5555 Almon Street
Excavation and Construction

Prepared by Geoff MacLean, P.Eng.

Job No. 34958

CONSTRUCTION MANAGEMENT PLAN

1	JUNE 2021	ISSUED FOR PERMIT
0	APRIL 2020	ISSUED FOR REVIEW
REVISION #	DATE	DESCRIPTION

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Prepared by

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In consultation with the developer, contractor, traffic control company and HRM.

Section 1: Introduction

1.1: Project Description and Objectives

Samir Metlej Holdings Inc. and affiliated companies are proposing to redevelop 5555 Almon Street as per their development agreement, constructing a 7 storey 35-unit multi residential building complete with 3,100SF of ground floor commercial space and underground parking garage. The land previously housed three buildings situated on 4 lots which were consolidated posh demolition. This CMP has been prepared to address excavation, services and building constriction; demolition of the existing buildings is complete and addressed under separate CMP.

On Almon Street, the development borders another residential building to the east. To the north on Isleville Street it borders another construction site. All neighbouring properties will remain undisturbed throughout construction and all neighbours will be notified and updated on construction ahead of time. The planned building has one level of underground parking and is anticipated to require a 10.0m deep evacuation to reach footing levels.

For public safety during excavation and building construction, we are proposing to hoard off the public sidewalk directly adjacent to project on Almon and Isleville. This will move pedestrians to the south and west sides of Almon and Isleville Streets while maintaining vehicle traffic. A delivery slip lane is planned to be positioned inline with the neighbouring site's encroachment on Isleville Street, extending the narrowed Isleville travel lane in front of this development project.

This CMP document is intended to be an evolving document to help guide the project team to mitigate impacts to the adjacent community before they arise and to address unforeseen issues. SDMM, together with the developer, contractor, and traffic control company, have prepared this Construction Management Plan (CMP) following HRM's CMP (2020) guidelines and administrative order (2018-005-ADM) in an effort to reduce potential negative impacts on the surrounding community, due to construction activities for this project.

The most up-to-date version of this document will be kept on-site at all times during construction. Should ownership or contracting services change throughout the course of this project, HRM will be notified immediately and new parties will be required to comply with the approved CMP in writing.

1.2: Project Contact Information

The project team for the proposed development consists of:

Role	Name	Contact	Address	Phone
Developer	Samir Metlej Holdings Inc	Sam Metlej	123 Chain Lake Drive, Suite 210 Halifax, NS B3S 1B3	902) 209-5788 24 Hour Emergency Contact
Site Contractor	Atlantic Road Construction and Paving	Greg MacDonald	6 Belmont Avenue, P.O. Box 89 Eastern Passage, NS B3G 1M7	(902) 830-6411
Traffic Control Company	Frontline Traffic Services	Phil Pruneau	6 Belmont Avenue, P.O. Box 89 Eastern Passage, NS B3G 1M7	(902) 818-5548
Rodent Control Company	Truly Nolen Pest Control	Andrew Wheelock	2 Fielding Ave, Dartmouth, NS B3B 1E1	(902) 425-7378

Section 2: Project Schedule and Logistics

The following is a brief summary of anticipated major project milestones broken down by phase:

2.1: Schedule

Project Phase	Start Date		End Date	Time Period
Rodent Control Program	Jul 15, 2021	-	Jul 31, 2021	2 Weeks
Demolition	n/a	-	n/a	n/a
Excavation	Aug 1, 2021	-	Oct 31, 2021	3 Months
Substructure	Nov 1, 2021	-	Mar 31, 2022	5 Months
Superstructure	Apr 1, 2022	-	May 1, 2024	24 Months
Service Abandonments	Jun 3, 2023	-	Jun 4, 2023	1 weekend
Service Installs	Jun 17, 2023	-	Jun 25, 2023	2 weekends
Flat Works	Jun 1, 2024	-	Jun 30, 2024	1 Month

2.2: Key Dates

- Take-over of encroachment: July 2021
- Finish encroachment: June 2024
- Duration of encroachments: 36 months
- Temporary road closures:
    - Crane installation — May 1, 2022
    - Service work — June 3-4, 17-16 & 24-25, 2023
    - Crane removal — June 1, 2023

2.3: Hours of Work

Work will generally take place during normal working hours as outlined in HRM's Noise By-Law and Traffic Control Manual Supplement; these are noted below.

- Monday to Friday: 7:00 a.m. – 9:30 p.m.
- Saturdays: 8:00 a.m. – 7:00 p.m.
- Sundays & Statutory Holidays: 9:00 a.m. – 7:00 p.m.
- Servicing Work: Weekend work

Although work is not expected to be required outside of the times listed above, if, for any reason, work is anticipated to be required outside of these hours, the contractor will apply to HRM for approval 5 business days (minimum) in advance of such work and obtain approval prior to proceeding. It is noted that HRM's Noise By-Law cannot be altered without HRM council approval; work must adhere to the Noise By-Law.

Section 3 – Relevant Regulations & Guidelines

3.1: Occupational Health & Safety Regulations

This CMP shall be utilized in agreement with all applicable Provincial and Federal Occupational Health and Safety Regulations. At a minimum, construction activities must at all times meet the standards of:

a) National Building Code of Canada, as adopted and modified under the Building Code Act and the Nova Scotia Building Code Regulations made under that Act;

b) Nova Scotia Occupational Health and Safety Act, and the Nova Scotia Occupational Safety General Regulations made under that Act;
c) The Transportation Association of Canada (TAC)'s Manual of Uniform Traffic Control Devices for Canada (MUTCDC); and
d) Nova Scotia Temporary Workplace Traffic Control Manual (NSTCM).

3.2: Municipal Regulations & Guidelines

In addition to the Provincial and Federal standards referenced in Section 3.1, this CMP shall be utilized in agreement with and meet, at a minimum, the standards of all relevant municipal by-laws including, but not limited to, the following:

a) HRM Design Guidelines
b) HRM Standard Details
c) S-300 Streets;
d) E-200 Encroachments;
e) B-201 Building;
f) N-200 Noise;
g) T-600 Trees;
h) S-900 Controlled Access Streets;
i) T-400 Truck Routes;
j) W-101 Discharge into Public Sewers;
k) B-600 Blasting;
l) HRM TCM Supplement;
m) G 200 Grade Alteration and Stormwater Management
n) Amin Order 2018-005-ADM regarding encroachment
o) Admin Order 2020-010-OP regarding stormwater management standards for development activities

Section 4: Vehicle Management

Prior to any construction activity, all temporary workplace traffic control devices and signage will be in place as per the Nova Scotia Temporary Workplace Traffic Control Manual (latest edition). The traffic control company will install the signage and ensure that they are maintained throughout the project. This project's Traffic Control Plans (TCPs) are listed in the Appendix.

4.1: Vehicular Traffic Control

A Traffic Control Plan (TCP) has been prepared by the traffic control company and is provided in the Appendix.

Throughout all phases of construction two-way vehicular traffic will be maintained. While services are installed, and service abandonments are addressed temporary lane closures will be required. Please refer to the appendices for required changes.

4.2: Haul Route and Staging Areas

The truck Haul Route Plan has been prepared by the traffic control company and is provided in the appendix. The selected route is intended to minimize traffic congestion and maximize pedestrian safety. During the excavation phase construction vehicles will enter and exit the site at the gate location which will be clearly marked for function.

We anticipate concrete delivery trucks driving onto private property, refer to appendix for delivery schematics.

4.3: Vehicular Traffic Notifications
Should any traffic disruptions be required, notifications will be distributed to properties in the impacted area a minimum of five (5) days in advance of vehicular traffic closures.

4.4: Emergency Vehicles
In the event of unforeseen emergency situations, the site will remain accessible to emergency vehicles at all times.

4.5: Parking
Three (3) unmetered on street public parking spaces on Isleville Street will be occupied by the encroachment whereas on Almon Street on street parking is not anticipated to be affected by this development.

It is noted that passenger vehicles are not permitted to park within any encroachment areas.

To minimize parking requirements in adjacent neighbourhoods, on-site workers will rent parking spaces from the adjacent parkade structures and workers will be encouraged to carpool or rely on public transit. Once the project's underground parkade has been constructed, some on-site workers will park in the parkade.

4.6: Bus Stops
There are no bus stops adjacent to the project.

4.7: Hazard Assessment
A vehicular and pedestrian hazard assessment is provided in the appendix. Any additional site hazards identified or encountered after work has commenced will be added to this list. All personnel on-site will be required to review this list and encouraged to identify additional potential hazards and hazard mitigation methods.

Section 5: Pedestrian Management

A Pedestrian Management Plan (PMP) has been prepared by the traffic control company and is provided in the appendix.

Throughout construction, the project will shut down the sidewalks adjacent to the development. This is to ensure that limits of excavation and building construction are a safe distance from pedestrians with an alternate sidewalk available across the street.

5.1: Pedestrian Protection
Pedestrians will be protected by distancing them from the project. F-type jersey barriers will be positioned along the curb line with opaque rigid fencing mounted above.

5.2: Pedestrian Safety
Pedestrian safety will be maintained by implementing appropriate signage as shown on the PMP. All navigation and safety signage indicating alternative sidewalks and potential hazards will be inspected and maintained regularly.

5.3: Pedestrian Traffic Notifications
Notifications will be distributed to properties in the impacted area a minimum of five (5) days in advance of pedestrian traffic impacts.

5.4: Visually Impaired Persons
In keeping with Canadian National Institute for the Blind (CNIB) requirements and as outlined on their 'Clearing Our Path' website; various items will be incorporated into the pedestrian management signage and barriers. Such as, high

visibility contrasting colours with appropriate font types (mix of upper and lower-case lettering), font sizes (between 16mm to 51mm) and sign colours (orange background with black lettering or white background with black lettering).

The contractor will use bright orange sawhorse barricades complete with bold-font signage to identify sidewalk termination points. Sawhorse barriers will incorporate lower cross members, painted and marked consistent with the rest of the sawhorse, these added cross members will be placed near the ground to aid visually impaired persons using a cane. Reflective tape will also be placed on the ends of fencing, hoarding, sawhorse barricades, and concrete barriers to help delineate pedestrian routes and disruptions. Signage and tape colours will vary but will comply with the colour/brightness contrast as outlined by the CNIB website; examples are black/white, orange/black or dark red/white combinations.

5.5: Accessibility
High visibility signage will be used to assist pedestrians to easily navigate around all blocked sidewalks.

5.6: Hazard Assessment
A vehicular and pedestrian hazard assessment is provided in the appendix. Any additional site hazards identified or encountered after work has commenced will be added to this list. All personnel on-site will be required to review this list and encouraged to identify additional potential hazards and hazard mitigation methods.

5.7: Pedestrian Management Plan Rendering (PMPR) Signage
The need for a rendered map displayed for pedestrians showing the detoured pedestrian routes are not anticipated for this project.

5.8: Pedestrian Detour Wayfinding Signage
The need for pedestrian wayfinding signage directing pedestrians to adjacent businesses are not anticipated for this project.

Section 6: Encroachments & Disruptions

For public safety during site excavation and building construction we are proposing that the project compound incorporate the public sidewalks in front of the development. This will move pedestrians to the opposite sidewalk of the street. The encroachment is planned to be delineated by interlocking F-type concrete barriers complete with translucent rigid fencing. This encroachment is to keep the public away from the excavation zone of influence as well as provide additional room for form workers and rebar work.

Throughout the project, fencing will not obstruct vehicle sight lines.

Should any utility or traffic disruptions be required, the contractor will first apply to HRM for approval, a minimum of five (5) business days in advance of such work and will then notify neighbours of these disruptions in a timely fashion.

6.1: Demolition
The demolition phase was completed and described under separate CMP document.

6.2: Site Excavation
This includes the excavation and removal of common site material. If bedrock is found, the contractor will apply for a blasting permit and adhere to the HRM blasting by-law and conditions of the blasting permit. Alternatively, if a blasting permit can not be obtained the site's bedrock will be broken by a series of rock breakers to reach footing elevation.

6.3: Site Services Connection

This includes installation of new water and sewer laterals to their respective mains as well as decommissioning existing laterals which were abandoned as part of the building demolition. The service installs will require modifications to the encroachment with temporary workplace signage incorporated (refer to the Service Installation Traffic Control Plans (TCP) in the appendix). The target dates for this work are provided in the "Key Dates" section above with time of installations adhering to the Noise By-Laws noted above. The intent will be to complete this servicing work and reinstate the street as quickly as possible in order to minimize disruptions to the public. It is anticipated that weekend work may be required by Halifax Water for mainline tie-ins and abandonments.

Before scheduling site services connections, the contractor will notify all neighbouring properties, of the intended timeline for this work.

The contractor intends to reinstate the street cut during the season of work. It is noted that street cuts cannot be left gravel or open. HRM reinstatement specifications must be met and the travel way must be hard surfaced prior to reopening to the public. Asphalt, concrete curb and sidewalk reinstatement must be completed within 72 hours of disturbance and will be considered temporary if reinstated after October 31st or prior to May 1 in which case permanent reinstatement will be completed by June 15.

6.4: Construction Management Plan Element Inspection and Maintenance

Construction management plan elements will be inspected daily to ensure continued adherence to this CMP. Any deficiencies identified will be reinstated immediately.

6.5: Changes to the Construction Management Plan

Any required changes or modifications to the approved CMP will be submitted to HRM for review and approval prior to implementation.

Section 7: Environmental Factors

7.1: Damage to HRM Infrastructure

Existing sidewalks within the encroachment area will be completely replaced. It is anticipated that sidewalks across the street will not be impacted by excavation or other construction activities. However, while efforts will be made to avoid damage, it is anticipated that additional portions of existing curbs, gutters, and sidewalks may become damaged during the construction process which would require repairs or replacement. Pending HRM's review prior to and after construction and subject to damage due to construction activities, the developer acknowledges that items may require to be fully replaced rather than repaired. The developer also acknowledges that any costs incurred to repair or replace this public infrastructure are the responsibility of the owner. For reinstatement timeline requirements, please see the "Site Services Connection" section above.

7.2: Protection of Trees

There are no street trees within the public right-of-way directly adjacent to the project site. It is noted that HRM street trees shall not be touched prior to approval and/or compensation agreements between the developer and HRM Urban Forestry are in place. Adjacent street trees are to be protected during construction in accordance with the HRM Tree Bylaw (T-600). Refer to HRM tree protection detail in the appendix.

7.3: Line Painting and Temporary Crosswalks

Temporary line painting such as altered centreline or temporary crosswalk are not anticipated for this project.

7.4: Street and Right-of-Way Cleaning

The portion of public street adjacent to the project will be cleaned daily of any debris from trucks and silt, dirt, or rock that migrates beyond the encroachments. A sweeper truck will be utilized as required. Rock pads will be installed and maintained at all entrances to trap sediment.

7.5: Protection from Inclement Weather

To protect the public from construction debris during inclement weather, the project site will be enclosed by fencing complete with dust control covering, upper levels of the new building will be regularly cleaned, and loose items throughout the project site will be secured when not in use.

7.6: Storm Water Management

During construction, nearby catch basins will be fitted with filter fabric to prevent debris from entering the storm system. Storm water collected inside the project site will be directed into temporary stormwater settling ponds situated within the building footprint to allow clean water to be pumped into the existing public storm water system in accordance with HRM By-law W-101 complete with appropriate fees to Halifax Water (HW). Sediment ponds may be shifted and positioned as desired by the site contractor during mass excavation however will generally be placed in localized low points within the building site excavation, typically the elevator sump pit.

7.7: Noise, Dust and Emission Control

Dust mitigation for this project will be achieved using rock pads for trucks exiting the site. A water truck and sweeper truck will also be utilized to help prevent dust from becoming airborne and, when required, calcium may need to be used to mitigate dust migration. Additionally, mesh on the inside of the fencing will help to contain any airborne dust inside the site.

Breaking of rock may occur for footing, foundation and to clean the surface of the rock face wall. Mesh will be used on the inside of all construction fencing to mitigate dust control.

All construction vehicles will be required to use the loading area for parking and idling to keep exhaust emissions within the construction zone. Vehicles will be staged so that idling will not occur for more than 25 minutes at a time.

As indicated above, all work shall be completed in accordance with the HRM Noise By-Law.

7.8: Rodent Control

Rodent movement increases during construction activities. The owner has engaged a rodent control company, who has established a Rodent Control Plan (RCP) to help mitigate rodent movement prior to and during construction. The RCP applies to all project phases with the goal of preventing movement of rodents off-site to find safe refuge in adjacent areas. The RCP will consist of a baiting and monitoring program. Bait stations (traps) will be placed as outlined in the NPMA Pest Management Standards for Food Processing & Handling Facilities.

The RCP was engaged prior to the commencement of the demolition phase to lower the number of active rodents in the project area. Bait stations were secured in their locations using wooden stakes (for open sodded and dirt locations), weighted patio stones (behind walls and on paved areas), and zip-ties (fixed to fences) as per typical industry standards.

Section 8: Site Protection & Hoarding

8.1: Barriers and Fences

The encroachment will be delineated using concrete F-type jersey barriers complete with rigid fencing secured to the jersey barriers, total height of concrete barrier and fencing structure will be 1.8m or 6ft as per the noted administrative order. This fencing will be covered with a translucent dust control mesh of high quality which will extend a minimum 3m from the public right-of-way. This screening is described in the appendix and will block passersby or tourists view of the construction site. Construction traffic will utilize the proposed gates, gate will not be screened for safety reasons.

Along the private sidelines where non-vehicular traffic is present, the hoarding will be delineated by rigid modular 1.5m (5ft) high fencing or existing fencing where it is at least 1.5m tall. Where vehicular traffic is present on private property, the site will be delineated with 1.8m (6ft) tall rigid modular fencing complete with a row of concrete barriers behind fence or concrete waste blocks with fencing secured to the block. All fencing will have dust control mesh.

The F-type barriers and fencing that define the encroachment will adhere to the Encroachment Plan which is to scale includes dimensions and can be found in the appendix. These areas can be measured for the administering of applicable fees. Encroachment areas and fees will be based on the areas within the public right-of-way enclosed by the barriers and fencing.

Installation of F-Type concrete barriers, fencing and covering will take place during regular working hours as noted above. This work will be scheduled by the contractor after the HRM's pre-construction meeting has been held. HRM will coordinate this pre-construction meeting; the developer, contractor and traffic control company will attend this site meeting. During the process of erecting and tearing down the traffic barriers, fencing and opaque covering defining the encroachment, traffic control elements will be implemented as per the Barrier Installation Plan in the appendix. All work and any traffic interruptions will be coordinated by the contractor who will notify HRM a minimum of five (5) business days before work is scheduled to begin.

8.2: Snow Removal

The developer will be responsible to remove snow and ice as required to ensure that emergency access is maintain to the project site, this includes fire hydrants. The contractor will not dump snow or ice onto adjacent property and will truck snow off site as required to prevent the unsafe build-up of snow piles. The contractor will clear snow from outside the jersey barriers to keep the edge of the vehicle travel lane free and clear of snow and ice build up.

8.3: Gate Access and Egress

The site will be accessible through gates. These gates are the only locations that will receive equipment/materials during construction, gates will remain closed and will be locked at all times after work hours. In cases of emergencies, on-site workers will exit the project site through these gates. These gates will remain unlocked at all times when workers are on site in case of emergency allowing unrestricted emergency response units access to the site.

Construction access gates are planned to be stationed at each end the encroachment to facilitate deliveries. Gates are to swing into site, remain closed when not in use and locked after hours. Gates are anticipated to be aligned to allow for traffic flow through the encroachment in line with street traffic.

Any existing fire hydrants located adjacent to the site will remain protected from construction activities. These fire hydrants, along with the existing and proposed fire department connections (Siamese connections) will be accessible to firefighters throughout all phases of the project. Adjacent existing hydrants and fire department connections are not anticipated to be affected by construction.

8.4: Hoarding Aesthetics
The owner will place advertisements on the opaque hoarding and is interested to hear more regarding encroachment fee reduction.

8.5: Sight Lines
Rigid fencing and signage will be installed as per the CMP drawings such that vehicle sight lines are maintained around corners.

8.6: Project Information and Contacts
To encourage communication between the project team and the public, contact information will be provided on Project Information Boards; these will be posted prominently around the project site on the fencing; refer to the appendix for a copy of the Project Information Board and the Encroachment Plan for the planned locations.

Section 9: Lifting, Hoisting, and Crane Operations

9.1: Crane Use Overview
This project will incorporate a tower crane, this crane will be stationed within the project site and will be operated under the direct supervision of a licensed crane operator employed by the formwork contractor. The approximate location of the tower crane is shown in the appendix.

The crane will be assembled and disassembled from within the encroachment and portions of private property during regular work hours, road closures are not anticipated for this work.

The crane swing will extend over neighbouring properties as shown in the Crane Swing Diagram, included in the appendix. The developer will notify these property owners prior to extending the crane over their properties. Refer to the appendix for crane information.

SDMM has reviewed the tower crane's location relative to hospital approach and departure areas and have found it to be outside these flight paths.

Mobile crane trucks may be brought to site to accommodate lifting and hosting materials to upper levels. Mobile cranes will be stationed within the encroachment or on private property and will be operated under the direct supervision of a licensed crane operator employed by the formwork contractor.

9.2: Transport Canada and Nav Canada Regulations
There are two registered aerodromes in the Halifax region: Halifax International Airport and Canadian Forces Base Shearwater Airfield. According to Transport Canada regulations, the project site is outside of the lands to which regulations for these two aerodromes apply.

9.3: Aerodromes
There are several heliport approaches in the Halifax region; both Emergency Hospitals (QEII and IWK) as well as Point Pleasant Park. Given the location of the project site relative to these various approaches we understand Transport Canada notice does not apply.

Section 10: On-Site Safety and Security

10.1: Site Safety and Security Overview

The contractor will adhere to all Occupational Health & Safety requirements throughout the completion of this project. At a minimum, the following safety protocols will be utilized to further enhance site safety and security:

a) All workers will be required to have proof of up-to-date safety training;
a) Personal protective equipment (PPE) will be required for all personnel on site;
b) Adequate signage will be placed outside the hoarding, which will warn of hazards that may exist;
c) Gates will be locked and the perimeter fencing secured to provide security against public access during off work hours and will be monitored during operation;
d) Hoarding will clearly state "No Trespassing – Construction Personnel Only" & PPE requirements will be clearly identified (e.g., "Hard Hats and Safety Footwear Must Be Worn Beyond This Point");
e) Regular safety inspections will be conducted to ensure suitability of hoarding and other safety devices;
f) Emergency contact information to be prominently posted as per the Project Information Board.

10.2: Material Handling: Loading, Unloading, Delivery and Storage

The contractor will adhere to the procedures stipulated in the Haul Route Plan for delivery of materials. Delivery vehicles will use the designated gates for entry and exit. Timing of deliveries will be coordinated to have the least possible negative impact on regular traffic. The staging and delivery area will be housed on private property within the hoarding limits.

10.3: Emergency Access & Egress

The site will be accessible through gates to facilitate construction vehicle access. This gate is the only locations that will receive equipment/materials during construction. In cases of emergencies, on-site workers will exit the project site through these gates. These gates will remain closed and unlocked at all times when workers are on site, in case of emergency allowing unrestricted emergency response units access to the site. Gates will be locked and secured afterhours to provide security against public access during off work hour. Emergency contact information will be posted on project information boards surrounding the site, refer to the encroachment plan for details.

10.4: Security Site Lighting

Security site lighting is not required for this project.

10.5: Smoking Areas

On site smoking areas will not be provided as this will be a smoke-free site.

10.6: Fire Suppression Systems

Adjacent existing fire hydrants will remain outside the project area and will be protected from construction activities. These fire hydrants, along with any existing fire department connections (Siamese connections) will be accessible to firefighters throughout all phases of the project. The proposed fire department connections are not active at this stage of the project. These are not available for fire department use until after the building's water supply lines have been installed, tested and commissioned by the water commission, similar with the fire suppression system. This system

Section 11: Pre-Construction Consultation & Meeting

11.1: Pre-CMP Community Consultation

Due to the current pandemic, the developer will forego the community consultation meeting. A construction notification letter will be delivered to the properties neighbouring the construction site as well as HRM staff, notifying them of the expected work with contract information for questions and feedback. As part of this notification the surrounding community and businesses will be offered to sign up for a monthly construction project notification from the development. It is understood, HRM requires a confirmation letter from the applicant confirming delivery of notification letters to affected residents. A map indicating these properties has been included in the appendix.

11.2: Project Information and Contacts

To encourage communication between the project team and the public, contact information will be provided on Project Information Boards; these will be posted prominently around the project site on the fencing; refer to the appendix for a copy of the Project Information Board and the CMP Plan for the planned locations. Information on signage size and materials is outlined in the appendix.

11.3: Preconstruction Meeting

Prior to construction the developer, contractor and traffic control company will attend a pre-construction meeting with HRM staff to review the CMP document on site. HRM's engineering technician will confirm the date and time of this meeting; and may advise to waive the requirement.

11.4: Construction Notification

Approximately five (5) business days prior to the encroachment, an additional notification will be circulated to the neighbouring properties, notifying them that work is starting on site.

Section 12: Summary

This construction management plan was prepared with the goal to minimize negative impacts to the community, pedestrians, and traffic throughout the scope of this project. This plan will be used as a minimum standard and any further safety protection required or methods to provide a more positive environment will be used throughout construction work as necessary.

Should you have any questions or comments related to this document, please contact SDMM. For all construction-related inquiries, please contact the developer, contractor, or traffic control service provider.

Regards,

Servant, Dunbrack, McKenzie & MacDonald Ltd.

Geoff MacLean, P.Eng.
Project Engineer
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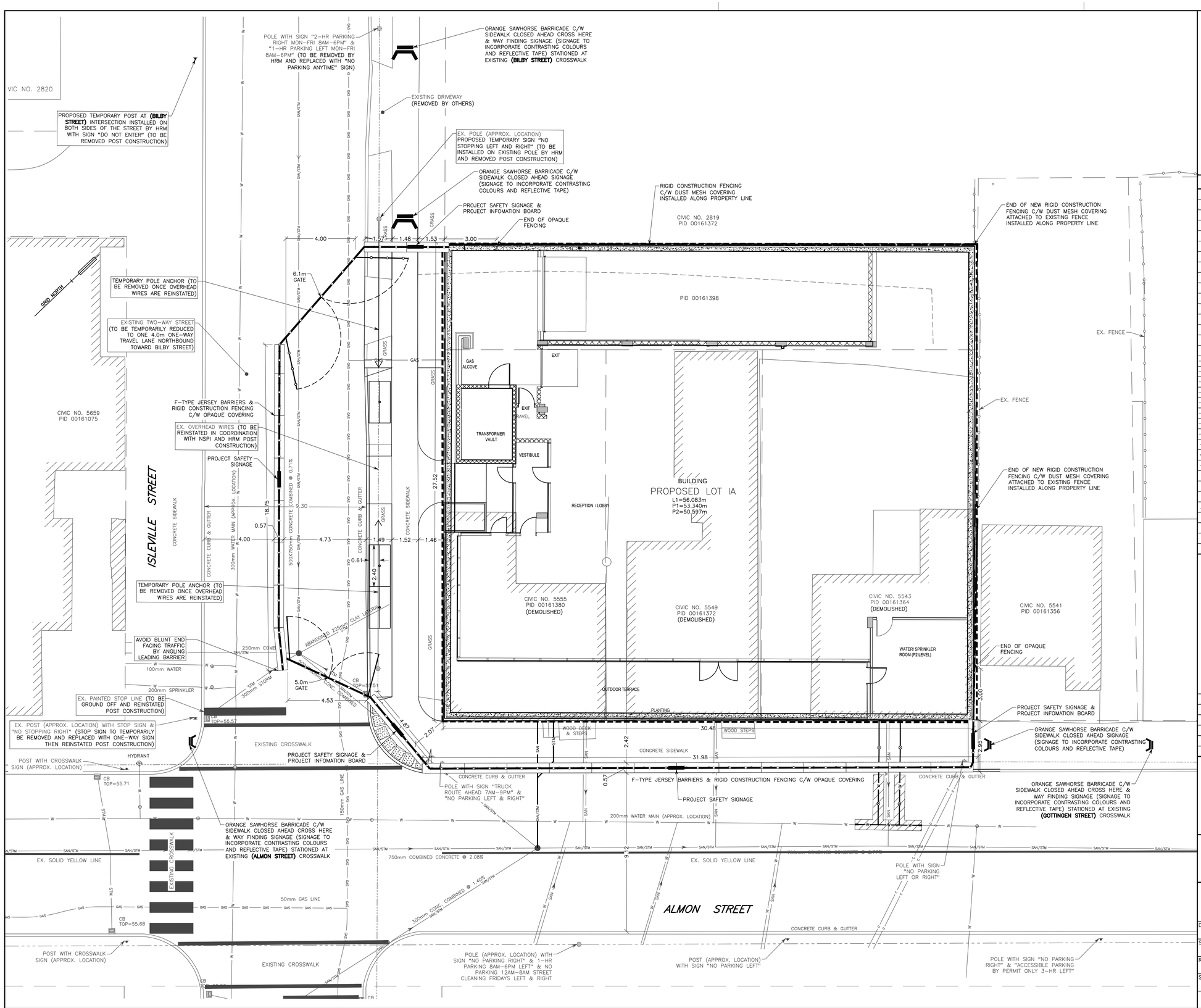
APPENDIX

Appendix A – Encroachment Plan



KEY PLAN

LEGEND

EXISTING		PROPOSED
25.0	CONTOUR LINE	25.0
⊗/⊗BF	CURB STOP/GATE/BUTTERFLY VALVE	⊗/⊗BF
	FIRE HYDRANT	
	CONCRETE THRUST BLOCK	
	SIAMESE CONNECTION	
	CATCH BASIN/PIT	
	CULVERT	
RD	ROCK LINING/DAM	RD
RW	ROCK WALL/RETAINING WALL	RW
	POWER POLE & ANCHOR/LIGHT STANDARD	
	TREE	
	STREET SIGN/PARKING METER	
× 131.82	ELEVATION/GRADE	[125.00] × / 125.00
	TEST PIT	
S	DRAINAGE/SWALE FLOW DIRECTION	S
W	WATER MAIN/SERVICE	W
SAN	SANITARY MANHOLE & PIPE	SAN
STM	STORM MANHOLE & PIPE	STM
SAN/STM	COMBINED PIPE	SAN/STM
GAS	GAS LINE	GAS
FL	100YR. FLOOD LIMIT	FL
	GUARD RAIL	
C	UNDERGROUND CONDUIT	C
	OVERHEAD WIRES	
	PROPERTY LINE/BOUNDARY	
	FENCE	
	BUILDING	
	TOP OF SLOPE	
	TOE OF SLOPE	
	TREELINE	
	LIMITS OF DISTURBANCE	
	TACTILE PEDESTRIAN PLATES	
	PROJECT SAFETY SIGNAGE	
	ORANGE SAWHORSE BARRICADE	

NOTES

1. THIS PLAN IS IN METRIC.

No.	YY/MM/DD	Revision Description	Appr'd
4	22/11/10	ADDED POLE ANCHORS WITHIN ENCROACHMENT	
3	22/03/21	REVISED ENCROACHMENT WIDTH	
2	21/06/11	REVISED BUILDING	
1	20/11/18	REVISED ENCROACHMENT WIDTH	
0	20/04/09	ISSUED FOR REVIEW	

REGISTERED PROFESSIONAL ENGINEER — DATE — G.K. MacLean — 8978 — PROVINCE OF NOVA SCOTIA

SDMM
Servant, Dunbrack, McKenzie & MacDonald Ltd.
NOVA SCOTIA LAND SURVEYORS & CONSULTING ENGINEERS
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5555, 5549 & 5543 ALMON STREET HALIFAX, NOVA SCOTIA

ENCROACHMENT PLAN

Date: APRIL 9, 2020	Drawn: C. PORTER	Project No.: FILE NO. 1-1-508 (34945)
Scale: 1:100	Engineer: G. MACLEAN	Plan No.: 16-2162-4
Reference: 34958	Approved: G. MACLEAN	Drawing Name: R1
Surveyed	Sheet	

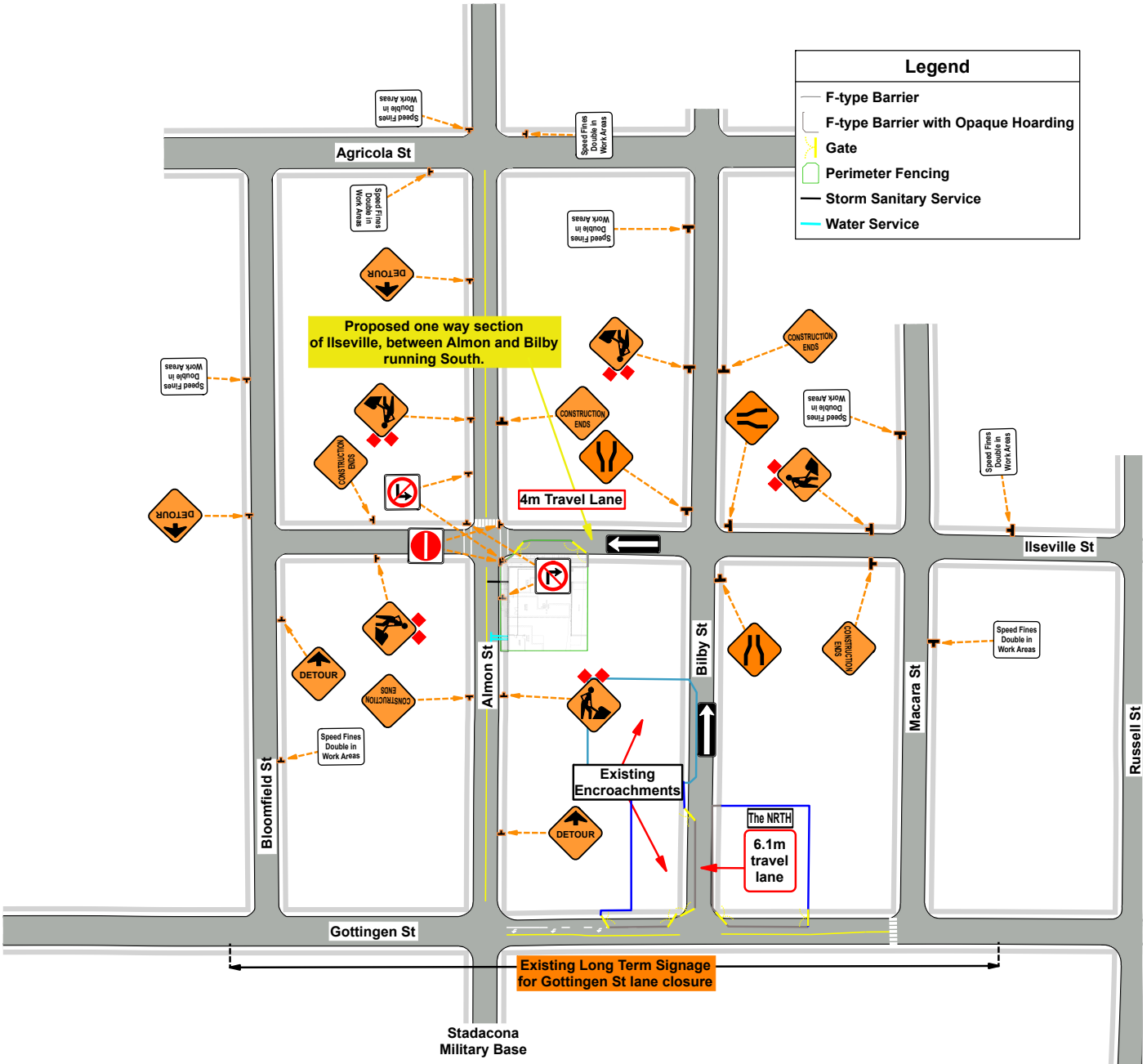
0m 1 2 4 6 8 10m

Encroachment Signage Plan

Date: 2022-04-20 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: 5543~55 Almon St
Contrator: SDMM Contact: Geoff MacLean,902-789-6374

Comments:

Not to Scale
Encroachment Signage Plan
Application Guide is C22
See Pedestrian Management Plan for sidewalk closure details



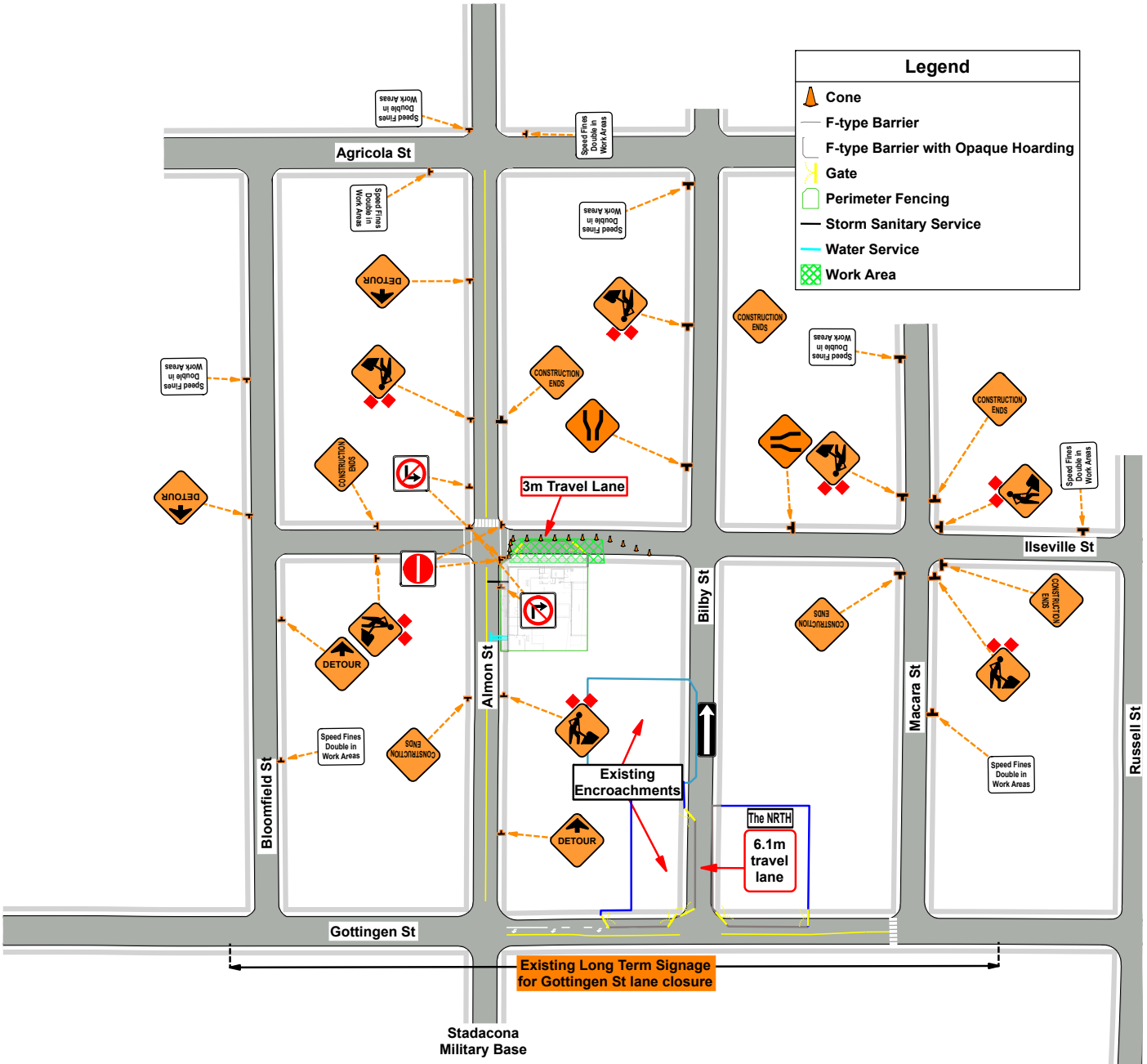
V	Speed Zone, km/h	50	60-70	80-90
A	Sign Spacing (m)	50	100	150
L	Transition Taper (m)	30	60	120
L/2	Termination Taper (m)	15	30	60
D	Delineator Spacing (m)	5	5	10
B	Buffer Area	Note 2	Note 2	30m

Barrier Adjustment and Removal Plan

Date: 2023-01-24 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: 5543~55 Almon St
Contrator: SDMM Contact: Geoff MacLean,902-789-6374

Comments:

Not to Scale
Barrier Adjustment and Removal Plan
Application Guides are C22 and C114
See Pedestrian Management Plan for sidewalk closure details



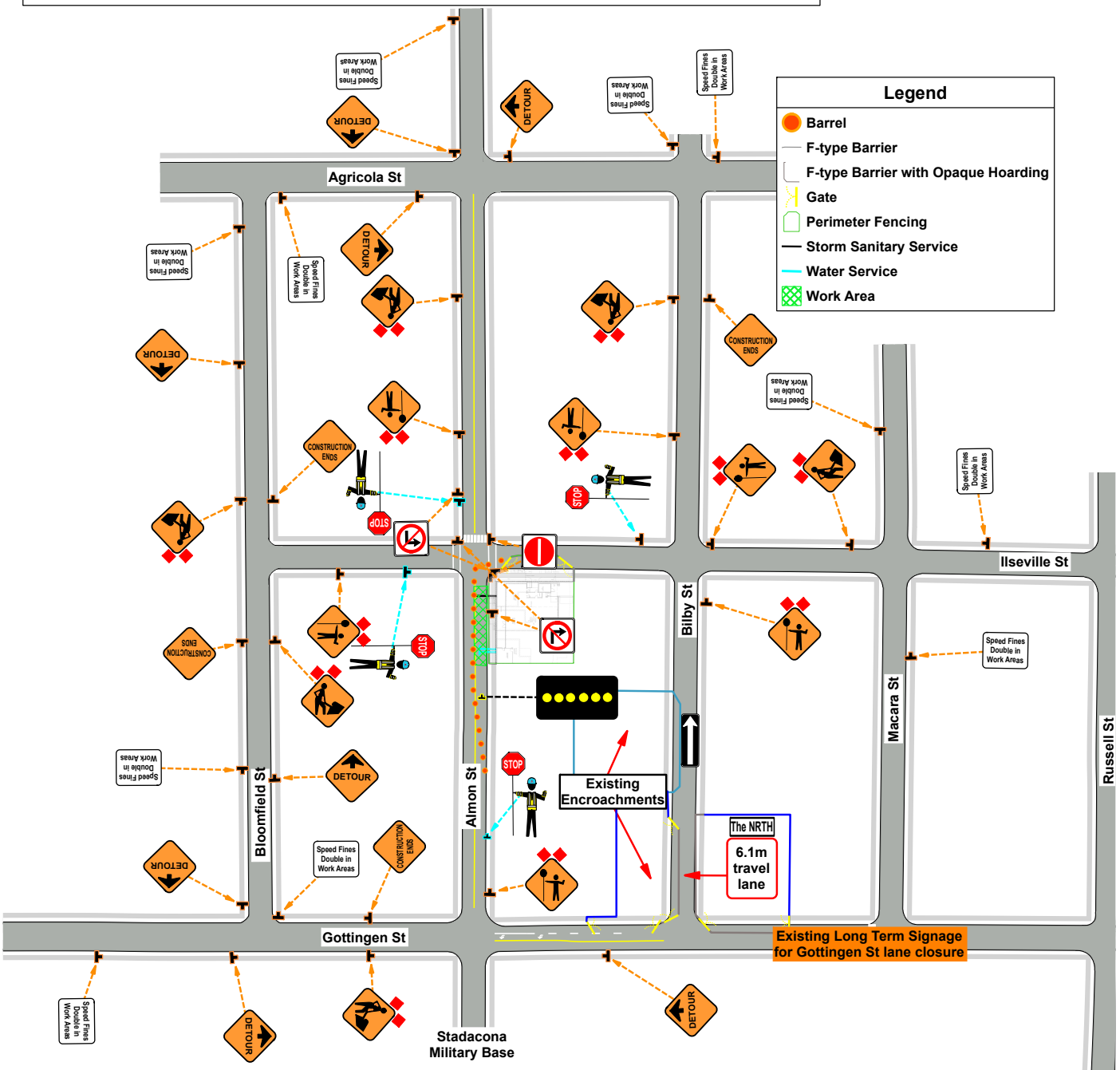
V	Speed Zone, km/h	50	60-70	80-90
A	Sign Spacing (m)	50	100	150
L	Transition Taper (m)	30	60	120
L/2	Termination Taper (m)	15	30	60
D	Delineator Spacing (m)	5	5	10
B	Buffer Area	Note 2	Note 2	30m

Service Laterals Installation Plan

Date: 2023-01-24 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: 5543~55 Almon St
Contrator: SDMM Contact: Geoff MacLean,902-789-6374

Comments:

Not to Scale
Application Guides C112, C114
Service Laterals Installation Plan
See Pedestrian Management Plan for sidewalk closure details



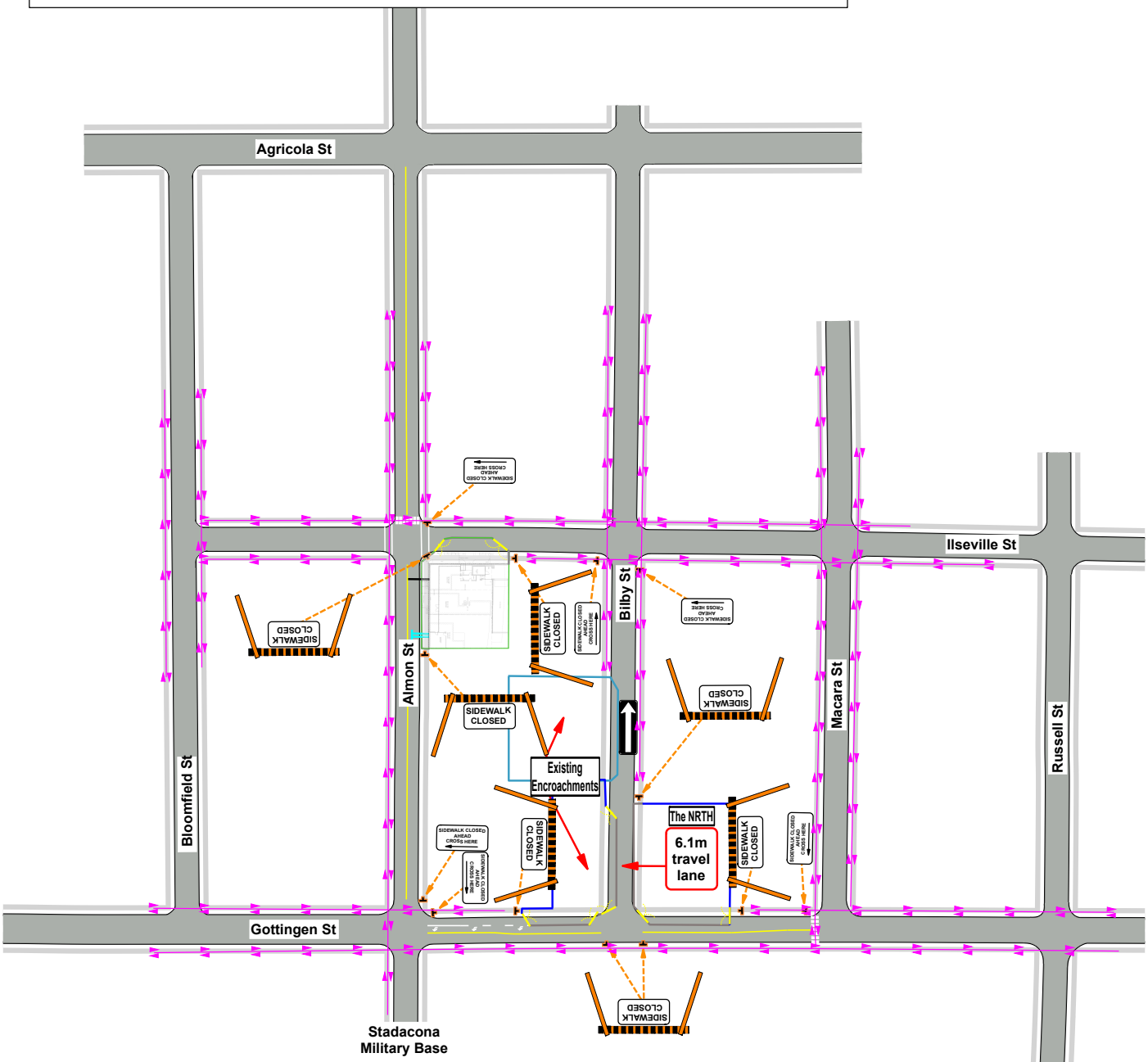
V	Speed Zone, km/h	50	60-70	80-90
A	Sign Spacing (m)	50	100	150
L	Transition Taper (m)	30	60	120
L/2	Termination Taper (m)	15	30	60
D	Delineator Spacing (m)	5	5	10
B	Buffer Area	Note 2	Note 2	30m

Pedestrian Management Plan

Date: 2023-01-24 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: 5543~55 Almon St
Contrator: SDMM Contact: Geoff MacLean,902-789-6374

Comments:

Not to Scale
Pedestrian Management Plan
Plan shows how pedestrians will move around the various encroachments in the area
Plan shows all required signage for all local sites



Legend

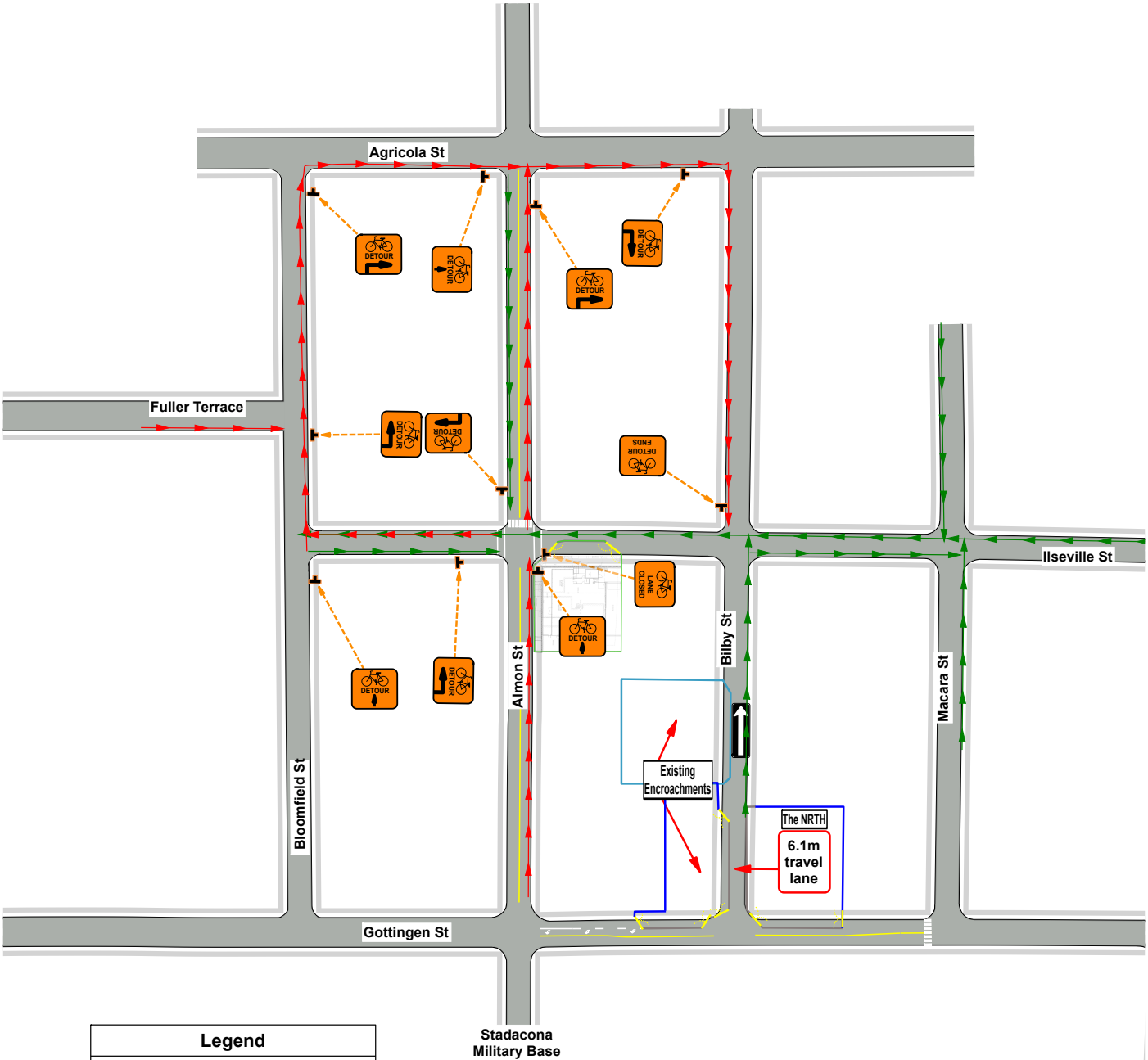
- F-type Barrier
- F-type Barrier with Opaque Hoarding
- Gate
- Pedestrian Route
- Perimeter Fencing
- Storm Sanitary Service
- Water Service

Bicycle Detour Plan

Date: 2023-01-24 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: 5543~55 Almon St
Contrator: SDMM Contact: Geoff MacLean,902-789-6374

Comments:

Not to Scale
Bicycle Detour Plan
Southbound bike lane will remain open
Northbound bike lane closed between Almon and Bilby



Legend

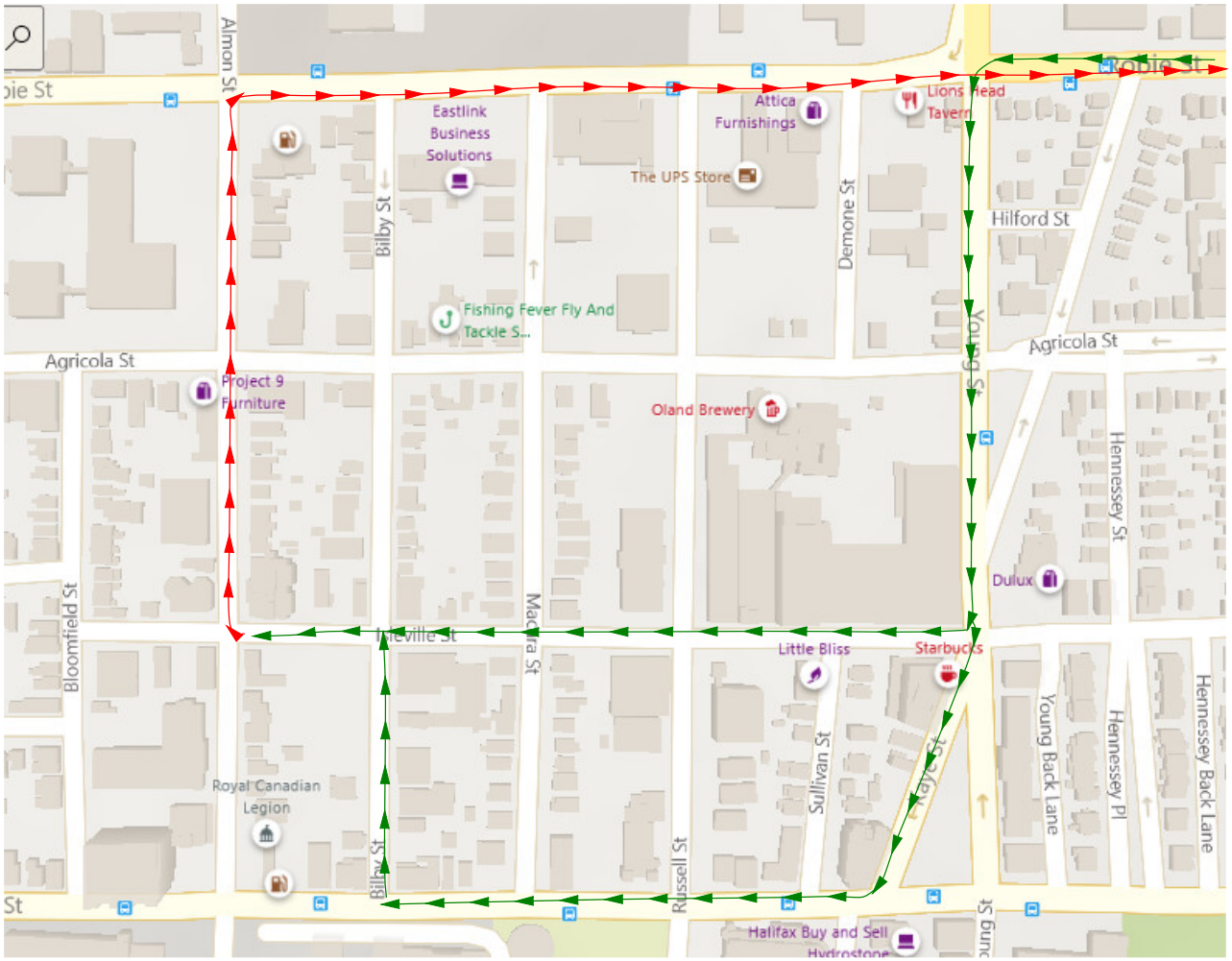
- Bike Detour Route
- F-type Barrier
- F-type Barrier with Opaque Hoarding
- Gate
- Perimeter Fencing
- Southbound Bike Route Unchanged

Haul Route Plan

Date: 2023-01-24 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: 5543~55 Almon St Contrator: SDMM Contact: Geoff MacLean,902-789-6374
Comments: **Not to Scale** **Haul Route Plan** **Inbound via Robie St to Young St to Isleville St to Site** **Outbound via Almon St to Robie St**

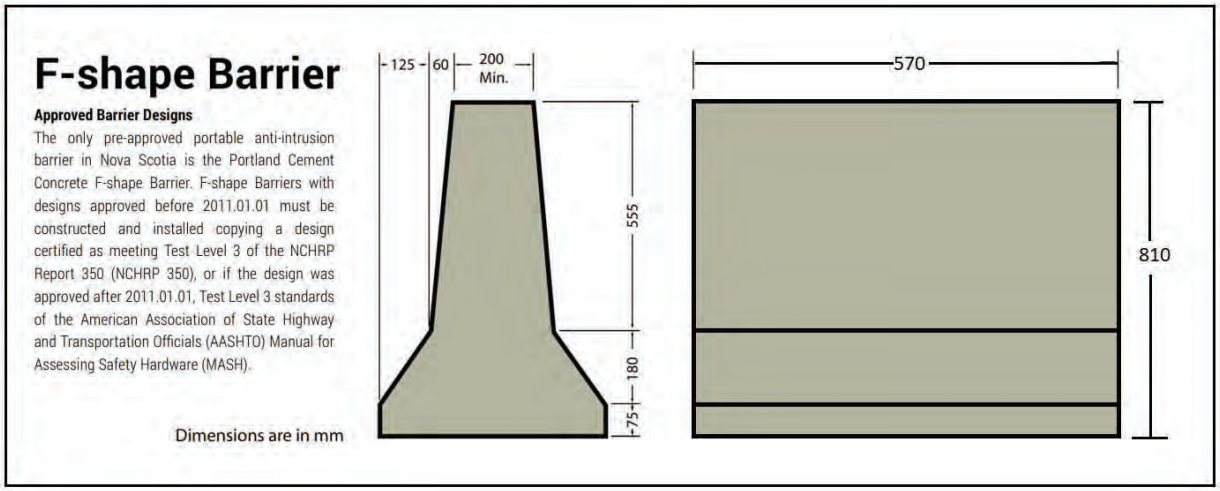
Legend

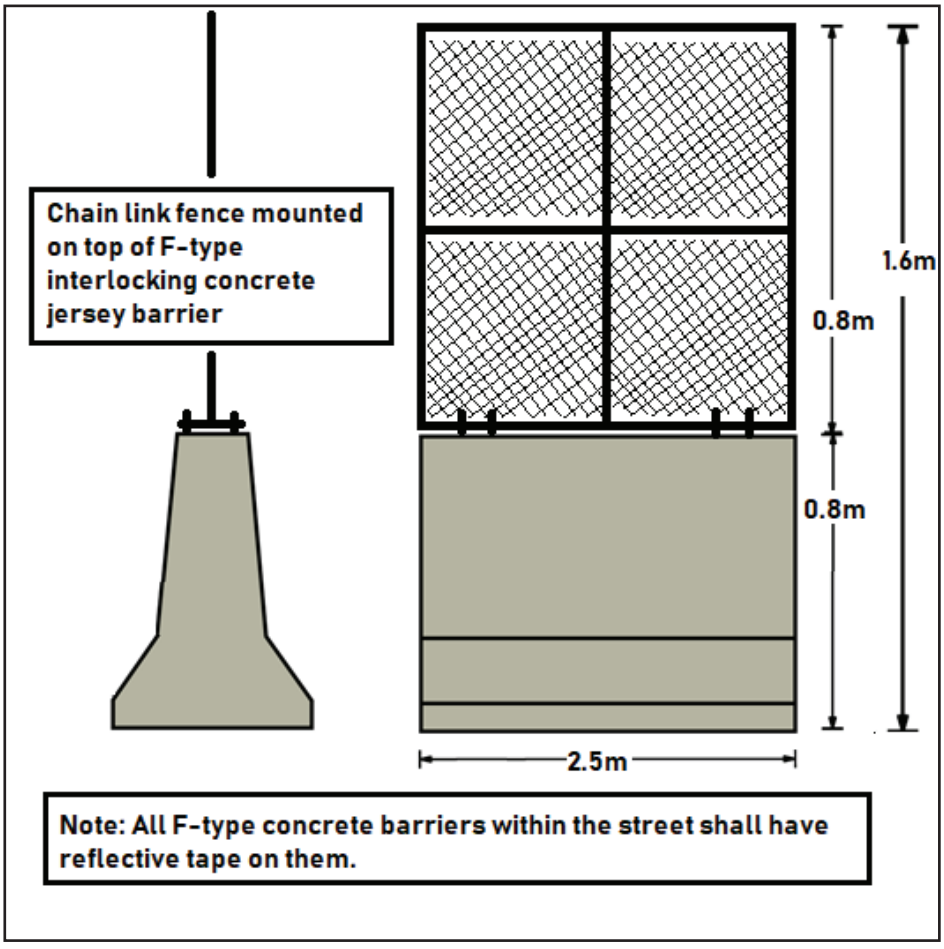
- **Haul Route Inbound**
- **Haul Route Outbound**



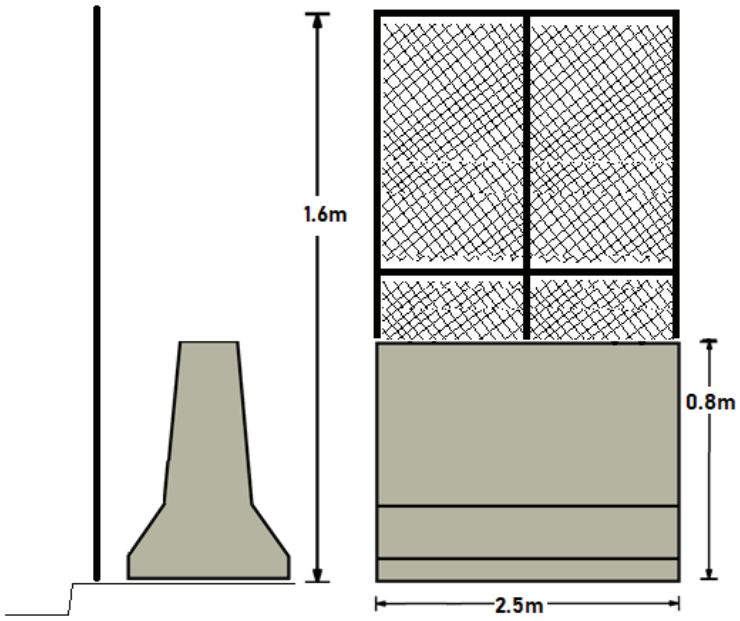
Appendix E – Barrier, Fence & Gates Information

Sample Barrier & Fence Details

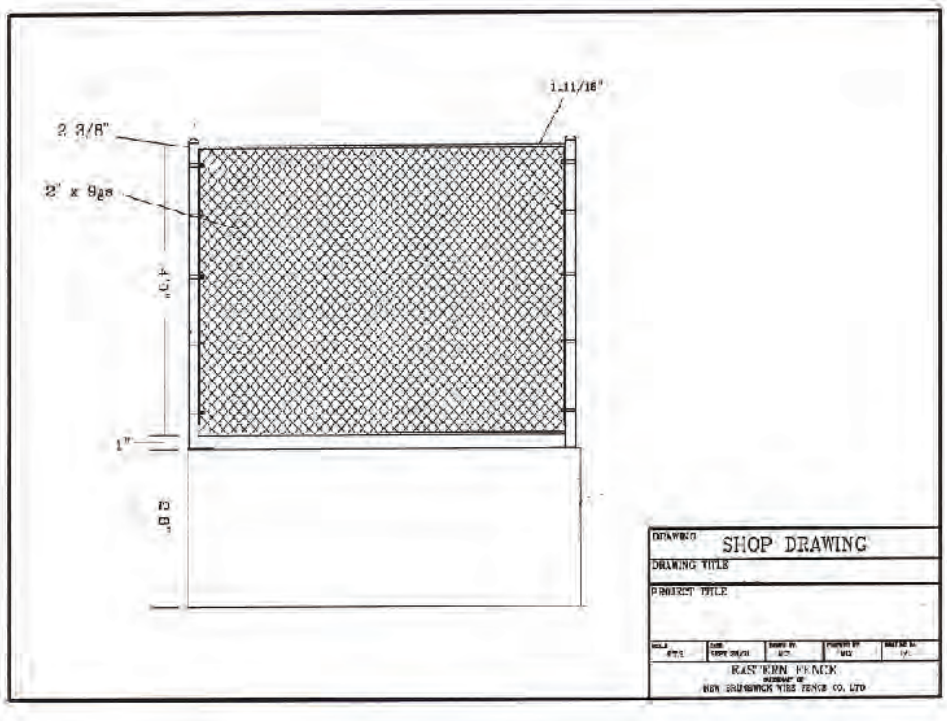


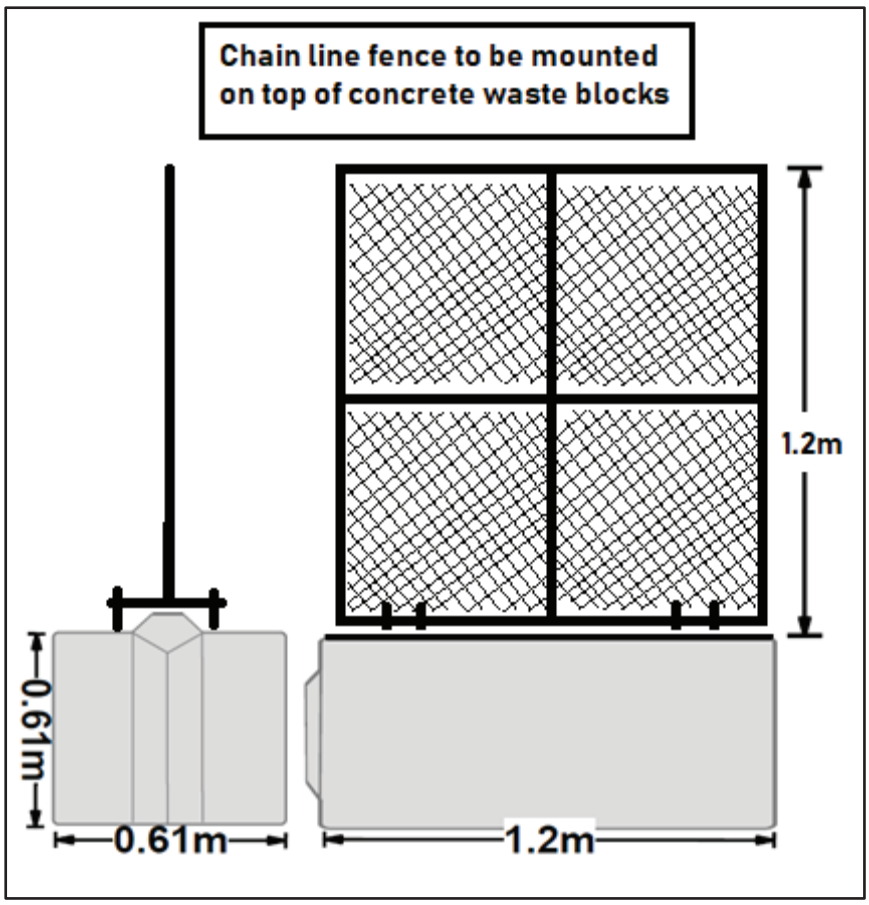


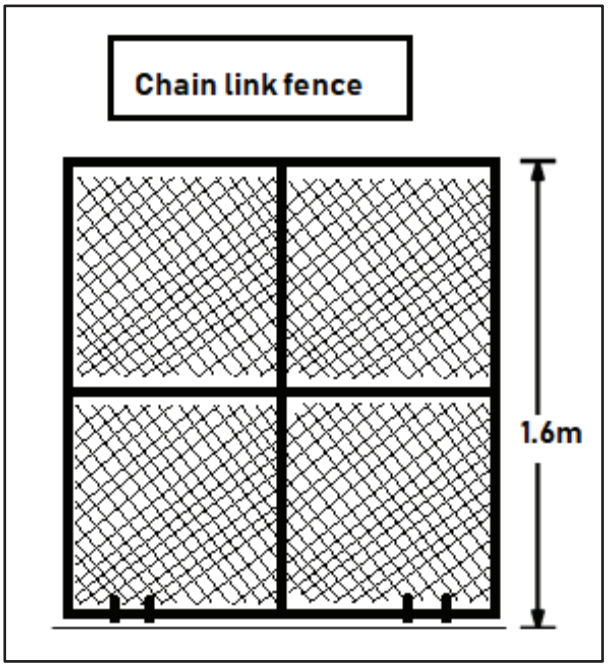
Fence mounted to curb with interlocking F-type concrete jersey barriers set beside

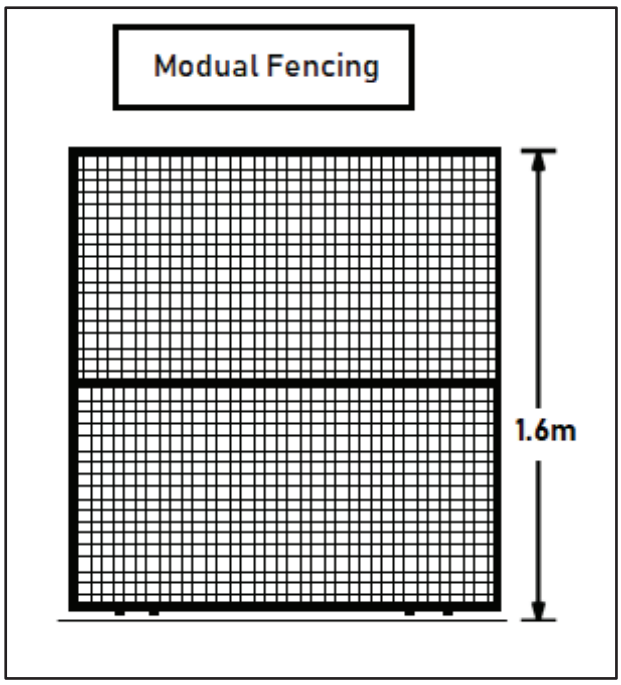


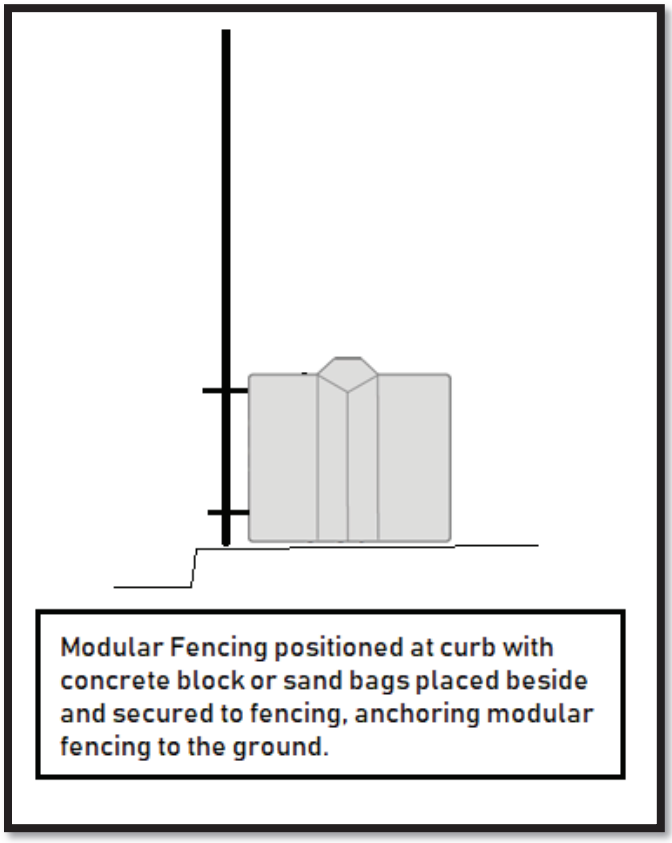
Note: All F-type concrete barriers within the street shall have reflective tape on them.




Chain line fence to be mounted on top of concrete waste blocks
1.2m
0.61m
0.61m
1.2m

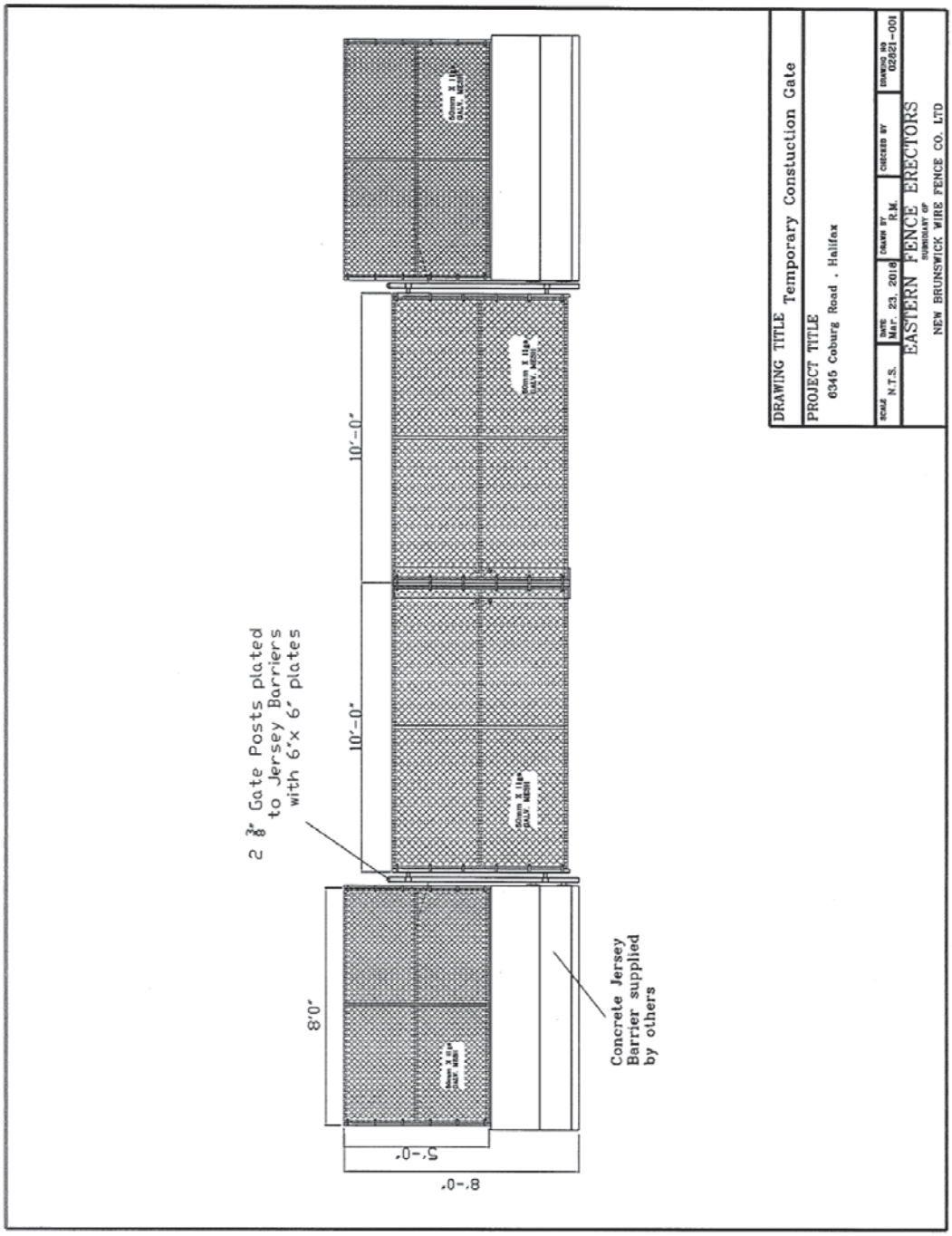

Chain link fence
1.6m





Modular Fencing positioned at curb with concrete block or sand bags placed beside and secured to fencing, anchoring modular fencing to the ground.

Sample Gate Detail



Appendix F – Hoarding Information

Opaque construction hoarding material shall covering and be adequately secured to the rigid fencing that outlines the encroachment area. This covering shall be continuous such that it prevents passersby or tourist from seeing through the fencing and gates to the active construction site.

UltraMesh® Eclipse® if a 7.96 oz. which is a polyester, black-backed mesh that is used where complete opacity is required.

UltraMesh Eclipse is UV printable for project renderings and is typically used for building and fence graphic wraps. The product is available in widths of 126” and 196”.

Product example is shown below with the technical data sheet on the following page.

Tarp Option

Print Banner Option

ULTRAFLEX SYSTEMS INCORPORATED

Technical Data Sheet
UltraMesh® Eclipse®

UltraMesh Eclipse is a 7.96 oz. polyester, black-backed mesh. The material is ideal for applications where complete opacity is required. UltraMesh Eclipse is UV printable and may be used for building wraps and fence graphics. Available in widths of 126 and 196 .

Material Details

CHARACTERISTICS	TEST METHOD	METRIC	ENGLISH
Base Fabric	100% PES	1000D×1000D	
Construction		12×12	
Total Weight	DIN53352 BS3424 Method5A	270 +/- 20 gsm/m²	7.96 oz/yd²
Width		Up to 500cm	
Tensile Strength	DIN53352 BS3424	Warp 1250 n/5cm Weft 1100 n/5cm	142.75 x 130.19 lb/in
Tear Strength	DIN53356 BS3424	Warp 235 N Weft 225 N	52.8 x 50.5 lbf
Air Permeability	GB/T 2410-2008	2649 mm/s	
Light Transmission	GB/T 5453-1997	37%	
Temperature Resistance	DIN53357 BS3425 Method 10	-20°C /70°C	

Applications

	Back-lit	Banner	Billboard	Block-out	Building Wrap	Fence Graphics	Truckside
Applications		■		■	■	■	

Ink Printability

Solvent	Eco Solvent	UV	Latex	Screen Printing	Dye Transfer	Dye Direct
		■				

Available Sizes

Metric (m)	English (inches)
3.20, 5.00	126 , 196

ULTRAFLEX
www.ultraflex.com
updated: 12/2016

Ultraflex Systems Inc.
Headquarters
203 Kelsey Lane Suite E
Tampa, FL 33619
P: (813)627-8508
Email: sales@Ultraflex.com

Ultraflex Systems Inc.
1578 Sussex Turnpike, Bldg. 4
Randolph, NJ 07869
P: (973)627-6666
F: (973)627-8506
Email: sales@ultraflex.com

Ultraflex Europe
Unit 1 Hardwick Road Industrial Park
Great Gransden Bedfordshire
England SG19 3BJ
Phone: (44)1767-677-100
Email: sales@ultraflexeurope.com

Ultraflex Mexico
Azafrán No. 112, Col. Granjas México
Del. Iztacalco, C.P. 08400, Mexico D.F.
Tel: (55)1823032/3182 3608
01 800 822 52 31
Email: sales.mx@ultraflex.com

Ultraflex Guadalajara
Av. Patria No. 2804
Loma Bonita Sur.
Zapopan, Jalisco CP45066
Mexico
Tel: (55)3312-049-857

Appendix G – Project Information Board

PROPOSED MIXED USE BUILDING
5555 Almon Street

May 1, 2020 – October 31, 2021

Owner:
Samir Metlej Holdings Inc.
123 Chain Lake Drive, Suite 210 Halifax, NS B3S 1B3

24 Hour Emergency Contact:
Sam Metlej – (902) 209-5788

Contractor:
Atlantic Road Construction and Paving
6 Belmont Avenue, P.O. Box 89
Eastern Passage, NS
B3G 1M7

Contact:
Greg MacDonald - (902) 830-6411

Traffic Control:
Frontline Traffic Services
6 Belmont Avenue, P.O. Box 89, Eastern Passage, NS, B3G 1M7

Contact:
Phil Pruneau – (902) 818-5548

Appendix H – Project Safety Signage

Sample Safety Signage

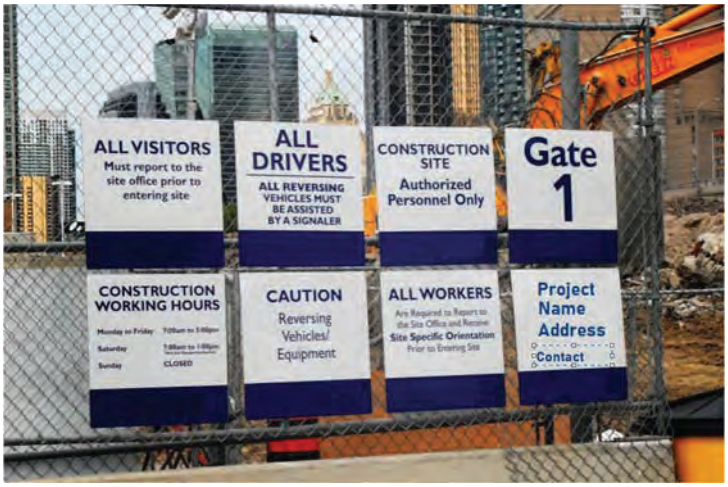

RESTRICTED
AREA
CONSTRUCTION
WORK IN
PROGRESS

Appendix I – Project Signage Specifications

Signage Specifications: Project Signage shall;

- Be constructed of weatherproof material (corrugated plastic)
- Have high visibility contrasting colours (dark letters on white background)
- Incorporate appropriate font types (mix of upper and lower-case lettering)
- Incorporate appropriate font sizes (16mm – 51mm) such that the signage is readable from a distance (16-20m)
- Size of signage will be poster size (600mm x 900mm) or larger; to allow community members to see and read the information from a distance
- Signage may incorporate plastic grommets positioned every 300mm around the perimeter of the signage to ensure a secure signage installation
- Signage will be installed/anchored to project fencing using plastic zip-ties
- Signage will be positioned along the project site as per the encroachment plan
- Signage shall not impede traffic of pedestrian sight lines
- **Signage shall be placed on site 10days prior to the start of the noted construction activity to ensure the passing public has had adequate time to review, adjust their travel patterns, usage of streets and or cab be considered 'informed'.**

Samples



Appendix J – Sample Traffic Notification Letter

Proposed Mixed Use Building
5555 Almon Street

DRAFT NOTIFICATION LETTER

Sam Metlej
123 Chain Lake Drive, Suite 210
Halifax, NS
B3S 1B3
Phone: (902) 209-5788
Date

NOTIFICATION OF TRAFFIC DISRUPTION: Almon Street, HALIFAX, NOVA SCOTIA

This is to inform you that the to facilitate operations in association with the construction of 5555 Almon Street, traffic disruptions will occur on or about **DATE** with an anticipated duration of approximately **TIME**. The street will be **reduced(?)** to one lane of vehicular traffic during this time.

Should you have any questions or concerns please feel free to contact the below:

CONTACT INFORMATION

General Contractor:

Atlantic Road Construction and Paving
6 Belmont Avenue, P.O. Box 89
Eastern Passage, NS
B3G 1M7
Phone: (902) 830-6411

Should any questions arise, please feel free to contact the undersigned.

Yours Truly,

Greg MacDonald

Atlantic Road Construction and Paving

Appendix K – Vehicular and Pedestrian Hazard Assessment

5555, 5549 & 5543 Almon Street Demolition Date: Feb 26 2020 Location: 5555, 5549 & 5543 Almon Street

VEHICULAR & PEDESTRIAN HAZARD ASSESSMENT

No.	Hazard:	Vehicular Impacts:	Mitigation Methods:	Pedestrian Impacts:	Mitigation Methods:
1	Building Demolition	Debris may fall off building, damaging vehicles.	Spotters to be present to ensure vehicles temporarily do not park adajcent to site during front wall tear down.	Debris may fall off building, injuring pedestrians.	Temporarily close sidewalks adjacent to site, moving pedestrians to opposite side of street.
2	Construction Waste	Vehicles may strike or be struck by construction waste.	The contractor shall keep the project site and surrounding areas clean and free of construction debris.	Pedestrians may strike or be struck by construction waste.	The contractor shall keep the project site and surrounding areas clean and free of construction debris.
3	Vehicular & Pedestrian Activities	Drivers and pedestrians may become confused or impatient with construction activities. Pedestrians may walk in unmarked crosswalks or in vehicular travel areas. Drivers may fail to obey traffic signage.	Vehicular and pedestrian signage will be posted prominently around the project site to facilitate pedestrian movement. Notification will be sent prior to all traffic interruptions.	Drivers and pedestrians may become confused or impatient with construction activities. Pedestrians may walk in unmarked crosswalks or in vehicular travel areas. Drivers may fail to obey traffic signage.	Vehicular and pedestrian signage will be posted prominently around the project site to facilitate pedestrian movement. Notification will be sent prior to all traffic interruptions.
4	Heavy Machinery Operation	Heavy machinery or vehicles may break down or overturn, damaging other vehicles.	The contractor shall maintain safe distances between vehicles and heavy machinery on-site. Rigid fencing will be installed to separate construction vehicles from public traffic.	Heavy machinery or vehicles may break down or overturn, injuring pedestrians.	The contractor shall maintain safe distances between pedestrians, vehicles, and heavy machinery. Rigid fencing will be installed to separate construction vehicles from pedestrians.
		Heavy machinery or vehicles may overturn due to uneven terrain, damaging other vehicles.	The contractor shall maintain safe distances between vehicles and heavy machinery on-site and ensure travel routes are kept flat.	Heavy machinery or vehicles may overturn due to uneven terrain, injuring pedestrians. Pedestrians may walk on uneven terrain causing them to twist their ankles or fall.	The contractor shall maintain safe distances between pedestrians, vehicles, and heavy machinery and ensure travel routes are kept flat.
5	Construction Signage	Construction signage may strike vehicular traffic.	Construction signage will be securely fixed to existing poles, temporary concrete sign bases, or rigid fences.	Pedestrians may walk into construction signage, including traffic signage, pedestrian management plan renderings, wayfinding signs, etc. may.	Signage will be angled in line with pedestrian routes and/or be placed at heights such that they do not pose a risk to pedestrians.
				Construction signage may strike pedestrians.	Construction signage will be securely fixed to existing poles, temporary concrete sign bases, or rigid fences.
6	Reinstatement of Public Infrastructure & Service Installation	Heavy equipment and hot concrete used during public infrastructure reinstatement and service installation may cause damage to vehicles.	The contractor shall maintain safe distances between vehicles and heavy machinery on-site.	Heavy equipment and hot concrete used during public infrastructure reinstatement may injure pedestrians.	The contractor shall maintain safe distances between pedestrians, vehicles, and heavy machinery.

Appendix L – Community Consultation Records

COMMUNITY CONSULTATION MAP OVERVIEW

Project – 5555 Almon Street

Notification Letter

Date: *******

Samir Metlej Holdings Inc – Building Construction Information Meeting

Dear Neighbour,

A you may be aware we are planning an apartment building construction project at 5555 Almon Street, Halifax.

If you are interested in receiving more information about our construction plans, practices, schedule and to go over any questions you may have regarding construction of our new project please contact us to discuss. We would be happy to meet with you to discuss.

Thank you.

Sam Metlej
Samir Metlej Holdings Inc.
123 Chain Lake Drive, Suite 210
Halifax, NS
B3S 1B3

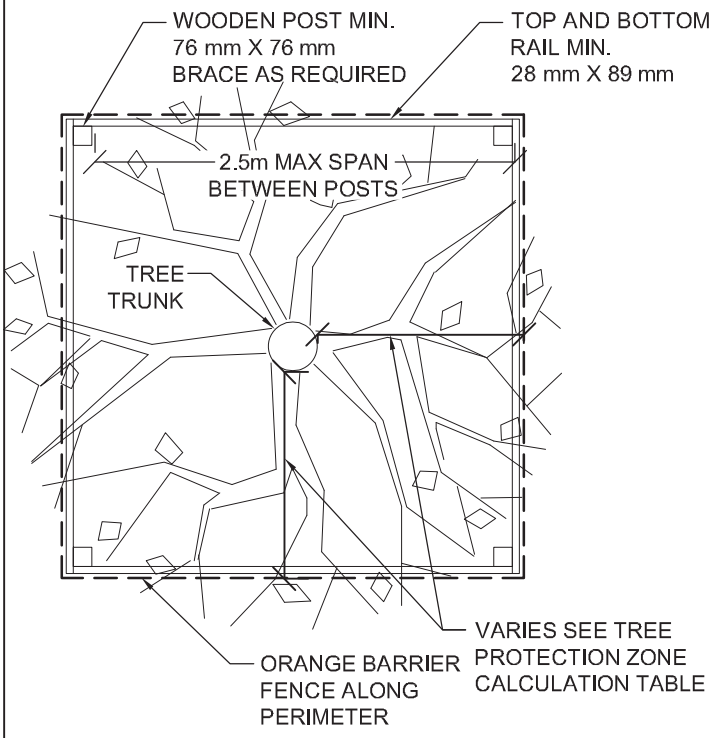
Cell: (902) 209-5788

Email: samir@tmgprojects.com

Appendix M – HRM Tree Detail

Appendix B

PLAN VIEW

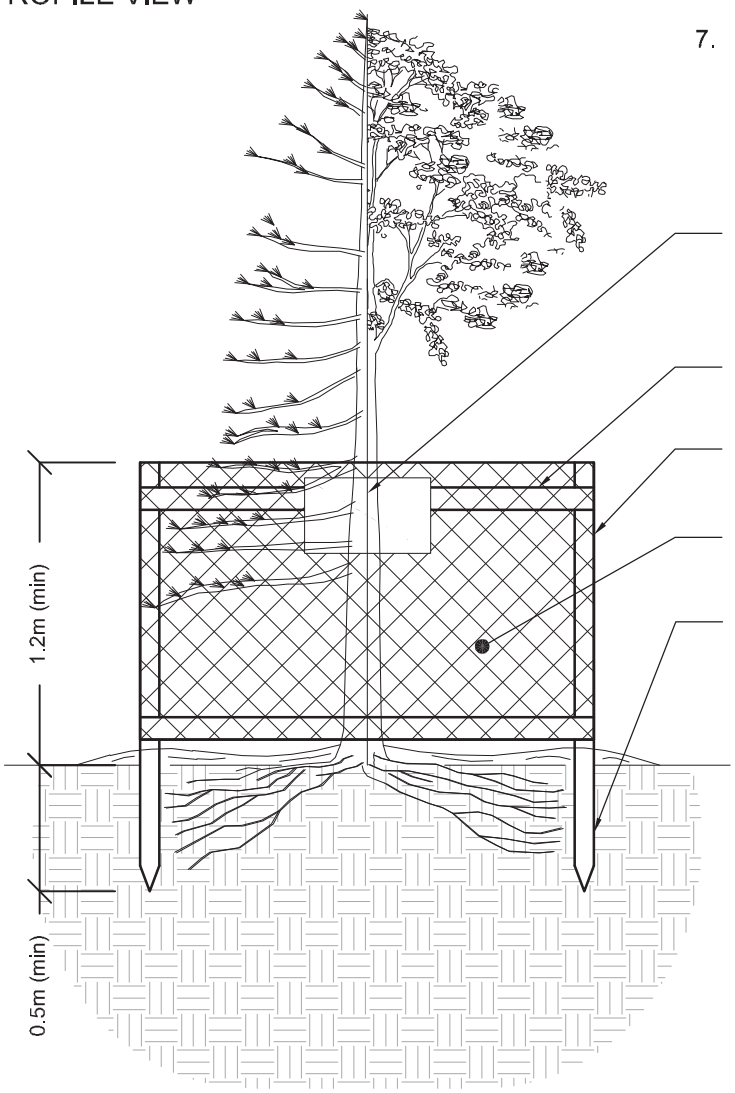


TREE PROTECTION ZONE CALCULATION TABLE	
TRUNK DIAMETER (DBH)	MINIMUM PROTECTION DISTANCE REQUIRED (MEASURE FROM THE OUTSIDE EDGE OF TREE TRUNK)
10 CM & UNDER	1.2 METERS
11 - 30 CM	2.0 METERS
31 - 40 CM	3.4 METERS
41 - 50 CM	4.6 METERS
51 - 60 CM	6.0 METERS
61 - 70 CM	7.0 METERS
71 - 80 CM	8.0 METERS
>80 CM	9.0 METERS

NOTES:

1. WOOD POST: (MIN. 76mm WIDTH) INSTALLED TO A DEPTH OF 500mm (UNDERGROUND LOCATES REQUIRED)
2. TOP AND BOTTOM RAIL: (MIN. 38 X 89mm CONSTRUCTION, MAX. SPAN 2.5m), CROSS BRACING AS REQUIRED.
3. HEIGHT OF THE FENCE: MIN.1.2 METERS
4. NO GROUND DISTURBANCE WITHIN 1.2 METER OF THE TREE TRUNK (I.E. POST INSTALLATION)
5. POSTS SET BACK FROM SIDEWALK AND CURB: MIN 300mm
6. FENCE MATERIAL: MINIMUM ORANGE BARRIER FENCE OR METAL CHAIN LINK FENCE
7. ATTACH A SIGN ON TWO SIDES OF THE TREE "PROTECTION ZONE DO NOT REMOVE FENCE DURING CONSTRUCTION"

PROFILE VIEW



HALIFAX

STANDARD DETAIL

TREE PROTECTION ZONE & BARRIER

DATE: 2019	REFERENCE:	~~APPROVED~~
SCALE: NTS		FIG NO:

Appendix N – Rodent Control Planning

Geoff MacLean

From: Samir Metlej <samir@tmgprojects.com>
Sent: Wednesday, March 4, 2020 8:28 PM
To: Geoff MacLean
Subject: Fwd: Rodent control service at 5549 Almon Street - TMG Progject Management

Follow Up Flag: Flag for follow up
Flag Status: Flagged

Hi Geoff,
See below

---------- Original Message ----------
From: " andrewwheelock@trulynolen.ca" < andrewwheelock@trulynolen.ca>
To: " samir@tmgprojects.com" < samir@tmgprojects.com>
Date: February 12, 2020 at 10:03 AM
Subject: Rodent control service at 5549 Almon Street - TMG Progject Management

Hello Samir,

Please accept this email as confirmation of services provided at 5549 Almon Street provided for TMG Progect Management.

We set up at trapping and baiting program onsite on November 15, 2020. Regular service refresh visits were carried out November 29 and December 18 of 2019 and January 21 and February 12 of 2020.

Services are currently scheduled monthly for the rest of 2020.

Should you have any questions or wish to change the nature of your services please call our office at anytime.

902-425-7378

Thank you.

Andrew Wheelock
President, TN Atlantic Investments Limited orperating as Truly Nolen Pest Control

Appendix O – CMP's TCP & PMP Inspection Records

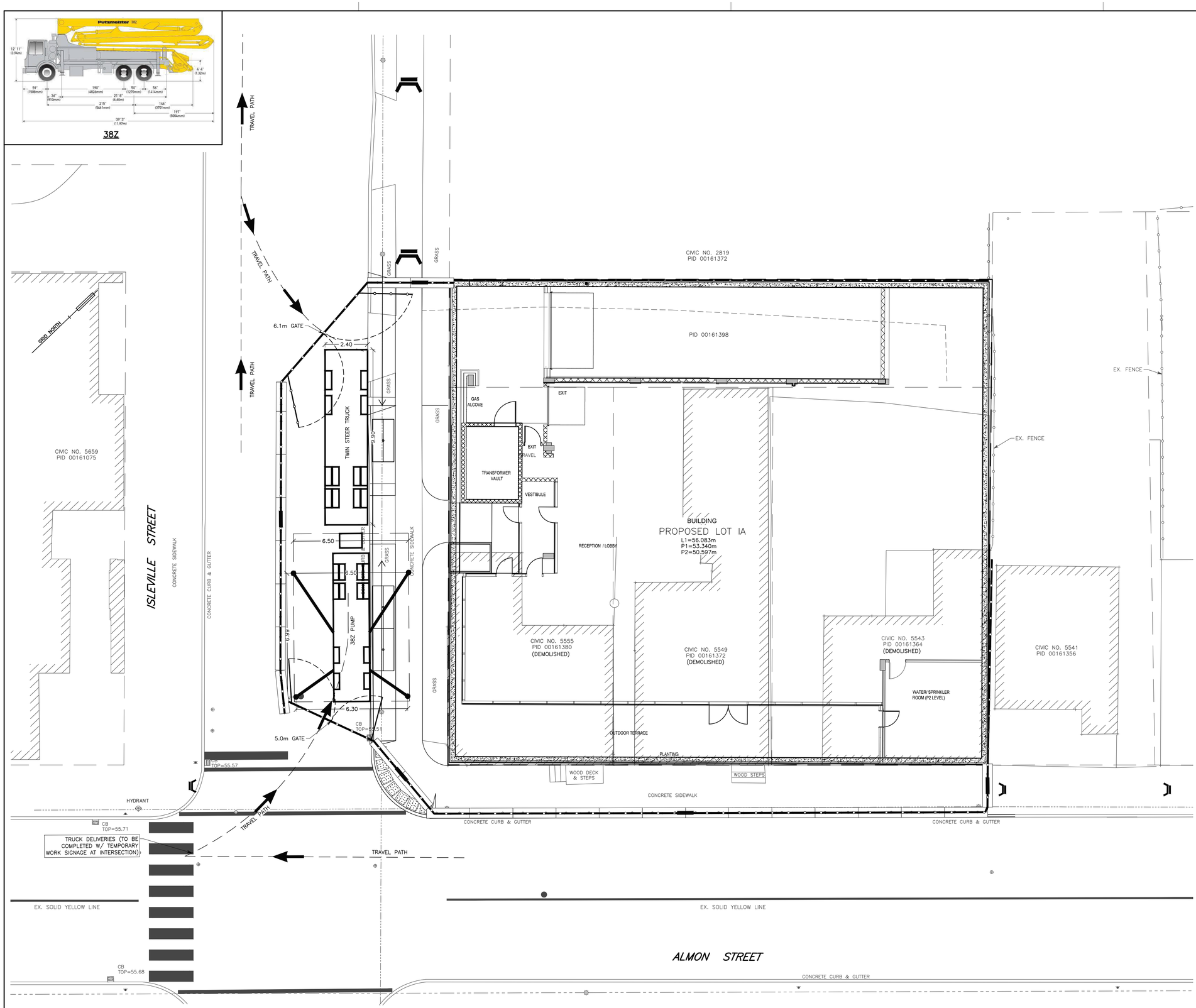
Project: ____________ Location: ____________ Phase: ____________ Date: ____________ Inspector: ____________

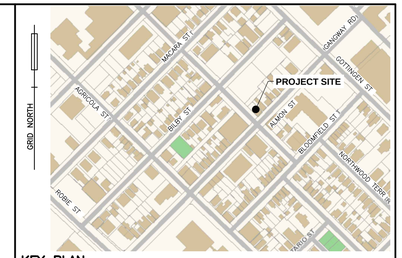
CONSTRUCTION MANAGEMENT PLAN - INSPECTION CHECKLIST

CMP Element	Set-up per PMP?			Condition?		Action Required	Action Completed	Comments
	Yes	No	N/A	Good	Bad			

Appendix P – Concrete Delivery Schematic

38Z





KEY PLAN

LEGEND

EXISTING		PROPOSED
25.0	CONTOUR LINE	25.0
⊗/⊗BF	CURB STOP/GATE/BUTTERFLY VALVE	⊗/⊗BF
	FIRE HYDRANT	
	CONCRETE THRUST BLOCK	
	SIAMESE CONNECTION	
	CATCH BASIN/PIT	
	CULVERT	
RD	ROCK LINING/DAM	RD
RW	ROCK WALL/RETAINING WALL	RW
	POWER POLE & ANCHOR/LIGHT STANDARD	
	TREE	
	STREET SIGN/PARKING METER	
×131.82	ELEVATION/GRADE	125.00 × 125.00
	TEST PIT	
S	DRAINAGE/SWALE FLOW DIRECTION	S
W	WATER MAIN/SERVICE	W
SAN	SANITARY MANHOLE & PIPE	SAN
STM	STORM MANHOLE & PIPE	STM
SAN/STM	COMBINED PIPE	SAN/STM
GAS	GAS LINE	GAS
FL	100YR. FLOOD LIMIT	FL
	GUARD RAIL	
C	UNDERGROUND CONDUIT	C
	OVERHEAD WIRES	
	PROPERTY LINE/BOUNDARY	
	FENCE	
	BUILDING	
	TOP OF SLOPE	
	TOE OF SLOPE	
	TREELINE	
	LIMITS OF DISTURBANCE	
	TACTILE PEDESTRIAN PLATES	
	PROJECT SAFETY SIGNAGE	
	ORANGE SAWHORSE BARRICADE	

NOTES

1. THIS PLAN IS IN METRIC.

No.	YY/MM/DD	Revision Description	Appr'd
4	22/11/10	ADDED POLE ANCHORS WITHIN ENCROACHMENT	
3	22/03/21	REVISED ENCROACHMENT WIDTH	
2	21/06/11	REVISED BUILDING	
1	20/11/18	REVISED ENCROACHMENT WIDTH	
0	20/04/08	ISSUED FOR REVIEW	

PROFESSIONAL ENGINEER — PROVINCE OF NOVA SCOTIA — SEAL — G.K. MacLean — 8978

SDMM
Servant, Dunbrack, McKenzie & MacDonald Ltd.
NOVA SCOTIA LAND SURVEYORS & CONSULTING ENGINEERS
36 OLAND CRESCENT
BAYERS LAKE BUSINESS PARK
HALIFAX, NS B3S 1C6
PHONE: (902) 455-1537
FAX: (902) 455-8479
WEB: www.sdmm.ca

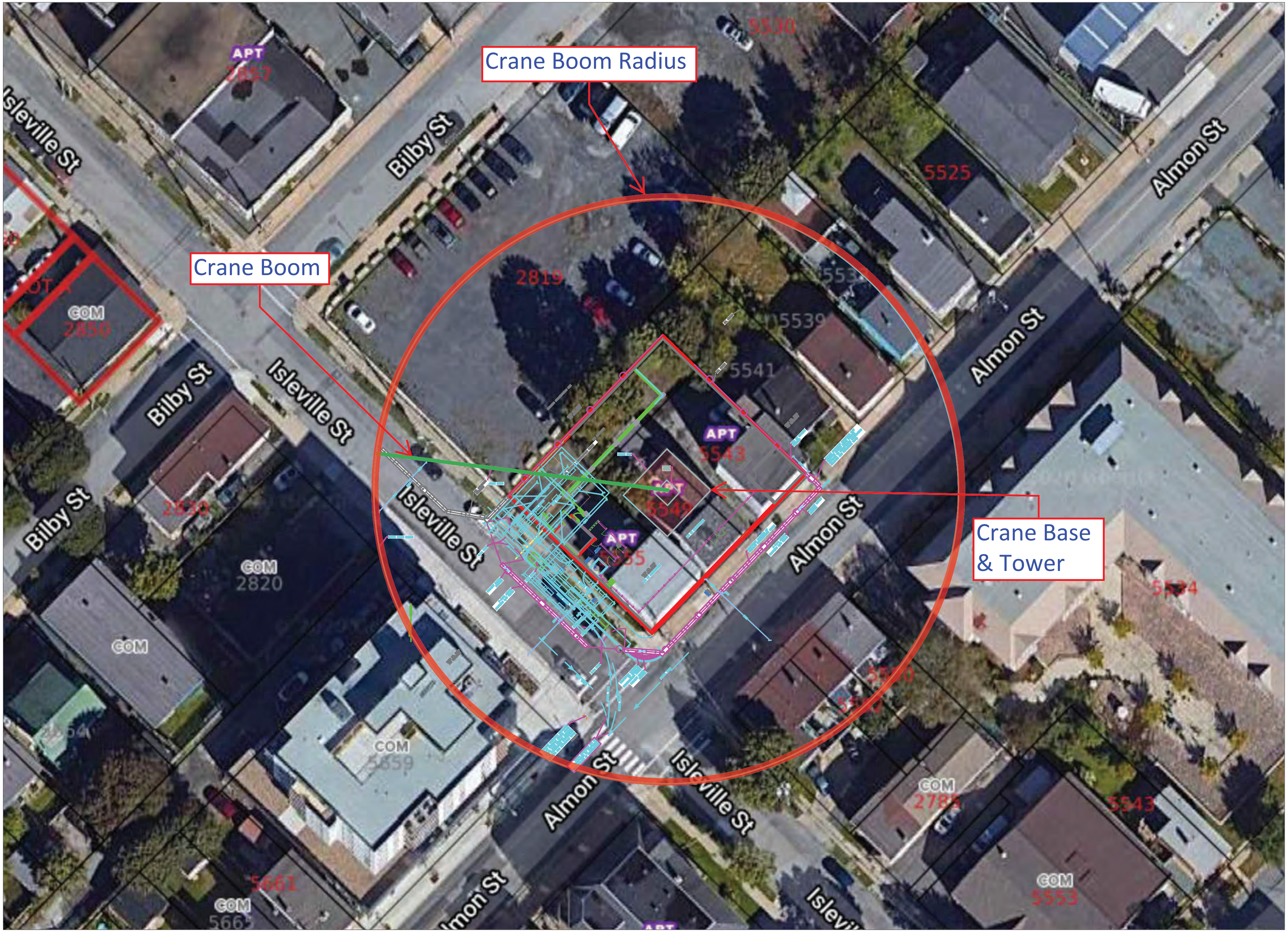
5555, 5549 & 5543 ALMON STREET
HALIFAX, NOVA SCOTIA

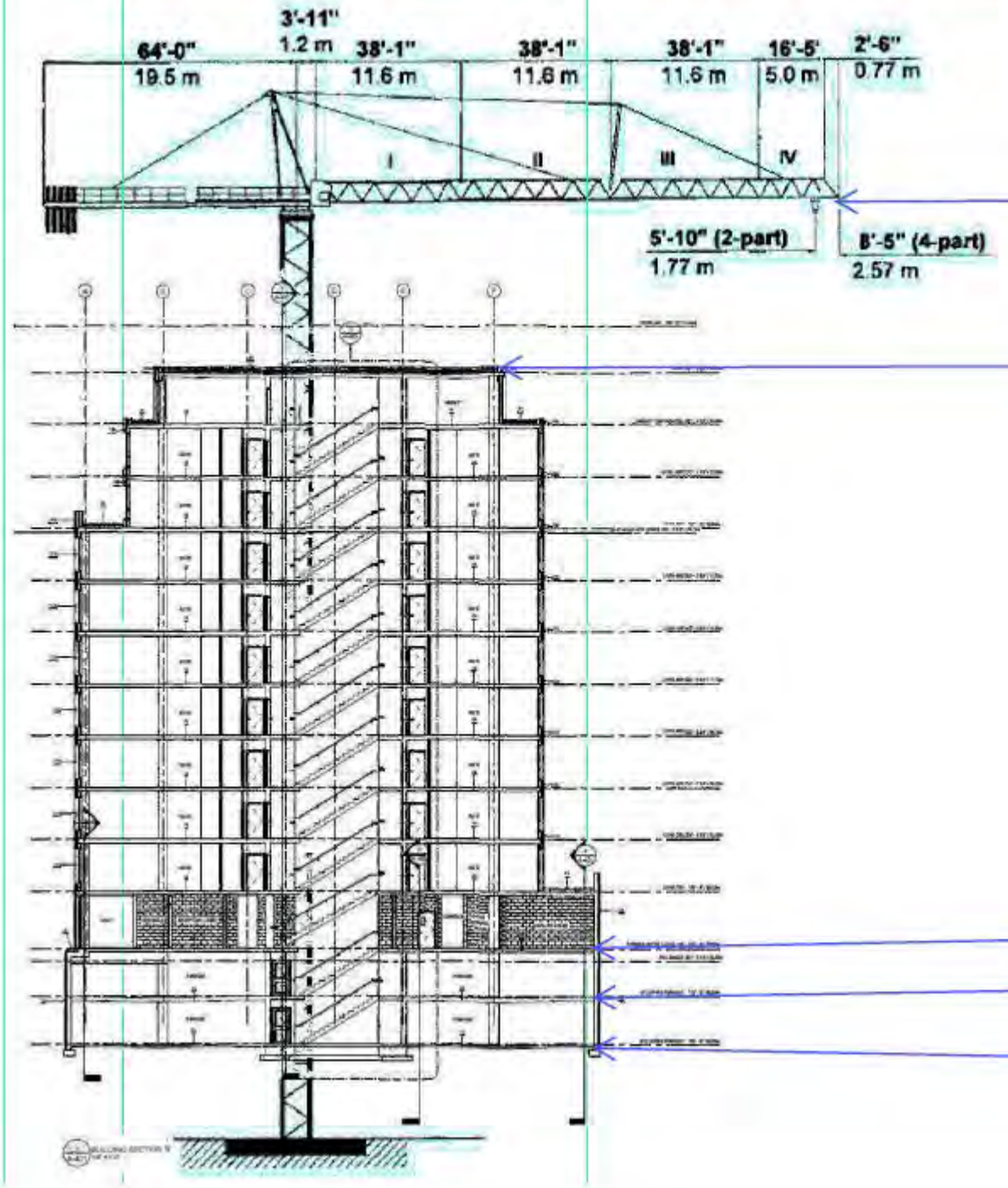
CONCRETE DELIVERY SCHEMATIC

Date: APRIL 8, 2020	Drawn: C. PORTER	Project No.: FILE NO. 1-1-282 (34945)
Scale: 1:100	Engineer: G. MACLEAN	Plan No.: 16-2183-4
Reference: 34958	Approved: G. MACLEAN	Drawing Name: R2
Surveyed	Sheet	

0m 1 2 4 6 8 10m

Appendix Q – Crane Information

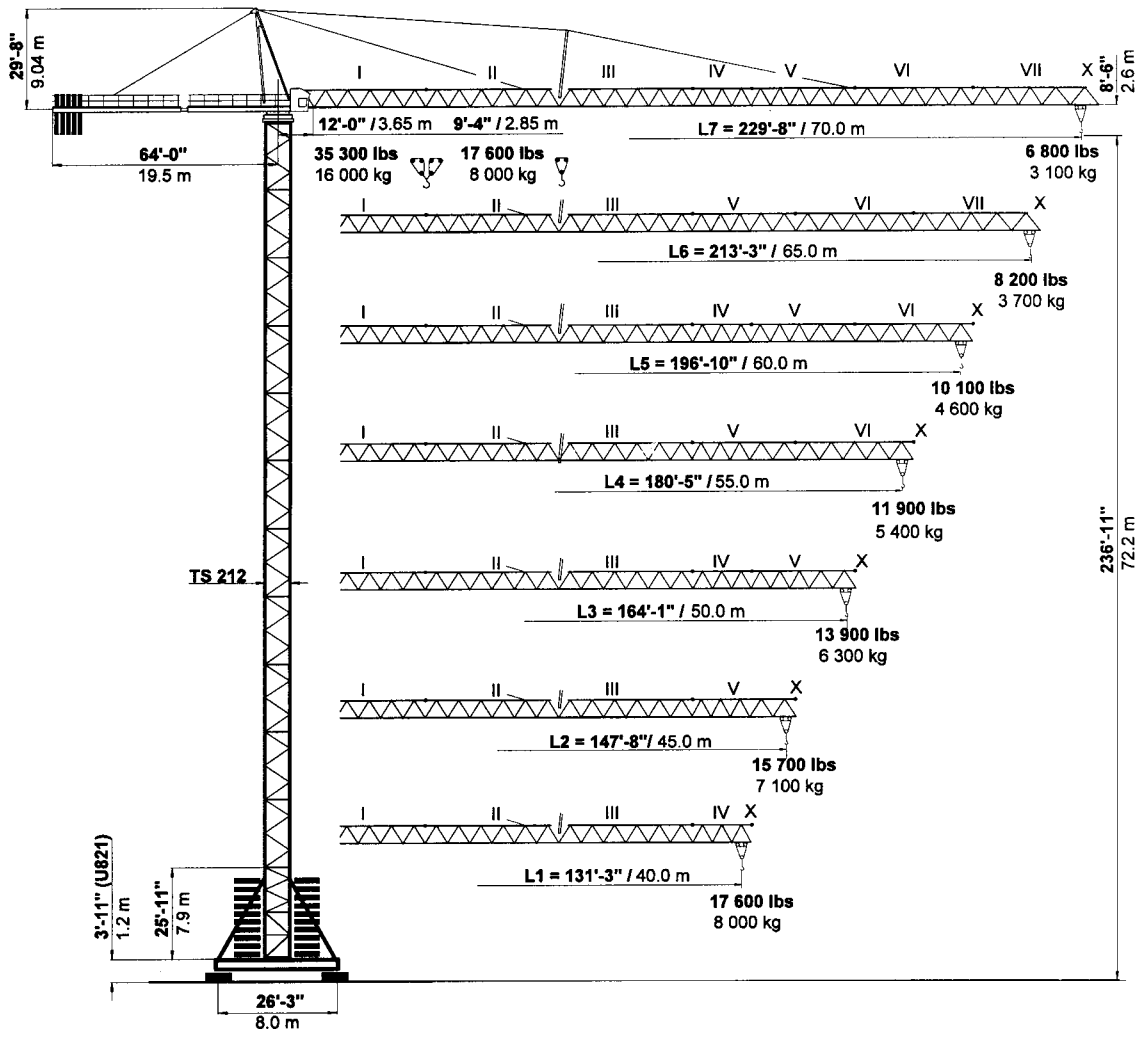

Crane Boom Radius
Crane Boom
Crane Base
& Tower
Isleville St
Bilby St
Almon St
APT
2857
COM
2850
2819
5530
5525
5541
5539
5543
2830
COM
2820
COM
COM
5859
COM
2785
COM
5553
5661
COM


3'-11"
1.2 m
64'-0"
19.5 m
38'-1"
11.6 m
38'-1"
11.6 m
38'-1"
11.6 m
16'-5"
5.0 m
2'-6"
0.77 m
I
II
III
IV
5'-10" (2-part)
1.77 m
8'-5" (4-part)
2.57 m
Boom Elevation
+/-98.00m
Top of Roof
+/-88.83m
Main floor level
+/-56.08m
P1 Parking Level
+/-53.34
P2 Parking Level
+/-50.59

TEREX LIFTING

PEINER
SK 315
Hammerhead Tower Crane
17,600-35,300 lbs. (8-16 mt)
Lifting Capacity

SPECIFICATIONS

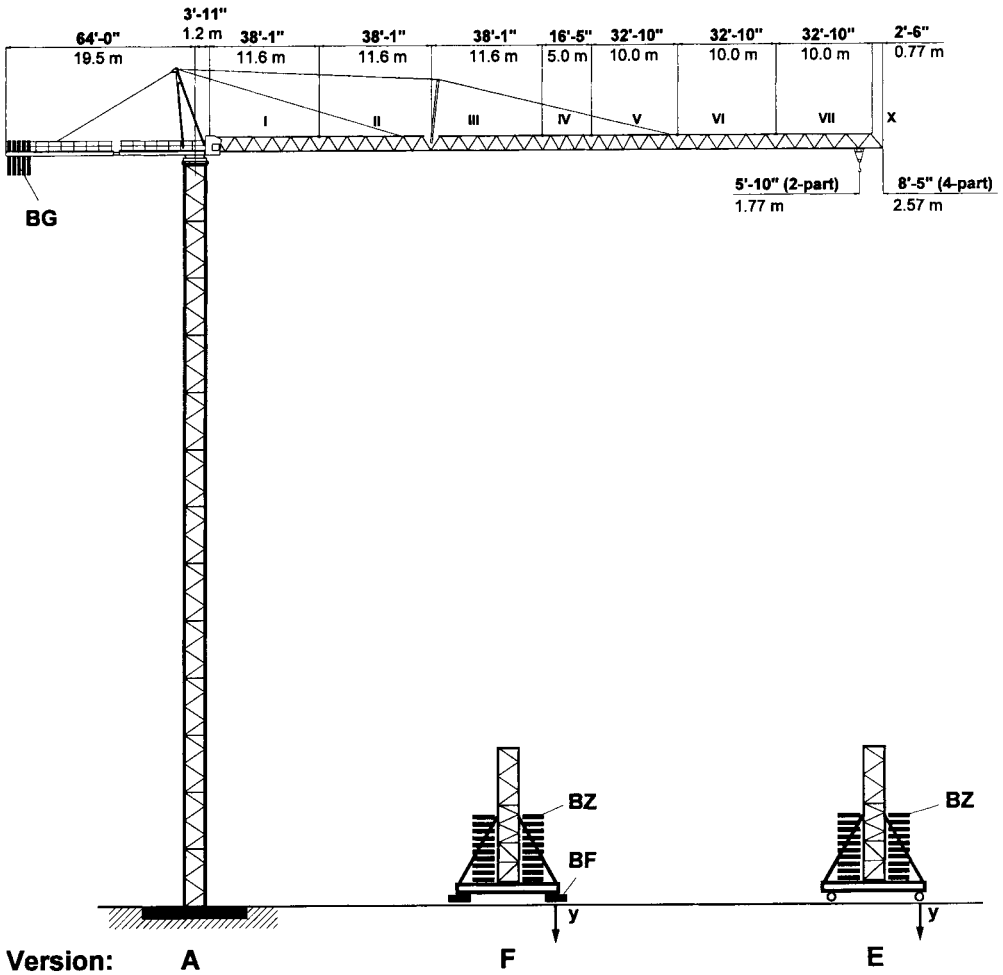


simple, available and cost effective™

Machines shown may have optional equipment.

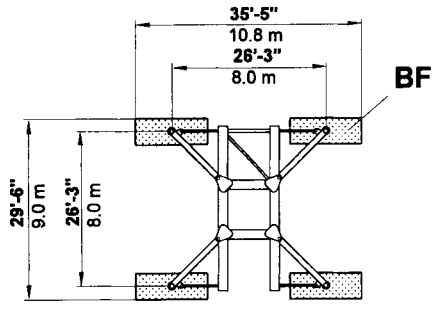
PEINER SK 315

Combinations of tower section, hook heights, forces acting per corner, base ballast

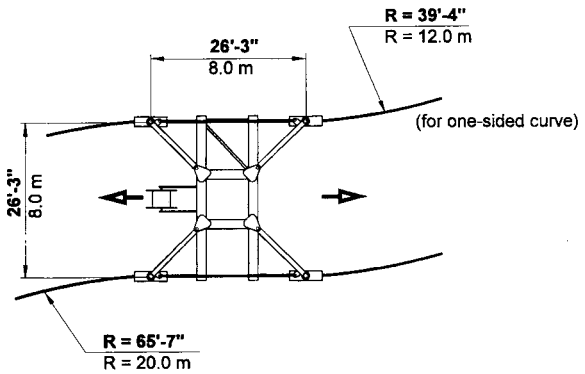


Version: A F E

U 821

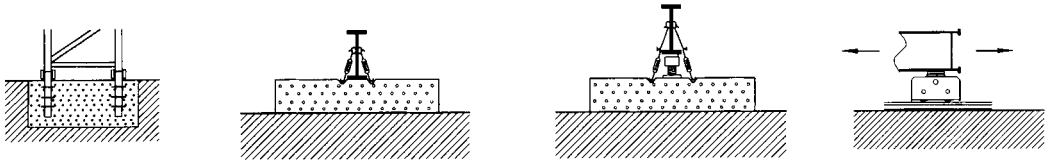


UF 821

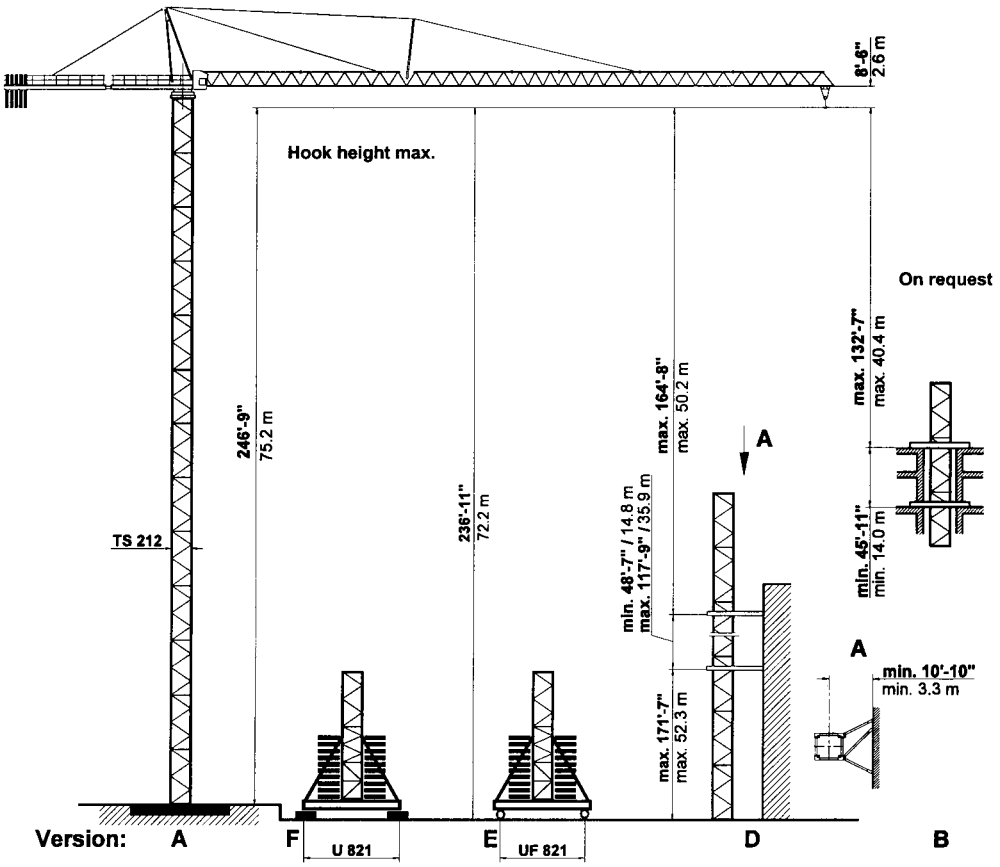


Ground support

Version: A F F / SP E



PEINER SK 315 Tower TS 211



TS 212	Version A			Version F			Version E		
Tower TS 212.1	HH ft m	Tower TSV 212 TS 212.1	HH ft m	BZ + BF kips / t	y in service kips / kN	 out of service kips / kN	BZ kips / t	y in service kips / kN	 out of service kips / kN
13 x TS 212.1	246'-9"* 75.2*								
12 x TS 212.1	227'-4"* 69.3*	1 x TSV 212 11 x TS 212.1	236'-11"* 72.2*	212.0 96	204 909	279 1243	198.0 90	212 942	282 1253
11 x TS 212.1	208'-0"* 63.4*	1 x TSV 212 10 x TS 212.1	217'-6"* 66.3*	168.0 76	186 826	240 1066	154.0 70	192 856	242 1075
10 x TS 212.1	188'-8"* 57.5*	1 x TSV 212 9 x TS 212.1	198'-2" 60.4	146.0 66	173 770	203 901	132.0 60	179 797	204 909
9 x TS 212.1	169'4" 51.6	1 x TSV 212 8 x TS 212.1	178'-10" 54.5	124.0 56	161 715	169 751	88.0 40	161 715	169 754
8 x TS 212.1	149'-11" 45.7	1 x TSV 212 7 x TS 212.1	159'-5" 48.6	101.0 46	149 661	145 645	88.0 40	154 683	170 654
7 x TS 212.1	130'-7" 39.8	1 x TSV 212 6 x TS 212.1	140'-1" 42.7	101.0 46	142 633	128 569	66.0 30	141 629	124 553
6 x TS 212.1	111'-3" 33.9	1 x TSV 212 5 x TS 212.1	120'-9" 36.8	101.0 46	136 607	112 499	66.0 30	135 600	108 482
5 x TS 212.1	91'-10" 28.0	1 x TSV 212 4 x TS 212.1	101'-5" 30.9	101.0 46	131 582	98 435	66.0 30	129 573	94 418
4 x TS 212.1	72'-6" 22.1	1 x TSV 212 3 x TS 212.1	82'-0" 25.0	101.0 46	126 559	85 376	66.0 30	123 548	81 359
3 x TS 212.1	53'-2" 16.2	1 x TSV 212 2 x TS 212.1	62'-8" 19.1	101.0 46	120 536	80 356	66.0 30	118 523	75 335
2 x TS 212.1	33'-9" 10.3	1 x TSV 212 1 x TS 212.1	43'-4" 13.2	101.0 46	116 515	80 356	66.0 30	112 500	75 335
Foundation 25'-7" x 25'-7" x 5'-7" 7.8 x 7.8x 1.7 m				Stationary base U 821			Travelling base UF 821		
Anchor stools 4 x FF 212				BF 4 x 8.82 kips 4 x 4.0 t	BZ block 11.02 kips Block 5.0 t		Bogie Curve F 500		

If TSK 212 section is used the hook height is increased by **6'-7"** (2 m).

* Lower climbing section after erection.

TS 212.1 = 19'-4 ¼" / 5.9 m **TSV 212 = 25'-11"** / 7.9 m **TSK 212 = 6'-7"** / 2.0 m

PEINER SK 315 Radius and Capacity

Jib	Max. capacity max. 17,600 lbs 8.0 t	Radius – ft./m Capacity – lbs./mt 2-Part Line max. 17,600 lbs max. 8.0 t																
ft m		75'-6" 23	82'-0" 25	98'-5" 30	114'-10" 35	131'-3" 40	141'-1" 43	147'-8" 45	157'-6" 48	164'-1" 50	173'-11" 53	180'-5" 55	190'-3" 58	196'-10" 60	206'-8" 63	213'-3" 65	223'-1" 68	229'-8" 70
L7 229'-8" 70.0	9'-4" - 96'-9" 2.85 - 29.5 m	17600 8.0	17600 8.0	17400 7.9	14800 6.7	12800 5.8	11900 5.4	11200 5.1	10600 4.8	10100 4.6	9500 4.3	9000 4.1	8600 3.9	8200 3.7	7700 3.5	7500 3.4	7100 3.2	6800 3.1
L6 213'-3" 65.0	9'-4" - 105'-0" 2.85 - 32.0 m	17600 8.0	17600 8.0	17600 8.0	16100 7.3	13900 6.3	13000 5.9	12300 5.6	11500 5.2	11000 5.0	10400 4.7	9900 4.5	9300 4.2	8800 4.0	8600 3.9	8200 3.7		
L5 196'-10" 60.0	9'-4" -117'-9" 2.85 - 35.9 m	17600 8.0	17600 8.0	17600 8.0	17600 8.0	15700 7.1	14600 6.6	13900 6.3	13000 5.9	12300 5.6	11700 5.3	11200 5.1	10600 4.8	10100 4.6				
L4 180'-5" 55.0	9'-4" - 124'-8" 2.85 - 38.0 m	17600 8.0	17600 8.0	17600 8.0	17600 8.0	16800 7.6	15400 7:0	14800 6.7	13900 6.3	13200 6.0	12300 5.6	11900 5.4						
L3 164'-1" 50.0	9'-4" - 130'-11" 2.85 - 39.9 m	17600 8.0	17600 8.0	17600 8.0	17600 8.0	17600 8.0	16300 7.4	15400 7.0	14600 6.6	13900 6.3								
L2 147'-8" 45.0	9'-4" - 131'-11" 2.85 - 40.2 m	17600 8.0	17600 8.0	17600 8.0	17600 8.0	17600 8.0	16500 7.5	15700 7.1										
L1 131'-3" 40.0	9'-4" - 131'-3" 2.85 - 40.0 m	17600 8.0	17600 8.0	17600 8.0	17600 8.0	17600 8.0												
ft m	35,300 lbs 16.0 t	4-Part Line max. 35,300 lbs max. 16.0 t Radius - 2'-7" (- 0.8 m)																
L7 227'-0" 69.2	12'-0" - 48'-7" 3.65 - 14.8 m	21800 9.9	19600 8.9	16100 7.3	13200 6.0	11200 5.1	10400 4.7	9700 4.4	9000 4.1	8600 3.9	7900 3.6	7500 3.4	7100 3.2	6600 3.0	6200 2.8	6000 2.7	5500 2.5	5300 2.4
L6 210'-8" 64.2	12'-0" - 52'-2" 3.65 - 15.9 m	23800 10.8	21600 9.8	17400 7.9	14600 6.6	12600 5.7	11500 5.2	10800 4.9	9900 4.5	9500 4.3	8800 4.0	8400 3.8	7700 3.5	7500 3.4	6800 3.1	6600 3.0		
L5 194'-3" 59.2	12'-0" - 57'-9" 3.65 - 17.6 m	26900 12.2	24500 11.1	19800 9.0	16800 7.6	14300 6.5	13000 5.9	12300 5.6	11500 5.2	10800 4.9	10100 4.6	9700 4.4	9000 4.1	8600 3.9				
L4 177'-10" 54.2	12'-0" - 61'-0" 3.65 - 18.6 m	28700 13.0	26000 11.8	21200 9.6	17900 8.1	15200 6.9	14100 6.4	13200 6.0	12300 5.6	11700 5.3	10800 4.9	10400 4.7						
L3 161'-5" 49.2	12'-0" - 63'-8" 3.65 - 19.4 m	30200 13.7	27300 12.4	22300 10.1	18700 8.5	16100 7.3	14800 6.7	14100 6.4	12800 5.8	12300 5.6								
L2 145'-0" 44.2	12'-0" - 64'-0" 3.65 - 19.5 m	30400 13.8	27600 12.5	22500 10.2	19000 8.6	16300 7.4	15000 6.8	14100 6.4										
L1 128'-7" 39.2	12'-0" - 66'-3" 3.65 - 20.2 m	31700 14.4	28700 13.0	23600 10.7	19800 9.0	17000 7.7												

Speeds

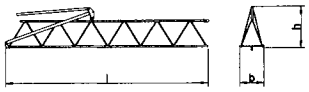
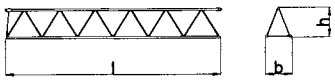
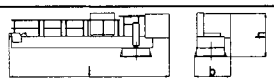
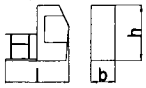
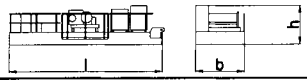
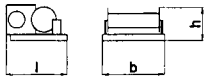
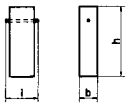
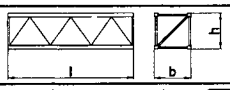
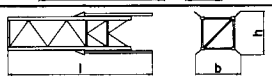
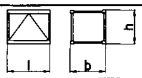
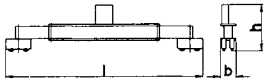
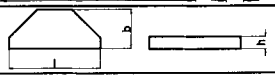
FU 8-160/4		v = 0 → ~290 fpm (88 m / min.)		10.2 HP 7.5 kW
SR 10-190/3		v = 0 → ~96 fpm (30 m / min.)		2 x 16.3 HP 2 x 12.0 kW
K WB 120/4		v = 0 → 0.9 rpm (min $^{-1}$)		2 x 11.4 HP 2 x 8.4 kW
		HK max. = 705' (215 m) 6 - layers		480 V / 60 Hz / 3 ph
Type SR WB 66-80/4F [108 HP] [79 kW]		2-Part Line: 444 fpm 134 m/min / 5 500 lbs 2 500 kg	4-Part Line: 222 fpm 67 m/min / 11 000 lbs 5 000 kg	Total motor output without SR 10-190/3 ~140 HP ~105 kW
		276 fpm 84 m/min / 9 300 lbs 4 200 kg	138 fpm 42 m/min / 18 600 lbs 8 400 kg	
		180 fpm 54 m/min / 13 900 lbs 6 300 kg	90 fpm 27 m/min / 27 800 lbs 12 600 kg	
		108 fpm 34 m/min / 17 600 lbs 8 000 kg	54 fpm 17 m/min / 35 300 lbs 16 000 kg	Connected power 170 kVA

Counterweight

Jib		L 1	L 2	L 3	L 4	L 5	L 6	L 7
Counterweight	BG	30 000 lbs 13 600 kg	32 200 lbs 14 600 kg	36 600 lbs 16 600 kg	39 150 lbs 17 750 kg	43 550 lbs 19 750 kg	41 350 lbs 18 750 kg	45 750 lbs 20 750 kg
	[lbs]	3 x 6 950 1 x 9 150	2 x 6 950 2 x 9 150	4 x 9 150	3 x 6 950 2 x 9 150	1 x 6 950 4 x 9 150	2 x 6 950 3 x 9 150	5 x 9 150
	[t]	3 x 3.15 1 x 4.15	2 x 3.15 2 x 4.15	4 x 4.15	3 x 3.15 2 x 4.15	1 x 3.15 4 x 4.15	2 x 3.15 3 x 4.15	5 x 4.15

PEINER SK 315 Dimensions and transport weights

See operating manual for mounting weights

	Designation			Dimensions (ft / m) l	b	h	Weight lbs / t	Volume ft³ / m³
1	**Jib** Section III			**39.01** 11.94	**4.99** 1.52	**7.09** 2.16	**4 200** 1.92	**1 386** 39.2
2	**Jib**							
	Section I			**39.01** 11.89	**4.99** 1.52	**5.84** 1.78	**3 790** 1.72	**1 137** 32.2
	Section II			**38.65** 11.78	**4.99** 1.52	**6.17** 1.88	**4 320** 1.96	**1 190** 33.7
	Section IV			**19.19** 5.85	**4.99** 1.52	**5.41** 1.65	**1 760** 0.80	**519** 14.7
	Section V			**35.34** 10.77	**4.99** 1.52	**5.45** 1.66	**3 090** 1.40	**961** 27.2
	Section VI			**36.03** 10.98	**4.99** 1.52	**5.48** 1.67	**2 470** 1.12	**985** 27.9
	Section VII			**33.33** 10.16	**4.99** 1.52	**5.32** 1.62	**1 570** 0.71	**853** 25.0
	Jib tip X			**3.12** 0.95	**5.02** 1.53	**1.64** 0.50	**310** 0.14	**25** 0.7
3	**Turntable with slewing ring support and cabin**			**36.35** 11.08	**7.64** 2.33	**7.81** 2.38	**25 350** 11.50	**2 169** 61.4
	Turntable with slewing ring support			**31.99** 9.75	**7.64** 2.33	**7.81** 2.38	**24 030** 10.90	**1 911** 54.1
	Cabin with support and railing			**10.17** 3.10	**4.92** 1.50	**7.25** 2.21	**1 320** 0.60	**364** 10.3
4	**Counter jib with hoist winch**			**38.13** 11.62	**5.91** 1.80	**6.00** 1.83	**14 550** 6.60	**1 353** 38.3
	Hoist winch	**66 WB**		**7.51** 2.29	**5.45** 1.66	**3.28** 1.00	**5 400** 2.45	**134** 8.4
5	**Counterweight**	**BG**		**3.94** 1.20 **3.94** 1.20	**1.64** 0.50 **1.64** 0.50	**9.32** 2.84 **12.11** 3.69	**6 950** 3.15 **9 150** 4.15	**60** 1.4 **78** 1.7
6	**Tower section**	**TS 212.1**		**19.52** 5.95	**7.78** 2.37	**8.01** 2.45	**9 130** 4.14	**1 216** 34.4
		TSV 212 with struts		**31.17** 9.50	**9.84** 3.00	**10.00** 3.05	**20 330** 9.22	**3 067** 86.9
		TSK 212		**6.63** 2.02	**7.87** 2.40	**9.84** 3.00	**6 170** 2.80	**513** 14.5
7	**Travelling base, folded**	**UF 821**		**41.01** 12.5	**9.74** 2.97	**7.05** 2.15	**35 050** 15.90	**2 816** 79.8
8	**Stationary base, folded**	**U 821**		**34.55** 10.53	**9.06** 2.76	**2.79** 0.85	**17 130** 7.77	**873** 24.7
9	**Central ballast block**	**BZ**		**11.48** 3.50	**4.92** 1.50	**2.20** 0.67	**11 020** 5.00	**124** 3.5
10	**Foundation pad**	**BF**		**9.19** 2.80	**3.28** 1.00	**1.87** 0.57	**8 820** 4.00	**57** 1.6
11	**Accessories**						**4 800** 2.17	

For more information, product demonstration, or details on lease and rental plans, please contact your local Terex Towers Distributor.

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