SPECIFICATION FOR:

ST. JOHN THE BAPTIST CHURCH, OSHAWA
PARISH HALL ADDITION

31 BLOOR STREET EAST
OSHAWA, ONTARIO

IVAN S. FRANKO ARCHITECT

2 FEBRUARY 2018

SPECIFICATION OF WORK AND MATERIALS FOR:

PARISH HALL ADDITION
ST. JOHN THE BAPTIST UKRAINIAN ORTHODOX CHURCH
31 BLOOR STREET EAST
OSHAWA, ONTARIO

CLOSING	DATE:	**Friday, 23 February 2018**
	TIME:	**1:00 PM Local Time**
	DELIVER TO:	**patrick@ifranko.com with copies to annakobilaski@gmail.com and ivan@ifranko.com**

PRE-BID	DATE:	**Friday, 9 February 2018**
	TIME:	**1:00 PM Local Time**

Note: This is a *Mandatory* Pre-Bid Site meeting.

Questions	DATE:	**Friday, 16 February 2018**
	TIME:	**1:00 PM Local Time**

Note: Questions will be answered only when asked in writing before 1:00 Friday, February 16th, 2018.

Address Questions Regarding Tender to:

IVAN S. FRANKO ARCHITECT
5359 Dundas Street West, Suite 200
Etobicoke, Ontario
M9B 1B1

Tel. (416) 232-0777
Fax (416) 232-0778
e-mail **patrick@ifranko.com**

Contact: Patrick Padilla

SPECIFICATION

ST. JOHN THE BAPTIST UKRAINIAN ORTHODOX CHURCH
PARISH HALL ADDITION

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INSTRUCTIONS TO BIDDERS

1.0 INVITATION

1.1 Call for Bids

.1 Bids for the provision of all the Work will be received by

Ivan S. Franko Architect
5359 Dundas Street West, Suite 200
Etobicoke, ON M9B 1B1

Attention: Mr. Ivan Franko, Architect

Bids to be sent by email to:
patrick@ifranko.com and copied to:

annakobilaski@gmail.com
ivan@ifranko.com

until 1:00 p.m., LOCAL TIME, Friday, February 23, 2018

.2 Submit the executed Bid (with appendices) on the forms provided.

.3 Bids submitted after the above time may be regarded as informal and subject to rejection.

.4 Amendments to a submitted Bid will be permitted if received in writing prior to Bid Closing and also endorsed by the same parties who signed the sealed offer.

1.2 Contract Documents Identification

.1 The Bidding/Contract Documents are identified as:

St. John's Church
Parish Hall Renovations
31 Bloor Street East
Oshawa, Ontario

Architectural: Drawings A0 to A18, dated 2 February 2018
Structural: Drawings S1 to S8, dated 2 February 2018
Mechanical: Drawing M1 to M6, dated 2 February 2018
Electrical: Drawing E1 to E4, dated 2 February 2018
Specification, dated 2 February 2017

1.3 Queries - Addenda

.1 Direct questions to **Owner's Representative:**

Patrick Padilla
Ivan S. Franko Architect
Telephone (416) 232-0777
Email: **patrick@ifranko.com**

.2 Questions will be accepted only from invited Bidders. Subcontractors or suppliers shall obtain interpretations and clarifications from the General Contractors to whom they are bidding.

.3 Any interpretation of, or change in the Bidding Documents prior to the date specified for receipt of tenders will be made only by written addenda.

.4 Verbal answers are binding only when confirmed by written addenda.

1.4 Site Examination

.1 The site of the proposed Work is located at 31 Bloor Street East, Oshawa, Ontario.

.2 A Mandatory Prebid Meeting will be held for Bidders to receive the Tender Documents and to familiarize themselves with the site and to answer questions regarding the Bidding Documents. A maximum of two representatives of each bidder may attend.

.3 Time and date is 2:00 p.m., Friday, February 9th, 2018

2.0 BID SUBMISSION

2.1 Bidding Documents Availability

.1 All drawings and specifications will be distributed in PDF format. The Bidder may print at their own expense.

.2 Immediately notify the Owner's Representative should Bidding Documents be incomplete or upon finding discrepancies or omissions.

2.2 Bid Submissions

.1 Bidder shall be solely responsible for the delivery and submission of their Tenders in the manner and within the time prescribed.

.2 Bids shall be for a Stipulated Lump Sum without escalation clauses.

3.0 BID ENCLOSURES - REQUIREMENTS

3.1 Qualifications

.1 Owner reserves the right to reject any and all bids.

.2 It shall be noted that prior to award of the Work a meeting may be held to review the Tender and the Contractor's understanding of the Scope of Work, the conditions which will apply and the requirements of the schedule.

.3 The successful Contractor shall accept Owner's Letter of Award or Purchase Order based on the Stipulated Price Contract Specified herein.

4.0 OWNER FURNISHED ITEMS

.1 Other contractors and installers for client purchased items area as follows and are not limited to:

a) Furniture.

The contractor shall accommodate the entry of the material into the work when these items are delivered and co-operate and co-ordinate the timing and installation of these items by others.

.2 Confidentiality

All Supplier document information provided herein is to be considered confidential and is not to be copied or made available to others.

5.0 SUBSTITUTIONS

.1 Bidders shall note that this is a base bid specification. Products and materials specified shall form the basis of the bid.

TENDER FORM

1.0 NAME OF BIDDER_____

TENDER FOR: Parish Hall Addition,
St. John the Baptist Church
31 Bloor Street East
Oshawa, Ontario

2.0 TENDER PRICE

The Undersigned (Hereinafter referred to as "Contractor") proposes to provide all labour, supervision, material, equipment and all other services for the proper completion of the Work of the referenced Contract, in accordance with Conditions, Specifications and Drawings included with the Tendering Documents, as prepared by Ivan S. Franko Architect for the Stipulated Contract Price (hereinafter referred to as "Tender Price") of:

_____

_____/100 Dollars($_____)

in Canadian Funds which includes all prime costs, allowances, freight, duties, and government excise or sales taxes in force at this date. The price above does **not** include the Harmonized Sales Tax (HST).

Harmonized Sales Tax: _____/100 Dollars ($_____)

2.1 Tender Acceptance

The Contractor agrees that this Tender is open to acceptance for a period of sixty (60) days from tender closing date.

2.2 Price Adjustments

The above stated tender price includes fully for all increases, for whatever cause, in cost or price of labour, materials, equipment or fuels. Escalation shall not apply for the duration of the Contract.

2.3 Documents and Addenda

The Contractor submits that he has thoroughly reviewed the Instructions to Bidders, Tender Form and Appendices, General Conditions of Contract, Supplementary Conditions, General Requirements, Drawings, Specifications, Reference Documents and the following Addenda and hereby accepts and agrees to all provisions and conditions stated therein and has included fully all requirements in the Tender Price:

Addendum_____dated_____

Addendum_____dated_____

Note: If no addenda have been received write in "NONE".

2.4 Appendices to Tender

The information to be submitted on Subcontractors and Suppliers, Cost Breakdown, etc. as called for in the Tender Documents form and integral part of this Tender.

2.5 Owner Furnished Items

The Tender Price stated herein fully includes for the installation of Owner furnished items, as well as all other costs for pick up from suppliers, transportation, checking-out, handling, temporary storage if necessary, required to achieve a complete installation including overhead and profit, with no other costs to be added. Note: This is not applicable in this contract – owner supplies furniture will be installed by owner's forces after the completion of construction.

3.0 FEES FOR CHANGES IN THE WORK

For all changes in the Work which may be ordered by the Owner, the following percentages shall be used, as applicable, in Contract Price adjustments in accordance with the General Conditions.

3.1 Material

The percentage mark-up on MATERIAL IS:
_____5_____%

- Material costs shall be calculated using the actual invoiced cost to Contractor (including P.S.T., if any) plus cost of transportation.

3.2 Labour Rates

The following is the schedule of all-inclusive hourly rates (blended for foreman, journeyman, apprentice) which includes the costs of vacation and statutory holiday pay, burdens, benefits, home office administration and overhead, warranty, small tools and consumable allowance, clean-up, all field overheads including supervision above working foreman level and all other indirect costs, overhead and profit. Rates EXCLUDE only the Harmonized Sales Tax and Bonding.

	Trade	Straight Time	Overtime
a)	Demolition & Removal	$_____	$_____
b)	Concrete & Waterproofing	$_____	$_____
c)	Masonry and Wall Insulation	$_____	$_____
d)	Structural Steel	$_____	$_____
e)	Labourer	$_____	$_____
f)	Framing , Drywall, Acoustic Ceilings	$_____	$_____
g)	Carpentry	$_____	$_____

h)	Doors and Hardware	$_____	$_____
i)	Aluminum Windows and Doors	$_____	$_____
j)	Roofing	$_____	$_____
k)	Flooring	$_____	$_____
l)	Painting	$_____	$_____
m)	Electrical Work	$_____	$_____
n)	Mechanical	$_____	$_____

3.3 Contractor's Subcontractors (Third Party, Arms-Length)

The percentage to be added to the invoiced cost of extra work completed by a Subcontractor to the Contractor is: _____5_____%

- Included in this percentage is the applicable compensation to cover all of Contractor's supervision, overhead, profit and all other costs.

3.4 Subcontractor's Mark-Ups

The percentage mark-ups, used by Contractor's Subcontractor shall not exceed Contractors markup rates specified in 3.1 to 3.3 above, unless prior written authorization has been given by Owner and any such additional authorization shall be for burden adjustments only.

4.0 PROJECT STAFF AND LABOUR AGREEMENTS

4.1 The Contractor shall provide full time supervision throughout the duration of the project to the satisfaction of the Owner, for which the Contractor proposes the persons:

Project Manager _____

General Superintendent _____

5.0 LIST OF SUBCONTRACTORS AND SUPPLIERS

The following are Subcontractors and Suppliers we propose to use for the items of Work listed hereunder and upon which the Tender is based.

The list is subject to the approval of the Owner and no changes from this list will be allowed without express written permission.

Note: If work performed by Bidder, write in "Own Forces".

Description of Work	Subcontractor
Demolition & Removal	_____
Concrete & Waterproofing	_____
Masonry and Wall Insulation	_____
Structural Steel	_____
Framing & Drywall	_____
Rough Carpentry	_____
Carpentry	_____
Doors and Frames	_____
Hardware	_____
Aluminum Windows and Doors	_____
Roofing	_____
Flooring	_____
Painting	_____
Electrical	_____
Mechanical	_____
Landscaping	_____

6.0 SCHEDULE

The Contractor submits that he has carefully examined the Drawings and Specifications and the Site of the proposed Work and has satisfied himself as to his ability and the ability of his Subcontractors and Suppliers to meet the requirements for timely progress and completion set out below and to execute the Work in full accordance with Contract Documents.

It is understood and agreed that the Tender Price stated herein includes all costs on account of premium time or overtime work required in order to meet the completion date (and Owner's partial occupancy requirements, if any), whether or not such work is done by the Contractor's own forces or by his Subcontractors.

EVENTS		DATES SPECIFIED BY OWNER	DATES SPECIFIED BY CONTRACTOR
.1	Award of Contract	1 March 2018	_____
.2	Shop Drawing Submissions	26 March 2018	_____
.3	Start Work on Site	as soon as frost out of ground	_____
.4	Demolition & Removal	_____	_____
.5	Concrete & Waterproofing	_____	_____
.6	Structural Steel	_____	_____
.7	Masonry and Insulation	_____	_____
.8	Framing & Drywall	_____	_____
.9	Rough Carpentry	_____	_____
.10	Finish Carpentry	_____	_____
.11	Doors and Hardware	_____	_____
.12	Aluminum Windows	_____	_____
.13	Curtain Wall	_____	_____
.14	Painting	_____	_____
.15	Carpet Tiles	_____	_____
.16	Electrical	_____	_____
.17	Mechanical	_____	_____
.18	Asphalt	_____	_____
.19	Landscaping	_____	_____
.20	Total Performance	14 September 2018	_____
.21	Number of days to complete from date of Award of Contract	6.5 Months	_____

7.0 COST BREAKDOWN

The following is the Cost Breakdown comprising all items of work included in the Stipulated Tender Price. The amounts listed shall represent a schedule of values of the various parts of the Work, aggregating the total amount of the Contract Price and divided so as to facilitate evaluation of payments.

Item of Work	Material Price	Labour Price	Totals
Mobilization & Supervision			
Demolition & Removals			
Asphalt			
Landscaping			
Concrete			
Structural Steel			
Masonry and Wall Insulation			
Framing & Drywall			
Carpentry			
Doors & Frames			
Aluminum Windows and Doors			
Roofing			
Painting			
Flooring			
Electrical			
Mechanical			
Other work, if any			
Profit			
Hardware allowance - $10,000			$ 10,000.00
Testing allowance - $10,000			$ 10,000.00
TOTAL TENDER PRICE			**$_____**
Harmonized Sales Tax			EXCLUDED

Total amount for Provincial Sales Tax (included above) $_____

Total amount for Premium Time Work (included above) $_____

Total hours of Premium Time Work (included above) _____hrs

8.0 SEPARATE PRICE

N/A

TOTAL SEPARATE PRICE **$_____**

Harmonized Sales Tax EXCLUDED

9.0 BIDDERS UNDERSTANDING

The Contractor represents that they have had a sufficient opportunity to examine and has carefully examined the Site of the Work and the local conditions and all Drawings and Specifications and Reference Documents which relate to the Work; that they have made all investigations essential to a full understanding of the difficulties which may be encountered, and that they have sufficient equipment, experience and forces to perform the Work in accordance with the Drawings and Specifications and the Terms of this Contract within the Time specified

No allowances or extra consideration on behalf of the Contractor will be allowed by the Owner by reason of additional costs, damages or other difficulties incurred by the Contractor for failure to have fully investigated and determined conditions affecting the Work.

10.0 EXECUTE CONTRACT

The Contractor agrees that if this Tender is acceptable to the Owner, he will:

- Accept a Letter of Award (or Purchase Order) as authority to commence work.
- Furnish prior to commencing work, certified copies of Insurance Policies as required by the Conditions of the Contract, naming the Owner as additional insured.
- Furnish within 7 days, a Certificate of Clearance from Workers' Compensation Board of Ontario, indicating the Owner as "Principal".
- Furnish within 2 days, a detailed Schedule of Work, showing dates for preparation and submission of shop drawings, fabrication and erection, and a breakdown of items and stages of the Work.

11.0 ADDRESS, LEGAL STATUS AND SIGNATURE OF BIDDER

a) The Contractor does hereby designate the address, given below as the legal address to which all notices, directions or other communications may be served or mailed:

Street _____

City _____Province _____

Postal Code _____ Tel. _____ Email: _____

b) Contact for questions relating to this Tender

Name _____ Title_____

c) The undersigned does hereby declare that the Bidder has legal status checked below:

_____Individual

_____Partnership

_____Corporation incorporated under the laws of

_____ Date_____

d) This Tender is submitted under the name:

_____
(Company Name - Typed)

By _____
Signature

Name_____ Title_____
(Typed)

Signed this_____ day of_____20___

DIVISION ONE - GENERAL REQUIREMENTS

SECTION ONE A - GENERAL INSTRUCTIONS

1. Explanation

.1 The following Articles shall apply to all Divisions of the Specifications. The Contractor shall ensure that all sub-contractors have read these instructions.

1.2 General Conditions

.1 The General Conditions of the Canadian Standard Construction Document for Stipulated Price (CCDC2 2008) shall govern all work. The CCDC2 2008 will be prepared by the General Contractor and signed after acceptance of the Letter of Award referred to in the Tender Form.

1.3 Supplementary Conditions

.1 See Section 1C – Supplementary Conditions of Division One - General Requirements.

1.4 Scope of Work

.1 Provide items, articles, materials, operations, methods listed/indicated on schedules or Contract Documents, including labour, materials and incidentals necessary or required for a complete and satisfactory job.

.2 Refer to Section 1B General Work, Item 15, Scope of Work.

1.5 Instructions and Restrictions

.1 Read Section One B, General Work, for instructions regarding schedules of operation, levels and dimensions, temporary facilities, site restrictions and other items affecting the work.

1.6 Responsibility

.1 The responsibility as to which trade provides the required materials or articles and/or builds in articles, rests solely with the Contractor.

1.7 Site and Other Examinations

.1 The Contractor represents that he has had opportunity and has carefully examined the Work to be done and the Site of the Work and has special qualifications for doing the Work in accordance with the drawings and specifications and conditions of this Contract.

1.8 Workmanship

.1 Where a part of the work requires workers skilled in that particular work or trade, then workers or operators trained and skilled in the particular work or trade shall be used.

.2 All workmanship shall be of the highest quality, performed in accordance with the best standard practice for each particular section of the work unless special methods and/or performance standards are specified.

1.9 Latest Editions and Directions

.1 Where any By-laws, Codes, or Official Standard is quoted, it shall mean the latest edition including all revisions or amendments at the time of contract or to the governing code or where references is made to printed directions, it shall mean the latest edition of such directions.

1.10 Occupational Health & Safety Act

.1 The Contractor shall obey all Federal, Provincial and Municipal Laws, Acts, Ordinances, Regulations, Orders-in council and By-laws, which could in any way pertain to the work outlined in the Contract or to the Employees of the Contractor. Without limiting the generality of the foregoing, the Contractor shall satisfy all statutory requirements imposed by the Occupational Health & Safety Act and Regulations made thereunder, on a Contractor, a Constructor and/or Employer with respect to or arising out of the performance of the Contractor's obligations under this Contract.

DIVISION ONE - GENERAL REQUIREMENTS

SECTION ONE B - GENERAL WORK

1. Comply with the General Conditions, Supplementary Conditions and the requirements of Division 1.

2. Schedule of Operations

.1 The Contractor shall prepare a schedule of operations for review by the Architect and the Owner before commencing the work.

3. Work Site

.1 Maintain work site in neat, orderly condition during construction. Upon completion of the work remove, surplus material etc., leaving site in clean, tidy and satisfactory condition.

4. Site Preparation

.1 Examine the existing conditions of the work site in accordance with Instructions to Bidders and Division 1A - General Requirements.

5. Superintendent

.1 The Contractor is required to provide a full-time Superintendent during the progress of the work.

6. Construction Facilities

.1 **Hoarding** - Erect and maintain hoardings and barricades required by public authorities or required to protect the public and workers from injury.

.2 **Light & Electrical** - Provide temporary lighting required for proper execution of the work and to maintain in good working order. Arrange for, obtain, and pay for permits required. Abide by rules of the Canadian Electrical Code.

7. Fires

.1 Fires are not permitted on the Site. Remove combustible and non-combustible waste at regular intervals and/or when directed. Precautions shall be taken to avoid fire by spontaneous combustion. **Smoking is prohibited in the building.**

.2 Provide and maintain in good working order at least one Underwriters labelled 2A 10BC Dry Chemical Fire Extinguisher which shall be prominently placed on the job from commencement of work until completion.

8. Record Drawings

.1 Maintain as work progresses accurate records of changes to drawings and locations of concealed services. A copy of the floor and site plans will be supplied for making these recordings. Upon completion of project deliver plans to Architect with recordings neatly inked in.

9. Site Meetings

.1 Site meetings shall be arranged between all parties at a preconstruction meeting. Site meetings will be held at regular intervals as deemed necessary for the work.

.2 The Contractor shall keep and record minutes of all site meetings and shall distribute copies of minutes to all who were present. Copies of the minutes shall be distributed within one week of the meeting date.

10. Signs

.1 Other than signs for safety, caution or instruction, only signs of this Contractor, the Architect, and the Owner will be permitted on the Site.

11. Safety

.1 Where drawings or specifications are required by the Contractor for the protection of workmen or others, the responsibility for obtaining such drawings, or specifications shall be that of the Contractor who shall assume all responsibility as to the adequacy thereof.

12. Clean Up (Final)

.1 On completion of the work, clean and polish all glass, hardware, brass, and the like.

.2 Remove stains and smudges from all finished surfaces. Leave building broom clean / vacuum clean and to the satisfaction of the Architect.

.3 Remove surplus joint filler, caulking compound, etc., from all surfaces of the work. Remove stains and dirt from all floor areas and sweep / vacuum / wash clean to Architect's approval.

.4 Replace all broken or damaged glass at Contractor's own expense.

.5 On completion of the work, the Contractor shall ensure that all works under this contract are installed and complete and have been inspected, tested and adjusted and are all in acceptable condition.

13. Enclosures

.1 **Provide temporary weathertight enclosures for all exterior openings as may be required to protect all work from the weather.**

14. Permits, Deposits and Responsibilities

.1 Abide by all local By-laws.

.2 An application has been made for a Building Permit by the Architect as the Authorised Agent for the Client. All other Permits, where required for work in the Contract, shall be the responsibility of the Contractor.

15. Scope of Work

.1 The work shall consist of:

a) Demolition and disposal.

b) Excavation.

c) Parish Hall: Concrete footings, foundation walls, structural steel, exterior walls and roof. Connections to existing buildings and installation of maintenance of existing drainage tile. Interior stair and ramp with handrails. South stair connection to church, washrooms, storage room, kitchen and pantry area. Windows, doors, frames and hardware. Washroom and kitchen equipment and millwork. Interior finishing, including drywall, flooring and

painting. Plumbing, HVAC and electrical. Waterproofing of exterior, backfilling, reinstatement of asphalt, concrete sidewalks and all site work.

d) The existing building on site is used as a church, and has scheduled activities throughout the week. Funerals and other activities may also take place. **These church activities will continue uninterrupted during the course of the construction, and construction to be carried out in a manner so as not to interfere with these activities.**
St. John the Baptist Church will give the General Contractor a minimum of 24 hours notice of any special events.

e) The above Scope Work is intended to help orient the contractor. For a full understanding of the work, all drawings and specifications must be carefully studied.

DIVISION ONE – GENERAL REQUIREMENTS
SECTION ONE C - SUPPLEMENTARY CONDITIONS

This modifies Section 1.1.8 of CCDC2 (2008)

1. Copies of documents will provided to the Contractor in PDF format only.

2. It is acknowledged that the work is being carried out in a place of worship. The Contractor shall ensure that his workmen, agents, subcontractors, and generally any persons permitted by him on the construction site shall maintain appropriate decorum at all times.

3. It is acknowledged that funerals may have to take place in the Church during the time that this Contract is to be performed. The Contractor agrees to stop work at least an hour before any funeral is to commence, and not to resume work until after the completion of the funeral. At least 24 hours advance notice will be provided by the Church.

4. Work shall cease during all religious services and events. **No work shall be carried out on Saturdays after 4:00 p.m. and Sundays.**

5. While work may continue during special services held between Monday to Friday, no noisy work shall be carried out during this time period. A full schedule of these services will be provided during the addendum period.

There is to be no profanity or swearing while in the Church or on site; eating and drinking should be done only in the existing Church hall (below the Church), never in the upstairs portion; and there is no smoking permitted anywhere in the Church.

1. GENERAL

1.1 GENERAL REQUIREMENTS

.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here.

1.2 SCOPE OF WORK

.1 On-site inspection and testing of asphalt pavement shall be carried out by an independent testing agency designated by the Consultant, but retained and paid for by the Contractor.

The Consultant will supply the agency's name, address, telephone number, and contact person prior to commencement of construction operations.

2. PRODUCTS - NOT USED

3. EXECUTION

.1 The Contractor shall co-operate fully with the testing agency and shall provide information, access, and personnel as required and as directed.

.2 The Contractor shall be reimbursed for the testing agency fees to the extent as indicated in the specifications and as directed by the Consultant. The Consultant shall authorize the payment of the appropriate amounts to the Contractor upon receiving copies of the paid invoices from the Contractor and written verification of receipt of payment from the testing agency.

.3 The Contractor shall not make payments, to the testing agency, in excess of the contingency allowance, unless directed by the Consultant, in writing, to do so. Excess in payments, without such written authority, shall be entirely at the Contractor's own risk and expense.

.4 The Inspection/Testing Allowance is a contingency item against which funds will be advanced to the Contractor only to the extent as specified. Excess or unused monies in this item at contract completion will not be forwarded to the Contractor, but will be deducted from the total contract payment amount.

.5 The Contractor shall schedule and co-ordinate his work and notify the Consultant and the testing/inspection agency at least 24 hours prior to the completion of each stage in order that timely arrangements can be made for inspection, review and testing. No notifications will be given or accepted on Friday for earlier than Monday afternoon inspection or testing.

.6 The Contractor is hereby advised and cautioned to fully satisfy himself, prior to notifying the Consultant and the testing agency, as to the state of readiness of the work. All costs incurred due to false or premature notification shall be solely borne by the Contractor and the Consultant will not authorize reimbursement of same.

.7 Asphalt testing by an independent agency will include but will not necessarily be limited to:

.1 One Marshall Compliance Test per day.

.2 One Brickette Density and VMA test per day.

.3 One Marshall Stability Test per day.

.4 On site monitoring of the asphalt paving.

.8 Inspection and/or testing by the Consultant or by an independent inspection and testing agency will not augment or replace Contractor quality control nor relieve him of his contractual responsibility.

END OF SECTION

1. GENERAL

1.1 GENERAL REQUIREMEMENTS

.1 Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.

1.2 QUALITY ASSURANCE

.1 Qualifications - If required, furnish references indicating history of successful work of this type.

1.3 SUBMITTALS

.1 Submit to Consultant for review, three weeks before paving begins, samples of fine aggregate proposed for use in asphaltic concrete surface course. Fully identify samples as to nature of material, source, job number and name of Sub-contractor. Submit a grading analysis with each sample.

.2 Approved samples and their grading analysis shall constitute a standard of aggregate for asphaltic concrete surface course.

1.4 WARRANTY

.1 Provide a TWO YEAR written warranty for the work of this section. Warrant work against settlement, failure, frost boil and other deterioration or damage.

.2 Promptly upon notification by Owner, repair or make good without delay any such settlement, failure, deterioration or damage.

2. PRODUCTS

2.1 MATERIALS

.1 Upon request, provide satisfactory proof of quality of material brought to the job site.

.2 Sub-base - OPSS 50mm. Crusher-Run Limestone.

.3 Base - OPSS 20mm Crusher-Run Limestone. Granular ‘A’ conforming to OPSS 1001/1010.

.4 Binder Course - OPSS HL8.

.5 Surface Course - OPSS HL3. Submit gradation limits of proposed aggregate to Consultant for approval.

.6 Emulsified Asphalt - CAN 2-16.2 Asphalts - Emulsified, Anionic Type, for road purposes, type SS - conforming to OPSS 306.

3. EXECUTION

3.1 INSPECTION

.1 ***Review geotechnical report and inspect rough grading and compressive strength of subgrade before commencing work and report any discrepancies to Consultant.***

3.2 INSTALLATION

.1 General

.1 Make minimum fall to drainage on finished paving 1%.

.2 Fine grade and compact existing undisturbed bed soil and compacted fill to proper grade and contour on areas to be paved and 900mm beyond, before placing sub-base and base courses. Refer to Section 02310 - Grading, above.

.3 Supply and install calcium chloride as required.

.4 Make surface course free from depressions exceeding 6mm as measured with a 3000mm straight edge paralleling centre line of driveway.

.2 Thickness - Compacted thicknesses of materials and order of application for types of paving required shall comply with the following table.

1. Driveways & Parking Areas:

Course	Heavy Duty	Light Duty
	mm	mm
Sub-base	300	200
Base	150	150
Binder	50	-
Surface	40	50

.3 Joints:

.1 Make joints between old asphalt or concrete and new asphalt or between successive day's work straight and watertight with positive bond. Cut back to expose fresh vertical surface, free of broken or loose material.

.2 Cut back rolls or depressions in existing edges and bring back to grade with new material.

.3 Before placing hot asphalt, paint joints with thin uniform coating of emulsified asphalt.

.4 Make keyed or butt joints. Feathering not permitted.

.4 Asphaltic Paving:

.1 Place sub-base granular course to thickness noted and compact to 98% Standard Proctor Density.

.2 Install base course and compact to at least 98% Standard Proctor maximum dry density.

.3 Place asphaltic courses at temperatures recommended by OPSS documents.

.4 Compact asphaltic concrete courses to at least 96% Marshall density.

.5 Compact each asphalt course as soon as it can bear roller without undue displacement or hair cracking. Use power driven roller weighing a minimum of 9.07 tonnes (10 tons) and exerting a pressure on the roller of at least 4464 g/m (3 lbs/ft) of tire width.

.6 Continue rolling until all roller marks are eliminated. The speed of the roller shall at all times be slow enough to avoid displacement of the mixture. Keep roller wheels slightly moistened by water to prevent adhesion of the mixture but an excess of water will not be permitted. Compact the mixture with hot tampers in locations that are not easily accessible to the machine roller.

.7 Upon completion of compaction each pavement course shall be - smooth and true to crown and grade with variation not more than 6mm from the thickness specified. Do not place any asphaltic course less than 40mm thick nor more than 75mm thick.

.5 Speed Bumps: (check drawings and existing site condition to see if applicable)

.1 After paving of driveways, cut 250mm wide slot at each speed bump location.

.2 Apply bituminous tack coat for full width of speed bumps - 610mm.

.3 Lay and compact speed bump, keying into paving and forming uniform curve, with neat, straight edges.

.6 Replacement:

.1 To replace unacceptable paving, remove existing asphaltic concrete, base and sub-base, and re-apply materials as specified.

END OF SECTION

1. GENERAL

1.1 GENERAL REQUIREMENTS

.1 Division 1, General Requirements, is a part of this Section and shall apply as if repeated here. In the event of any conflict with the specification provided by the Architect's Structural Engineer, then the specification of the Structural Engineer shall be followed.

2. MATERIALS

2.1 MATERIALS

.1 Concrete mixes and materials: to Section 03300 - Cast in Place Concrete.

.2 Granular base: Granular A material conforming in all respects with OPSS 1001 and 1010.

.3 Curing Compound: Clear water emulsion curing compound: W.R. Meadows 1300 clear water-emulsion wax base compound, or equal reviewed by Architect.

.4 Non-staining mineral type form release agent: chemically active release agents containing compounds that react with free lime to provide water soluble soap. W.R. Meadows "Duogard 11" water - emulsion form release agent, or equal reviewed by Architect.

.5 Premoulded expansion joint filler. W.R. Meadows "Asphalt Expansion Joint Filler", 10mm thick x depth of slab, or equal reviewed by Architect.

3. EXECUTION

3.1 TESTING

.1 Contractor will be responsible for the coordination and payment for all required testing services out of testing allowance.

.2 During the construction process, compaction testing on the subgrade and granular base will be carried out by an approved testing firm. Any delays caused by failing tests and subsequent remediation work will be the responsibility of the contractor.

3.2 GRANULAR BASE

.1 Obtain Consultant's approval of subgrade before placing granular base.

.2 Place granular base material to lines, widths, and depths as indicated.

.3 Compact granular base to at least 98% of maximum density to ASTM D698.

3.3 CONCRETE PAVEMENT

.1 Obtain Architect's approval of formwork, granular base and reinforcing steel prior to placing concrete.

.2 Do concrete work in accordance with Section 03300 - Cast in Place Concrete and as specified herein.

3.4 CONCRETE MIXING

.1 Control concrete mix and source of materials to ensure batch to batch uniformity. Do not change cement type or manufacturer or source or type of aggregate or sand.

.2 Do not mix less than 3 cu.m. in any one batch. Where possible mix, deliver and place concrete on the same day. Finish at same time duration after placing.

.3 Do not pump concrete.

.4 Ensure minimum 130 revolutions of concrete batch before depositing.

3.5 CONCRETE PLACEMENT

.1 Protect adjacent surfaces when placing and finishing concrete and when applying curing compound.

.2 Immediately after floating, give pavements a uniform broom finish to produce regular corrugations not exceeding 2 mm deep, by drawing broom across the direction of travel.

.3 Apply concrete curing compound with airless sprayer at a rate to cover 7-10 sq.m. with a liter.

.4 Place 10M rebar dowel into section of freshly poured concrete, where additional concrete abuts pour. Dowels to be embedded 300mm into fresh concrete and extend 300mm beyond face into proposed abutting concrete. Locate min. 50mm below surface and at 750mm O.C.

3.6 CURBS AND EDGES

.1 Verify lines, levels before proceeding with formwork and ensure dimensions agree with drawings.

.2 Construct forms to produce finished concrete conforming to shape, dimensions, locations and levels indicated and within tolerances required by CAN3-A23.1-M77.

.3 Keep form joints to minimum.

.4 Clean formwork in accordance with CAN3-A23.1-M77 before placing concrete.

.5 Concrete edges to receive steel trowel final finish.

.6 Construct ramps for handicapped access as shown and detailed. (N/A)

3.7 TOLERANCES

.1 Finish surfaces to within 3 mm in 3 m as measured with straightedge placed on surface.

3.8 EXPANSION AND CONTRACTION JOINTS

.1 Saw cut contraction joints in locations in accordance with CAN3-A23.1-M77.

.2 Install expansion joints in accordance with CAN3-A23.1-M77, complete with premoulded expansion joint filler.

.3 Install expansion joints around manholes and catch basins and along length adjacent to concrete curbs, catch basins, buildings, or permanent structures.

.4 Install joint filler in expansion joints in accordance with Section 03300 - Cast in Place Concrete.

.5 Seal expansion joints with sealant approved by Consultant, finished flush with top surface of concrete.

3.9 CURING

.1 Cure concrete by sealing moisture in by curing compound approved by Consultant.

.2 Apply curing compound evenly to form continuous film. Follow manufacturer's instructions.

END OF SECTION

1. GENERAL

1.1 GENERAL REQUIREMENTS

.1 Division 1, General Requirements, is a past of this Section and shall aply as if repeated here.

2. PRODUCTS

2.1 MATERIALS

.1 All lines must be painted as per MTO Spec.1710, Ontario Traffic Paints, water based acrylic latex traffic paint as supplied by Ibis Products.

.2 Colour

.1	White: 44-4247	generally all traffic lines and markings, parking lines unless noted otherwise.
.2	Yellow: 44-4339	no parking areas, speed bumps and elsewhere as noted on drawings.
.3	Blue: 44-4315	barrier-free parking spaces
.4	See drawings for additional information on line markings.	

.3 Thinner - Water of water/methanolmixed50/50 maximum 1 litre per 20 liters of paint.

3. EXECUTION

3.1 EQUIPMENT REQUIREMENTS

.1 Paint applicator to be approved pressure type, mobile distributor capable of applying paint in double and dashed lines and that will ensure uniform application and having a positive shut-off.

3.2 CONDITION OF SURFACES

.1 Pavement surface to be free from surface water, frost, ice, dust, oil, grease and other foreign materials.

3.3 APPLICATION

.1 Lay out pavement lines and markings.

.2 Unless otherwise approved by Consultant, apply paint only when air temperature is above 10 deg. C. and no rain is forecast.

.3 Apply 2 coats traffic paint evenly. First coat to be 10 mils wet. Second coat to be 15 mils. wet, applied after minimum 20 days.

.4 Do not thin paint unless approved by Consultant.

.5 Symbols and letters to conform to dimensions indicated.

.6 Apply other specified marking materials as directed by Consultant.

.7 Paint lines to be of uniform colour and density with sharp edges.

.8 Throughly clean distributor tank before refilling with paint of different colour.

.9 Apply paint using specified equipment only.

3.4 TOLERANCE

.1 Paint markings to be within plus or minus 10mm of dimensions specified.

3.5 PROTECTION OF COMPLETED WORK

.1 Protect pavement markings until dry.

END OF SECTION

1. GENERAL

1.1 GENERAL INSTRUCTIONS

.1 Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.

1.2 SCOPE OF WORK

.1 The supply and installation of new topsoil and sod.

1.3 QUALITY ASSURANCE

.1 All work shall be done by tradesmen with not less than two (2) years related experience.

1.4 WARRANTIES

.1 The contractor shall provide a warranty for all labour and materials for a period of two (1) year from the date of substantial completion.

2. PRODUCTS

2.1 TOPSOIL

.1 Use only evenly mixed topsoil of fertile, friable natural loam containing not less than 4% organic matter for clay loams and 2% minimum organic matter for sand loams.

.2 Acidity shall range between 5.5 and 7.5 pH.

.3 All topsoil shall be sterile and free of sub-soils, clay, stones, roots, excess water, frost and other extraneous matter.

2.2 SOD

.1 Use No. 1 nursery sod.

3. EXECUTION

3.1 PREPARATION

.1 Prepare a minimum 4" depth of topsoil with a 10-6-4 commercial fertilizer at 16lbs/1000 sq. ft. and phosphate at 11lbs/1000 sq. ft. The proportions are subject to adjustment depending on the topsoil analysis report. Supply copies of the topsoil analysis report upon request by the consultant.

3.2 INSTALLATION

.1 Lay sod in rows, with joints staggered.

.2 Butt sections closely without overlapping or leaving gaps between sections of sod. Cut out irregular or thin sections with a sharp implement.

.3 Immediately after installation sod must be watered and rolled.

END OF SECTION

1. GENERAL

1.1 GENERAL REQUIREMENTS

.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here. In the event of any conflict with the specification provided by the Architect's Structural Engineer, then the specification of the Structural Engineer shall be followed.

1.2 SCOPE OF WORK

.1 Provide all materials, labour and equipment as necessary to complete the concrete work as shown on the drawings and described herein.

.2 Supply and install any inserts, hangers, anchors, sleeves and accessories as required and provide any chases, openings, slots and holes for the work of other sections. Co-ordinate work with all other sections and trades.

1.2 CODES AND STANDARDS

.1 Except where modified by the plans and/or the specifications, all concrete and reinforcing steel work shall conform to the current editions of CSA Standard CAN-A23.1 and RSIO - Reinforcing Steel Manual of Standard Practice and all referenced standards and publications therein.

2. PRODUCTS

2.1 MATERIALS

.1 Cement shall be normal Portland Cement (Type 10) conforming to CSA Standard CAN-A5-M93.

.2 Mixing water shall be from a municipal supply, clear and free from deleterious substances and salts causing efflorescence.

.3 Fine Aggregate shall be natural sand conforming to CSA Standard CAN-A23.1.

.4. Coarse Aggregate shall be crushed stone or gravel, 20mm maximum size, conforming to CSA Standard CAN-A23.1.

.5 Air-entraining admixture shall conform to the requirements of CSA Standard CAN3-A266.1.

.6 Water-reducing admixtures shall conform to the requirements of CSA Standard CAN3-A266 and shall be non-retarding Type WN.

.7 Plywood and formwork materials shall conform to CAN-A23.1 and associated references thereto. For surfaces exposed to view, use new overlaid plywood.

.8 Reinforcing steel bars shall conform to CSA Standard G30.12, Grade 400.

.9 Welded wire fabric shall conform to CSA Standard G30.5.

.10 All other materials and products shall be supplied in accordance with the current standards approved in accordance with Ontario statutes.

2.2 CONCRETE MIX PROPORTIONS

.1 Portland cement concrete for use on this project shall be normal density, ready-mixed, air-entrained, water-reduced concrete.

.2 The maximum water/cement ratio, by mass, shall be 0.45.

.3 Cement content shall not be less than 320 Kg/m^3.

.4 All concrete shall have a minimum compressive strength of 32 MPa at 28 days.

.5 Concrete shall be placed at the lowest slump compatible with the conditions of placement and shall be measured at the point of discharge into the forms.

.6 Concrete for structural elements, sidewalks and curbs shall have a slump of 80mm $\pm$ 30mm.

.7 All concrete shall be air-entrained. 5 to 8% for 20mm aggregate or 7 to 10% for 10mm aggregate.

.8 If in the opinion of the Contractor other admixtures are also desirable for the production of the required properties, then the Consultant's written approval must be obtained prior to their inclusion in the concrete mix. The use of such additional admixtures shall be at the sole expense of the Contractor.

3. EXECUTION

3.1 Formwork and Reinforcing

.1 Install formwork plumb and suitably braced to prevent movement during placing of concrete. Seal all joints to prevent seepage.

.2 Place reinforcing with correct spacing and coverage using plastic support chairs, and other necessary accessories. Steel support chairs are not permitted.

3.2 Temperature Control

.1 Temperatures referred to are ambient air temperatures in the shade.

.2 Extreme rapid or severe drying conditions are those conditions when the rate of evaporation of surface moisture from the concrete exceeds 0.7 kg/m^2/hr.

.3 Cold weather means those conditions when the air temperature is at or below 5°C or when the air temperature is likely to fall below 5°C within 24 hours.

.4 Hot weather means those conditions when the air temperature is at or above 27°C or when the air temperature is likely to rise above 27°C within 24 hours.

.5 Cold Weather Concreting:

.1 Provide temporary plant and equipment for heating concrete materials and forms. Protect, insulate and maintain the proper temperature and humidity of the concrete during curing in compliance with CSA Standard CAN3-A23.1.

.2 Concrete temperature at the time of placing shall be between 10° C and 30°C.

.3 Cold weather concreting shall be inclusive to the price tendered and no further or separate payment will be made.

.6 Hot Weather Concreting:

.1 The maximum concrete temperature at the time of placing shall be:

30°C for high strength concrete
35°C for other concrete.

.2 Where ice is added to achieve the above conditions it shall be completely melted by the time concrete mixing is completed.

.3 Protect and cure in accordance with Section 21 of CSA Standard CAN3-A23.1.

.4 Hot weather concreting will be inclusive to the price tendered and no further or separate payment will be made.

.5 Concrete placed under normal temperature conditions shall be deposited within the temperature range of 10°C and 30°C.

3.3 Examination

.1 Examine surfaces, conditions, and preparations upon which work of this Section depends. Clean, adjust, and supply as required.

.2 Do not place any concrete until Testing Company has inspected and reviewed formwork and reinforcing.

.3 Commencement of work will denote acceptance of surfaces and conditions.

3.4 Placing Concrete

.1 Notify Testing Company and Building Inspector before scheduled placing of concrete.

.2 Methods of conveying and placing are to be such that concrete components do not segregate.

.3 Deposit concrete as close as possible to its final position. Lateral movement of concrete shall be avoided.

.4 Compact concrete with general purpose vibrators so that concrete is evenly and adequately distributed around and between reinforcing and against formwork, without honeycombing.

3.5 Concrete Finishing

.1 All concrete finishing shall be done by experts who specialize in this work and have a minimum of five (5) years of proven experience.

.2 Bring tops of slabs to an even level and/or sloping surface as indicated on the drawings.

3.6 Curing and Protection

.1 Beginning immediately after placement, protect concrete from premature drying, sunshine, excessively hot or cold temperatures, and mechanical injury.

.2 Cure horizontal surfaces by covering with polyethylene sheets with edges taped for at least 4 days. Lap edges 100mm minimum. The use of curing compounds shall be permitted only where specifically noted.

.3 It is the Contractor's responsibility to take all additional and necessary procedures and precautions to ensure the proper curing of the concrete.

END OF SECTION

1. GENERAL

1.1 GENERAL REQUIREMENTS

.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here.

1.2 CODES AND STANDARDS

.1 Conform to latest CAN regulations, Masonry Design for Buildings, latest CSA standards for Connectors for Masonry.

2. PRODUCTS

2.1 MATERIALS

.1 Load-bearing concrete block: normal-weight, modular, auto-claved units to current version of CAN3-A165. Use Type H/15/A/M for hollow units and Type S/15/A/M for solid units. (N/A)

.2 Mortar: to Property Specifications of CSA Standard A179. Use type S for loadbearing walls (N/A) and Type N for non-loadbearing walls. Test compressive strength of mortar (minimum 3.5Mpa and maximum 8.5 Mpa), and aggregate to cementitous ratio mix under cash allowance for testing.

.3 Grout: to CSA Standard A179-M1976. Use 20 MPa ready-mixed concrete with 0.375 in coarse aggregate max. or mix 1:3:2 cement:sand: pea gravel by volume. Provide 8 in. slump.

3. EXECUTION

3.1 INSTALLATION

.1 Lay masonry units in 0.375 inch mortar beds and joints. Dampen units before laying to prevent excessive suction on mortar. Do not lay more than 5'-4" in height in one day. Reject all chipped units.

.2 Install grout in High Lifts or Low Lifts in accordance with CAN3-A371- M84, and as shown on drawings.

.3 Provide horizontal joint reinforcing in every third course of solid masonry.

.4 Erect lintels over openings, and anchor masonry to concrete and structural steel elements as detailed in the Structural drawings and specifications.

.5 Clean masonry and make weather tight and without defects before final inspection.

END OF SECTION

1. GENERAL

1.1 GENERAL REQUIREMENTS

.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here. In the event of any conflict with the specification provided by the Architect's Structural Engineer, then the specification of the Structural Engineer shall be followed.

1.2 CODES AND STANDARDS

.1 Conform to the current CSA Standards for CAN/CSA-S16.1, CAN/CSA-S136, W47.1, W48.1, W55.3, W59 and CAN/CSA G40.20.

2. PRODUCTS

2.1 MATERIALS

.1 Materials shall conform to the following standards:

1. Structural steel shall conform to the current CSA Standard for CAN/CSA G4O.21, Grade 3OOW.
2. Anchor Bolts shall conform to the current CAN/CSA Standard for G4O.21-M, Grade 262W.
3. Primer Paint shall conform to CISC/CPMA Specification 2-75.

3. EXECUTION

3.1 GENERAL

.1 Tolerances: fabrication and erection tolerances shall meet the requirements of CSA Standard S16.1.

.2 Work shall be carried out by a member of the Canadian Institute of Steel Construction. Welding shall be preformed by firms fully approved by the Canadian Welding Bureau under the requirements of the current CSA Standard W47.1.

3.2 PREPARATION

.1 Design connections to conform to the current CAN/CSA-S16.1 and the CISC Handbook of Steel Construction for a service capacity in Kips equal to the beam depth in inches multiplied by two, unless a greater reaction is noted on the drawings. Design all splices and connections of tension or compression members for their full capacity. Arrange and pay for nondestructive testing of all unspecified splices in columns, beams and joist components. All connections and details shall be designed by a suitable qualified Registered Professional

Engineer licensed to practice in the Province of Ontario, whose stamp and signature shall be on the shop drawings.

.2 Design and provide bearing plates for a maximum pressure of 16O psi on masonry.

.3 Submit four (4) white prints of erection diagrams and shop details for review prior to fabrication. Review of shop drawings is a precaution against oversight or error. It is not a detailed check and shall not be construed as relieving the Contractor of responsibility for making the work accurate and in conformity with the Contract Documents. Maintain a set of reviewed drawings on site.

3.3 INSTALLATION

.1 Fabrication shall conform to the current CSA Standards for CAN/CSA-S16.1, W59, and W55.3.

.2 Erection shall be carried out by forces of the steel fabricator. Provide all temporary bracing to keep the structure stable until the entire structure is complete.

.3 Provide continuous welding at exposed joints such as door jambs and heads, and grind smooth.

END OF SECTION

1. GENERAL

1.1 GENERAL REQUIREMENTS

.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here.

1.2 SCOPE OF WORK

.1 Provide all labour and materials necessary for the installation of a new steel elevator pit ladder as shown on the drawings.

1.3 SHOP DRAWINGS

.1 Submit one (a) set of shop drawings, stamped by a registered Structural Engineer, for all railings for review prior to fabrication. Send in 11" x 17" PDF format (full size) by email to ivan@ifranko.com

.2 Indicate component details, materials, finishes, connection and joining methods.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Deliver materials to site in good condition with finishes protected against damage.

2. PRODUCTS

2.1 REFERENCE STANDARDS

1. Tubing: ASTM A 269
2. Bars, Shapes and Mouldings: ASTM A 276

2.2 FINISH

.1 Finish shall be shop primed and painted as specified on drawings.

3. EXECUTION

3.1 PREPARATION

.1 Submit shop drawings for review prior to manufacture of the handrails and guardrails.

.2 All joints shall be welded and ground smooth before being shop painted.

3.2 INSTALLATION

.1 Install handrails and guardrails as specified in the reviewed shop drawings.

END OF SECTION

1. GENERAL INSTRUCTIONS

1.1.1. Comply with the General Conditions, Supplementary Conditions and the requirements of Division l.

1.2. Related Work Under Other Sections

1.2.1. Drywall specified under Drywall Section 09200.

1.3. Co-operation

1.3.1. Attend other trades, do rough and fine cuttings, make good carpentry work as may be required.

1.4. Protection

1.4.1. Materials shall be kept under waterproof cover, both in transit and on site.

1.4.2. Materials shall only be stored in areas which are thoroughly dry.

1.4.3. Deliver, store and protect materials and work of this section from damage.

1.5. Fastening

1.5.1. Fastening to solid masonry, brick or concrete surfaces shall be with expansion shields and lag screws. Where screws are required use lead or inorganic fibre plugs. Wood or organic plugs are not permitted.

1.6. Rough Hardware

1.6.1. Supply rough hardware such as nails, bolts, nuts, washers, lags, pins, screws and the like, including hardware for temporary enclosures as required for a complete job.

2. PRODUCTS

2.1. Materials

2.1.1. All materials shall be straight, new, dry and clean; shall be properly sized and shaped, to correct dimensions from nominal sizes noted on drawings.

2.1.2. Lumber and moisture content shall conform to the official grading rules of the Canadian Lumbermans Association of Ottawa, Ontario, for each particular lumber and grade.

2.1.3. Lumber: unless otherwise noted; Spruce Species, grade No.2, conforming to current CSA Standard 0141 kiln dried and bearing grading stamp of an Agency approved by Canadian Lumber Standards Association Board.

2.1.4. Nails, Spikes, and Staples: current CS. Standard B111, galvanized for exterior work, plain elsewhere. Nailing of framing unless otherwise noted, shall conform to Ontario Building Code Tables 9.23.3.4 and 9.23.3.5.

3. EXECUTION

3.1. General Workmanship

3.1.1. Do not commence finished carpentry work in areas where adjacent materials are not thoroughly dry.

3.1.2. Construct all carpentry work as detailed. Where not detailed, work shall be done in accordance with best standard practice.

3.1.3. Accurately fit joints and intersecting members in true planes with adequate fastenings. Locate joints over bearing or supporting surfaces.

3.1.4. Fabricate and erect work square, plumb, straight and true.

3.1.5. Set and fill nail heads occurring in exposed carpentry work.

3.1.6. Sand and remove marks or scrapes from all exposed wood surfaces.

3.1.7. Provide 6 ml polyethylene moisture barrier under all wood products resting on concrete

3.2. Rough Framing

3.2.1. Frame according to best standard practice in accordance with Ontario Building Code.

3.2.2. Blocking, grounds, strapping, rough bucks, anchors and other fastenings indicated shall not be regarded as exact or complete. Location and method of securing these pieces is at option of Contractor. Provide adequate fastenings. Erect as required or indicated, to provide true, plumb, rigid, secure and adequate supports. All joints shall occur over bearing or solid backing.

3.2.3. Provide blocking for all washroom wall fixtures, including mirror, toilet paper dispenser, baby change table, sink, and grab bars.

3.3. Installation of New Doors

3.3.1. Hang new wood doors. Door shall be hung on 1-1/2 pair butts. Cut, fit and secure latch, closer, and hold-open and the like using templates. All doors shall be hung to swing shut with 1.5 mm clearance at head and jambs and 6.0 mm clearance at thresholds unless otherwise directed. Door to stairs to receive smoke seals.

3.4. Installation - Finishing Hardware

3.4.1. Finishing hardware: Set, fit, adjust, and clean hardware according to manufacturer's directions. Hardware shall operate freely. Protect installed items from damage and paint spotting. A copy of the Finished Hardware Schedule shall be kept on the job for Architect's and Owner's reference.

3.5. Completion - Adjusting

3.5.1. On completion of all work in the building, all woodwork shall be checked carefully for defects. All working parts shall be adjusted and refinished as required.

3.6 Electrical Equipment Backboard

3.6.1 Provide backboards for mounting electrical equipment. Use 19mm thick plywood on 19x38mm furring around perimeter and at maximum 300 mm intermediate spacing.

END SECTION

1. GENERAL INSTRUCTIONS

1.1.1. Comply with the General Conditions, Supplementary Conditions and the requirements of Division l.

1.2. Related Work Under Other Sections

1.2.1. Drywall specified under Drywall Section 09200.

1.3. Co-operation

1.3.1. Attend other trades, do rough and fine cuttings, make good carpentry work as may be required.

1.4. Protection

1.4.1. Materials shall be kept under waterproof cover, both in transit and on site.

1.4.2. Materials shall only be stored in areas which are thoroughly dry.

1.4.3. Deliver, store and protect materials and work of this section from damage.

1.5. Fastening

1.5.1. Fastening to solid masonry, brick or concrete surfaces shall be with expansion shields and lag screws. Where screws are required use lead or inorganic fibre plugs. Wood or organic plugs are not permitted.

1.6. Rough Hardware

1.6.1. Supply rough hardware such as nails, bolts, nuts, washers, lags, pins, screws and the like, including hardware for temporary enclosures as required for a complete job.

2. PRODUCTS

2.1. Materials

2.1.1. All materials shall be straight, new, dry and clean; shall be properly sized and shaped, to correct dimensions from nominal sizes noted on drawings.

2.1.2. Lumber and moisture content shall conform to the official grading rules of the Canadian Lumbermans Association of Ottawa, Ontario, for each particular lumber and grade.

2.1.3. Lumber: unless otherwise noted; Spruce Species, grade No.2, conforming to current CSA Standard 0141 kiln dried and bearing grading stamp of an Agency approved by Canadian Lumber Standards Association Board.

2.1.4. Nails, Spikes, and Staples: current CS. Standard B111, galvanized for exterior work, plain elsewhere. Nailing of framing unless otherwise noted, shall conform to Ontario Building Code Tables 9.23.3.4 and 9.23.3.5.

3. EXECUTION

3.1. General Workmanship

3.1.1. Do not commence finished carpentry work in areas where adjacent materials are not thoroughly dry.

3.1.2. Construct all carpentry work as detailed. Where not detailed, work shall be done in accordance with best standard practice.

3.1.3. Accurately fit joints and intersecting members in true planes with adequate fastenings. Locate joints over bearing or supporting surfaces.

3.1.4. Fabricate and erect work square, plumb, straight and true.

3.1.5. Set and fill nail heads occurring in exposed carpentry work.

3.1.6. Sand and remove marks or scrapes from all exposed wood surfaces.

3.1.7. Provide 6 ml polyethylene moisture barrier under all wood products resting on concrete

3.2. Rough Framing

3.2.1. Frame according to best standard practice in accordance with Ontario Building Code.

3.2.2. Blocking, grounds, strapping, rough bucks, anchors and other fastenings indicated shall not be regarded as exact or complete. Location and method of securing these pieces is at option of Contractor. Provide adequate fastenings. Erect as required or indicated, to provide true, plumb, rigid, secure and adequate supports. All joints shall occur over bearing or solid backing.

3.2.3. Provide blocking for all washroom wall fixtures, including mirror, toilet paper dispenser, baby change table, sink, and grab bars.

3.3. Installation of New Doors

3.3.1. Hang new wood doors. Door shall be hung on 1-1/2 pair butts. Cut, fit and secure latch, closer, and hold-open and the like using templates. All doors shall be hung to swing shut with 1.5 mm clearance at head and jambs and 6.0 mm clearance at thresholds unless otherwise directed. Door to stairs to receive smoke seals.

3.4. Installation - Finishing Hardware

3.4.1. Finishing hardware: Set, fit, adjust, and clean hardware according to manufacturer's directions. Hardware shall operate freely. Protect installed items from damage and paint spotting. A copy of the Finished Hardware Schedule shall be kept on the job for Architect's and Owner's reference.

3.5. Completion - Adjusting

3.5.1. On completion of all work in the building, all woodwork shall be checked carefully for defects. All working parts shall be adjusted and refinished as required.

3.6 Electrical Equipment Backboard

3.6.1 Provide backboards for mounting electrical equipment. Use 19mm thick plywood on 19x38mm furring around perimeter and at maximum 300 mm intermediate spacing.

END SECTION

1. GENERAL

1.1 GENERAL REQUIREMENTS

1.1.1 Comply with the General Conditions, Supplementary Conditions and the requirements of Division 1.

1.2 DELIVERY AND STORAGE

1.2.1 Protect materials against high humidity and moisture at all times.

2. PRODUCTS

2.1 MATERIALS

2.1.1 Wood materials - straight, sawn square, true, dressed four sides, properly sized and shaped to correct dimensions from nominal sizes indicated or specified.

2.1.2 Lumber grade and moisture content - comply with the official grading rules of NLGA for the particular lumber and grade, and structurally complying with the latest requirements of the Ontario Building Code. Comply with CSA Standard 0141 Softwood Lumber. Use only grade marked lumber.

2.1.3 All wood materials - well seasoned NLGA, free from defects which impair strength and durability. Moisture content limit: S-GRN: Unseasoned; S-DRY: Maximum 19% moisture content: KD: Maximum 15% moisture content.

2.1.4 Hardwood Lumber: Select oak, suitable for clear finish.

2.1.5 Douglas Fir plywood - comply with CSA Standard 0121, COFI Exterior. Western softwood plywood - comply with CSA Standard 0151, COFI Waterproof glue WSP. Exposed two sides shall be grade G25, and exposed one side shall be grade G/Solid.

2.1.6 Hardwood plywood - conforming to CSA 0115 and AWMAC. Birch or maple ply for stain finish, where noted on drawings.

2.1.7 Fasteners:

.1 Wood screws: electroplated, to CSA-B35.4

.2 Nails and Staples: to CSA-B111

PART 3 - EXECUTION

3.1 PREPARATION

3.1.1 Examine surfaces to receive the work of this Section and proceed only when conditions are satisfactory for a proper installation.

3.2 INSTALLATION - GENERAL

3.2.1 Provide running members of the longest lengths obtainable.

3.2.2 Slowly feed machine-dressed members using sharp cutters. Provide finished members free from drag, feathers, slivers or roughness of any kind. Remove machine marks by sanding.

3.2.3 Machine sand surfaces exposed in the finished work and hand sand to an even smooth surface free of scratches.

3.2.4 Properly frame material with tight joints and rigidly secure in place. Use glue-blocks were necessary.

3.2.5 Design construction methods for expansion and contraction of the materials.

3.2.6 Conceal joints and connections wherever possible. Locate prominent joints only where directed.

3.2.7 Match joints made on the site with joints made in the shop.

3.2.8 Unless otherwise specified glue and blind screw or nail all work. Set and fill and plug surface screws using matching wood plugs.

3.2.9 Accurately scribe, cope and mitre members where required to produce hairline joints.

3.2.10 Erect work plumb, level, square and to the required lines.

3.3 WOOD SILLS AND DOOR SURROUND

3.3.1 Provide solid wood sills for windows in Meeting Room and door surround at entrances to Meeting Room as shown on drawings.

END OF SECTION

PART 1 - GENERAL

1.1 GENERAL

.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here.

1.2 QUALITY ASSURANCE

.1 Work of this Section shall be performed by skilled specialists having minimum 5 years experience in this trade.

.2 Confirm to all governing NBC and OBC requirements and current governing standards of the CSA, CGSB and the STRM.

.3 Install all products in conformance with manufacturer's printed instructions.

1.3 PRODUCT HANDLING

.1 Store materials on raised platforms in approved manner at Site preceding application, and protect from inclement weather at all times.

.2 Store sheet waterproofing materials and insulation in heated atmosphere 5^{o}C or higher for 24 hours before application in cold weather.

1.4 ENVIRONMENTAL CONDITIONS

.1 Do not apply sheet waterproofing materials during rain, fog, snow, or other damp or otherwise unsuitable surfaces.

1.5 WARRANTY

.1 Provide written 5 year warranty.

PART 2 - MATERIALS

2.1 MATERIALS

.1 Primer to be Aquatac Primer by Bakor, or equal reviewed by Architect.

.2 The sheet waterproofing to be Bakor Blueskin WP 200 or equal reviewed by Architect.

.3 Termination sealant to be HE925BES Sealant by Bakor or equal reviewed by Architect.

PART 3 - EXECUTION

3.1 PREPARATION

.1 Examine materials over which Work of this Section are applied and ensure that backup surface is free of snow, ice, loose or adhering materials which would impair this Work. Substrate shall be clean, dry and suitable for sheet waterproofing.

3.2 WORKMANSHIP

.1 Employ experienced and qualified workmen and competent supervision to ensure satisfactory installation in accordance with specified requirements.

.2 Install primer, sheet waterproofing and termination sealant as in written manufacturer's instructions.

END OF SECTION

PART 1 - GENERAL

1.1 REQUIREMENTS OF REGULATING AGENCIES

.1 Where combustible insulation or vapour barrier materials are specified herein, comply with applicable code requirements including supply and installation of approved non-combustible backing and independently supported, non-combustible insulation covering, except where noted specifically as Work of other Sections.

1.2 DELIVERY AND STORAGE

.1 Store packaged materials in their original wrappings or containers with manufacturer's labels and seals intact. Store flammable materials outside the building and protect from all weather hazards and open flame. Abide by all fire protection regulations imposed by the authorities having jurisdiction, and take precautionary measures to avoid fire.

.2 Do not store insulation in direct contact with the earth, road surface or floors. Place suitable forms or skids under the insulation upon delivery to protect the insulation from absorbing dampness from the surrounding terrain or floor. Cover material with approved tarpaulins and secure.

.3 In cold weather, provide warm storage for adhesives such that their consistency is suitable for ease of application

1.3 PROTECTION

.1 Protect surfaces, and in particular the building cladding finish, from being marred or contaminated by the materials.

PART 2 - MATERIALS

2.1 MATERIALS

.1 Rigid insulation for cavity wall – extruded polystyrene insulation, Panelmate Ultra Insulation manufactured by DOW or alternative reviewed by architect. 91mm for R20 or RSI 3.52. Install as per manufacturer’s instructions.

.2 Mineral fibre insulation – Safe’n’Sound by Roxul or alternate reviewed by architect. Install as per manufacturer’s instructions.

.3 Vapour Barrier at Fiberglas insulation - 6 mil polyethylene sheet. Conforming to CAN/CGSB-51.34.

.4 Roof Insulation: Polyisocyanurate insulation. Install as per manufacturer’s instructions.

PART 3 - EXECUTION

3.1 PREPARATION

.1 Ensure that surfaces to receive adhesive or insulation are dry, firm, straight, slightly textured for bond, and free from loose material, projections, ice, frost. slick, grease, oil or other matter detrimental to bond of the adhesive or uniform bedding of the insulation.

.2 Maintain surface and ambient temperatures constantly between 38^{o}C and 10^{o}C during application and curing of adhesive except as permitted otherwise by the Consultant in writing.

.3 Report surfaces left unacceptable by other trades to the Consultant.

3.2 INSTALLATION - GENERAL

.1 Install insulation to thicknesses shown on the Drawings.

.2 Install all materials in accordance with manufacturer's printed instructions unless otherwise specified herein.

.3 In construction separating interior from exterior, locate vapour barrier on the warm-in-winter side of the insulation.

.4 Ensure a uniform, continuous thermal and vapour barrier effect. Where insulation and vapour barriers are to be provided under other Sections, co-ordinate the work such that thermal and vapor barrier continuity is achieved.

.5 Where hangers for suspended ceilings and where supports for heating units pass through insulation and vapour barrier construction, butter apertures liberally with vapour barrier adhesive and ensure continuity of thermal and vapour barrier provisions.

3.3 INSTALLATION OF INSULATION

.1 Where sheet vapour barrier is to be installed, lap all joints, ends, etc., 150mm.

.2 Apply adhesive to the entire surface of the substrate using notched trowels of the type recommended by the adhesive manufacturer.

.3 Pack all crevices and voids, with friction fit insulation.

END OF SECTION

1.1 GENERAL REQUREMENTS

.1 Division 1, General Requirements is a part of this section and shall apply as if repeated here.

1.2 QUALITY ASSURANCE

.1 Work of this Section shall be executed by same trade specialists installing membrane roofing, in accordance with practices and details of the latest SMACNA Architectural Sheet Metal Manual.

1.3 SCOPE OF WORK

.1 The general scope of work shall include all sheet metal flashings shown on the drawings and all other sheet metal flashings required to properly finish the work.

1.4 WARRANTY

.1 Contractor hereby warrants that Work performed under this section shall remain free against leakage, joint spalling and similar defects in accordance with General Conditions for a period of five years.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Metal Flashing: Minimum 26 ga. prefinished sheet steel. Colour to match existing.

.2 Nails: Chromium/Nickel, No.12 x 25mm flat-headed, annular threaded stainless steel.

.3 Cleats, Starter Strips and Back-up Plates: Same metal and thickness as metal flashing; cleats minimum 38mm wide and interlocked with metal flashing; starter strips, continuous. Back-up plates minimum 300mm wide where adjacent lengths of cap flashing meet, fabricated of same material thickness and finish as cap flashing.

.4 Screws, Bolts and Expansion Shields: Non-ferrous metal compatible with adjacent surfaces. Exposed fastenings; same materials as metal surfaces through which they penetrate.

PART 3 - EXECUTION

3.1 FABRICATION

.1 Where possible, shop fabricate flashing components in accordance with applicable requirements of the latest SMACNA Architectural Sheet Metal Manual.

.2 Carry out fabrication in clean shops, located away from areas where carbon steel is torch cut, ground, or cut with abrasive wheels to ensure that carbon steel dust will not be embedded in prefinished surfaces. Clean tools and dies which have been used on carbon steel prior to fabrication to prevent contamination of surface with carbon steel dust.

.3 Form sheet metal on bending brake. Perform shaping, trimming and hand seaming on bench, where practicable, using proper sheet metal working tools.

.4 Form sections square, true and accurate to size. Flashings shall be free from distortion, waves, twists, buckles or other defects detrimental to appearance and performance.

.5 Make allowances for thermal movement when forming, installing, interlocking and soldering sheet metal Work to avoid buckling, fullness of metal straining of joints or seams. Maximum length of flashing pieces; 2400mm. Double back exposed edges at least 12mm for appearance and stiffness.

.6 Fabricate flashings, copings, closures, plastic boxes, pipe sleeves and flashings for roof mounted equipment to details shown, unless otherwise indicated.

3.2 INSTALLATION

.1 Carry out Work in accordance with industry standard sheet metal practice with joints lapped, locked, cleated with "S" cleats and caulked or soldered as required. Hem exposed edges 12mm. Type of joints used shall be adequate for various conditions, subject to approval.

.2 Fabricate exposed fastening, where used, in such a manner as to prevent water penetration at point of fastening.

.3 Provide starter strips where indicated or required to present true, non-waving, leading edge. Anchor to back-up to provide rigid, secure installation.

.4 Make end joints where adjacent lengths of metal flashing meet using 300mm. long back-up flashing secured in place before installing flashing. Apply beads of caulking compound on face of back-up plate to seal ends of metal flashing. Leave 12mm wide space between end of adjacent lengths of metal flashings. Fabricate back-up of same material and finish as metal flashing with which it is being used. Make back-up plate exact profile of flashing allowing for thickness of flashing joints.

.5 Form metal fascia with inner edge extended over fascia top and down cant to meet roofing aggregate. Nail with roofing nails and neoprene washers at 300mm C. Avoid placing nails in face of fascia, through membrane or flashing.

.6 Interlock counter flashing pieces with pre-painted metal base flashing and fold locking seam into position ensuring complete sealing. Continue counter flashing down to hemmed and sprung position at base of cant and junction of aggregate.

.7 Provide underlay of resin sized paper under sheet metal installed over masonry, concrete or wood. Lay underlay dry as sheet metal Work is installed. Secure in place and lap joints 100mm.

.8 Imperfections in sheet metal Work such as holes, dents, creases, or oil-canning is cause for rejection.

.9 Repair damaged sheet metal Work, wash entire installation down, and leave in neat condition.

.10 Provide all flashings required for proper execution and completion of the Work in acceptable manner including metal flashing around mechanical and other equipment occurring on roof.

END OF SECTION

1. GENERAL

1.1 SECTION INCLUDES

1.1.1 Supply of hollow metal steel doors and frames for the Work.

1.2 RELATED SECTIONS

1.2.1 Section 06100, Carpentry: Installation of steel doors and hardware.

1.2.2 Section 08710, Finish Hardware: Supply of hardware.

1.2.3 Section 09900, Painting: Finish Painting.

1.3 QUALITY ASSURANCE

1.3.1 Conform to the requirements of the following:

.1. Canadian Steel Door and Frame Manufacturers' Association Canadian Manufacturing Specifications for Steel Doors and Frames;

.2 Underwriters' Laboratories of Canada requirements for fire doors, frames, materials and accessories, ULC List of Equipment and Materials, Volume II, Building Construction, latest edition;

.3 CGSB 82-GP-5M, Doors, Insulated, Steel;

1.3.2 Doors and frames required to have a fire-rating shall bear, in an inconspicuous but visible place, the label of ULC or Warnock Hersey Professional Services Ltd. certifying the rating of the door or frame as specified.

1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

1.4.1 Remove wrappings or coverings from doors upon delivery to Site. Store doors in a vertical position spaced by blocking to permit air circulation between them.

1.4.2 Store materials on planks in a dry area and cover to protect from damage.

2. PRODUCTS

2.1 MATERIALS

2.1.1 Steel Sheet: Cold rolled, commercial quality, stretcher levelled, conforming to:

.1 Interior doors and frames: ASTM A568-81;

2.1.2 Minimum Metal Core Thickness: Conform to CSDFMA except:

Item:	Thickness
Frames for interior doors	1.52 mm
Door Faces	1.52 mm

2.1.3 Door Core Materials:

.1 Uninsulated Doors: Impregnated kraft honeycomb;
.2 Fire-Rated Doors: Conforming to ULC.

2.1.4 Treatment for Galvanized Surfaces to be Painted: Phosphatizing conforming to CGSB 31-GP-105M, or do not passivate galvanized products after galvanizing.

2.1.5 Primer for Ungalvanized Surfaces: CGSB 1-GP-40M.

2.1.6 Frame Profile: To be "slimline" 19.7mm width.

2.2 FABRICATION

2.2.1 Manufacture: Work of this Section shall be manufactured in Canada.

2.2.2 Welding:

.1 Conform to CSA W59-1984;
.2 Grind exposed welds smooth and flush. Fill open joints, seams and depressions with filler, or by continuous brazing or welding. Grind smooth to true sharp arises and profiles, and sand down to smooth, true, uniform finish.
.3 Hardware Requirements: Blank, mortise, reinforce, drill and tap doors and frames to receive templated hinges and other hardware as required.

2.2.3 Frames and Screens:

.1 Fabricate frames to sizes and profiles shown.
.2 Mitre corners of frames. Cut frame mitres accurately and weld continuously on inside of frame.
.3 Where site welding or splicing is required due to size of unit, the location of field joints shall be shown on the shop drawings and strictly adhered to.
.4 Protect strike and hinge reinforcements and other openings with mortar guard boxes welded to frame.
.5 Fit frames with channel or angle spreaders, two per frame, to ensure proper frame alignment. Install stiffener plates or spreaders between frame trim where required to prevent bending of trim and to maintain alignment when setting and during construction.
.6 Anchors: One per 600mm of jamb length; in masonry walls where jamb filled with insulation provide rigid welded-in anchors, in other masonry walls where jamb filled with mortar, provide T-strap or wire type, in gypsum board walls provide stud type.
.7 Where floor finishes allow, fabricate frames to extend 38mm below finished floor level. Where frames are to terminate at finished floor level, provide plates for anchorage to slabs;
.8 Construct door frames of labelled fire doors as approved by ULC. Ratings for frames shall match doors. Locate label on the frame jamb midway between the top hinge and the head of door frame, so that it is concealed when the door is closed.

2.2.4 Doors:

.1 Fabricate doors to present one continuous face free from joints, tool markings and abrasions. Assemble by welding.
.2 Reinforce around openings required for glazing. Provide glazing stops with countersunk oval head screws.

.4 Reinforce, stiffen and sound-deaden interior doors with impregnated kraft honeycomb core laminated to the inside faces of panels. The core shall completely fill the inside hollow of the door.
.5 Reinforce exterior doors with vertical stiffeners spaced 150mm o.c. maximum. Rigidly connect stiffeners to internal face of doors. Fill voids in doors with insulation.
.6 Reinforce door edges with channel reinforcing. Form seam between faces and door edges by tack welding, followed by continuous welding and grinding smooth. Bevel stiles 3mm.
.7 Provide sealed flush top edge on exterior doors.
.8 Fabricate fire-rated door assemblies in accordance with ULC or ULI requirements. Provide labels for all fire-rated doors. Locate labels to face just below labels on frames.

2.2.5 Prime Painting: Doors and frames shall be shop-painted, using one of the following systems:

.1 Mill phosphatized and prime painted; or
.2 Shop degreased, phosphatized and prime painted.

3. EXECUTION

3.1.1 Fit, hand and adjust doors plumb and true maintaining uniform door widths and heights. Fit all hinges and adjust for ease of operation. Leave 3mm clearance at head and jambs and 19mm between bottom of door and finished floor, excluding floor covering, unless specified otherwise by ULC.

3.1.2 Fill thermally-broken frames with insulation. Fill interior door frames with mortar.

3.1.3 Install jamb anchors provided as specified herein.

END OF SECTION

1. GENERAL

1.1 GENERAL REQUIERMENTS

1.1.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here.

1.2 DESIGN

1.2.1 Design and fabricate windows, brackets and anchorage devices so that when installed they will:

1.2.2 Compensate for unevenness and dimensional differences in structure to which they are secured.

1.2.3 All the Work shall be designed to withstand safely a wind force as listed in Ontario Building Code based on 30 year probability and wind gust at 2.5 factor of safety.

1.3 MANUFACTURERS

1.3.1 Aluminum windows to be manufactured by Sherwood Windows Ltd, whose quotation shall form the base bid.

1.3.2 Manufacturer of aluminum windows must be same as manufacturer of curtain wall.

1.3.3 The manufacturer must supply, install and warranty all Work of this Section.

1.3.4 Approved Alternates:

.1 Fulton Windows and Alumicor, only, are approved alternates.

.2 Other manufacturers seeking approval of their products as alternates to the specified product must submit details and samples, conforming to these specifications, to the Consultant at least ONE WEEK prior to the close of the tender period.

1.4 SUBMITTALS

1.4.1 Submit Shop Drawings for review by Architect.

1.4.2 Show detailed window assembly, including: large scale details of members and materials, of brackets and anchorage devices and of connection and jointing details; full dimensioned layouts for positioning of brackets and anchorage devices to structures; dimensions, gauges, thicknesses; glazing details, description of materials including catalogue numbers, products and manufacturer's names; aluminum alloy and temper designations, finish specifications and all other pertinent data.

1.4.3 Submit a written adhesion and compatibility approved from sealant manufacturer stating all materials in contact with sealants are compatible.

1.4.4 Submit sample window prior to Shop Drawing submittal.

1.5 DELIVERY AND STORAGE

1.5.1 Adequately protect aluminum and aluminum finishes to prevent damage thereto during fabrication, storage, shipping, handling and installation.

1.5.2 Deliver, handle and store units by methods approved by manufacturer. Protect from damage and staining.

1.5.3 Protect sills and stools after installation with boards, heavy paper or other suitable protection, secured in place, to prevent staining or scratching. Do not remove protection before final cleaning.

1.6 WARRANTY

1.6.1 Warranty the Work of this Section for a period of FIVE YEARS from date of Substantial Performance, in writing.

1.6.2 Provide an extended warranty to TEN YEARS against water leakage.

1.6.3 In addition to the above, insulating glass units shall carry manufacturer's warranty of TEN YEARS from date of Substantial Performance of contract.

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2. PRODUCTS

2.1 MATERIALS

2.1.1 Aluminum Extrusions: Extruded shapes, Aluminum Association. alloy AA 6063 T5, AA 6006 TS, minimum 3mm. thick. Sheet aluminum: anodizing quality.

2.1.2 Thermal Break: Rigid PVC or hard rubber.

2.1.3 Finish: Clear anodized finish to Consultant's approval.

2.1.4 Bolts, Screws, Fasteners: Hot dipped galvanized, or cadmium plated steel or 302 stainless steel.

2.1.5 Glass: Float glass to CAN/CGSB-12.3.

2.1.6 Clear Insulating Units: Hermetically sealed, CAN/CGSB-12.8, 5mm clear inner pane - 12mm air space, 5mm Low E clear tempered outer pane on ground floor / 5mm Low E clear float outer pane on 2nd and 3rd floors.

2.1.7 Sealant: One component silicone base to CAN 19-18M. Sealant to be of type approved in writing by material manufacturer for installation. Material to be by Dow Corning or CGE or Temco.

2.1.8 Air-Leakage Sealant: Enerfoam Polymetic Foam Sealant by Can-Air Leakage Control Systems. Refer to Section 07270

2.1.9 Setting Blocks: Neoprene 100mm long, 80A durometer.

2.1.10 Steel: Brake formed, galvanized sheet steel.

2.1.11 Glazing Tape: Vulcanized butyl tape with continuous neoprene spacer. Colour as selected by Consultant.

2.2 FABRICATION

2.1.1 Aluminum windows shall be Series TB-502, thermally broken windows as manufactured by Sherwood Windows Limited.

2.1.2 Make profiles of framing members as shown on Drawings.

2.1.3 Entire assembly shall be weathertight throughout.

2.1.4 Fabricate complete units in shop to provide minimum tolerance and hairline joints throughout.

2.1.5 Assemble members by stainless steel screws. All connections shall be internally sealed in factory with approved sealing compound. Exposed frame sealants are not acceptable.

2.1.6 Aluminum extrusions shall be designed to provide sufficient section modules to safely resist imposed loads but minimum thickness of any part of the load bearing extrusion shall be 3mm. Glazing stops may be 1.6mm. Be prepared to submit design data as requested by Consultant.

2.1.7 Conceal interconnecting members and fasteners in completed assembly.

2.1.8 Do not place manufacturer's name plates, labels or any other finished means of identification on exposed or finished parts.

2.1.9 Provide weep holes in tubular members to drain condensation.

2.1.10 Provide an extruded rigid thermal break integrated with the inner and outer aluminum extrusions to form a rigidly interconnected assembly without the use of fasteners or other thermal bridging elements.

2.1.11 Glass stops shall provide edge margins recommended by glass manufacturer.

2.1.12 Paint all metal surfaces in contact with concrete or masonry, plaster, mortar or dissimilar metals with protective lacquer or bituminous coating.

2.1.13 Mitre and full strength vulcanize joints in weatherstripping.

2.1.14 Provide 3.2mm extruded aluminum sills as detailed, complete with chair type anchoring devices at 600mm. o.c. maximum and jamb drip deflector ends.

3. EXECUTION

3.1 EXAMINATION

3.1.1 Confirm that existing conditions are satisfactory before commencing installation. Check structural elements and adjoining work on which this work may depend. Verify dimensions of openings and minimum clearances. Verify that openings are level and plumb.

3.1.2 Commencement of installation will signify acceptance of existing conditions. No extras will be considered due to subsequent problems related to unsatisfactory conditions of openings and surfaces.

3.2 INSTALLATION

3.2.1 Provide all fastenings or anchors required to be built in under work of other Sections.

3.2.2 Use only concealed fastenings.

3.2.3 Securely install components so that they line up square in true, straight flat and/or flush planes, plumb and level, free from distortion.

3.2.4 Make joints neat and fine as practicable. Allow for full expansion and contraction and take into consideration climatic conditions prevailing at time of installation.

3.2.5 Fasten galvanized steel supports and clips with galvanized bolts and fasten aluminum members with stainless steel screws and bolts.

3.2.6 Ensure that corner joints of frames are weathertight.

3.2.7 Clean aluminum and glass surfaces that are to receive glazing materials with an oil removing solvent and wipe dry.

3.2.8 Glaze windows with factory glazed wrap around vinyl glazing channels.

3.2.9 Place setting blocks at quarter points for each light of glass.

3.2.10 Comply with tape manufacturer's recommendations regarding use of spacers for certain glass sizes.

3.2.11 Install glass with clean cut edges, leaving spaces for expansion and contraction between edge of glass and inside of frame as recommended by glass manufacturer.

3.2.12 Glaze windows with double glazed units, exterior clear tempered glass, Low E interior clear glass with minimum 12mm air space.

3.2.13 Finish tape and glazing wedge with straight unwaving sight lines.

3.2.14 Conform to sealant manufacturer's written recommendations for cleaning, priming, backing and joint design to suit type and location of joint and temperature conditions at time of application..

3.2.15 Apply heel of sealant at perimeter of glass. Ensure drainage space below exterior pane to weep holes in frame and install heel bead at inner pane.

3.2.16 Apply sealant in such a manner as to assure good adhesion to sides of joints and to completely fill voids in joint. Form surfaces of sealant smooth, concave, free from ridges, wrinkles, sags, air pockets and imbedded impurities.

3.2.17 Fill all voids between windows and rough opening with expanding foam Air leakage sealant.

3.2.18 Remove masking tape, soils and sealant which may have been deposited on surfaces near joints.

3.2.19 Seal all window frames to adjacent materials both sides after filling all voids with air leakage sealant, using silicone sealant as specified above.

3.2.20 Glazing shall be completely weathertight.

3.3 CLEANING

3.3.1 When directed, inspect work and remove protective wrappings, coatings and devices and clean glass and aluminum surfaces. Use methods which will not scratch or damage glass, paint or coatings. Provide copies of manufacturers printed maintenance instructions to Owner and Architect.

END OF SECTION

1. GENERAL

1.1 GENERAL

.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here.

1.2 SCOPE OF WORK

.1 Supply and install new gypsum wall board where noted on the drawings.

1.3 CODES AND STANDARDS

.1 Refer to the Ontario Building Code and the National Building Code.

2. PRODUCTS

.1 Gypsum Standard Board: CSA A82.27M.

.2 Gypsum Moisture Resistant: CSA A82.27M.

.3 Gypsum Fire Rated: Type X, 5/8" (Do not use Type X, ½").

.4 See drawings for additional information on gypsum board products to be used.

.5 Corner Beads: 0.55 mm steel, galvanized.

.6 Casing Beads: 0.55 mm steel, galvanized.

.7 Screws: Self-drilling, self-tapping, case-hardened Phillips head drywall screws with corrosion resistant finish: #6 x 1" for one thickness of board and #7 x 1-1/2" for double thickness.

3. EXECUTION

3.1 TOLERANCES

.1 Install work within 1/8" of dimensioned location, and flat within 1/8" maximum in 3' and 1/16" maximum in any running 12". For hoistway shafts (N/A) install work within 1/16" maximum on the entire face of travel.

3.2 STORAGE

.1 Store packaged wallboard flat, protected from moisture and with edges protected from bending and denting.

3.3 PREPARATION

.1 Examine work before commencing installation to ensure that services have been installed, and inspected and approved by jurisdictional authorities, that conduits, pipes, cables and outlets are plugged, capped or covered; that fastenings and

supports installed by others are in place; and that the work of others will not touch back of wallboard.

.2 Provide all required framing and furring. Framing and furring shown on Drawings is indicative, but do not consider it as exact and complete. Construct work to withstand stresses imposed by use without either distortion of dimensional changes.

3.4 INSTALLATION

.1 Proceed with work only in areas closed and protected against weather completely dried out with no further installation of damp construction contemplated.

.2 Install wallboard into reveals, figments and similar applied products of a fixed nature.

.3 Apply wallboard with long dimension parallel to studs. Back all joints with a framing member. Locate edge joints at opposite sides of partitions on different studs and at least 12" from opening jambs.

.4 Stagger end joints where they are unavoidable. When end joints cannot be avoided, form end joints neatly, cut paper with knife and smooth edges by sanding.

.5 Do not install wallboard in lengths of less than 6' except where total dimension of a run is less. Install wallboard for partitions in full length panels. Secure wallboard to wood framing by screws.

.6 Tape and cement tapered joints between boards. At end of joints double width of coating, and camber finish of cement to a maximum of 1/64". Fill screw holes with a minimum two coat application of filler.

.7 At internal corners fill gaps between boards with joint filler, apply creased tape in joint filler applied 2" along each adjoining surface, imbed tape in a cover coat extending 3.5" along each adjoining surface, apply skim coat treatment on other surface.

.8 At external corners secure corner beads with fastenings 6" o.c. on alternate flanges, and cement in flanges as specified for tapered joints.

.9 Install casing beads secured with fastenings at 12" o.c. and cement in flanges as specified for tapered joints. Locate casing beads at edges of wallboard where exposed to view, and abutting other materials with no trim to conceal junction at perimeter of ceiling surfaces, at tops of partitions stopping at continuous ceilings.

.10 Securely attach finish trim, casings and accessories. Do not install them if dented or deformed.

END OF SECTION

PART 1 - GENERAL

1.1 GENERAL

.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here.

1.2 REFERENCE STANDARDS

.1 CSA-A126.1

1.3 SUBMITTALS

.1 Submit samples of all required resilient flooring.

1.4 EXTRA MATERIALS

.1 Material to be in wrapped packages or fully labeled as to produce and colour.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Primers and Adhesives: Those recommended by tile and base manufacturers and which will produce good and permanent waterproof bond between floor surfaces and floor tile, or between wall surfaces and cove base.

.2 Tile:

.1 Conforming to CSA A126.1. Vinyl tile, asbestos free.

.3 Base:

.1 See drawings.l

.4 Sealer: Type approved by flooring manufacturer.

.5 Wax: Type approved by flooring manufacturer.

.6 Metal Edge Trim: Aluminum or brass alloy with lip of edge strip extending under and with shoulder finishing flush with top of resilient floor.

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PART 3 - EXECUTION

3.1 INSPECTION

.1 Check floor surfaces for evidence of carbonation, dusting, excessive moisture or other defects affecting bond of adhesive. Ascertain nature of curing and/or sealing compound used on concrete and its compatibility with flooring adhesive. Take all required remedial measures. Remove compounds if necessary to ensure that adhesive bonds to concrete.

3.2 INSTALLATION - GENERAL

.1 Do not start installation of resilient flooring until all other trades have completed their work and just prior to completion of building.

.2 Coordinate installation of resilient flooring at elevator.

3.3 PREPARATION

.1 On concrete floors, level depressions and cracks with non-shrinking latex joint filler. Report large cracks to Consultant. Do not proceed until remedied. Prime surface with approved primer.

.2 Thoroughly clean concrete floors of any substances deleterious to bond of adhesive.

.3 Close off areas where tile work is in progress to prevent deposit of dust or grit on slabs where tile is being laid.

3.4 APPLICATION - RESILIENT FLOORING

.1 Apply adhesive uniformly with an approved notch-tooth spreader at the recommended rate. Do not spread more adhesive than can be covered before initial set takes place. Use waterproof adhesive throughout.

.2 Lay out each area to be tiled symmetrically from its axis. Adjust starting line so width of border tile shall be at least one half tile. Distribute tiles having varying tones or texture evenly over entire floor area to avoid patches or streaks, and to produce homogeneous blend. Reject tiles having undue variations in colour, shade and texture. Make tile joints flush, uniform, in straight lines and as inconspicuous as possible. Lay tile so that directional patterns of tiles are parallel to each other.

.3 Lay out tiles so that joints are parallel to axis of room are continuous. All joints to be staggered.

.4 Cut tile around excessively heavy or fixed objects. Roll tile with 68 kg roller immediately after laying. Lay tile so that it is flush with adjacent floor surfaces.

.5 Install metal edge strips at unprotected edges of resilient flooring.

.6 Install at front edge of elevator platform and carpet base.

3.5 **APPLICATION - COVE BASE**

.1 Fill cracks and level irregularities of surfaces to which base is to be applied with filler approved by adhesive manufacturer so as to provide solid backing over entire area behind base. Cement cove base to vertical surfaces so that gaps do not occur behind base, so that front lip of base cove bears firmly and uniformly on floor surface, and so that good and permanent bond is produced between base and surface to which it is applied. For right angled external corners use preformed matching cove corner units. Make end joints flush with gap.

.2 At wall ends and openings where ends of preformed corners come close together or touch or overlap, cut each corner unit equally so that a neat, inconspicuous joint is formed in middle of wall end or opening.

.3 Supply cove base for resilient flooring areas and straight base for carpeted areas.

.4 Supply cove base around all millwork toe spaces and gables. (N/A)

3.6 **ADJUST AND CLEAN**

.1 Remove surplus adhesive from face of tiles as work progresses.

.2 Prior to occupation by Owner, broom clean all resilient floors and remove all noticeable stains and marks.

END OF SECTION

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1. GENERAL

0.1 GENERAL

.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here.

0.2 SCOPE OF WORK

.1 Provide all materials, labour and equipment as necessary to complete the painting of all new and repaired surfaces:

2. PRODUCTS

0.1 MATERIALS

.1 Paint materials shall be the products of Pratt & Lambert, Glidden, Sherwin-Williams, Para or Benjamin Moore and shall be the HIGHEST GRADE manufactured by reach of these companies. Paint to be appropriate to surface being covered. Colours to be selected later by Architect from standard colour range.

.2 Primer shall be the highest quality supplied by the manufacturer of the finish paint.

.3 Materials shall be delivered to the site in their original containers, with labels intact and seams unbroken. The presence of any unauthorized materials or containers for such, on site, shall be sufficient cause for rejection of ALL paint materials on site at that time.

3. EXECUTION

3.1 STORAGE

.1 Store paint materials at a minimum ambient temperature of 7 degrees celsius in a well ventilated and heated area.

.2 Take all precautionary measures necessary to prevent fire hazards and spontaneous combustion. Provide an appropriate fire extinguisher in the storage area.

.3 The Contractor shall be responsible for, and shall safeguard, all materials and equipment being used on the site.

3.2 TEMPORARY PROTECTION

.1 Protect floors, equipment, and other surfaces with temporary protective covers such as dust sheets, tarpaulins, or polyethylene sheeting.

.2 Protect or remove and replace hardware, accessories, lighting fixtures, etc., as required.

3.3 SURFACE PREPARATION

.1 Remove all loose or peeling paint, oil, grease, scale, dirt, etc., prior to commencement of painting operations.

.2 Sand, as required, to produce smooth surfaces. Feather out edges to make touch-up patches inconspicuous.

.3 Spot prime surfaces for touch-up as required.

.4 Prime surfaces not previously painted with primers recommended by the paint manufacturer.

.5 Thoroughly mix materials before application.

3.4 FINISHES

.1 New surfaces shall receive 1 prime coat and 2 finish coats.

.2 Previously painted surfaces shall receive 1 touch-up finish coat and 1 finish coat.

.3 Paint all surfaces to match the existing colours.

3.5 APPLICATION

.1 Apply all materials in strict accordance with the manufacturer's printed instructions, and/or the written instructions of the manufacturer's field representative.

.2 Use only suitable, clean equipment in good condition.

.3 Apply only in dust-free, suitable conditions on surfaces free defects liable to impair the final finish or to prevent production of good results.

.4 Apply materials evenly without runs, sags, wrinkles, overlapping, bristles, overspray, or other evidence of faulty workmanship.

.5 Each coat of paint shall be dry and hard before a following coat is applied.

END OF SECTION

PART 1 - GENERAL

1.1 WORK INCLUDED

1.1.1 All labour, materials, equipment and services to supply and install metal toilet partitions and urinal screens as shown on the Drawings and as specified herein.

1.2 SUBMITTALS

1.2.1 Submit shop drawings clearly indicating compartment layouts and dimensions, the material being supplied and all connections, attachments, reinforcing, anchorage, hardware and location of exposed fastenings.

1.2.2 Submit necessary templates and instructions where supports or anchors have to be built in by others.

1.2.3 Submit one sample of each of the following:

1. hinge, latch panel fitting;
2. corner section, [200 mm x 200 mm|8" x 8"] showing corner, edge and core construction.

1.2.4 Submit two samples of the finish selected for the compartment panels.

1.2.5 Complete designated washroom with sample toilet partitions for approval. Modify or replace mock-ups to obtain approval. After acceptance, retain mock-up as standard of quality for manufacture and installation of toilet partitions.

PART 2 - PRODUCTS

2.1 FABRICATION - GENERAL

2.1.1 Fabricate work true to dimensions, square, free from distortion and defects detrimental to appearance and performance.

2.1.2 Welding shall comply with CSA W59, and be done by a fabricator fully approved by the Canadian Welding Bureau under the requirements of CSA W47..1 File or grind exposed welds smooth and flush. Do not leave grinding marks.

2.2 FABRICATION - CONCEALED SUPPORT ELEMENTS

2.2.1 Fabricate concealed supports from rolled steel sections assembled by welding.

2.2.2 Paint supports with two coats of rust inhibitive black paint.

2.3 FABRICATION - METAL COMPARTMENTS

2.3.1 Fabricate door, pilaster and partition panels from roller-levelled, zinc-coated sheet steel faces pressure laminated to core using full surface contact adhesive. Core: insulating, honey-comb manufactured from Kraft paper weighing [0.12 kg/sq m|25 lbs/1000 sq ft], reinforced as required to incorporate compartment-mounted toilet accessories. Edge cut outs with formed channels welded in place.

2.3.2 Door and partition panels - [0.8 mm|22 ga] sheet; [25 mm|1"] panel thickness. Pilaster panels - [1.2 mm|18 ga] sheet; [32 mm|1-1/4] panel thickness. Form panel edges, weld and seal with continuous oval crown locking strip. Mitre and weld corners.

2.3.3 Reinforce door and partition panels with concealed [2 mm|14 ga] steel patches spot welded at points to be tapped for fixings. Similarly reinforce pilaster panels using [2.5 mm|12 ga] material.

2.3.4 Finish surfaces of doors, pilaster and partition panels with two coats of baked thermosetting acrylic enamel. Custom colour as selected by Consultant, from not necessarily manufacturer's standard colours.

2.3.5 Panel assembly and wall attachment fittings: Heavy chrome plated Zamac of approved profile. Smooth cut edges of fittings. Finish of fittings - mill finish. Apply fittings using theftproof screws.

2.3.6 Provide a two bolt, adjustable, lockable levelling mechanism with an extruded aluminum shoe to completely conceal levelling mechanism, and finished to match panel fittings. Type 302, Blend "S" finish, stainless steel shoe. Secure shoe by positive mechanical means.

2.3.7 Compartments: Floor mounted type. Regal by S.W. Fleming Co. Ltd., Normandie by Hadrian Manufacturing Inc., Medallion by GSW Ltd., -- by Shanahan's Manufacturing Ltd., or other approved manufacture.

2.3.8 Provide handicapped compartments as indicated on Drawings, with out swinging doors.

2.4 HARDWARE

2.4.1 Provide compartment doors with chrome-plated, concealed in-door gravity type hinge adjustable to hold the door in any position when not latched.

2.4.2 Provide doors with latch having concealed latch bolt, rubber bumpered stop and keeper. Provide doors with combined double coat hook and bumper.

2.4.3 Finish hardware to match panel fittings.

2.4.4 Provide emergency release operation for door latches.

2.4.5 Provide urinal screens where indicated.

PART 3 - EXECUTION

3.1 INSPECTION

3.1.1 Verify dimensions on the site before preparing shop drawings or proceeding with shop work.

3.2 INSTALLATION - SUPPORTS

3.2.1 Provide anchors, inserts and fixings necessary for attachment of supports to building structure. Drill supports as required to receive attachment of compartments. Arrange supports to avoid conflicts with pipes, ducts, framing provided under other Sections, and such that supports and their fixings are fully concealed from view within the finished work.

3.3 INSTALLATION - TOILET PARTITIONS

3.3.1 Install compartments secure, accurately positioned, plumb, level, square and free from sag and distortion.

3.3.2 Ensure spaces between panels and pilasters, between panels and walls and between pilasters and walls are of uniform consistent width and sized to ensure it is not possible to see persons using the compartments.

3.3.3 Perform drilling of steel, masonry and concrete necessary to install the work of this Section. Rigidly fasten pilasters to floor.

3.3.4 Co-ordinate installation with the work of trades providing ceilings, wall and floor finishes, washroom accessories and other adjacent components and construction.

3.3.5 Insulate contact surfaces to prevent electrolysis due to metal contact with masonry, concrete or dissimilar metal surfaces. Use bituminous paint, building paper or other approved means.

3.3.6 Install hardware supplied under this Section and ensure that it is visually aligned.

3.3.7 Provide 3 brackets per interface for attachment of partition to wall and pilaster.

3.3.8 Where compartments occur adjacent to urinals, supply a Type 302, No. 4 finish, [1.6 mm|0.050"] thick, stainless steel sheet, [450 mm x 450 mm|18" x 18"], and apply to compartment using double-coated tape.

3.4 ADJUSTMENT

3.4.1 Upon completion of the work or when directed, remove all traces of protective coating or paper, and polish compartments.

3.4.2 Test hinges, locks and latches and where necessary, adjust and lubricate. Set hinges so that doors stand open 30 degrees when compartment is not in use. Ensure compartments are in working order.

END OF SECTION

1. GENERAL

1.1 GENERAL REQUIREMENTS

.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here. In the event of any conflict with the specification provided by the Architect's Mechanical Engineer, then the specification of the Mechanical Engineer shall be followed.

1.2 SCOPE OF WORK

.1 Provide all labour and materials required provide new, or modify the existing, plumbing and drainage systems.

1.3 CODES AND STANDARDS

.1 All work shall be done in accordance with the Plumbing Code under Water Resources Act and the local authority having jurisdiction.

1.4 PERMITS

.1 Obtain all necessary permits and pay all permit fees in connection with the work.

.2 Submit a copy of the final inspection certificate to the Consultant.

2. PRODUCTS

2.1 MATERIALS

.1 Supply and install all plumbing equipment shown on drawings.

.2 Include all labour and materials which are necessary to make a complete and operational installation whether or not such labour and material is specifically called for in the specifications or is noted on the drawings.

3. EXECUTION

3.1 PREPARATION

.1 Obtain site measurements and determine the location of existing plumbing and drainage lines.

3.2 EXECUTION - PLUMBING

.1 All work shall be executed in a workmanlike manner.

.2 Cut square, ream and clean tubing ends, clean recesses of fittings and assemble without binding.

.3 All joints shall be soldered. Compression fittings are not acceptable.

.4 Provide new ball valves to shut off the water supply before all new toilets and sinks.

3.3 EXECUTION - DRAINAGE

.1 All work shall be executed in a workmanlike manner.

.2 Test all drain piping for leaks before repairs are made to the existing finishes. Eliminate any leaks and remove and replace any defective work.

END OF SECTION

1. GENERAL

0.1 GENERAL REQUIREMENTS

.1 Division 1, General Requirements, is a part of this section and shall apply as if repeated here. In the event of any conflict with the specification provided by the Architect's Electrical Engineer, then the specification of the Electrical Engineer shall be followed.

0.2 SCOPE OF WORK

.1 Provide all labour and materials required provide new, or modify the existing, electrical systems for the following:

- Electrical as indicated on the electrical drawings

0.3 CODES AND STANDARDS

.1 All electrical work shall be performed in strict accordance with the requirements of the latest edition of the Ontario Electrical Code. This code and any additional requirements of the inspection authority shall take precedence, however, the standard established by these specifications and/or drawings shall not be reduced by any of the above.

0.4 PERMITS

.1 Obtain all necessary permits and pay all permit fees for the work.

.2 Submit a copy of the final inspection certificate to the Consultant.

2. PRODUCTS

2.1 MATERIALS

.1 The make and quality of all materials used shall be:

.1 Approved by the Canadian Standards Association (CSA) and the local inspection authority.

.2 Subject to the approval of the Consultant and the local authorities having jurisdiction.

.3 New and free from all defects.

.4 Uniform pattern throughout the work.

.5 Standard products of the manufacturers unless indicated otherwise.

.6 Identical units or parts shall be by one manufacturer.

.7 ***New switches and outlets to be white Decora style with stainless steel faceplates***

.2 Include all equipment and materials which are necessary to make a complete and operational installation whether or not such equipment or material is specifically called for in the specifications or is noted on the drawings.

3. EXECUTION

3.1 PREPARATION

.1 Obtain site measurements and determine the location of existing electrical equipment.

3.2 EXECUTION

.1 All work shall be executed in a workmanlike manner.

.2 Equipment shall be accurately set, plumbed and leveled, either paralleling or at right angles to the building lines.

END OF SECTION