## **APPENDICES**

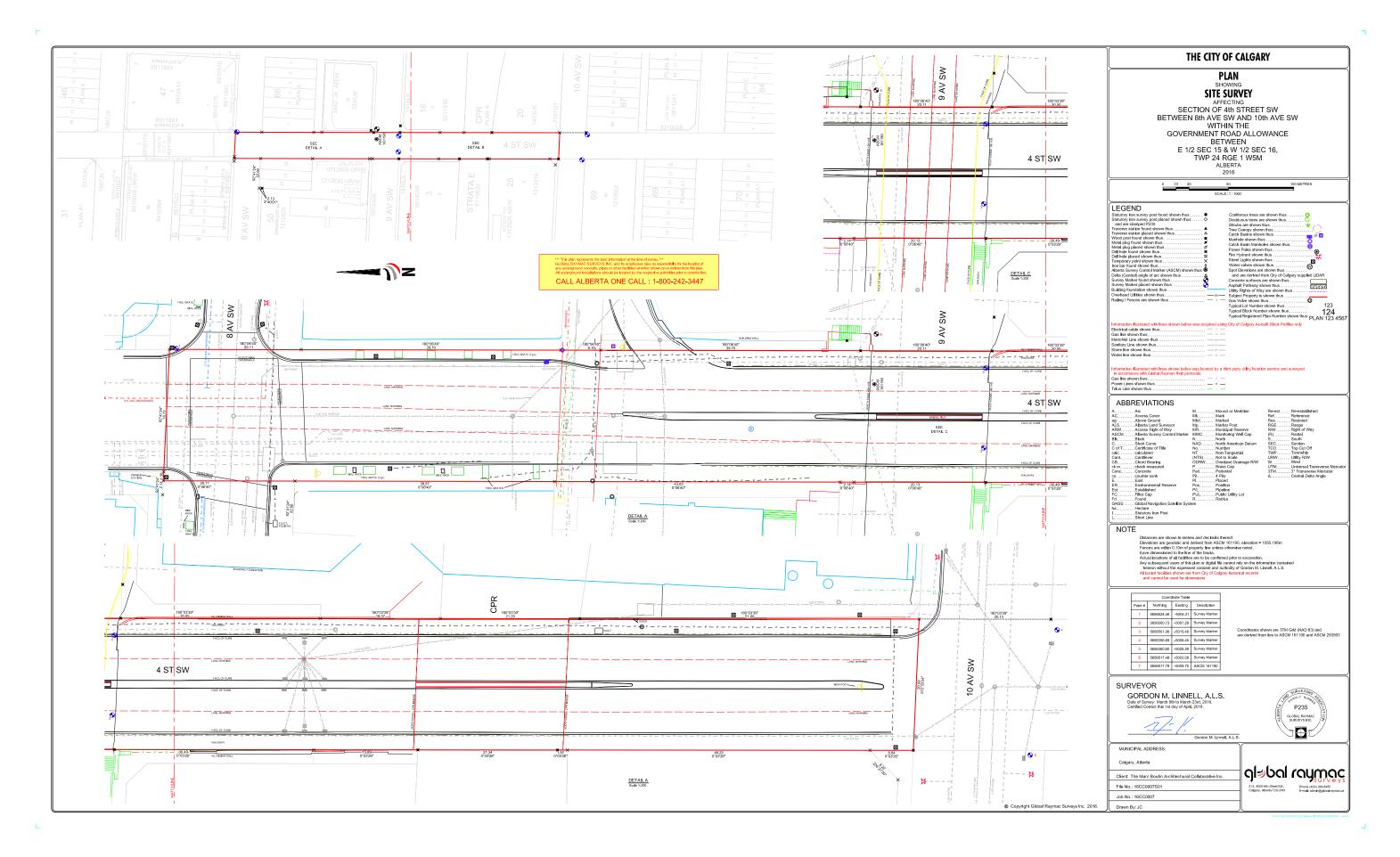
## A-1 ADDITIONAL SITE & POLICY INFORMATION

- .1 Site Survey & North East Stair Easement Information
- .2 Evaluation of Design Envelope

## A-2 ADDITIONAL DESIGN DRAWINGS & OUTLINE SPECIFICATIONS

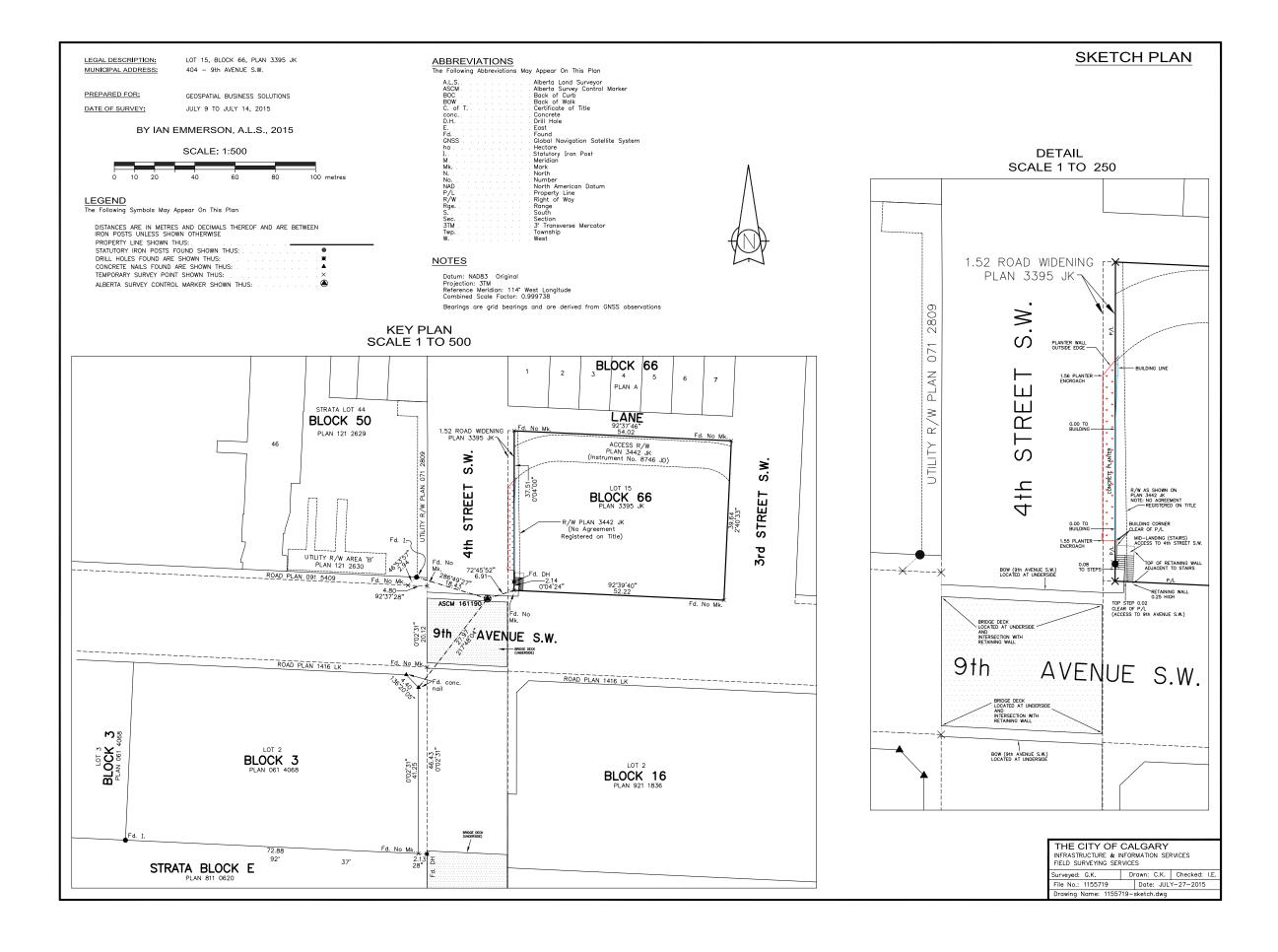
- .1 Electrical Engineering & Lighting Design Summary
  .2 Civil Engineering Summary
  .3 City of Calgary IT Specifications Summary
  .4 Design Drawings: Architectural
  .5 Design Drawings: Structural

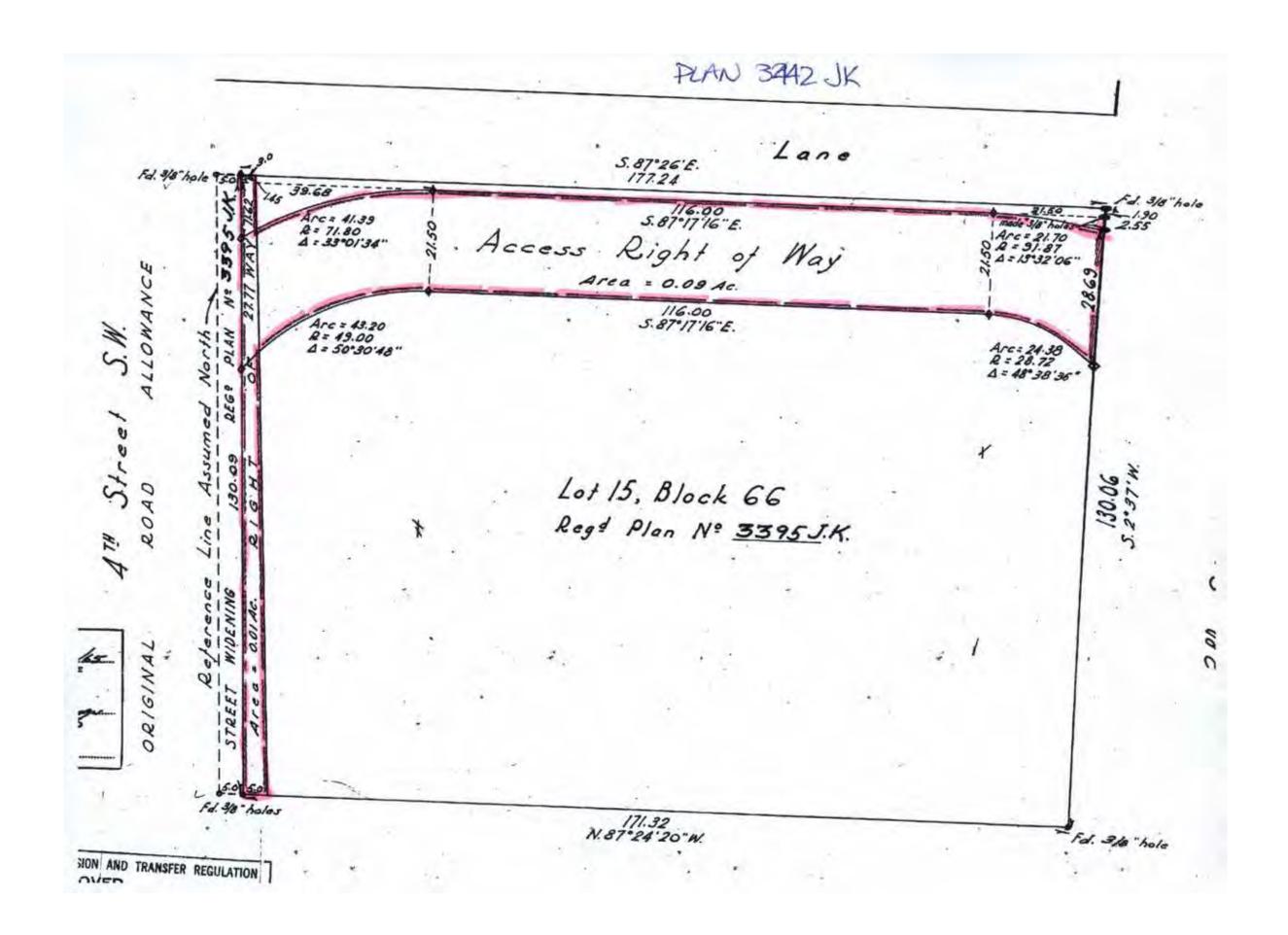
- .6 Product Information Sheets
  .7 Case Study Information Sheets (SlipNOT, 3-Form)



## A-1.1 SITE SURVEY & NORTH EAST STAIR EASEMENT INFORMATION

Project Site Survey (Global Raymac Surveys) Sketch Plan of NE Quadrant of Site (City of Calgary) Plan 3442JK (Provincial Archives) Easement 8746JD (Provincial Archives) Email Correspondence with Information Services





# ALBERTA GOVERNMENT SERVICES LAND TITLES OFFICE

IMAGE OF DOCUMENT REGISTERED AS:

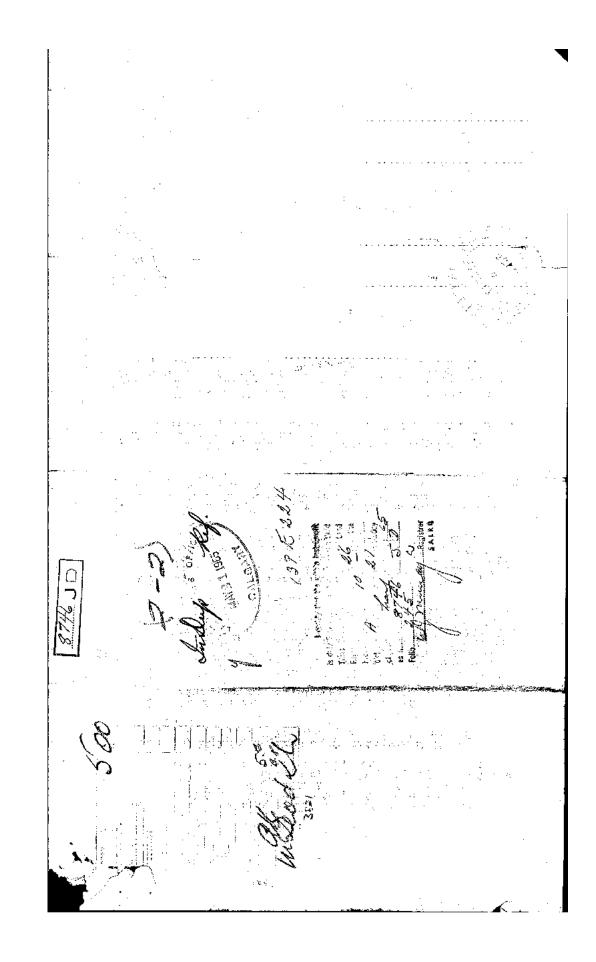
8746JD .

**ORDER NUMBER: 28807357** 

## **ADVISORY**

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The City agrees that:

- the Crantors may excavate the exit road in order to facilitate the construction, maintenance or demolition of any building or other improvement upon or under the said lands, but always upon the conditions set out in sub-clauses 1(b), 1(c) and 2(d) hereof;
- any lighting required on the exit road shall be installed maintained and operated at the cost of the City:
- the City shall at all times be responsible for the maintenance and cleanliness of the exit road;
- to the extent necessary to allow construction operations on or with respect to the said lands, the Grantors shall be entitled from time to time to close the exit road to traffic, but shall ensure that such interference with traffic is kept to a minimum and that normal application in respect thereof shall be made to the City Traffic Engineering Division or other City authority in accordance with the City by-laws;
- subject to the requirements of Clause 1(a) hereof, the Grantors shall be entitled in its unlimited discretion to build and otherwise use the air space over the exit road subject always to the provisions of the Building By-laws and other applicable by-laws of the City.

3. The parties hereby agree that the Easement granted by these presents shall for all purposes take the place of and be deemed to be the Easement mentioned in Clause 10 of the Agreement entered into by the parties hereto on the 25th November, 1964.

4. The right, privilege and easement hereinbefore granted shall extend to and be binding upon and enure to the benefit of the successors, transferees and assigns of the parties hereto.

IN WITNESS WHEREOF the parties hereto have caused to be hereto affixed their respective Corporate Seals attested by the signatures of their respective authorised signing officers in that behalf, this 31st. day of December . A D. 1964.

M-B PARKING LIMITED

THE CITY OF CALGARY

#### EASEMENT

for Access Right-of-way

#### M-B PARKING LIMITED:

(hereinafter called the "Grantors"), being the registered owner of an estate in fee simple of and in:

Lot Fifteen (15), Block Sixty-six (66), as shown on Plan

Calgary 3395 J.K. Excepting thereout all mines and minerals.

DOES HEREBY in consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration GIVE, GRANT and TRANSFER unto THE CITY OF CALGARY (hereinafter called the "City"), the right, privilege and easement of an access right-of-way for access from 4th Street South West through the Grantors' property to 3rd Street South West. The said Easement being for the purpose of a public right-of-way and roadway (hereinafter called the "exit road") connecting the said 4th Street South West to 3rd Street South West in the City of Calgary, located over that portion of the Grantors' lands and marked rod on the attached plan, legally described as follows:

Access right-of-way as shown on a plan of record of the Land Titles Office for the South Alberta Land Registration District as

Plan Calgary 3442 J.K. Excepting thereout all mines and minerals.

THE SAID EASEMENT to include the right to construct, re-construct, repair and maintain the said exit road on the following terms and conditions which are hereby mutually agreed to between the said Grantors and the City:

The Grantors agree that:

- they will at all times maintain a minimum clearance of fifteen (15') feet over the centre line of the exit road;
- the Grantors shall, if they excavate under the exit road, maintain adequate support for its use as a public right-of-way and roadway;
- the Grantors shall, if it becomes necessary for the Grantors shall, if it becomes necessary for the Grantors to excavate under the exit road, co-operate with the City in order to ensure that interference with traffic is kept to a minimum, and in addition the Grantors shall, at their own cost, re-install any portion of the exit road disturbed by excavation in the said exit road.

#### **Jodi James**

From: Dharamdial, Camal < Camal. Dharamdial@calgary.ca>

**Sent:** Friday, August 14, 2015 1:11 PM

To: 'Jodi James'

**Cc:** Gelinas, Michel; Stewart, Greg

**Subject:** FW: Easement for Access Right of Way (8746 JD)

**Attachments:** 3442JK-Highlighted Copy.jpg; 8746JD.PDF; 3442JK-Colour Copy-01.JPG

Hi Jodi,

If you think we should seek a meet with the Alberta Land Surveyor at the City, I can convene a meeting. See attachments.

Camal

#### Note from Legal Surveyor:

In regards to the Right-of-Way along the west boundary of the parcel at 4 ST SW, I was not able to conclusively determine whether the easement applies. The wording in the agreement makes reference to the area highlighted in red on the plan and we were able to get the original mylar shipped from Provincial Archives to the Calgary LTO office for closer inspection. However, other wording in the easement seems to refer only to the Access ROW, so it is not absolutely clear.

From: Senek, Melissa

Sent: Wednesday, August 05, 2015 11:30 AM

To: Meehan, Steve Cc: Emmerson, Ian

Subject: RE: Easement for Access Right of Way (8746 JD)

Hi Steve,

If we were just looking at the words, then I would say it's only the "Access Right of Way" portion, but if the colour copy you sent of the Plan accurately reflects the attachment to the agreement, then easement area is described as "that portion of the...lands...marked red" so it would encompass both. There is at least a strong argument it encompasses both.

Are you having an argument about the interpretation of this agreement with someone? You should be able to retrieve an original copy of the Agreement from Clerk's. The difficulty is that it seems like the intention was for it to only be the top portion, but the side portion is very clearly marked. Also the language is:

...connecting the said  $4^{th}$  street south west to  $3^{rd}$  street south west..., located over that portion of the Grantors' lands and marked red on the attached plan"

So the language could be referring to two separate easement sections.

I hope this helps!

Melissa

1

From: Meehan, Steve

**Sent:** Thursday, July 30, 2015 2:28 PM

To: Senek, Melissa

Cc: Veltman, Tiffany; Emmerson, Ian

Subject: Easement for Access Right of Way (8746 JD)

#### Good Afternoon Melissa,

Just wondering if you would have a moment to review the attached Easement 8746 JD and provide your opinion on whether this easement applies to both the 'Access Right of Way' and the 'Right of Way' both highlighted in pink in the plan image '3442JK-Highlighted Copy'. We retrieved the original copy of plan 3442 JK from Provincial Archives (see '3442JK-Colour Copy-01') to confirm the area "marked red on the attached plan" as described in this easement.

It appears that easement 8746 JD only applies to the area described as 'Access Right of Way' on Plan 3442 JK and we are currently initiating a historical land titles search to determine if there was a separate agreement for the 'Right of Way'. In the meantime, we would be interested to hear your thoughts on this matter.

Regards,

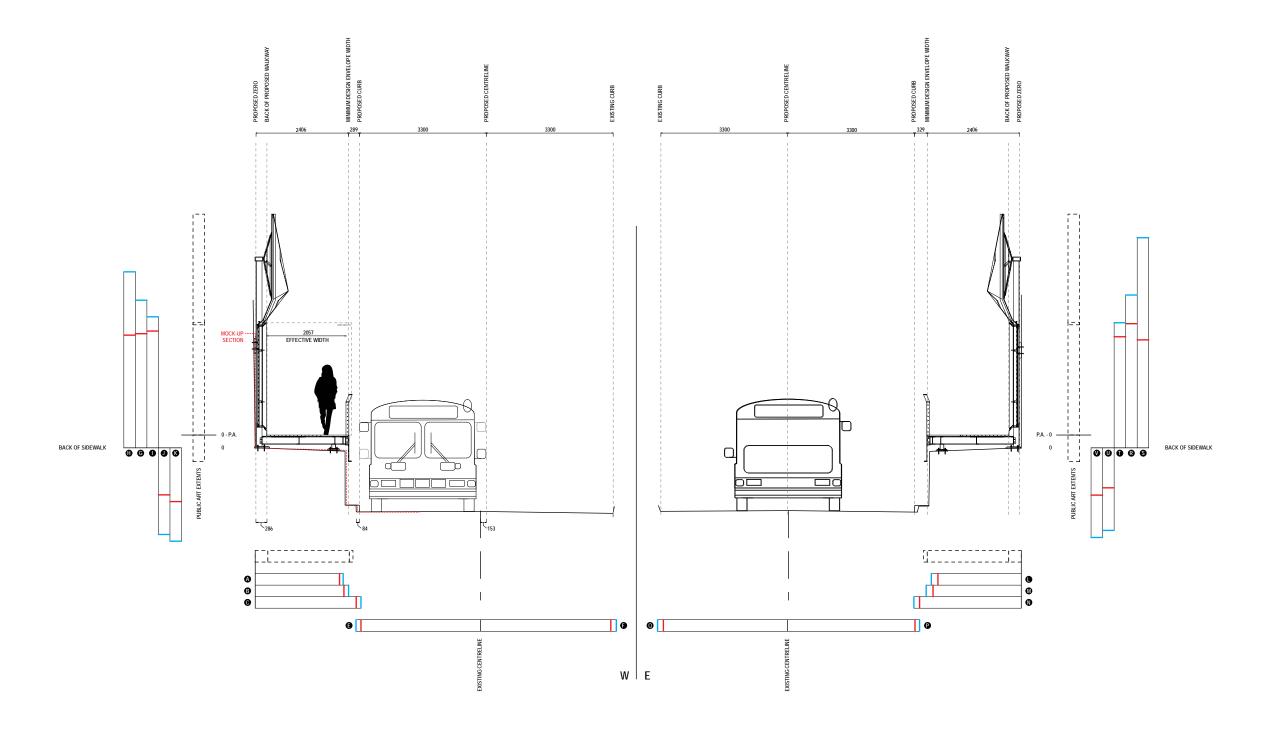
Steve Meehan, A.L.S., P.Eng.
Project Engineer / Land Surveyor, Field Surveying Services
Infrastructure & Information Services
The City of Calgary | Mail Code # 80
T 403.268.1640 | C 403.803.4207 | F 403.268.5103 | www.calgary.ca
Floor 2, Manchester Building B, 655 25 Avenue SE
P.O.Box 2100, Station M, Calgary, AB Canada T2P 2M5

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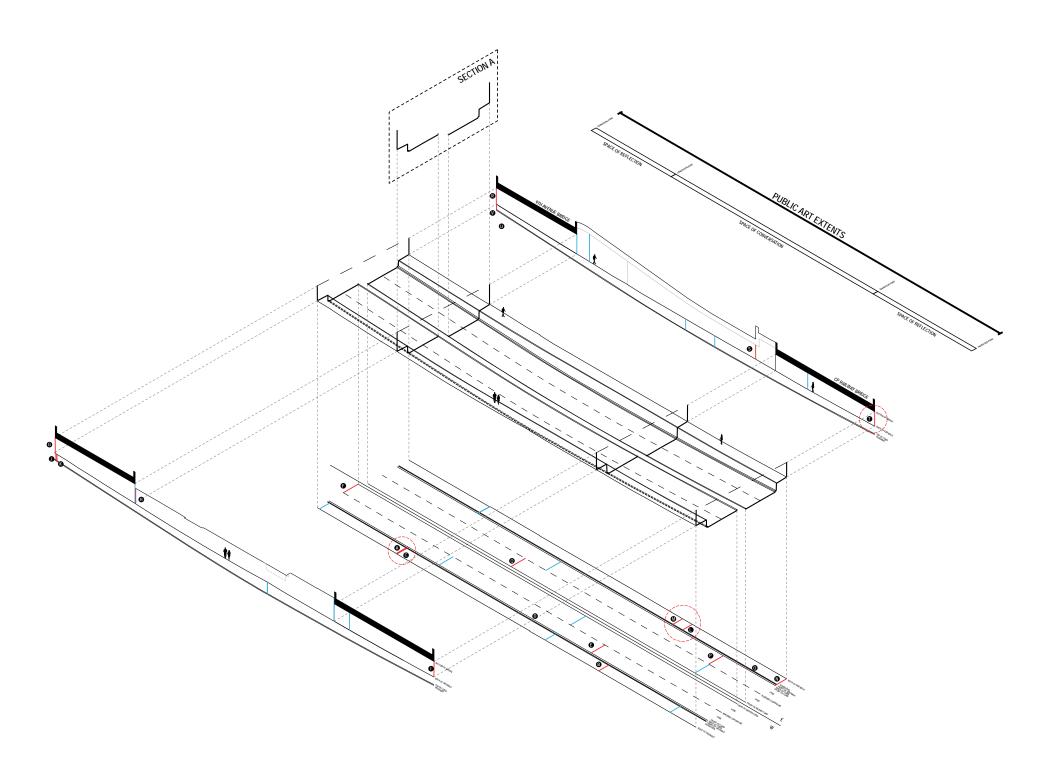
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1:100 SECTION A



## A-1.2 EVALUATION OF DESIGN ENVELOPE

Mapping of minimum and maximum sidewalk, roadway and curb widths and retaining wall heights based on LIDAR survey information.

SCOPE	İ	SUBJECT	ADDITIONAL INFORMATION
STREET LIGHTING	1.1	Street lighting ILLUMINANCE LEVELS will conform to City of Calgary standards and specifications.	N/A
	1.2	Street lighting LUMINAIRES shall conform to City of Calgary standards and specifications.	There may be minor but existing alterations to City of Calgary standard products in order to accommodate the projects design  • i.e. some poles will require double luminaire mounting which is not currently offered in the City materials
	1.3	Street lighting strategy shall incorporate the following DESIGN METHODS.	NORTH OF THE 9TH AVENUE BRIDGE: There will be at least one pole mounted in the centre median with two luminaire heads on the East & West sides of the pole  • There may need to be an additional pole and luminaire added depending on illuminance calculation results  • The existing pole located on West side near the intersection with 8th Avenue shall be replaced in the same location with a pole and luminaire to match the overall project design
			SOUTH OF THE RAILWAY BRIDGE: There will be at least one pole mounted in the centre median with two luminaire heads on the East & West sides of the pole  • There may need to be an additional pole and luminaire added depending on illuminance calculation results
			BETWEEN THE TWO BRIDGES: There will be two poles mounted in the centre median with one luminaire head each  • The poles will be mounted as close to the bridges as allowable without direction connecting to them  • One pole adjacent to the 9th Avenue bridge  • One pole adjacent to the railway bridge  • The pole adjacent to the 9th Avenue bridge shall have a single luminaire head mounted on the South side of the pole  • The pole adjacent to the railway bridge shall have a single luminaire head mounted on the North side of the pole  • This location and mounting strategy is done in order to maintain an obstruction free view between the East and West sidewalks for viewing of the public art piece
			BENEATH THE TWO BRIDGES: There are two (2) potential illuminance methods for these areas of the project:  1. Preferred Method: Linear luminaires surface mounted on the centre bridge supports shall provide indirect reflected illumination off the underside of the bridge decks onto the roadway surface  • The reflected light is accomplished by aiming the luminaires at approximately 115° above nadir  • o For this method to work the underside of the bridge decks and the bridge centres shall be painted white  • o It may be necessary to use additional linear luminaires mounted to the East/West outside walls in a similar fashion should illuminance levels require
			Alternative Method: Linear luminaires surface mounted on the underside of bridge decks shall provide direct illumination from above onto the roadway surface

1.4		
	The current luminaires being used for DESIGN AND CALCULATIONS are:	Cooper Galeon Gleon – pole mounted     GVA STR9 – under bridge mounted
2.1	Four City of Calgary standard spec cameras will be installed covering the pedestrian areas and public art installation.	These cameras are currently proposed to be installed on the City Streetlighting Poles mounted in the median. This location provides the best viewing angle as well as keeps the cameras away from potential vandals.
2.2	Two City of Calgary standard spec emergency call boxes will be installed at either end of the corridor, one on the east side of 4th Street, and one on the west side.	N/A
2.3	One City of Calgary standard spec public address horn will be installed as a general notification device for the corridor and underpass.	N/A
3.1	A fibre service will be brought to the proposed demarcation point in the services room. This fibre service will provide internet access for the public art as well as communication for the security cameras and emergency call boxes installed in this project.	The source point for this fibre will be a 10th Ave manhole. The specific manhole has not been selected, but it has been identified that there is no immediate manhole at the intersection of 4th Street and 10th Ave.
4.1	An ENMAX service will be brought to the proposed services room to metered electrical distribution equipment	This service will provide power to the public art, the active components of the IT infrastructure, and any loads that require power to maintain the conditioned space in the services room.
4.2	Power for street lighting will be extended from the existing street lighting circuits on 4th Street.	Power will be extended from the pedestrian area to the center median where the proposed poles will be. This will likely require the cut cutting and patching of 4th Street at each pole location.
2 3		will be installed covering the pedestrian areas and public art installation.  Two City of Calgary standard spec emergency call boxes will be installed at either end of the corridor, one on the east side of 4th Street, and one on the west side.  One City of Calgary standard spec public address horn will be installed as a general notification device for the corridor and underpass.  A fibre service will be brought to the proposed demarcation point in the services room. This fibre service will provide internet access for the public art as well as communication for the security cameras and emergency call boxes installed in this project.  An ENMAX service will be brought to the proposed services room to metered electrical distribution equipment

## A-2.1 ELECTRICAL ENGINEERING & LIGHTING DESIGN SUMMARY

The adjacent page identifies Design Development criteria related to the Electrical Engineering and Lighting Design scopes of work.

SCOPE		SUBJECT	ADDITIONAL INFORMATION
CIVIL OVERVIEW AND SCOPE OF WORK	1.1	4th Street SW West Sidewalk, Curb and Gutter (10th Avenue SW to Canadian Pacific Railway Overpass)	Remove and replace existing sidewalk surface, no changes to existing sidewalk width, elevation and/or materials.
	1.2	4th Street SW West Sidewalk, Curb and Gutter (9th Avenue SW Overpass to 8th Avenue SW)	<ul> <li>Removal of existing curb, gutter, sidewalk, curb ramps, commercial crossings, pedestrian guardrails, trees and planter boxes.</li> <li>Construct new curb and gutter along revised alignment to remove small lateral shift in curb line north of alleyway between 8th Avenue SW and 9th Avenue SW, including relocation of an existing catch basin along this section and reconstruction of the curve return in the southeast quadrant of the 8th Avenue SW/4th Street SW intersection.</li> <li>Constructing a raised sidewalk crossing at the 3rd Avenue SW connector roadway and mid-block alleyway immediately to the north of this crossing.</li> <li>Installing bollards to separate and provide protection from errant motor vehicle traffic from pedestrians within the proposed raised sidewalk area.</li> <li>Cold mill and overlay the adjacent curb lane, at minimum, to match the roadway pavement surface to the newly constructed lip of gutter.</li> <li>Restriping of the existing roadway to reflect changes in the curb alignment.</li> </ul>
	1.3	4th Street SW West Sidewalk, Curb and Gutter (9th Avenue SW Overpass to 8th Avenue SW)	Remove and replace existing slab-on concrete median within severely deteriorated areas.
	1.4	Applicable Guidelines & Specifications	<ul> <li>All proposed roadway improvements will be designed and constructed in accordance with the City of Calgary's Road Construction 2015 Standard Specifications as much as possible.</li> <li>To accommodate some of the unique design characteristics of the project, reference may also be made to the City of Calgary's Complete Streets Policy (TP021) and 2014 Complete Streets Guide, and the Transportation Association of Canada's Geometric Design Guide for Canadian Roads (1999) where required.</li> </ul>
KEY ISSUES	2.1	Maintenance of Adequate Drainage	<ul> <li>One key design objective, in particular with the replacement of the east curb line between the 9th Avenue SW Overpass and 8th Avenue SW, is maintaining adequate drainage through and adjacent to the proposed raised sidewalks within the 3rd Avenue SW connector roadway and adjoining alleyway crossings.</li> <li>Icing of the roadway and sidewalk surfaces during winter months may occur if positive drainage is not provided, which is a safety hazard for pedestrians and other roadway users.</li> <li>Drainage swales will be required parallel to 4th Street SW to convey drainage alongside the raised sidewalk, other measures will be investigated to determine means to convey drainage perpendicular to the raised sidewalk within this area.</li> </ul>
	2.2	Construction of Bollards adjacent to 4th Street SW Drive Lanes	Since the raised sidewalk will not have a barrier curb to deflect errant vehicles, bollards will provide a similar function.     Vertical structures such as street lights and bollards within the Clear Zone typically utilize a base which permits the object which, when hit by a motor vehicle, to break away cleanly and thus reduce the severity of a collision.     Research will be completed by the design team during detailed design to determine an acceptable bollard material and find application of similar use in North America.

SCOPE		SUBJECT	ADDITIONAL INFORMATION
KEY ISSUES CONT'D	2.3	Proposed Curb Shift	<ul> <li>With respect to the proposed curb line shift south of 8th Avenue, the final design will need to ensure that continuity exists with the lane and curb lines along 4th Street SW north and south of the 8th Avenue SW intersection.</li> <li>The Geometric Design Guide for Canadian Roads (1999) states that a maximum 1.5 m horizontal alignment shift can safely occur within an intersection.</li> <li>While any shift would likely be less than 1.5 m, the exact value of this shift will need to be confirmed if required.</li> </ul>
CRITICAL ASSUMPTIONS	3.1	Utility Identification & Relocation	<ul> <li>No major utility relocations, other than the noted catch basin relocation, will be required.</li> <li>All utility infrastructure has been identified through survey and record drawings.</li> </ul>
	3.2	Soil Conditions	Soil conditions under the existing roadway, curb, gutter and sidewalk provide sufficient bearing capacity without additional treatment.
	3.3	Soil Contaminates	The existing road right-of-way is free from soil contaminates and other environmental concerns.
	3.4	Bollards	Acceptable bollard treatments can be sourced for the raised sidewalk treatment located at the 3rd Street SW connector and alleyway crossings.
	3.5	Cold Milling & Inlay	Cold milling and inlay of the existing roadway surface will only take place within the curb lane, to tie the new lip of gutter to the roadway crossfall and that an adequate crossfall rate can be maintained between the new and old pavements.
	3.6	Lane Shifts	No major lane line shifts will be required along 4th Street SW in conjunction with the proposed curb line relocation, any shift required can be accommodated within the 8th Avenue SW/4th Street SW intersection.

## A-2.2 CIVIL ENGINEERING SUMMARY

The adjacent page identifies Design Development criteria related to the Civil Engineering scopes of work.

DOMAIN		TECHNOLOGY	CURRENT STANDARD
BOWAII	1.1	Data Centre Core	OmnSwitch 10K, 6900
ENTERPRISE NETWORK	1.2	Top of Rack	OmniSwitch 6850E, 6900
(ALCATEL-LECENT ENTERPRISE)	1.3	Distribution	OmniSwitch 6900, 6850E
	1.4	Edge	OmniSwitch 6850E
	1.5	Failover	Virtual Chassis
	2.1	Core	7750 SR
MPLS	2.2	Node	7210 SAS
(ALCATEL-LUCENT)	2.3	Node	7705 SAR
WI-FI (ARUBA)	3.1	Controller	3600, 7240 Mobility Controllers
WI-FI (ANUBA)	3.1	Access Points	AP225, AP275, RAP155
DATA CENTRE			
EQUIPMENT	4.1	Cabinets provided by IT	30" x 48" x 42U high with 19" wide equip rails
	4.2	Airflow  Revues Dietribution	Front to back
	4.3	Power Distribution	208V or 230V phase to neutral
	4.4	Power supplies	Even # located at the back of equip
FUTERRRIOE OTORAGE	4.5	Power cords	Utilizes either C13/14 orC19/20 ends
ENTERPRISE STORAGE	5.1	Cifs / NFS	NetApp
050150	5.2	SAN	Hitachi VSP / Brocade
SERVERS	6.1	Phyical Server/Host Hardware	HP Gen8/Gen9 Intel
	6.2	Virtualization	VMWare ESXi 5.5
	6.3	Linux O/S	RHEL 6.0
_	6.4	Windows 0/S	Server 2012 R2
DATABASE	-	ΓΙΟΝAL T	T
	7.1	ORACLE (Linux)	ORACLE 11gR2
	7.2	Microsoft SQL	SQL server 2012, 2014
	7.3	MySQL (Linux)	MySQL 5.1, 5.5
DESKTOP/APP Virtualization	8.1	VDI	Citrix Xen Desktop
VINTUALIZATION	8.2	Access Layer	Citrix NetScaler Gateway
	8.3	App Virtualization	Citrix Storefront MS Appv, VMware Thinapp, Citrix XenApp
CLIENT O/S	9.1	VDI	Windows 7 x64
	9.2	Desktop	Windows 7 x64
	9.3	Laptop	Windows 7 x64
	9.4	Tablet	Windows 8.1, 10
CLIENT DEVICES	10.1	VDI	HP thin client
	10.2	Desktop	Lenovo
	10.3	Laptop	Toshiba ultra book
	10.4	Tablet	MS Surface/pro
PRODUCTIVITY TOOLS	11.1	Email/Calendar	Exchange 2007
	11.2	Office productivity	Office 2007
	11.3	Browser	IE 11, Chrome, Firefox
LOAD BALANCER	12.1	Citrix NetScaler	Windows 8.1, 10
PROJECTS	13.1	MS Project Server	Project Server 2013
			,
		<u> </u>	

## **A-2.3 CITY OF CALGARY IT SPECIFICATION SUMMARY**

The adjacent page identifies Design Development criteria (existing technologies and current standards) related to the IT infrastructure scope of work, provided by The City of Calgary.

In addition to the aforementioned standards, the following comments have been submitted by IT to

- *Information Services Fibre Infrastructure*: Fibre has been run parallel to the railroad tracks. Unsure if there is a splice point at 4ST Underpass.

  • Engagement: Ryan Angelo will need to be engaged in the discussion along with Transportation
- Infrastructure.
- Outstanding Information: Project Team to establish & provide IT with the service/system owner for 4th Street Underpass technology platform.

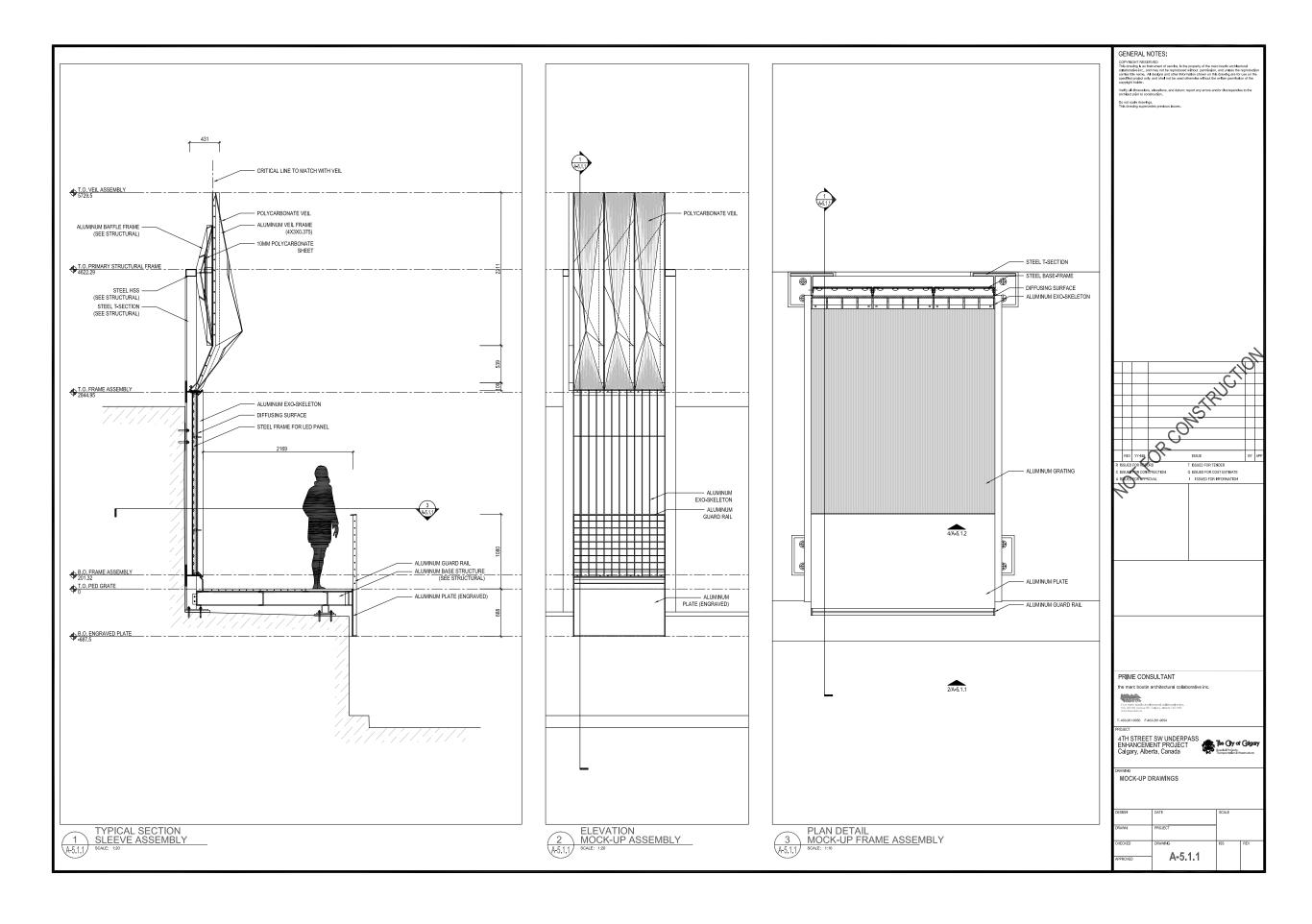
Appendix A-2.3

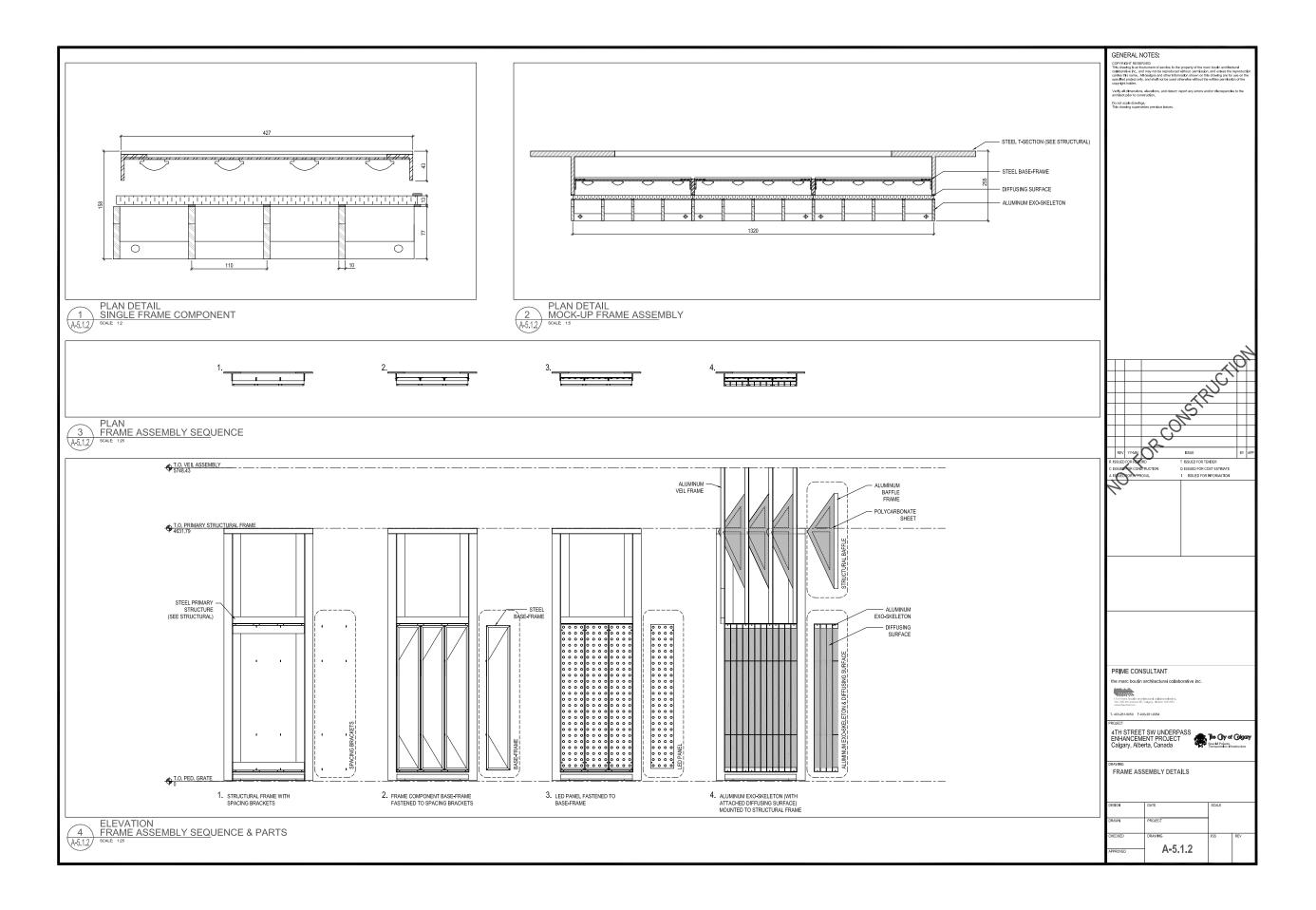
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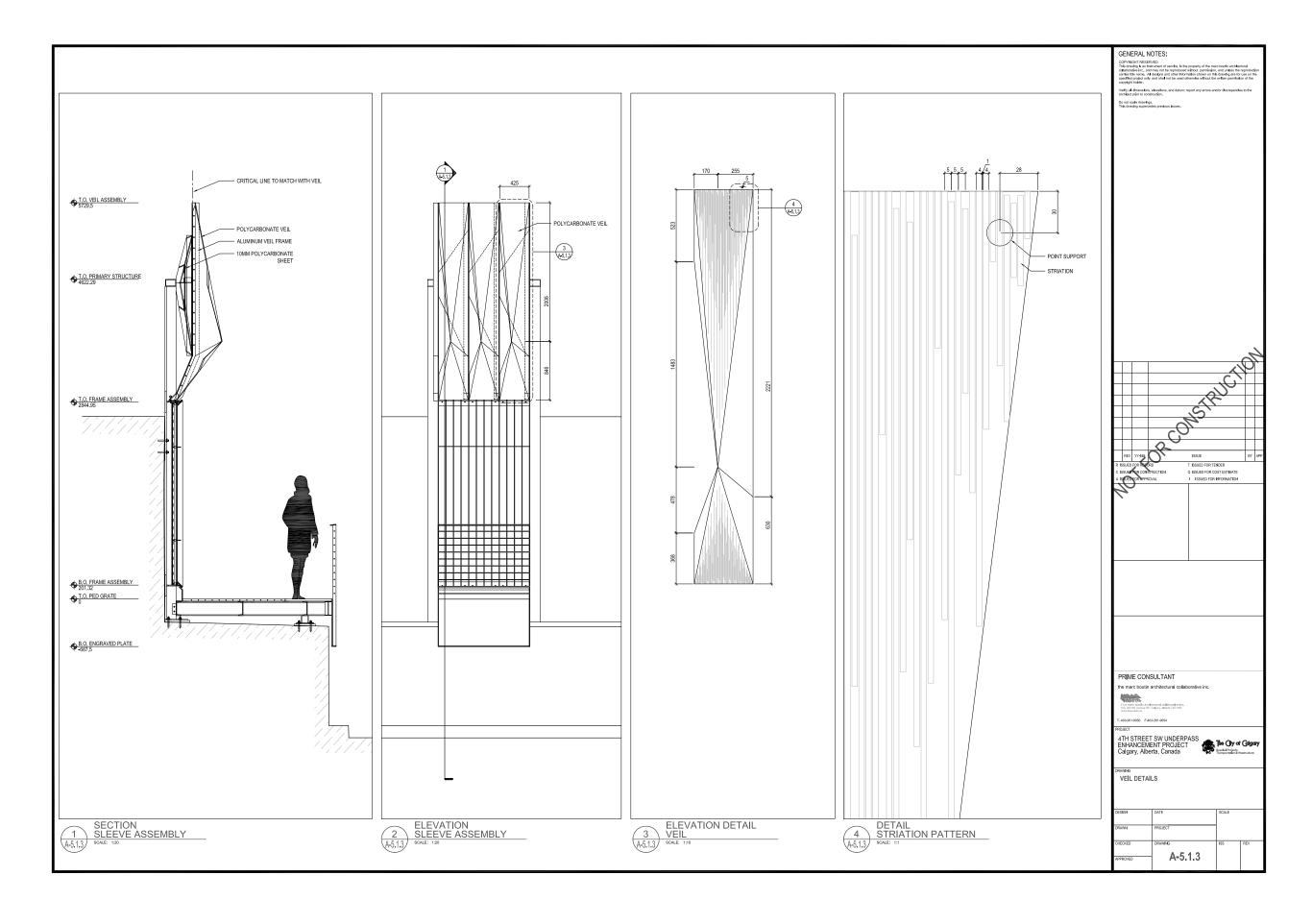


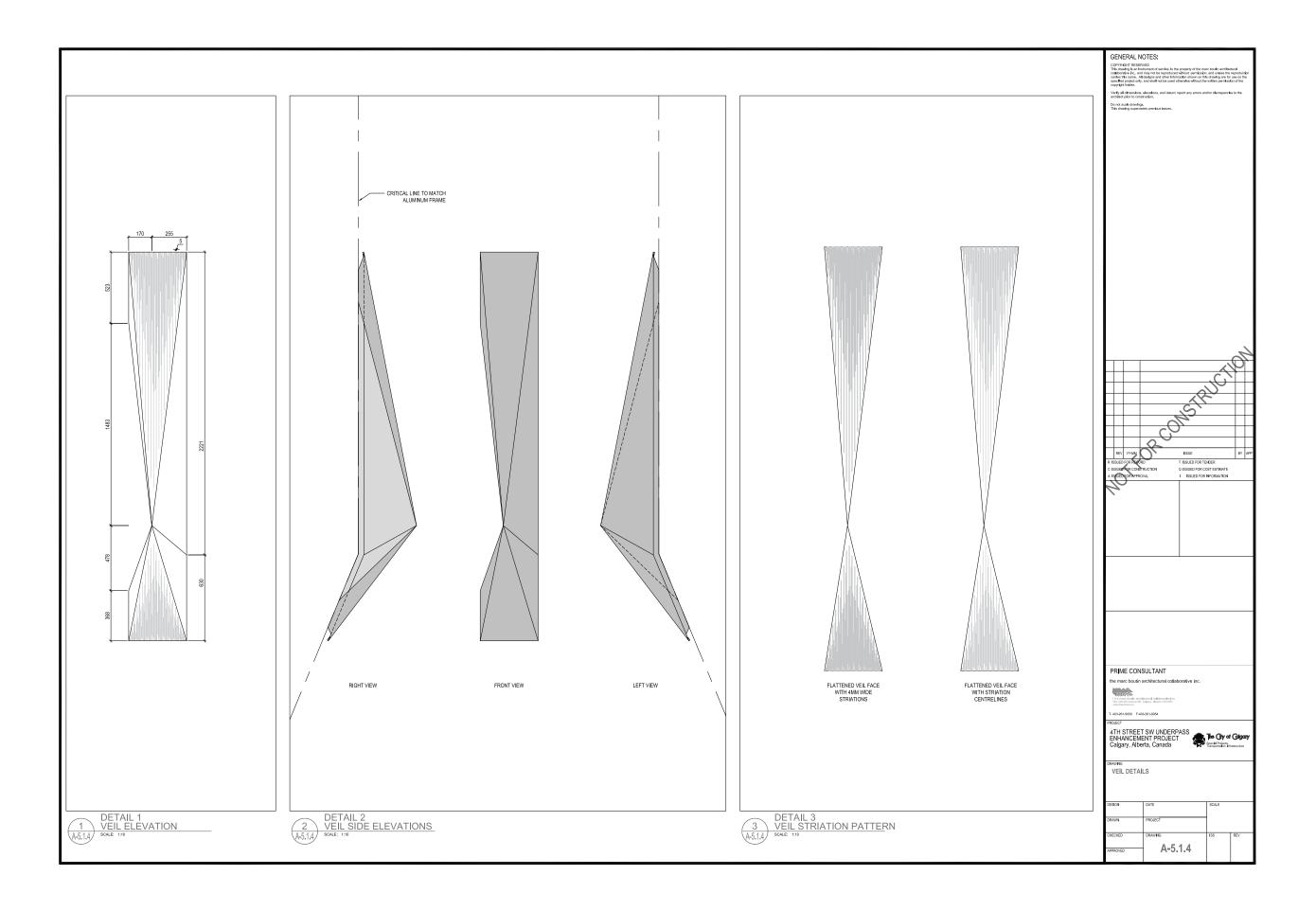
## A-2.4 DESIGN DRAWINGS: ARCHITECTURAL

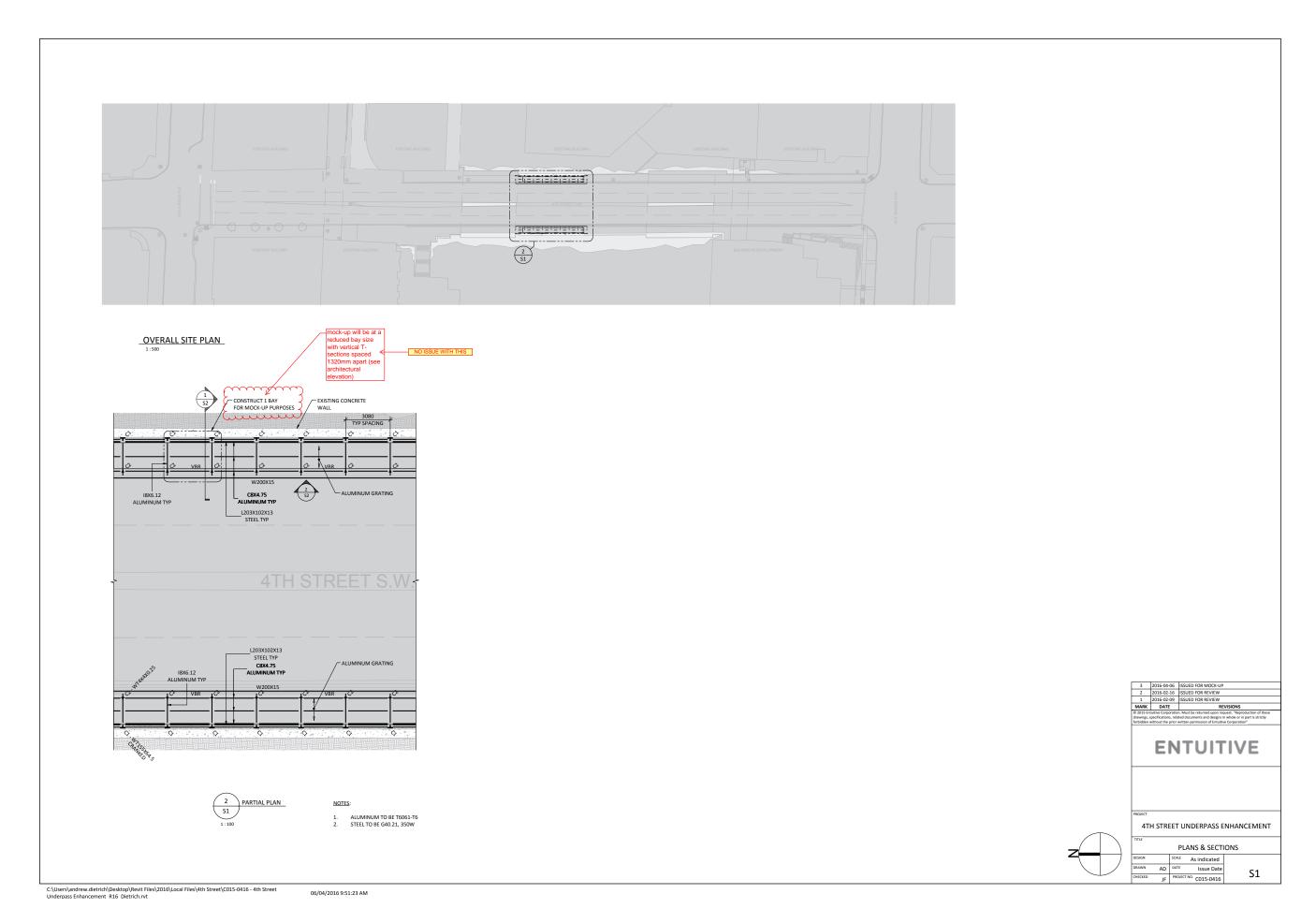
A-5.1.1 - Mock-Up Drawings A-5.1.2 - Frame Assembly Details A-5.1.3 - Veil Details (1) A-5.1.4 - Veil Details (2)



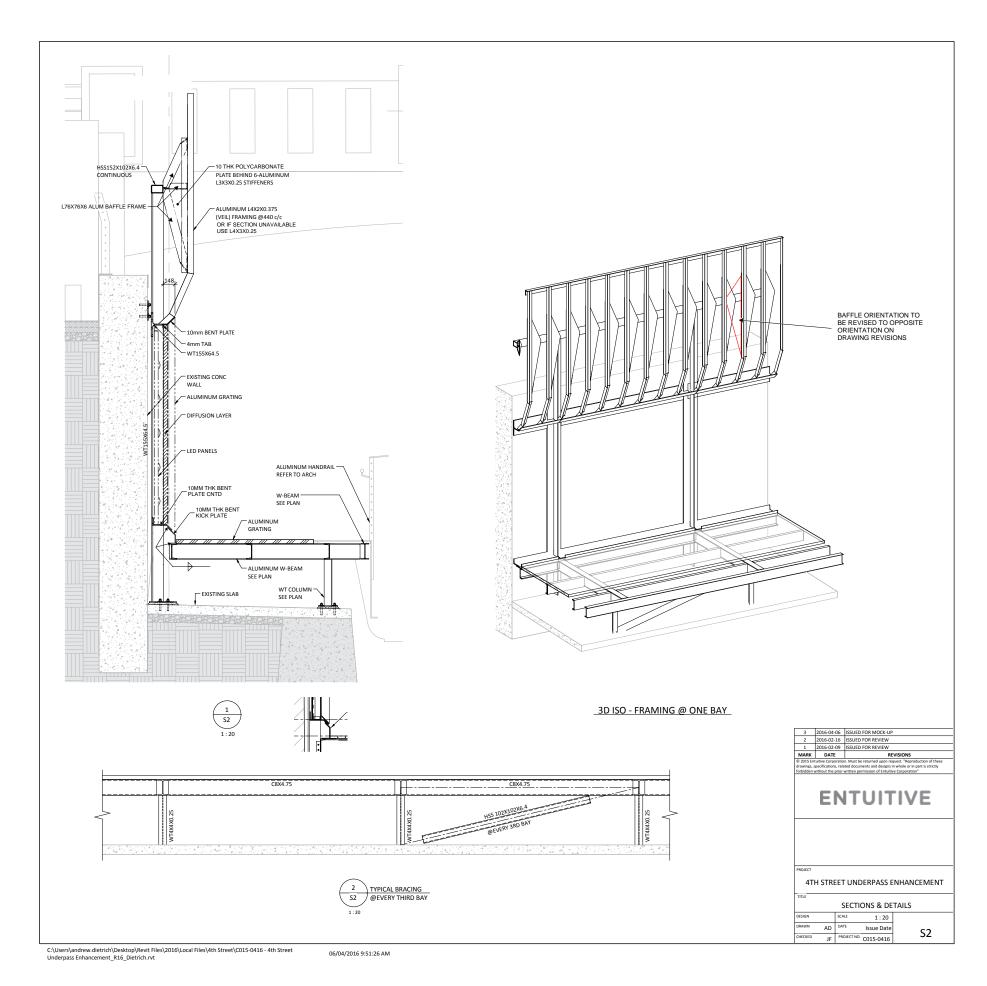








24 of 90



## A-2.5 DESIGN DRAWINGS: STRUCTURAL

S1 - Plans & Sections

S2 - Sections & Details

Appendix A-2.6

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