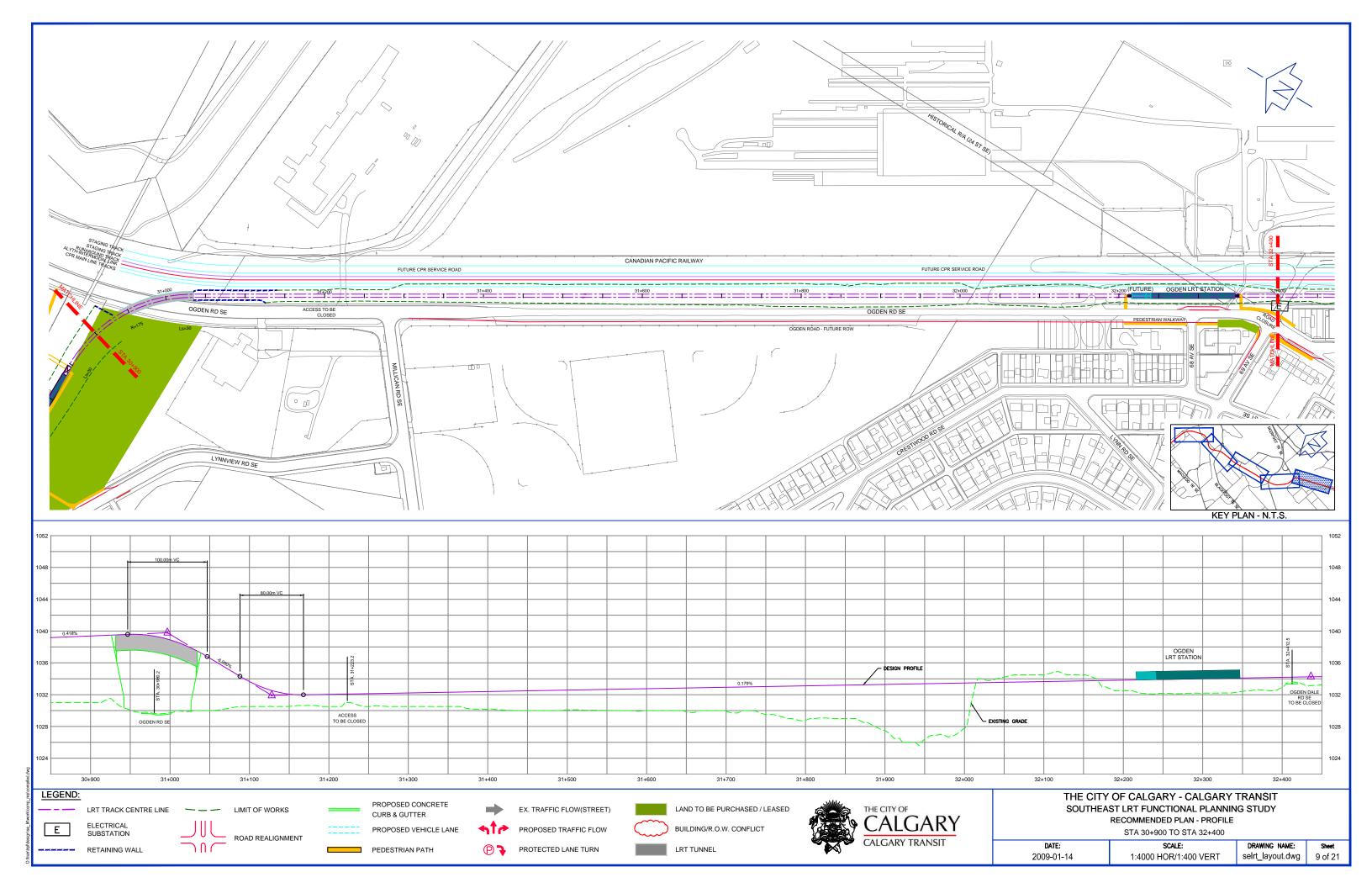


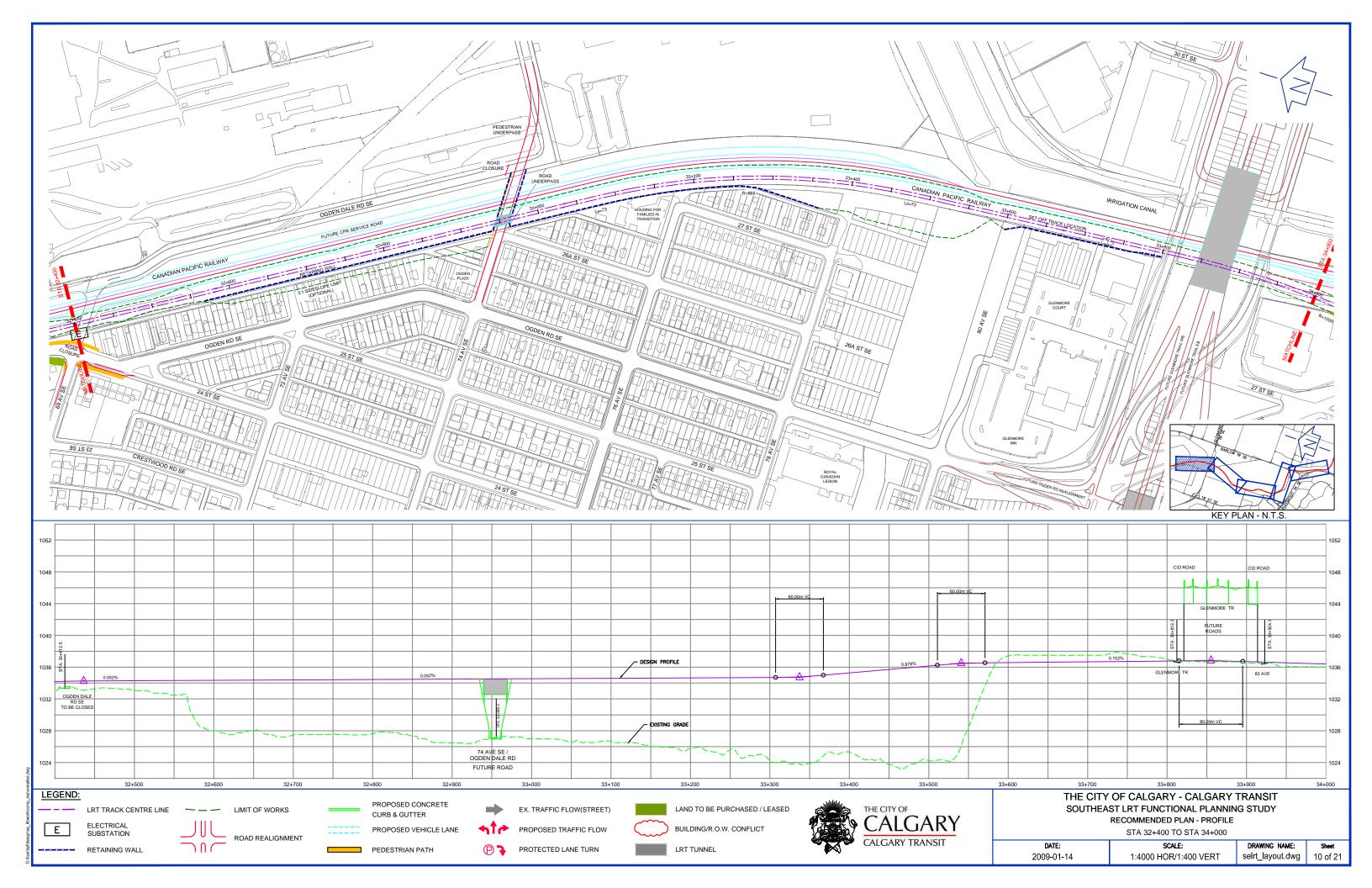


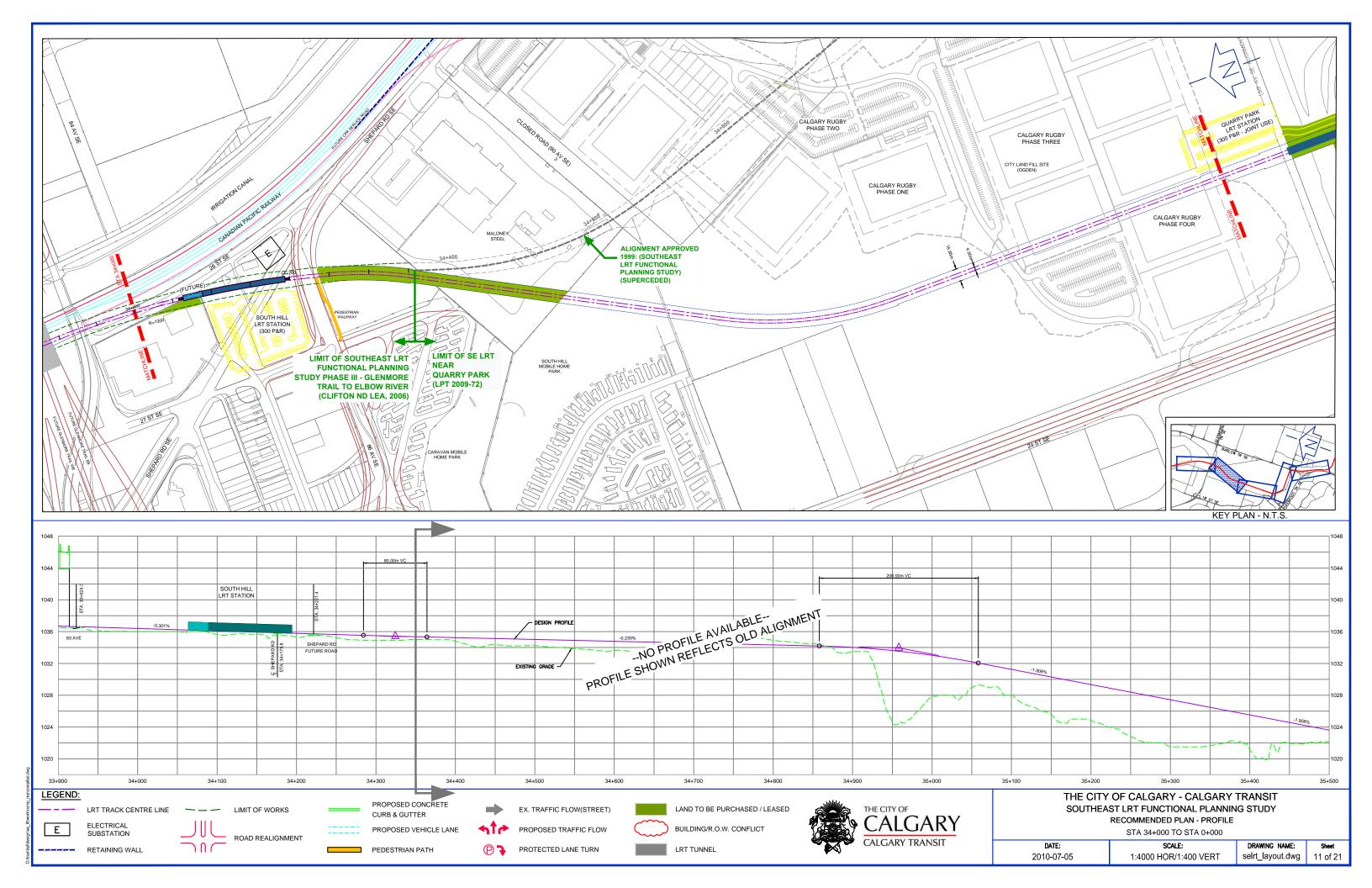


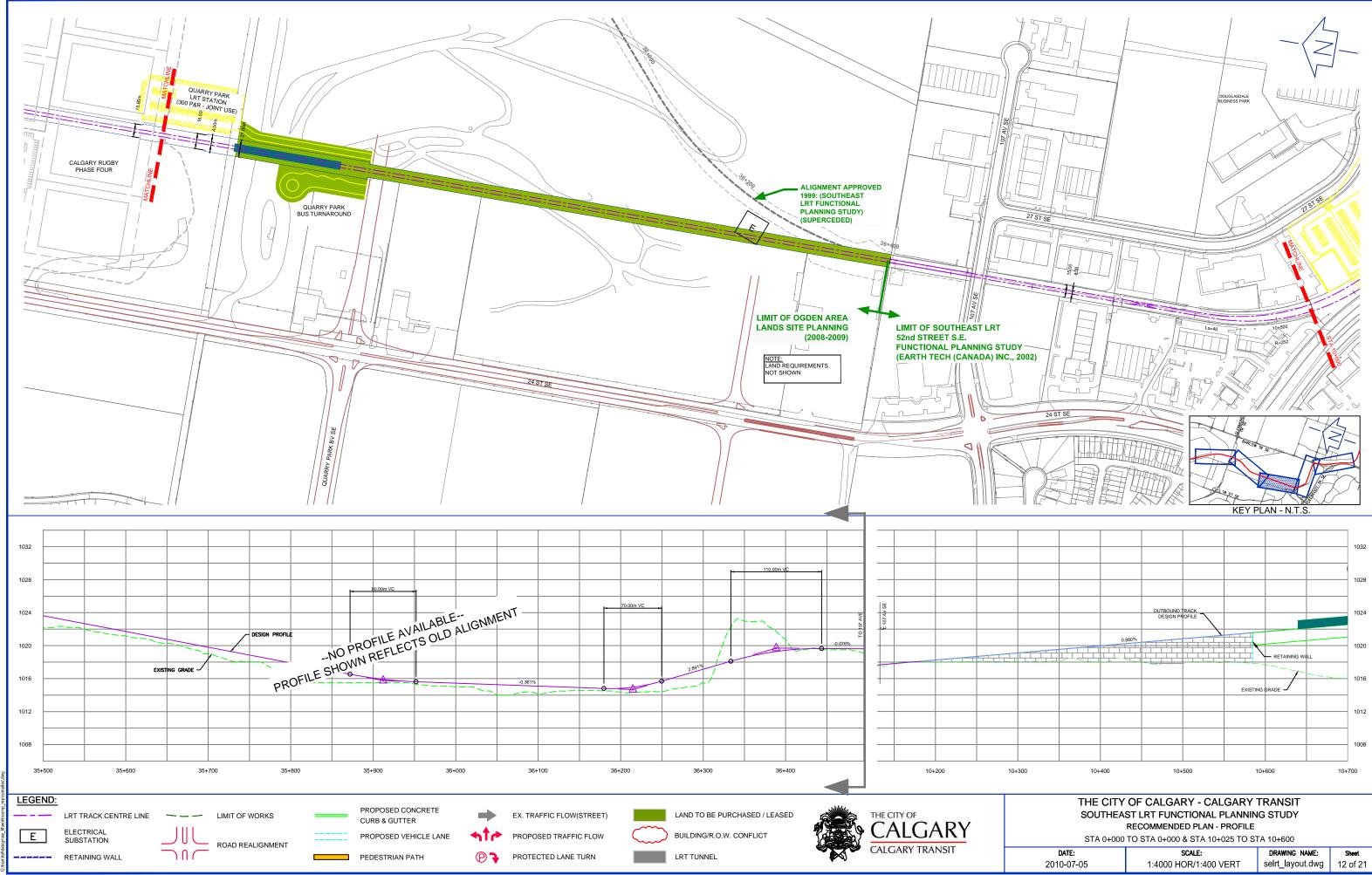




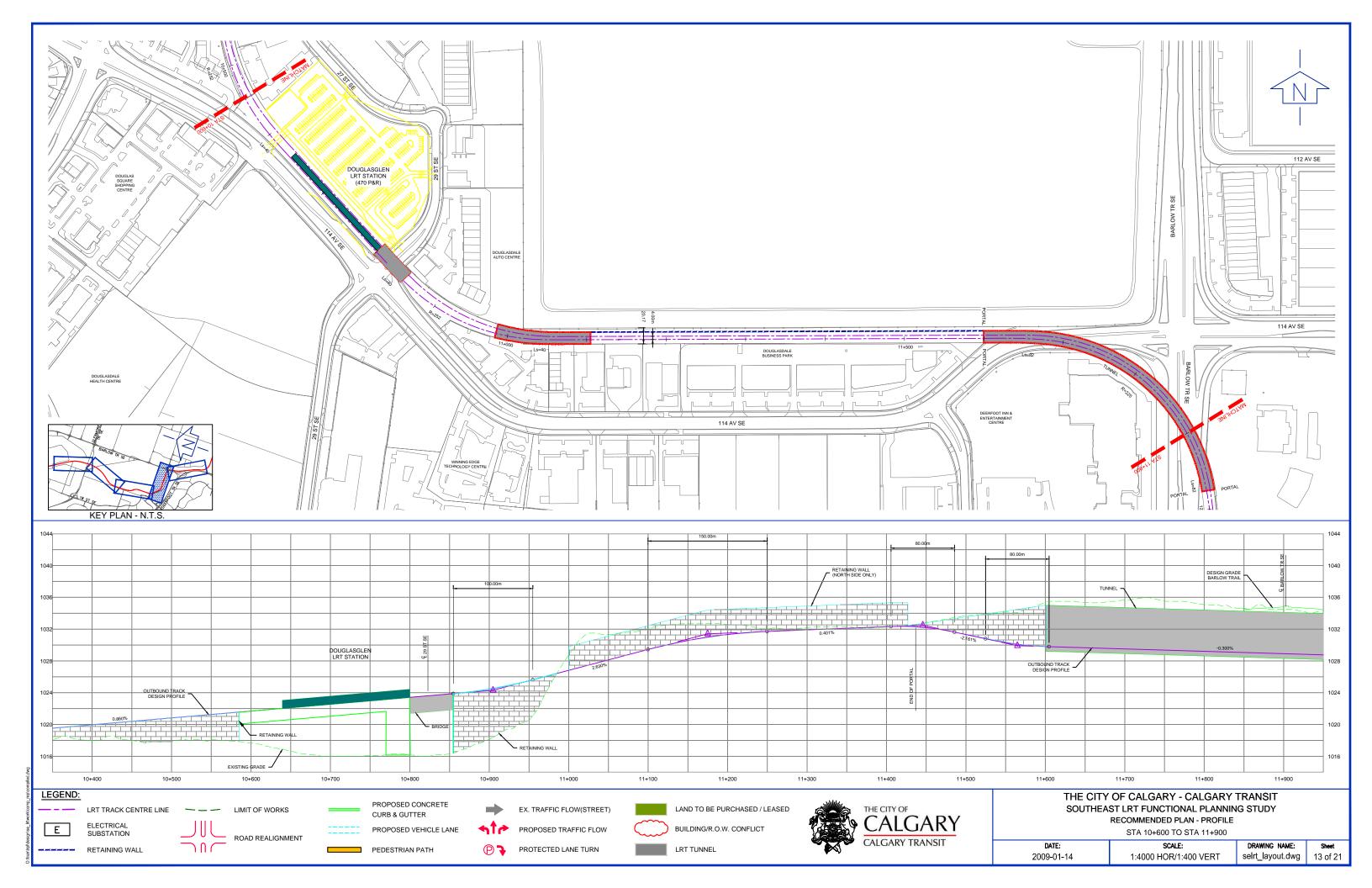


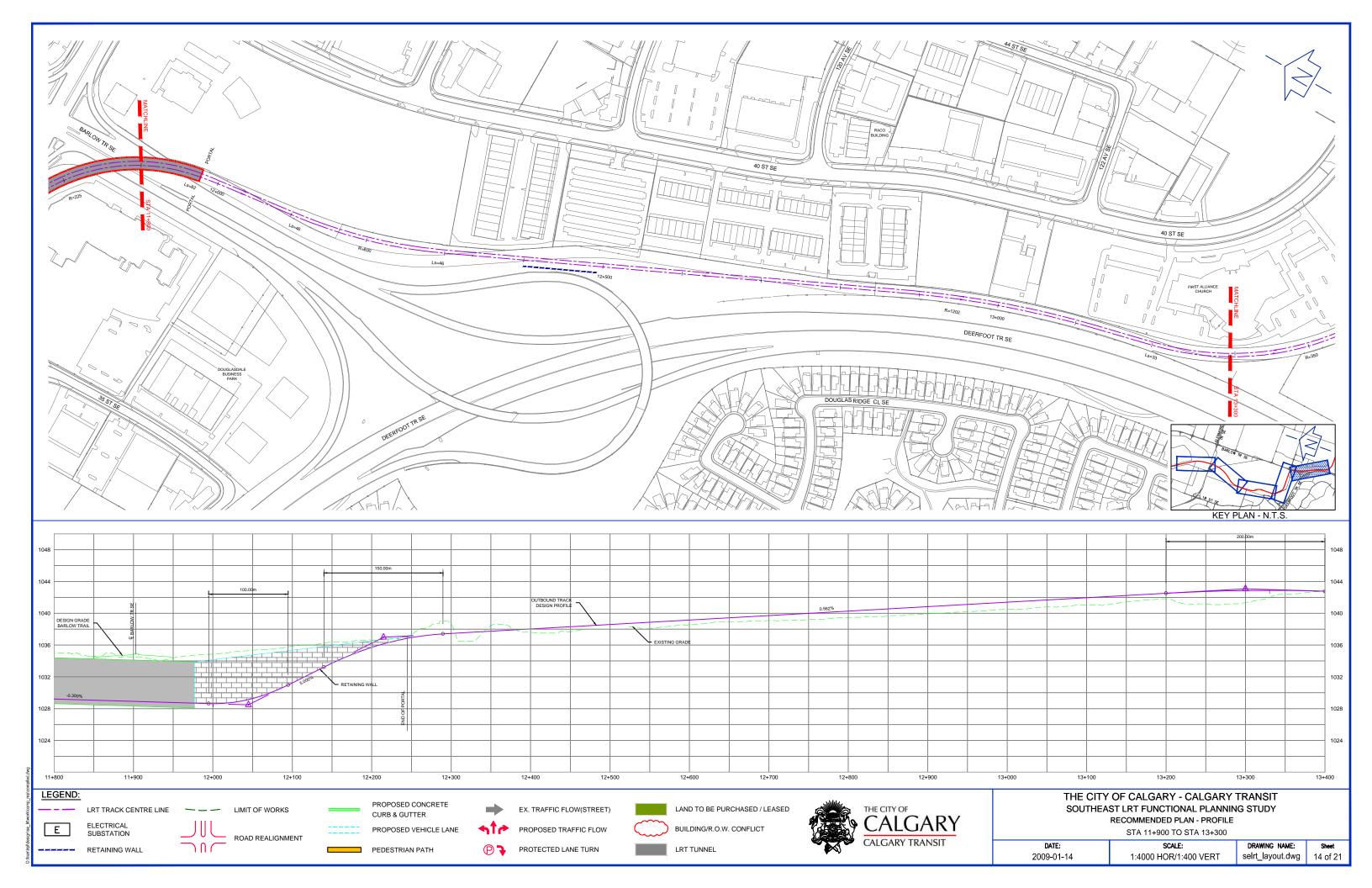


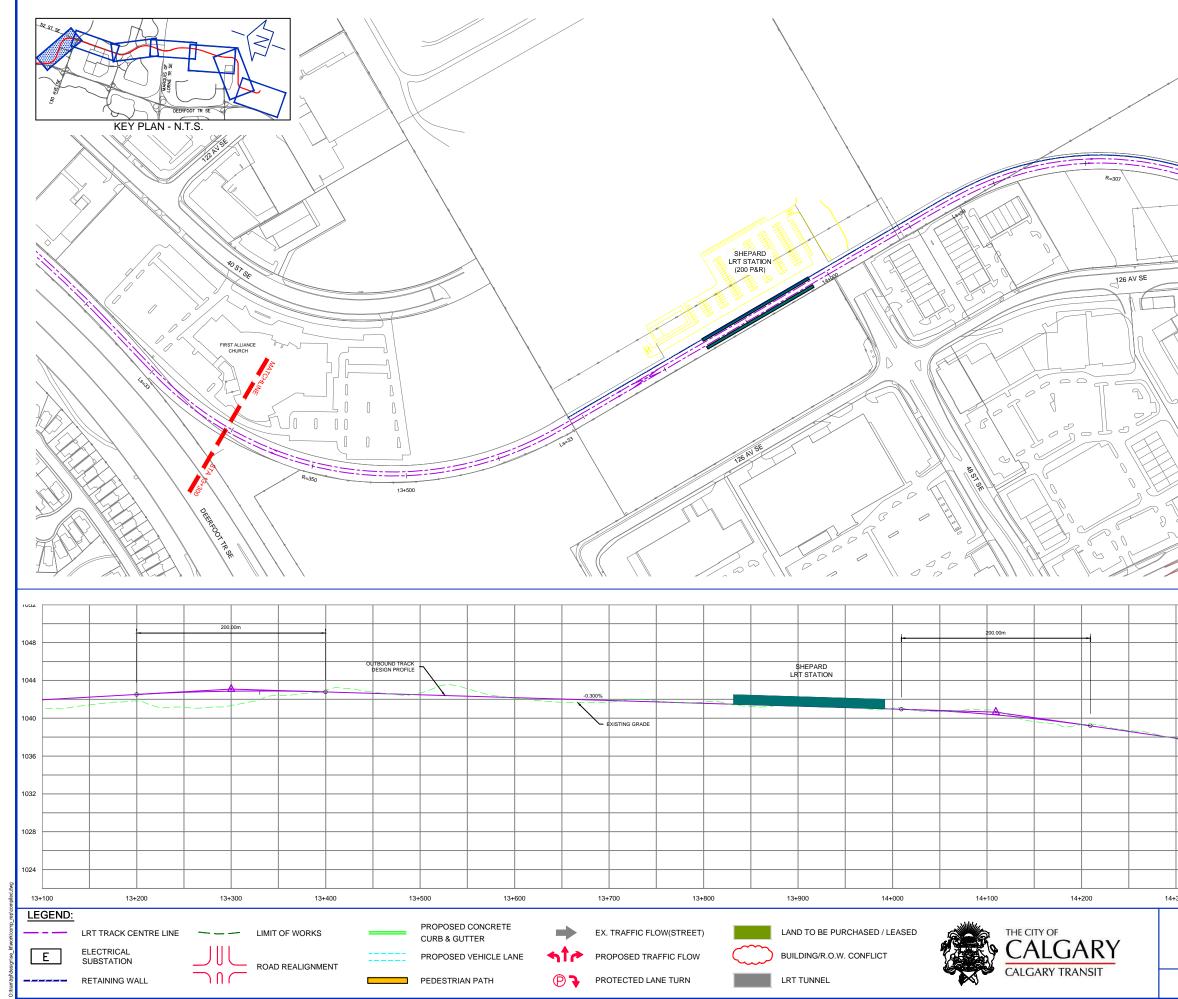




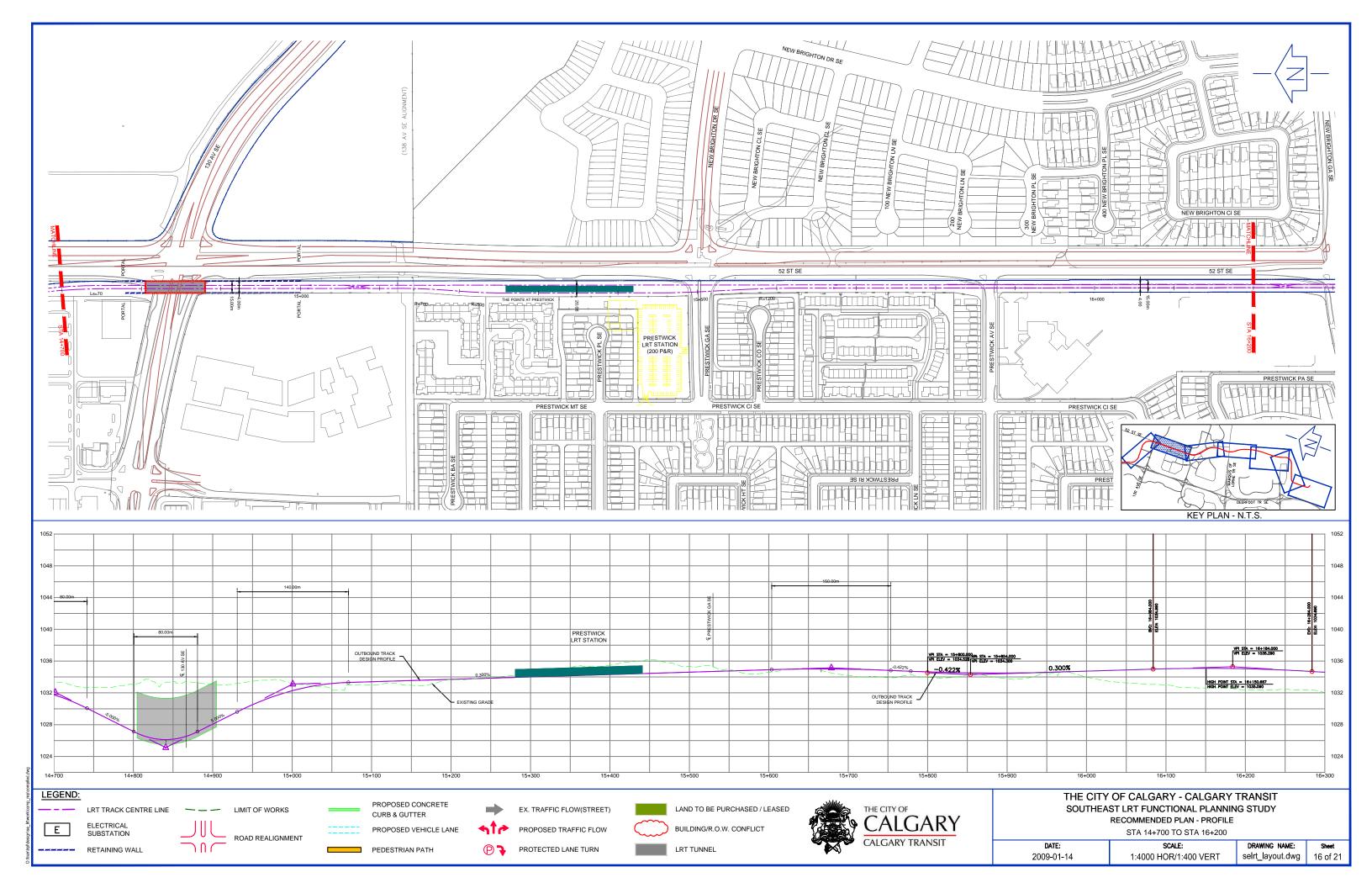
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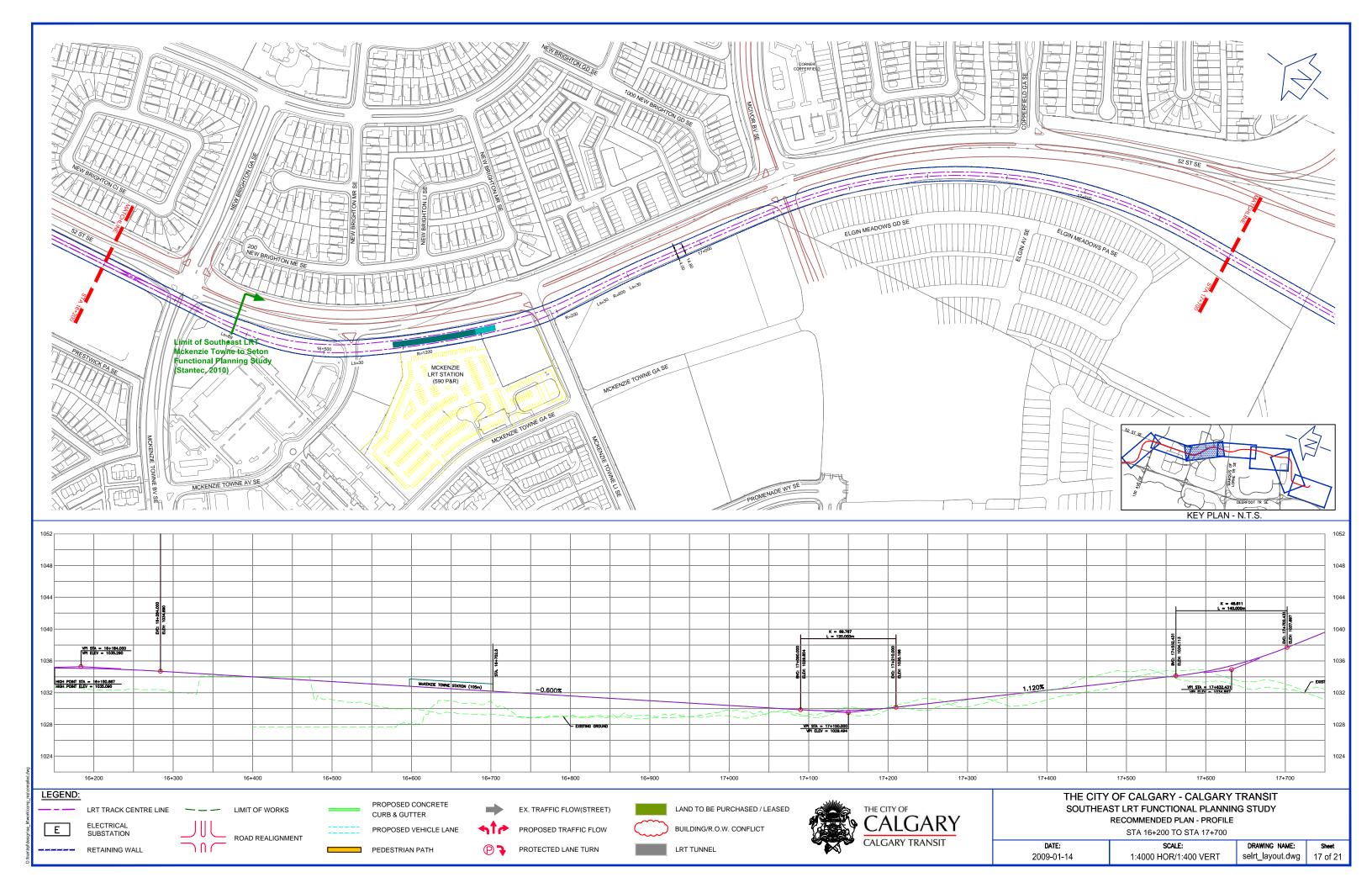


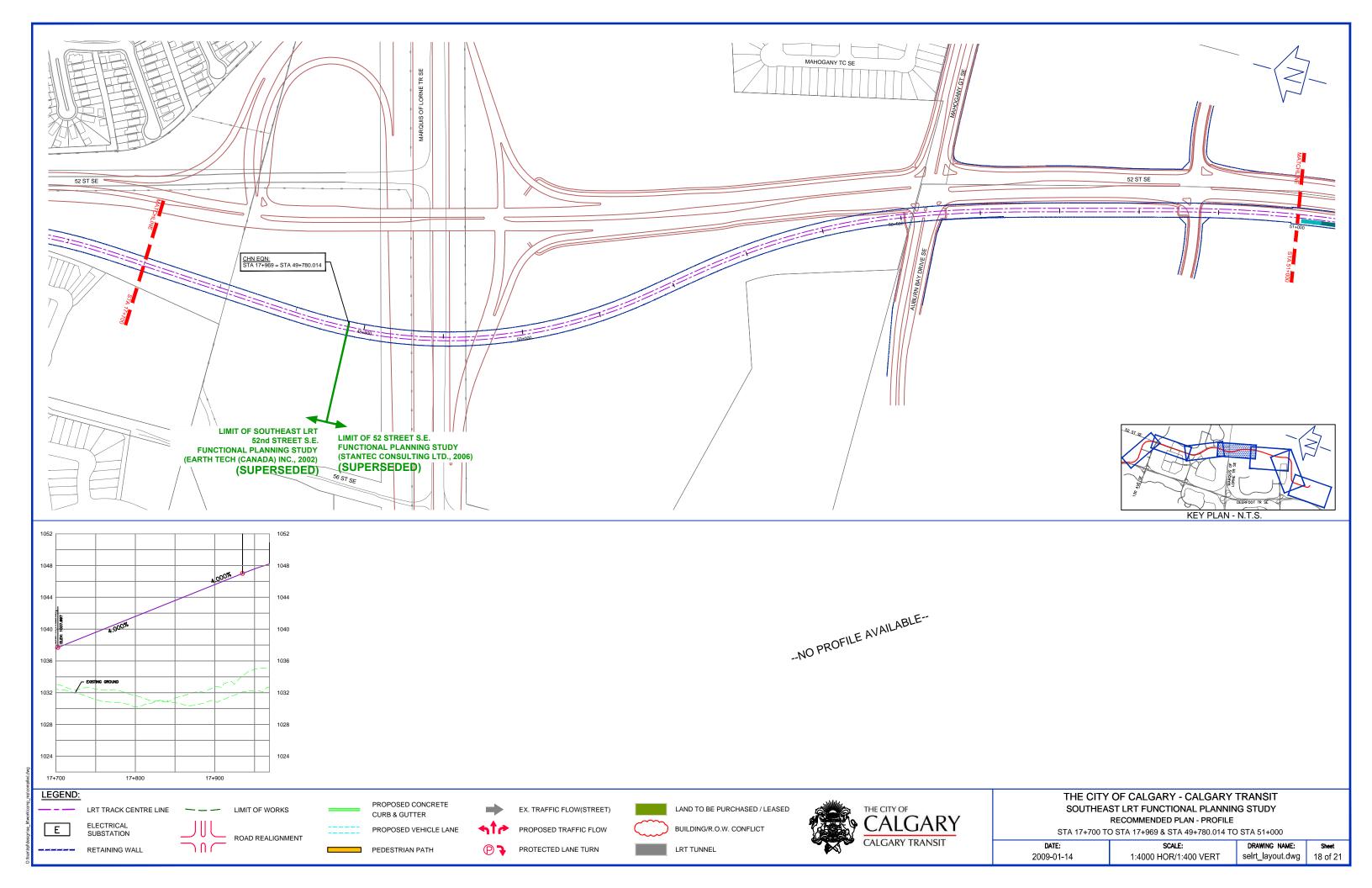


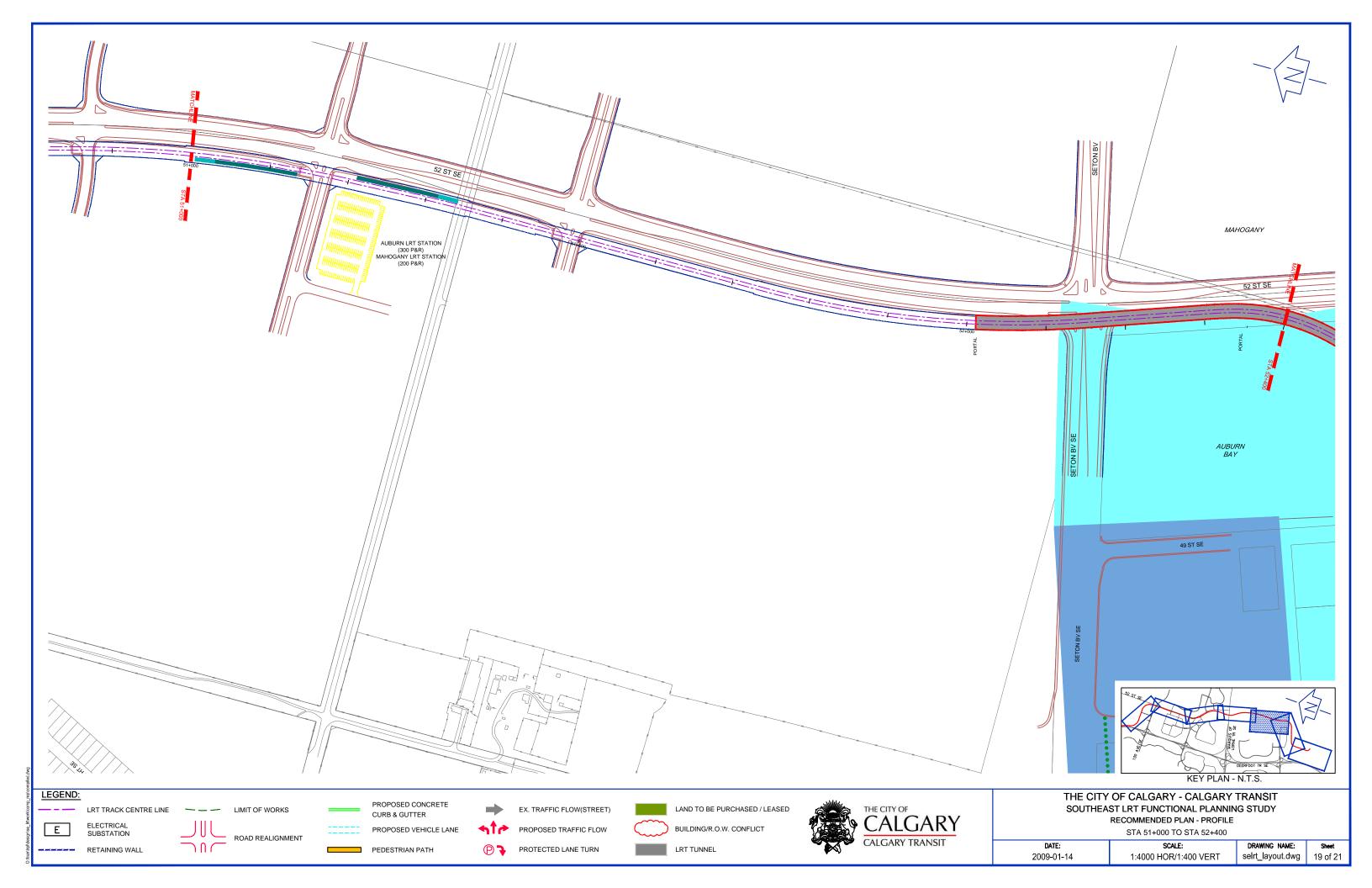


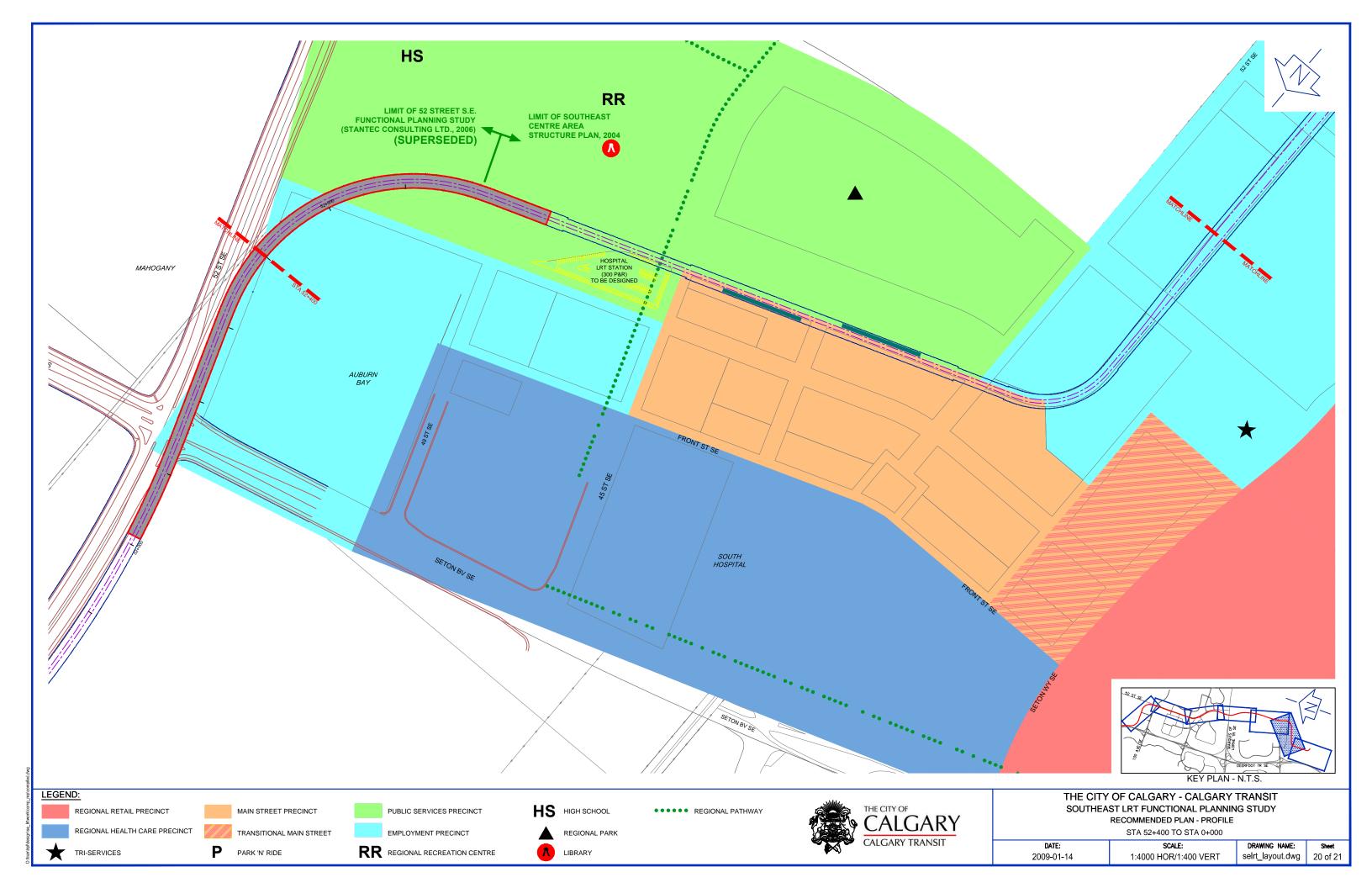
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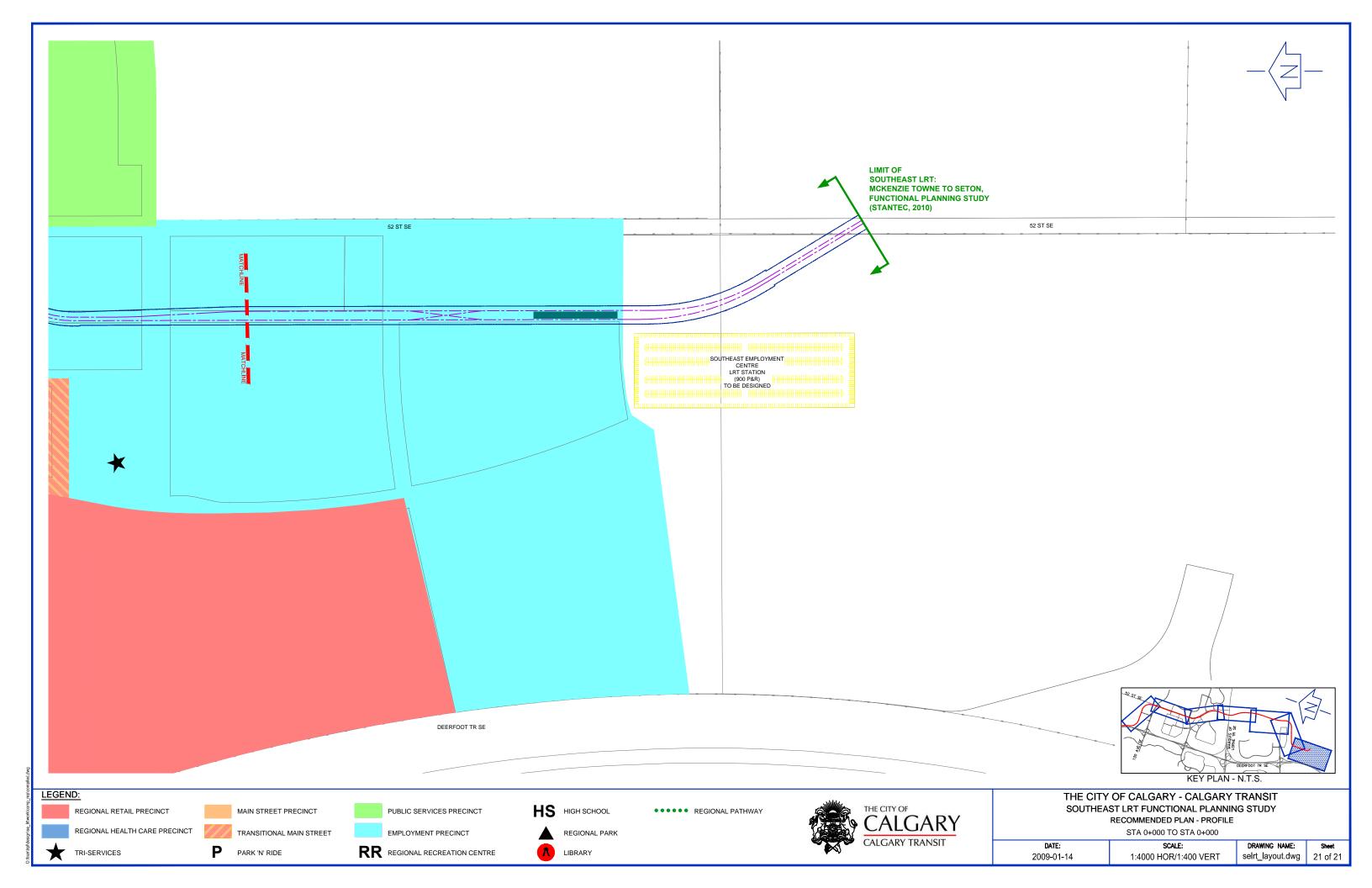












APPENDIX C

Land Requirements

Address	Parent Parcel	Area of Taking
	(sq. ft.)	(sq. ft.)
1001 - 8 Street SE	30,248	2,228
1009 - 26 Avenue SE	133,692	2,075
1013 - 11 Street SE	8,031	Full
1015 - 11 Street SE	10,366	Full
1020 - 11 Avenue SE	13,724	Full
1020 - 9 Street SE	7,096	Full
1027 - 26 Avenue SE	16,039	Full
1101 - 10 Street SE	7,421	Full
1105 - 10 Street SE	7,421	Full
1108 - 10 Street SE	2,197	Full
1127 - 11 Street SE	-	Full
1141 - 11 Street SE	-	Full
1802 - 11 Street SE	59,560	9,052
1902 - 11 Street SE	68,784	Full
2010 - 11 Street SE	34,769	Full
2101 - 11 Street SE	24,451	9,699
2105 - 11 Street SE	-	Full
2126 Hurst Road SE	126,596	Full
2904 - 11 Street SE	64,909	11,642
511 Lynnview Road SE	319,503	Full
6805/6813 Ogden Road SE	27,111	Full
8428 Shepard Road SE	158,127	5,569
2815 - 86 Avenue SE	155,108	Full
8825 Shepard Road SE	651,332	29,558
9908 - 24 Street SE	3,733,154	209,495
10012 - 24 Street SE	-	91,096
10612 - 24 Street SE	217,718	8,749
Property Requirements	- Railways	
Canadian Pacific Railway	-	• Elbow River – 11 St SE
(partial ROW required)		• Ogden Road & 50 Ave– 83 Ave SE
Canadian National Railway (partial ROW required)		 26 Ave SE – Ogden Road SE