

RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Bid Receiving Public Works & Government Services
Canada/Réception des soumissions Travaux publics et
Services gouvernementaux Canada
1713 Bedford Row
Halifax, N.S./Halifax, (N.E.)
B3J 1T3
Halifax
Bid Fax: (902) 496-5016

Revision to a Request for a Standing Offer

Révision à une demande d'offre à commandes

Regional Individual Standing Offer (RISO)

Offre à commandes individuelle régionale (OCIR)

The referenced document is hereby revised; unless
otherwise indicated, all other terms and conditions of the
Offer remain the same.

Ce document est par la présente révisé; sauf indication
contraire, les modalités de l'offre demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address

Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

Real Property Contracting
1713 Bedford Row
P.O. Box 2247/C.P. 2247
Halifax, N.S./Halifax, (N.E.)
B3J 3C9
Halifax

Title - Sujet PAVEMENT LINES AND MARKINGS		
Solicitation No. - N° de l'invitation W010C-11C150/A		Date 2012-05-29
Client Reference No. - N° de référence du client W010C-11-C150		Amendment No. - N° modif. 001
File No. - N° de dossier PWA-1-64181 (104)	CCC No./N° CCC - FMS No./N° VME	
GETS Reference No. - N° de référence de SEAG PW-\$PWA-104-4888		
Date of Original Request for Standing Offer Date de la demande de l'offre à commandes originale		2012-05-28
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2012-07-09		Time Zone Fuseau horaire Atlantic Daylight Saving Time ADT
Address Enquiries to: - Adresser toutes questions à: Nowakowski, Leanne		Buyer Id - Id de l'acheteur pwa104
Telephone No. - N° de téléphone (902) 496-5377 ()	FAX No. - N° de FAX (902) 496-5016	
Delivery Required - Livraison exigée		
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:		
Security - Sécurité This revision does change the security requirements of the Offer. Cette révision change les besoins en matière de sécurité de la présente offre.		

Instructions: See Herein

Instructions: Voir aux présentes

Acknowledgement copy required Accusé de réception requis	Yes - Oui <input type="checkbox"/>	No - Non <input type="checkbox"/>
The Offeror hereby acknowledges this revision to its Offer. Le proposant constate, par la présente, cette révision à son offre.		
Signature	Date	
Name and title of person authorized to sign on behalf of offeror. (type or print) Nom et titre de la personne autorisée à signer au nom du proposant. (taper ou écrire en caractères d'imprimerie)		
For the Minister - Pour le Ministre		

Solicitation No. - N° de l'invitation

W010C-11C150/A

Amd. No. - N° de la modif.

001

Buyer ID - Id de l'acheteur

pwa104

Client Ref. No. - N° de réf. du client

W010C-11-C150

File No. - N° du dossier

PWA-1-64181

CCC No./N° CCC - FMS No/ N° VME

Amendment 001 is being issued to attach Annex A - Statement of work and to change "Security" on page one (1) of the Request for Standing Offer. The Security Requirements have not been changed.

DEPARTMENT OF NATIONAL DEFENCE



Specification

**PAVEMENT MARKING
CFB HALIFAX AREA
CFB HALIFAX, NS**

Job No. W010C-11-C150

2011-05-16

<u>Section</u>	<u>Title</u>	<u>Pages</u>
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01 35 30	HEALTH AND SAFETY REQUIREMENTS	6
01 35 35	DND FIRE SAFETY REQUIREMENTS	4
01 35 36	SECURITY, SAFETY AND FIRE REGULATIONS CFAD BEDFORD, NS	5
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01 61 00	MATERIAL AND EQUIPMENT	2
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<u>Division 32 - Exterior Improvements</u>		
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PART 1 - GENERAL

<u>1.1 DESCRIPTION OF WORK</u>	.1	Work under this Standing Offer Agreement comprises the furnishing of all labour, materials and equipment required carry out line painting of asphalt and concrete surfaces. This includes angle parking, cross walks, parallel parking, lettering including numerals, single and double lines. The work includes cleaning and removal of existing markings where required at various areas of CFB Halifax.
<u>1.2 ENGINEER</u>	.1	All reference to the Engineer in this specification, is to be understood, that the Contract Inspector is representing the Formation Construction Engineering Officer(FCEO).
	.2	The address of the Engineer is: Formation Construction Engineering Maritime Forces Atlantic PO Box 99000 Stn Forces Willow Park Bldg 7 Halifax, NS B3K 5X5 Attn: Contract Inspector Tel: (902)720-1807 Fax: (902)720-1591
	.3	The Engineer will provide the Contractor a list of his authorized representatives at the pre-job meeting.
<u>1.3 WORK INCLUDED</u>	.1	In accordance with Section 32 17 23, PAVEMENT MARKINGS.
	.2	It is the Contractor's responsibility to produce an acceptable end result regardless of labour or quantity of material required. Film thickness of any one application will not be less than that recommended by the manufacturer.
	.3	Clean-up.
<u>1.4 LOCATION OF JOB SITES</u>	.1	Areas covered under this Specification include but not limited to the following locations: .1 Stadacona - Halifax, NS; .2 Windsor Park - Halifax, NS; .3 Willow Park - Halifax, NS; .4 Royal Artillery(RA) Park - Halifax, NS;

1.4 LOCATION OF
JOB SITES
(Cont'd)

- .1 (Cont'd)
- .5 Halifax Armoury - Halifax, NS;
 - .6 Damage Control Division - Herring Cove, NS;
 - .7 Ferguson's Cove - Ferguson's Cove, NS;
 - .8 Dockyard - Halifax, NS;
 - .9 Dockyard Annex(NAD) - Dartmouth, NS;
 - .10 Shannon Park - Dartmouth, NS;
 - .11 Bedford Magazine(CFAD Bedford) - Bedford, NS;
 - .12 Degaussing Range, Wright's Cove - Dartmouth, NS;
 - .13 Bedford Rifle Range - Bedford, NS;
 - .14 Defence Research and Development Canada(DRDC Atlantic) - Dartmouth, NS;
 - .15 12 Wing Shearwater - Eastern Passage, NS;
 - .16 Osbourne Head - Cow Bay, NS;
 - .17 CFS Newport Corner - Newport Corner, NS;
 - .18 Debert and outlying areas - Debert, NS;
 - .19 CFRS Mill Cove - Mill Cove, NS;
 - .20 Windsor Armoury - Windsor, NS.

1.5 SITE ACCESS

- .1 Access to the site is under the direction of the Department of National Defence. All visitors entering areas issuing a daily pass will be aware of the requirement for search as a condition of issue.
- .2 While within the confines of CFB Halifax, all employees and representatives of the Contractor must comply with all of the Standing Orders as promulgated by Base authorities. Engineer will provide copies of relevant Standing Orders.

1.6 PRE-JOB
MEETING

- .1 Immediately upon receipt of award of Standing Offer, the successful Contractor will contact the Engineer at (902)720-1807 to arrange a pre-job meeting prior to commencement of any work.

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- | | | |
|--|----|--|
| <u>1.7 HOURS OF WORK</u> | .1 | Normal working hours will be 0800 to 1600 hours, Monday to Friday. Any work carried outside normal working hours must be authorized by the Engineer. |
| <u>1.8 CONTRACTOR'S
USE OF SITE</u> | .1 | Contractor will be briefed on use of site by the Engineer. |
| | .2 | Do not unreasonably encumber site with materials or equipment. |
| | .3 | Move stored products or equipment which interferes with operations of Engineer or other Contractors. |
| <u>1.9 PARKING</u> | .1 | Parking space will be made available on site for company vehicles and equipment only. Maintain and administer this space as directed. |
| <u>1.10 CODES AND
STANDARDS</u> | .1 | Perform work in accordance with the latest edition of the Manual of Uniform Traffic Control Devices for Canada. National Building Code of Canada(NBCC), Canada Labour Code and any other code of provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements will apply. |
| | .2 | Meet or exceed requirements of Standing Offer documents, specified standards, codes and referenced documents. |
| <u>1.11 PROJECT
MEETINGS</u> | .1 | Engineer will arrange project meetings and assume responsibility for setting times, recording and distributing minutes. |
| <u>1.12 LOCATION OF
EQUIPMENT AND
FIXTURES</u> | .1 | Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate. |
| | .2 | Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance. |
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1.13 EXISTING
SERVICES

- .1 Where work involves breaking into or connecting to existing services, carry out work at times directed by governing authorities, with minimum of disturbance to pedestrian and vehicular traffic.
- .2 Before commencing work, establish location and extent of service lines in area of work and notify Engineer of findings.
- .3 Submit schedule to and obtain approval from Engineer for any shut-down or closure of active service or facility. Adhere to approved schedule and provide notice to affected parties.
- .4 Where unknown services are encountered, immediately advise Engineer and confirm findings in writing.

1.14 ADDITIONAL
DRAWINGS

- .1 Engineer may furnish additional drawings to assist proper execution of work. These drawings will be issued for clarification only. Such drawings will have same meaning and intent as if they were included with plans referred to in Standing Offer documents.

1.15 PRODUCT DATA

- .1 Do not proceed with work until relevant submissions are reviewed by Engineer.
- .2 Present product data in SI Metric units, if available.
- .3 Contractor's responsibility for errors and omissions in submission is not relieved by Engineer's review of submissions.
- .4 Notify Engineer, in writing at time of submission, identifying deviations from requirements of Standing Offer documents stating reasons for deviations.
- .5 Contractor's responsibility for deviations in submission from requirements of Standing Offer documents is not relieved by Engineer's review of submission, unless Engineer gives written acceptance of specific deviations.
- .6 Make any changes in submissions which Engineer may require consistent with Standing Offer documents and resubmit as directed by Engineer.
- .7 Notify Engineer, in writing, when resubmitting, of any revisions other than those requested by Engineer.
- .8 Product data, including manufacturers' catalogue sheets, brochures, literature, performance charts and diagrams, use to illustrate standard manufactured products may form part of product data submission provided that information not applicable to project is deleted and additional details applicable to the project are provided as necessary.

1.16 POWER AND
WATER SUPPLY

- .1 DND may provide, free of charge, temporary electric power and water for construction purposes.
- .2 Engineer will determine delivery points and quantitative limits. Engineer's written permission is required before any connection is made. Connect to existing power supply in accordance with Canadian Electrical Code.
- .3 Provide, at no cost to DND, all equipment and temporary lines to bring these services to project site.
- .4 Supply of temporary services by DND is subject to DND requirements and may be discontinued by DND site representative at any time without notice, without acceptance of any liability for damage or delay caused by such withdrawal of temporary services.
- .5 After the temporary service lines are no longer required, the Contractor shall remove all lines and equipment, restore the connection points to their original condition and return the land to its original contour.

1.17 SITE VISIT

- .1 Failure to visit the site, to examine the Specifications and drawings or otherwise to become familiar with site conditions, will not relieve the Contractor of any responsibility to provide the complete work in accordance with the Standing Offer documents.

1.18 WORKMANSHIP

- .1 Workmanship must be the best quality executed by workers experienced and skilled in the respective duties for which they are employed.
- .2 Do not employ any unfit person or anyone unskilled in their required duties. The Engineer reserves the right to require the dismissal from the site, workers deemed incompetent, careless, insubordinate or otherwise objectionable.
- .3 Decisions as to the quality or fitness of workmanship in cases of dispute rest solely with the Engineer whose decision is final.
- .4 The Contractor will employ a competent and experienced supervisor with the authority to speak on his behalf on day-to-day routine matters.

1.19 NOTIFICATION OF
REQUIREMENT

- .1 A Call-up Against a Standing Offer PWGSC 942, will be issued by the Engineer or his/her authorized representative, to notify the Contractor of requirements against this Standing Offer.

1.19 NOTIFICATION OF REQUIREMENT
(Cont'd)

- .2 Prior to commencing work, an estimated cost must be submitted, to the Engineer or his authorized representative, in writing including the total costs for all work that will be performed as requested. The Call-up/Work Order, when issued will identify the square meterage of areas to be painted.
- .3 When requested by Engineer, provide an adequate breakdown of quote to show how costs were incurred.
- .4 The Contractor, upon receipt of the acceptance of Tender, will be advised by the Engineer of the names of persons authorized to request this service. Work undertaken by the Contractor authorized by other will not be paid for.
- .5 The Contractor must notify PWGSC and Engineer when 75% of funds allotted to this Standing Offer Agreement have been expired.

1.20 PROTECTION OF PROPERTY

- .1 Execute work with least possible interference or disturbance to occupants, public and normal use of premises. Arrange with Engineer to facilitate execution of work if necessary.

1.21 PROTECTION OF EXISTING FACILITIES

- .1 The Contractor must take all necessary precautions to ensure against damage to existing facilities. Any damage to such facilities as a result of the Contractor's operations must be repaired or replaced by the Contractor at his/her own expense, as soon as is reasonably possible.
- .2 Special coverings and protection must be provided to protect plants, walls, projections and adjacent work where materials are being removed, installed or hoisted.
- .3 The Contractor must protect all occupant owned furnishings and equipment, and the building from damage during execution of this Standing Offer.
- .4 Where the Engineer considers it necessary, provide and erect warning signs and barriers.

1.22 TEMPORARY STRUCTURES

- .1 The Contractor must furnish and maintain all equipment as may be required for the proper execution of the work. Such equipment must be removed from the site by the Contractor on completion of the work.

1.23 SITE SIGNS
AND NOTICES

- .1 Safety and Instruction Signs and Notices:
 - .1 Signs and notices for safety and instruction must be in both official languages. Graphic symbols must conform to CAN/CSA Z321-96(R2006).

1.24 SECURITY
CLEARANCE

- .1 The Contractor and his/her personnel must be suitable for security clearance as defined by the department of National Defence Security Officer.
- .2 The Engineer will make the necessary arrangements for security clearances.

1.25 INSPECTION

- .1 All work and materials covered by this specification will be subject to inspection at any and all times by the Engineer.

1.26 DOCUMENTS
REQUIRED

- .1 Maintain at job site, one(1) copy each of the following:
 - .1 Specification;
 - .2 Call-Up/Work Order; and
 - .3 Contract/Standing Offer drawings.

1.27 METHOD OF
INVOICING

- .1 Invoices to be made out separately for each of the areas covered under this Specification.
- .2 Invoices for work completed under this Specification will be made out in one(1) copy and forwarded to:

Accounts Payable Section
Formation Construction Engineering
Maritime Forces Atlantic PO Box 99000
Stn Forces Willow Park Building 7
Halifax, NS B3K 5X5
- .3 All invoices must be submitted within 30 days of completion of work.
- .4 Each invoice will clearly indicate the following information:
 - .1 Contract number;
 - .2 Work order/serial number;
 - .3 Requisition/order offer number;

1.27 METHOD OF
INVOICING
(Cont'd)

- .4 (Cont'd)
 - .4 Building number or location;
 - .5 Dates during which the work was accomplished;
 - .6 A detailed description of the work performed, with itemized list of materials & labour(a copy of the Contractor's invoice from his material supplier will also be included plus any other costs being charged), labour, overhead, profit and applicable taxes will be included separately on the invoice.
 - .7 Labour costs are to be broken down by trade and sub-trade. Labour time sheets will also be provided upon request.
- .5 All call-outs supported with a PWGSC 942 Call-up Against a Standing Offer will be invoiced separately.
- .6 No invoices will be processed without proper information as outlined in this section.

1.28 SUPPLEMENTAL
REGULATIONS

- .1 The following sections form a part of this specification. The successful contractor will be issued copies of these regulations as part of a pre-job meeting, which will be held prior to start of work.
 - .1 01 35 30 - HEALTH AND SAFETY REQUIREMENTS
 - .2 01 35 35 - DND FIRE SAFETY REQUIREMENTS
 - .3 01 35 36 - SECURITY, SAFETY and FIRE REGULATIONS CFAD BEDFORD, NS; and
 - .4 01 35 37 - ACCESS of DRDC COMPLEX.
- .2 The Contractor must ensure that all contractor personnel, sub-contractors and sub-contractor's personnel understand and comply with the regulations at all times when within the confines of CFB Halifax.

1.29 GUARANTEE/
WARRANTY

- .1 All labour, materials, and equipment supplied under this Standing Offer will be warranted for a period of one(1) year after completion of the Standing Offer.
- .2 Where the Contractor supplies equipment purchased from a supplier or manufacturer, he must obtain from such supplier or manufacturer a warranty for the term specified and such warranty must be made out to DND.

1.29 GUARANTEE/
WARRANTY
(Cont'd)

- .3 For all items where the manufacturer's normal guarantee/warranty periods exceed that specified the Contractor must obtain from the manufacturer or supplier, a warranty for the manufacturer's normal warranty period.
- .4 All warranties must be in accordance with the requirements of the Standing Offer documents and must be passed to the Engineer at the time of handing over the project.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

PART 1 - GENERAL

1.1 CONSTRUCTION SAFETY MEASURES

- .1 Observe and enforce construction safety measures complying with the requirements of the following statutes and authorities:
 - .1 Canada Labour Code Part II and the Canadian Occupational Health and Safety Regulations.
 - .2 Nova Scotia Occupational Health and Safety Act and supporting Occupational General Safety Regulations as amended from time to time.
 - .3 Most recent amendments to the National Building Code of Canada, Part 8 and National Fire Code.
 - .4 Nova Scotia Worker's Compensation Board.
 - .5 Applicable municipal statutes.
 - .6 Department of National Defence and Base Safety Regulations.
- .2 Engineer will provide a copy of relevant DND Safety Regulations.
- .3 In event of conflict between any requirement of above statutes, comply with the most stringent measures or with Engineer's written directive.
- .4 Refer to Section 01 35 35, DND Fire Safety Requirements.
- .5 **Prior to Contract Award**
 - .1 Bidders/Tenders are to provide a copy of the company's safety policy, signed by the owner or authorized representative of the company.
 - .2 Bidders/Tenders are to provide documents and evidence to the satisfaction of the Crown, indicating that the bidder/tender has successfully completed an independent SAFETY AUDIT and will maintain that safety audit for the life of the Standing Offer(Contractor and sub-contractor(s)).
- .6 **Before Work Begins**
 - .1 Bidder/Tender to provide documentation if requested by the Crown, indicating all safety training attained for each person who will be involved with the Standing Offer.
- .7 Disciplinary procedures must be spelled out in the Tender/Standing Offer documents so there are no misunderstandings.

1.1 CONSTRUCTION .7
SAFETY MEASURES
(Cont'd)

(Cont'd)

- .1 **First Violation:** Verbal warning issued to the contractor for the first violation of a safety regulation(Violation will be documented on Standing Offer file, copy to Contractor DCC or PWGSC).
- .2 **Second Violation:** Written warning to contractor for second violation of a safety regulation(Violation will be documented on Standing Offer file, copy to Contractor, DCC or PWGSC).
- .3 **Third Violation:** A third violation of a safety regulation may result in the termination of the Standing Offer with a recommendation to the Contracting Authority that the contractor be denied access to Formation Construction Engineering contracts(Documented to Standing Offer file, copies to Contractor, DCC or PWGSC).
- .4 **Serious Violation:** For a serious violation of a safety regulation as deemed by a regulator, project manager or safety officer a recommendation will be made to the Contracting Authority to immediately terminate the Contract/Standing Offer(Violation documented on Standing Offer file, copies to Contractor, DCC or PWGSC).
- .5 **Charges Laid or Guilty Determination by Courts:** Infractions of safety regulations that result in charges being laid by a regulator against the contractor or the Contractor being found guilty by the courts may result in that Contractor being denied access to Formation Construction Engineering contracts/Standing Offers.

1.2 ASBESTOS .1
PRODUCT & ASBESTOS
ACTIVITY

- .1 Within the confines of the Base, the provision of new products containing fibrous asbestos materials is prohibited.
- .2 Demolition or disturbance of spray or trowel-applied asbestos can be hazardous to health. Should material resembling spray or trowel-applied asbestos be encountered in course of work, stop work and notify Engineer immediately. Do not proceed until written instructions have been received from Engineer.

1.3 FASTENING .1
DEVICES EXPLOSIVE
ACTUATED

- .1 Explosive actuated devices must not be used.

1.4 HOT WORK .1

- .1 All hot work activity is to take place with written permission from the Engineer(Hot Work Permit).

1.4 HOT WORK
(Cont'd)

- .2 The ventilation system in the area of any Hot Work activity is to be isolated to prevent migration of fumes/smoke and to reduce any possible spread of fire to other areas of the facility.
- .3 Contractor is to employ an employee trained in the use of fire extinguishers as fire watch during any Hot Work for a minimum of 30 minutes after activity has ceased.

1.5 CONFINED SPACES

- .1 All work in confined spaces will be carried out in compliance with the Canada Occupational Safety and Health Regulations, Part XI.
- .2 The Contractor to provide and maintain all equipment as required by any person to enter and/or perform work in a safe manner, in compliance with the Canada Occupational Safety and Health Regulations, Part XI.
- .3 The Contractor to provide and maintain training, as required by the Canada Occupational Safety and Health Regulations, Part XI.
 - .1 The Contractor and/or his employees must provide proof of training and qualifications when requested by the Engineer.
- .4 The Contractor to provide the Engineer with a copy of an "Entry Permit" for each and every entry into the confined space to ensure compliance with the Canada Occupational Safety and Health Regulations, Part XI.
- .5 The Contractor to have a hazard assessment of the confined space performed.
 - .1 The Contractor to provide the Engineer with a copy of the hazard assessment.

1.6 FALL PROTECTION

- .1 All work carried out above the mandatory height restrictions, from unguarded structure and/or scaffolding, will be done in compliance with the Canada Occupational Safety and Health Regulations, Part XII, Section 12.10.
- .2 The components of a fall protection system must meet the standards as outlined in the Canada Occupational Safety and Health Regulations, Part XII, Section 12.10(2).
- .3 The Contractor is to ensure fall protection equipment is maintained, inspected and tested by a qualified technician as required by the Canada Occupational Safety and Health Regulations, Part XII, Section 12.3.

1.7 ARC FLASH

- .1 The Contractor is to ensure all electrical equipment such as switchboards, panel boards, motor control centres and meter socket enclosures be marked to warn persons of potential electric shock and arc flash hazards. This labeling is required for all new & modified installations.
- .2 The warning label must also include information regarding "arc flash hazard category(0 to 4)" and the "Flash Protection Boundary" as defined in NFPA 70E. All projects specifications must include short circuit study and flash hazard analysis.
- .3 In accordance with the new CSA Standards Z462-08 para 4.3.3.3 Electrical Contractors are now required to perform a shock and flash hazard analysis to select the appropriate PPE to wear. Electrical Contractors are now required Arc-rated personal protective equipment while troubleshooting and diagnostic testing that cannot be performed unless the electrical conductor or circuit part is energized. All contractor work practices must protect each employee from arc flash and from contact with live parts directly with any part of the body or indirectly through some other conductive object.

1.8 SAFETY

- .1 The Contractor must provide a copy of their company's Occupational Health and Safety Policy Program. It must meet the Provincial Occupational Health and Safety Acts. The Engineer will instruct the Contractor where the Federal Standards apply.
- .2 The Contractor must perform site hazard assessments to establish site specific safe work practice procedures for the safety and well being of his/her employees. Copies will be made available to Department of National Defence upon request.
- .3 All copies of the formal Hazard Assessments conducted by the Contractor throughout the duration of the work will be retained and made available to the Engineer immediately upon request.
- .4 It is the Contractor's responsibility to be familiar with all applicable Safety Acts, Regulations, Codes and Contract requirements. These must be identified and addressed in the Safety Plan, by identifying Standard Operating Procedures(SOP) and safe work practices(SWP) which incorporate clear and specific control measures, applicable rules, procedures and practices, all of which will become mandatory.
- .5 Post the Safety Plan at a common location on the site visible to all workers and persons accessing the site. Ensure that all employees, including sub-contractors' personnel, are advised of such Safety Plan and of the posted location.
- .6 The Contractor must ensure all workers and authorized persons entering the work site are notified of and abide by the posted Safety Plan, safety rules, procedures, safe work practices and

1.8 SAFETY
(Cont'd)

- .6 (Cont'd)
applicable Safety Acts, Regulations, and codes. Any person not complying with these will not be permitted on the site.
- .7 Must ensure that all applicable personal protective equipment(PPE) is used.
 - .1 All personnel are required to wear hard hats, in accordance with CSA Z94.1-05.
 - .2 All personnel are required to wear safety footwear, in accordance with CSA Z195-09.
 - .3 All personnel are required to wear eye & face protection, in accordance with CSA Z94.3.1-09.
 - .4 When and where noise level is above 85 decibels; all personnel are required to wear hearing protection, in accordance with CAN/CSA Z94.2-02(R2007).
 - .5 Where toxic or noxious gas fumes, or oxygen deficiency or excessive dust may occur, so as to create a hazard to life, safety or health; all personnel are required to wear respiratory protection, in accordance with CSA Z94.4-02(R2007).
- .8 The Engineer will coordinate arrangements for the Contractor to be briefed on site safety within fourteen(14) days of award of Standing Offer.

1.9 SITE SIGNS
AND NOTICES

- .1 Safety and Instruction Signs and Notices:
 - .1 Signs and notices for safety and instruction must be in both official languages. Graphic symbols must conform to CAN/CSA Z321-96(R2006).

PART 2 - PRODUCT

Not used.

PART 3 - EXECUTION

Not used.

PART 1 - GENERAL

<u>1.1 EMERGENCY REPORTING</u>	.1	Telephone Number: Dial 9-1-1.
<u>1.2 FIRE SAFETY ENFORCEMENT</u>	.1	Within the confines of the Base, the prescription and enforcement of mandatory Fire Safety measures will be exercised under the authority of the Formation Fire Chief.
	.2	Comply with and enforce compliance by all Contractor personnel with all requirements of this specification section, and with the most recent edition of the National Building Code of Canada(NBCC) and the National Fire Code of Canada(NFC), including all subsequent revisions issued by the National Research Council of Canada.
	.3	The Engineer reserves the right to require the dismissal from site of persons deemed careless or otherwise in violation of the Fire Safety Requirements.
<u>1.3 FIRE SAFETY BRIEFING</u>	.1	Prior to commencement of work under this Standing Offer, the Engineer will arrange a meeting of all parties concerned to review and clarify requirements for Fire Safety measures. This may involve a briefing by the Formation Fire Chief.
	.2	The Engineer will provide direction for reporting of fire including the emergency telephone number for fire reporting and location of fire alarms within or adjacent to work area.
<u>1.4 FIRE WATCH</u>	.1	Provide this service including training and assignment of fire-watch persons on a scale and schedule as prescribed by the Base Fire Chief and as indicated in the Engineer approved Fire Safety Plan.
<u>1.5 FIRE EXTINGUISHERS</u>	.1	Provide and maintain in operational condition fire extinguishers as prescribed by the Formation Fire Chief.
<u>1.6 SMOKING PRECAUTIONS</u>	.1	In accordance with these Fire Safety requirements particular to the work area and site, the Engineer and Formation Fire Chief will designate hazardous areas as well as non-restricted areas where smoking may be permitted.

1.6 SMOKING
PRECAUTIONS
(Cont'd)

- .2 Smoking is prohibited in all buildings.
- .3 In all other areas, exercise care and comply with written or oral directives of the Engineer for the use of smoking materials.

1.7 REPORTING FIRE
INCIDENTS

- .1 Report immediately all fire incidents as follows:
 - .1 Activate nearest fire alarm, or
 - .2 Dial 9-1-1 or designated number given at the time of briefing.
 - .3 Telephone Engineer.
- .2 Persons activating fire alarm must remain at the alarm to direct the Fire Department to the scene of the fire.
- .3 When reporting a fire by telephone, give location of fire, name and number of building and be prepared to direct the Fire Department to the scene of the fire.

1.8 INTERIOR &
EXTERIOR FIRE
PROTECTION AND
ALARM SYSTEM

- .1 Notify Formation Fire Chief at least 48 hours prior to scheduling any work that may require Fire Alarm and/or Protection Systems to be:
 - .1 Obstructed in any way.
 - .2 Shut-off.
 - .3 Left inactive at the end of a working day or shift.
- .2 Do not commence any such work until Engineer confirms approval and direction by the Formation Fire Chief.
- .3 Fire hydrants, standpipes and hose systems must not be used for other than fire fighting purposes unless authorized by the Engineer and the Formation Fire Chief.

1.9 BLOCKAGE OF
ACCESS FOR FIRE
APPARATUS

- .1 Obtain approval of the Engineer and Formation Fire Chief 24 hours prior to commencing any work such as as digging trenches or erecting scaffolds or barricades so as to impede access for fire fighting apparatus. Immediately notify the Engineer of any infringement on minimum vertical or horizontal clearances either inside or outside buildings, as prescribed by the Formation Fire Chief.

1.10 RUBBISH &
WASTE MATERIAL

- .1 Storage:
 - .1 Where it is necessary to store oily waste in work areas exercise extreme care to ensure maximum possible safety and cleanliness.
 - .2 Greasy or oily rags or materials subject to spontaneous combustion must be deposited and kept in a receptacle approved by the Formation Fire Chief and removed as directed by the Engineer.
- .2 The burning of rubbish is prohibited.
- .3 Removal:
 - .1 All rubbish must be removed from the work site at the end of the work day or shift or as directed by the Engineer.

1.11 FLAMABLE
LIQUIDS

- .1 The handling, storage and use of flammable liquids are to be governed and guided by the requirements established by the Formation Fire Chief and in accordance with the approved Fire Safety Plan.
- .2 Indoor storage of flammable liquids must not exceed thirty(30) litres provided that they are stored in areas and containers approved by the Formation Fire Chief.
- .3 The Engineer reserves the right to require removal from the site any storage containers not acceptable to the Formation Fire Chief.
- .4 The Engineer will not permit indoor storage of quantities of flammable liquids exceeding thirty(30) litres for on-site work purposes, without the written permission of the Formation Fire Chief.
- .5 Transfer of flammable liquids within buildings is prohibited.
- .6 Transfer of flammable liquids must not be carried out in the vicinity of open flames or any type of heat producing devices.
- .7 Flammable liquids having a flash point below twenty-two(22) degrees C such as naphtha or gasoline must not be used as solvents or cleaning agents.
- .8 Flammable waste liquids, for disposal, must be stored in approved containers located in a safe ventilated area. Quantities are not to exceed thirty(30) litres. Dumping or burning of flammable liquids on site is prohibited.

1.12 HAZARDOUS
SUBSTANCES

- .1 Exercise special precautions necessary to safeguard life and property from damage by fire or explosives.
- .2 If the work entails the use of any toxic or hazardous materials, chemicals or explosives, or otherwise creates a hazard to life, safety or health, work will be in accordance with the most recent edition of the requirements of the National Fire Code of Canada, and measures prescribed by the Formation Fire Chief.

1.13 HAZARDOUS HOT
WORK

- .1 Prior to commencing any "Hot Work" involving open flame of burning, obtain "Hot Work" Permit issued by the Formation Fire Chief.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

PART 1 - GENERAL

CONTRACTORS MUST ENSURE THAT ALL THEIR PERSONNEL ARE FAMILIAR WITH THESE REGULATIONS AND REQUIREMENTS.

1.1 GENERAL

- .1 The following is a summary of the security, safety and fire regulations of Canadian Forces Ammunition Depot, Bedford, as promulgated by the Base Commander, CFB Halifax and administered by the Superintendant CFAD Bedford NS.
- .2 Contractor's personnel will be subject to all of the regulations while working within confines of CFAD Bedford.

1.2 PRE JOB SECURITY AND SAFETY MEETING

- .1 Prior to commencement of work, the Contractor must meet with the Site Security, Safety and Fire Safety Regulations Officers. In accordance with direction of Engineer and these site officers, ensure that all employees of the Contractor are given thorough instructions on security, safety and fire precautions peculiar to an Ammunition Depot and that the regulations are fully complied with, at all times, by all Contractor personnel.

1.3 SECURITY PASSES

- .1 Contractors must report to the NCO I/C Commissionaires at Building 153; submit names of all their personnel and description of all their vehicles to arrange the issue of the required temporary passes prior to proceeding to work within the confines of the depot.

1.4 CONDITIONS FOR ACCESS

- .1 All visitors will be issued a daily pass and will be required to sign an acknowledgement that they are aware of and consent to the following conditions for access.
- .2 The person to whom this pass is issued agrees to return the pass to the Security Guard at the gate when the Standing Offer Agreement or employment at CFAD Bedford expires.
- .3 All vehicles entering and leaving CFAD Bedford may be searched to ensure that no prohibited articles are taken into nor contraband articles are taken out of the Ammunition Depot.

1.5 FIRE SERVICE CFAD BEDFORD

- .1 Fire service at CFAD Bedford is provided by DND Fire Service from 0730 until 1600 hours, Monday to Friday. All Standing Offer work will be ended by 1530 hours daily. Fire response at all other times is provided by HRM. Before any work is carried out during

1.5 FIRE SERVICE
CFAD BEDFORD
(Cont'd)

- .1 (Cont'd)
silent hours, the Dockyard Platoon Chief must be contacted at 427-0550, local 3500.

1.6 SEARCHES

- .1 The Canadian Corps of Commissionaires may conduct a personal search of individuals at any time within the Ammunition Depot. Vehicles entering or leaving the Depot may be searched to ensure that contraband articles are not taken into the Explosives Area and that property is not taken out without authorization.

1.7 ALARMS

- .1 DEPOT ALARMS: A Siren is sounded only in the event of an emergency such as a fire, explosion, thunderstorm or evacuation. A Siren is also sounded to signify "All Clear".
- .2 FIRE EMERGENCY: A series of "HI-LO" sounds on the Depot Alarm System signifies an emergency in the explosive area. Contractors must cease operations and proceed in their own vehicles to the nearest exit gate out of the explosive area. If no vehicle available proceed to the nearest "Fire Assembly Point" at Buildings 169 or 143.
- .3 THUNDER AND LIGHTNING: A series of "Beeps" on the Depot Alarm System signifies a thunder/lightning storm warning. Contractors must cease operations and proceed in their own vehicles to the nearest exit gate out of the explosive area. If no vehicle available proceed to the nearest "Fire Assembly Point" at Buildings 169 or 143.
- .4 EVACUATION: A series of "Slow Whoops" on the Depot Alarm System signifies that evacuation in the explosive area has been ordered by the Superintendent. The evacuation could be extended to include the non-explosive area as well as so ordered by the Superintendent.
- .5 ALL CLEAR: A continuous blast on the Depot Alarm System signifies that the emergency situation is "All Clear".

1.8 REPORTING OF
FIRES

- .1 All fires, regardless of whether they have been extinguished or not, must be reported immediately to the Base Fire Department.
- .2 All contractors and employees must familiarize themselves with the locations of the nearest fire alarm box or telephone.
- .3 Fires may be reported by ringing the nearest street alarm box or by telephone 9-1-1. Persons reporting the fire must remain at the alarm box or telephone until the Fire Department arrives and be prepared to direct Fire Fighters to the scene of the fire.

1.9 PROHIBITED
ARTICLES

- .1 The following articles are prohibited and/or controlled from being taken inside the explosive area. Permission by the Superintendent may be granted for certain articles:
 - .1 Flame producing equipment;
 - .2 Pipes, smoking appliances, tobacco products, or smoking materials in any form;
 - .3 Explosives or chemicals;
 - .4 Lights, lamps or electrical devices/tools which are not explosion proof;
 - .5 Cameras;
 - .6 Food and drink; and
 - .7 Transmitting devices(i.e., mobile radios, cellular phones, remote starters, remote garage door openers etc.)
- .2 No persons must introduce, possess or consume alcoholic beverages, narcotics or any intoxicant within the confines of the Ammunition Depot.
- .3 The site security officers will seize and hold at the gate, any such materials found by search.

1.10 SAFETY AND
FIRE REGULATIONS

- .1 SMOKING: Is strictly prohibited in explosive areas.
- .2 BUILDINGS: Smoking is prohibited in all buildings.
- .3 SAFETY PRECAUTIONS ELECTRICAL/ELECTRONIC EQUIPMENT: All personnel operating or maintaining electrical/electronic equipment involving the use of voltage higher than 50V must brief the Site Safety and Fire Safety Officers concerning all safety rules in the operating and instructional manuals covering the equipment.
- .4 FLAMMABLES, EXPLOSIVES OR CHEMICALS: As required, may be allowed into the explosive area provided that the Depot Safety Officer and the Depot Fire Department are made aware of this and that approval by the Superintendent is given. These items after approval may be transported by the Contractors provided the transportation route is known by the Depot Fire Department and adequate fire extinguishers are available.
- .5 OPEN FLAME OR WELDING: Prior approval must be obtained before commencing any work involving cutting, welding or use of open flame appliances in or around buildings containing explosives. The Fire Safety Officer will check out the work area and ensure that adequate fire extinguishers and first aid

1.10 SAFETY AND
FIRE REGULATIONS
(Cont'd)

- .5 OPEN FLAME OR WELDING:(Cont'd)
appliances are available and that fire watchers have been posted.
- .6 FUEL DISPENSING CONTAINERS: Contractors must ensure that all of their fuel dispensing containers meet or exceed the following standards:
 - .1 Type II safety container, leakproof, Terne plate construction, UL listed and FM approved.
 - .2 Container must have spring-operated spout cap which opens to allow vapours to escape and self closes on release of internal pressures.
 - .3 Container must have flexible or rigid built-in metal dispensing nozzle to prevent static sparks.
 - .4 Standard of Acceptance: Protectoseal, Model Nos. 247, 249, 8410 and 8420.
 - .5 Other acceptable products: Safe-T-Way.
 - .6 Any other model must be approved by the BFC.
 - .7 Violation of any of the above regulations will result in immediate cancellation of the offender's security pass and expulsion from the site.

1.11 TRAFFIC
REGULATIONS

- .1 VEHICLES: All operators must adhere strictly to the following rules while proceeding through the Ammunition Depot.
 - .1 Drivers must not leave the motors of their vehicles running or leave the vehicles unattended when parked between buildings or traverses.
 - .2 Drivers must not drive vehicles in the direction opposite to that indicated by the "One-Way" signs.
 - .3 No one will operate a vehicle within the Depot area at a speed greater than 25 kilometers per hour at any time.
 - .4 No one will operate a vehicle within the Depot area at a speed greater than 8 kilometers per hour at any time, while passing between blast walls and buildings.
 - .5 No one will leave a vehicle unattended within 10 metres of a fire hydrant or within 30 metres of a building containing explosives.

1.11 TRAFFIC
REGULATIONS
(Cont'd)

- .1 VEHICLES:(Cont'd)
 - .6 All vehicles must be equipped with a fire extinguisher of a suitable size and type so that it may be used to extinguish any fire originating in that vehicle.
- .2 ROADWAYS: In the event of a fire or emergency all roads and buildings within CFAD Bedford must be accessible at all times. Contractors required to disrupt roadways during the course of their work, must ensure that at least one lane of each roadway is passable, at all times. Vehicles not required to transport personnel to the nearest exit gate must be parked on the side of the road and away from the nearest building.
- .3 FUELING: Fueling of vehicles within the explosive areas is prohibited. Small equipment(lawn mowers, chainsaws, etc.) may be re-fuelled, but only at sites designated by the Safety Officer and Fire Safety Officer. Comply with all safety practices pertaining to re-fuelling hot equipment. Provide adequate fire extinguishers of types prescribed by the Fire Safety Officer. Only approved safety dispensing containers, as specified at sub-paragraph 1.10.6, will be permitted within the confines of the Ammunition Depot.
- .4 Violation of any of the above regulations will result in immediate cancellation of the Vehicle Pass and expulsion of the offender from the site.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

PART 1 - GENERAL

- 1.1 SITE ACCESS .1 Contractors' personnel are required to report to the main desk each morning, sign the register and obtain an identification badge which must be displayed on their person at all times. Upon leaving the Complex at the end of the day, or at lunch time, the contractors' personnel must report to the main desk, return the badge and be signed off the register.
- 1.2 PARKING .1 Contractors' vehicles will be allowed into the inner compound only under the following conditions; namely, for short periods of time, to load or unload equipment and supplies and then remove to the upper parking lot adjacent to Windmill Road or to the street. The site supervisor of the contracting firm will be allowed to park his/her vehicle, for short periods of time, in one of the visitor's parking slots or, if filled, he/she will be permitted to park in the inner compound while making periodic progress visits. It is emphasized that contractors' vehicles entering the inner compound can be subject to search by the Commissionaire on duty upon their departure. DRDC reserves the right to limit the above-mentioned parking privileges if they are being abused.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

PART 1 - GENERAL

- | | | |
|------------------------------|----|---|
| <u>1.1 DEFINITIONS</u> | .1 | ENVIRONMENT POLLUTION and DAMAGE: Presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically. |
| | .2 | ENVIRONMENTAL PROTECTION: Prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants. |
| <u>1.2 FIRES</u> | .1 | Fires and burning of rubbish on site is not permitted. |
| <u>1.3 DISPOSAL OF WASTE</u> | .1 | Do not bury rubbish and waste materials on site unless approved by Engineer. |
| | .2 | Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers. |
| <u>1.4 PLANT PROTECTION</u> | .1 | Protect trees and plants on site and adjacent properties. |
| | .2 | Protect roots of trees to prevent damage. Avoid unnecessary traffic, dumping and storage of materials over root zones. |
| <u>1.5 POLLUTION CONTROL</u> | .1 | Maintain temporary erosion and pollution control features installed under this Standing Offer. |
| | .2 | Control emissions from equipment and plant to local authorities emission requirements. |
| | .3 | Prevent extraneous materials from contaminating air beyond application area, by providing temporary enclosures. |
| | .4 | Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads. |
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PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

PART 1 - GENERAL

- | | |
|--|---|
| <u>1.1 GENERAL REQUIREMENTS</u> | <ul style="list-style-type: none">.1 Use new material and equipment unless otherwise specified..2 Within 14 days of written request by Engineer, submit following information for materials and equipment proposed for supply:<ul style="list-style-type: none">.1 Name and address of manufacturer;.2 Trade name, model and catalogue number;.3 Performance, descriptive and test data,.4 Manufacturer's installation or application instructions;.5 Evidence of arrangements to procure. |
| <u>1.2 MANUFACTURER'S INSTRUCTIONS</u> | <ul style="list-style-type: none">.1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods..2 Notify Engineer in writing of any conflict between these specifications and manufacturer's instructions. Engineer will designate which document is to be followed..3 Conform to these reference standards, in whole or in part as specifically requested in specifications. |
| <u>1.3 DELIVERY AND STORAGE</u> | <ul style="list-style-type: none">.1 Deliver, store and maintain packaged material and equipment with manufacturer's seals and labels intact..2 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site..3 Store material and equipment in accordance with supplier's instructions. |
| <u>1.4 ACCEPTABILITY OF MATERIALS</u> | <ul style="list-style-type: none">.1 All and only materials as described in the specifications will be "acceptable" for use on this project..2 No requests for "acceptance" of materials will be acceptable on this Standing Offer Agreement. |
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PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

PART 1 - GENERAL

- | | | |
|---------------------------------|----|--|
| <u>1.1 GENERAL REQUIREMENTS</u> | .1 | Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws. |
| | .2 | Store volatile waste in covered metal containers, and remove from premises at end of each working day. |
| | .3 | Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose. |
| | .4 | Prevent accumulation of wastes which create hazardous conditions. |
| | | |
| <u>1.2 MATERIALS</u> | .1 | Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer. |
| | | |
| <u>1.3 PROJECT CLEANLINESS</u> | .1 | Maintain project grounds, and public properties free from accumulations of waste materials and rubbish. Keep work area clean and tidy, on a daily basis, to the complete satisfaction of the Engineer. |
| | .2 | Dispose of waste materials, and debris at designated dumping areas on Crown property off site. |
| | .3 | Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems. |

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

PART 1 - GENERAL

- | | | |
|---|----|---|
| <u>1.1 RELATED REQUIREMENTS</u> | .1 | Section 01 11 00 GENERAL REQUIREMENTS. |
| <u>1.2 DESCRIPTION OF WORK</u> | .1 | The work under this section comprises the furnishing of all labour, material and equipment required to measure, layout and paint traffic lines and pavement markings, including cleaning and removal of existing markings where required. |
| <u>1.3 REFERENCES</u> | .1 | Canadian General Standards Board(CGSB) |
| | .1 | CAN/CGSB-1.5-M91, Low Flash Petroleum Spirits Thinner. |
| | .2 | CAN/CGSB 1.74-01, Alkyde Traffic Paint. |
| | .2 | Health Canada/Workplace Hazardous Materials Information System(WHMIS) |
| | .1 | Material Safety Data Sheets(MSDS). |
| | .3 | Manual of Uniform Traffic Control Devices for Canada(1998). |
| <u>1.4 WARNING SIGNS AND BARRICADES</u> | .1 | The Contractor will be responsible for the posting of warning signs and/or caution lights in immediate work area. |
| | .2 | In traffic areas such as entrances, roads and other high traffic areas suitable barriers must be erected to temporarily detour traffic around work area as directed by the Engineer. |
| | .3 | All traffic warning signs and barriers must be removed by the Contractor on completion of all work or as directed by the Engineer. |
| | .4 | The Military Police, Traffic Division, must be notified at least three(3) days prior to scheduled work in traffic areas. |

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 PAINT:
 - .1 To CAN/CGSB 1.74-01, Alkyde Traffic Paint.
 - .2 Paint colours to CGSB 1-GP-12C, Yellow No. 505-308, Black No. 512-301, White No. 513-310.
- .2 THINNER: To CAN/CGSB-1.5-M91, Low Flash Petroleum Spirits Thinner.
- .3 GLASS REFLECTIVE BEADS: Type suitable for application to wet paint surface for light reflectance.
- .4 CLEANING PRODUCTS:
 - .1 Abrasives and solvents used for removal of existing paint lines, oil, grease, rubber deposits and other foreign substances must be proprietary products specially designed for pavement cleaning, subject to approval by the Engineer.

PART 3 - EXECUTION

3.1 EQUIPMENT

- .1 PAINT APPLICATOR: Approved pressure type mobile with positive shut-off distributor capable of applying paint in single, double and dashed lines and capable of applying marking components uniformly, at rates specified, and to dimensions as indicated.
- .2 DISTRIBUTOR: Capable of applying reflective glass beads as overlay on freshly applied paint.
- .3 Cleaning equipment must be suitable for the application, in good condition and approved by the Engineer.

3.2 PAVEMENT MARKINGS REMOVAL

- .1 Existing pavement markings must be removed where indicated on the plans, in the specifications and as directed by the Engineer.
- .2 Removal of existing markings will be by abrasives and/or solvents as approved by the Engineer.
- .3 Where painting over existing markings is acceptable, the paint used must be compatible with surface and mixed to match colour of pavement as approved by the Engineer.

3.2 PAVEMENT
MARKINGS REMOVAL
(Cont'd)

- .4 Exercise care not to damage pavement surface when removing existing pavement markings.
- .5 When using heater planing equipment do not heat pavement surfaces above 120°C.

3.3 PAVEMENT
SURFACE CLEANING

- .1 Pavement surfaces indicated, for pavement markings, must be cleaned of dust, dirt, contaminants, oil, grease and all other foreign materials.
- .2 Cleaning must be done by approved rotary power brooms, supplemented by hand brooming where required.
- .3 Drainage systems must be kept clear of all debris and waste.
- .4 Debris and waste must be stored in suitable containers for disposal.

3.4 PROTECTION OF
WORK

- .1 Protect pavement markings until dry.
- .2 Repair damage to adjacent materials caused by pavement marking application.

3.5 APPLICATION

- .1 Pavement markings must be laid out on an approved surface to the satisfaction of the Engineer and must be uniform in design, position and application.
- .2 Where possible and still satisfying the requirement, existing lines will be repainted as directed by the Engineer.
- .3 Paint will only be applied when the ambient air temperature is above 10°C and no rain is forecast.
- .4 Apply traffic paint evenly at rate of 3m² /L.
- .5 Do not thin paint unless approved by Engineer.
- .6 Symbols and letters must conform to dimensions indicated.
- .7 Paint lines must be of uniform colour and density with sharp edges.
- .8 Thoroughly clean distributor tank before refilling with paint of different colour.
- .9 Apply paint using specified equipment only.

3.5 APPLICATION
(Cont'd)

- .10 Apply glass beads at rate of 0.5 kg/l of painted area immediately after application of paint.

3.6 MEASUREMENT
FOR PAYMENT

- .1 The following methods will be used to calculate the measurement of lines and markings for payment basis:
- .1 ROAD LINES(includes all road lines, stop lines, parking lines and crosswalk lines.):
- .1 0-10cm in width, paid per linear meter;
- .2 Over 10-15cm in width, paid per linear meter;
- .3 Over 15-20cm in width, paid per linear meter;
- .4 Over 20-30cm in width, paid per linear meter;
- .5 Over 30-40cm in width, paid per linear meter;
- .6 Over 40-50cm in width, paid per linear meter;
- .7 Over 50-60cm in width, paid per linear meter;
- .8 Broken traffic lines will be calculated using the method of measurement as per solid lines.
- .2 PAVEMENT ARROWS: One price per each individual arrow indicated in this specification.
- .3 NUMERALS and LETTERS: One price per individual numeral or letter for each of the two sizes indicated in this specification. (Example) - One price per individual numeral or letter based on sizes stated for Rural Areas. - One price per individual numeral or letter based on "recommended" sizes for Urban Areas.
- .4 All lines and/or markings not specified herein will be priced on an individual basis and will be agreed upon by both the Contractor and the Engineer, in writing, prior to the issue of form PWGSC 942 for that job.
- .5 The contractor will also provide a minimum call up price to deliver all material, plant, equipment and labour to the site of the proposed work. This will also be agreed upon by both the Contractor and the Engineer, in writing, prior to the issue of form PWGSC 942 for that job.

3.7 LAYOUT OF
LINES AND MARKINGS

- .1 All surface preparation, field measurements and layout of lines and markings will be the responsibility of the Contractor and will be included in the unit price stated for each line or marking.

FIGURE C1-1


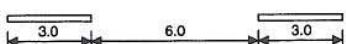

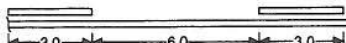
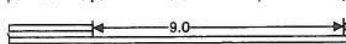



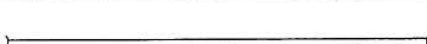

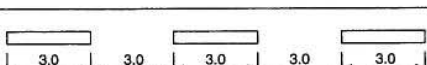
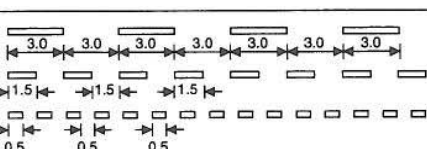
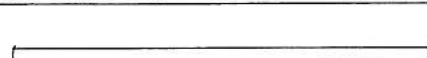


LONGITUDINAL AND TRANSVERSE MARKINGS				
	NAME OF LINE	LENGTH DIMENSIONS (m)	WIDTH DIMENSIONS (mm)	USE
LONGITUDINAL	SOLID		100-150	EDGE LINES (WHITE OR YELLOW), DIRECTIONAL DIVIDING LINES (YELLOW), LANE LINES PROHIBITING LANE CHANGES (WHITE)
	BROKEN	 	100-150 100-150	DIRECTIONAL DIVIDING LINES (YELLOW) LANE LINES (WHITE) NOTE: LOW SPEED APPLICATION 3:6 HIGH SPEED APPLICATION 3:9
	SIMULTANEOUS SOLID AND BROKEN	 	100-150 100-150 100-150 100-150	DIRECTIONAL DIVIDING LINES, TWO-WAY LEFT TURN LANES (YELLOW), LANE LINES WHERE LANE CHANGES FROM ONE SIDE ARE PROHIBITED (WHITE) NOTE: LOW SPEED APPLICATION 3:6 HIGH SPEED APPLICATION 3:9
	DOUBLE SOLID		100-150 100-150 100-150	DIRECTIONAL DIVIDING LINES (YELLOW)
	DOUBLE BROKEN		100-150 100-150 100-150	REVERSIBLE LANE (YELLOW), LANE LINES ON A WITH-FLOW PART-TIME RESERVED LANE (WHITE)
	WIDE SOLID		200	LANE LINES ON THE LEFT OF FULL-TIME RESERVED LANES (YELLOW FOR CONTRA-FLOW, WHITE FOR WITH-FLOW)
	WIDE SOLID		200-300	EDGELINES IN CRITICAL AREAS (WHITE ON THE RIGHT, YELLOW ON THE LEFT)
	WIDE BROKEN		200-300	WHITE LANE LINE ON A WITH-FLOW RESERVED LANE IN ADVANCE OF AN INTERSECTION WITH PERMISSIBLE RIGHT TURNS
	WIDE DASHED		200-300	CONTINUITY LINES IN MERGING AND DIVERGING AREAS, SPECIAL FUNCTION LANE LINES (WHITE)
	DASHED	 	100-150 100-150 100-150	CONTINUITY LINES IN MERGING AND DIVERGING AREAS AND TAPERS FOR LEFT-TURN AND RIGHT-TURN LANES BUS BAY (WHITE) GUIDING LINES (e.g. INTERSECTION MOVEMENTS) (YELLOW-EXTENSION OF DIRECTIONAL DIVIDING LINE) (WHITE-EXTENSION OF LANE LINE)
TRANSVERSE	STOP		300-600	INTERSECTION STOP LINES (WHITE)
	CROSSWALK		100-200	CROSSWALKS (WHITE)

FIGURE C1-1

FIGURE C1-2

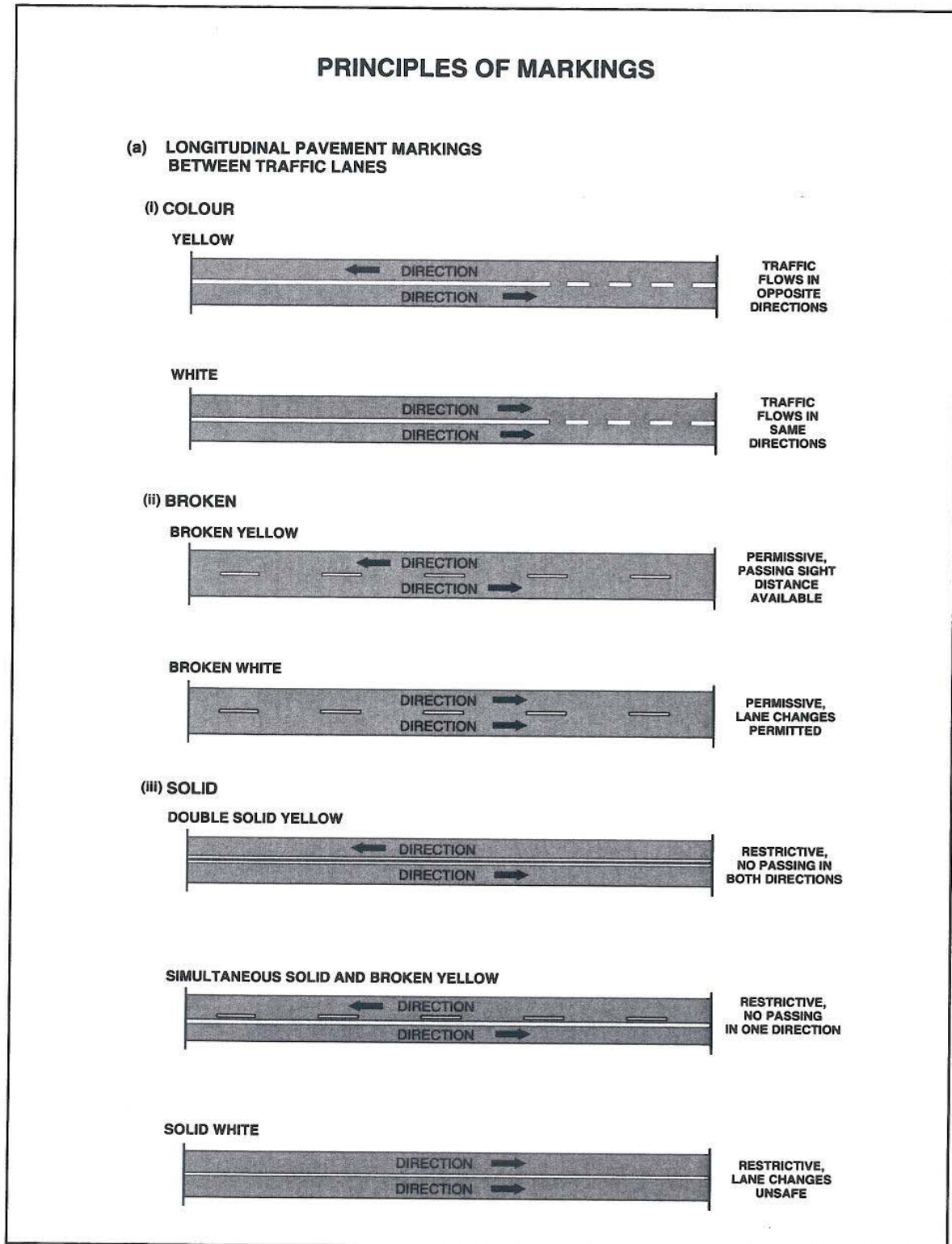


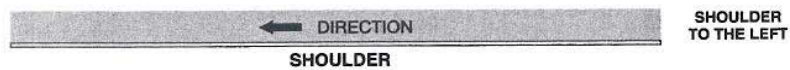
FIGURE C1-2

FIGURE C1-2 CON'T

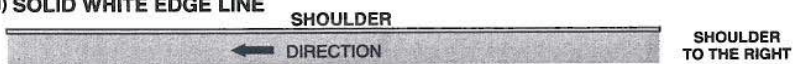
PRINCIPLES OF MARKINGS

(b) LONGITUDINAL PAVEMENT MARKINGS
BETWEEN TRAFFIC LANES AND SHOULDERS

(i) SOLID YELLOW EDGE LINE



(ii) SOLID WHITE EDGE LINE



(c) WIDE LINES

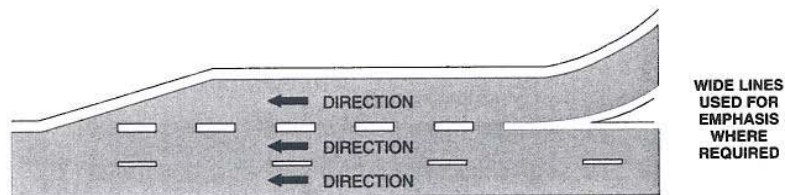


FIGURE C1-2 CON'T

FIGURE C1-3

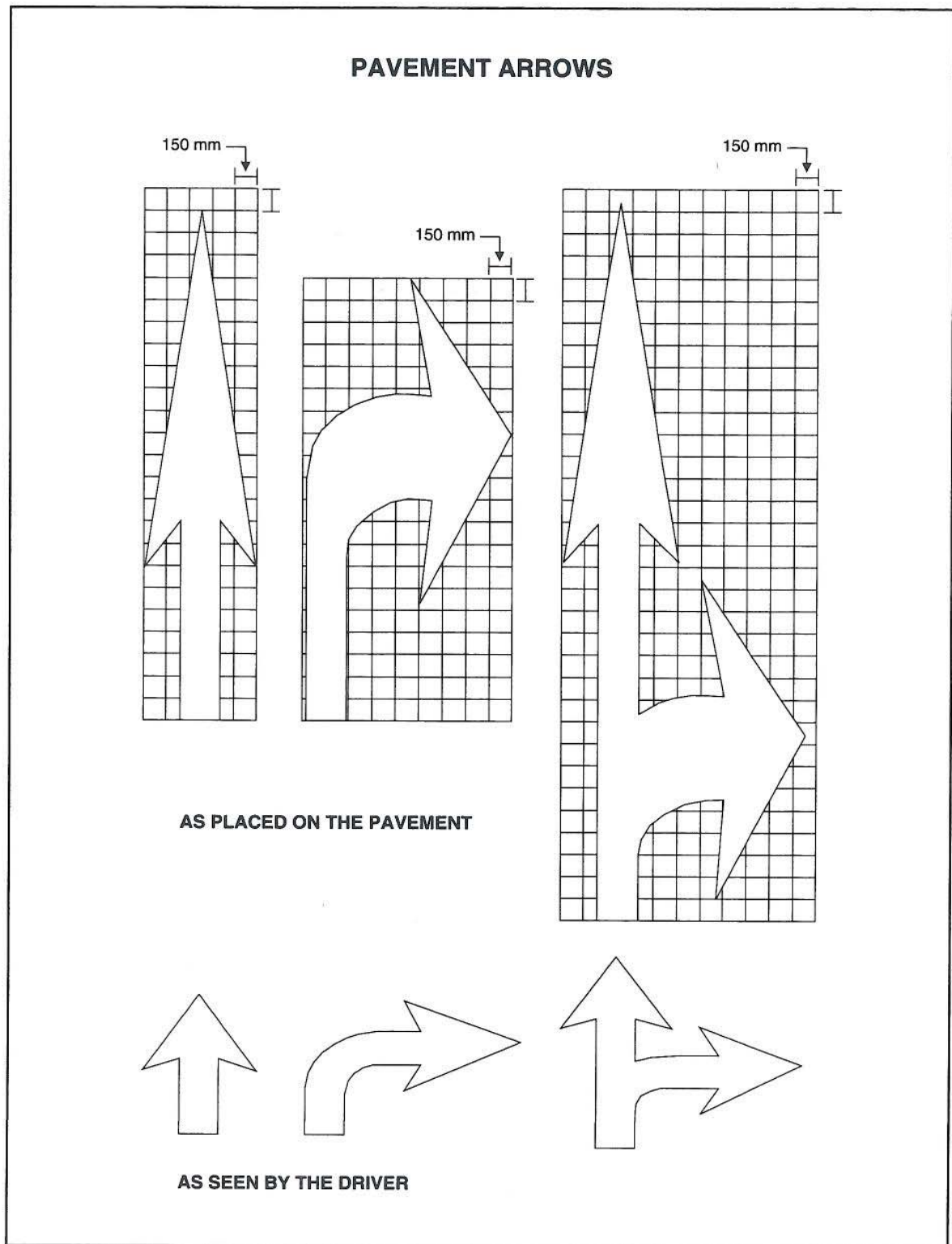


FIGURE C1-3

FIGURE C1-4

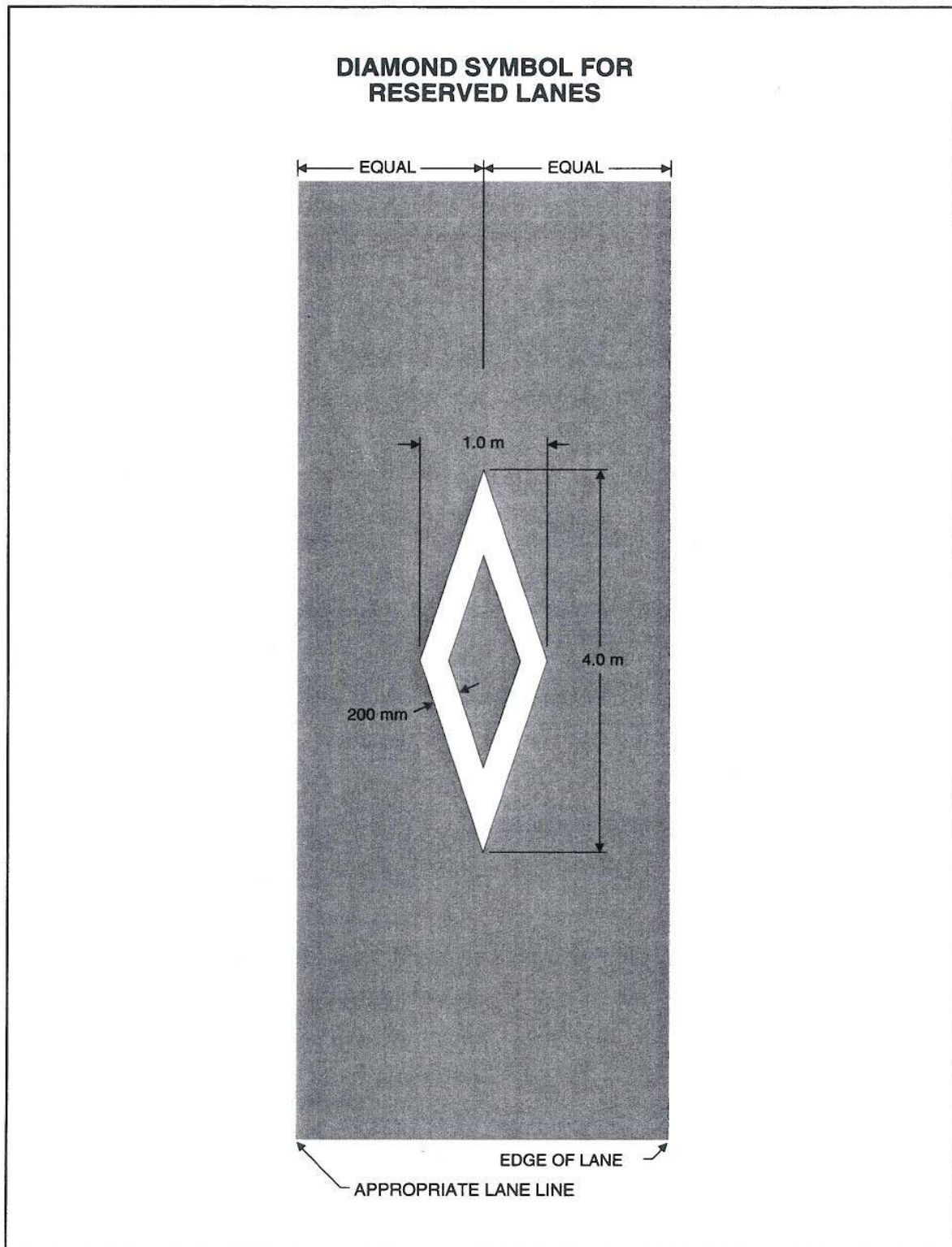


FIGURE C1-4

FIGURE C1-5

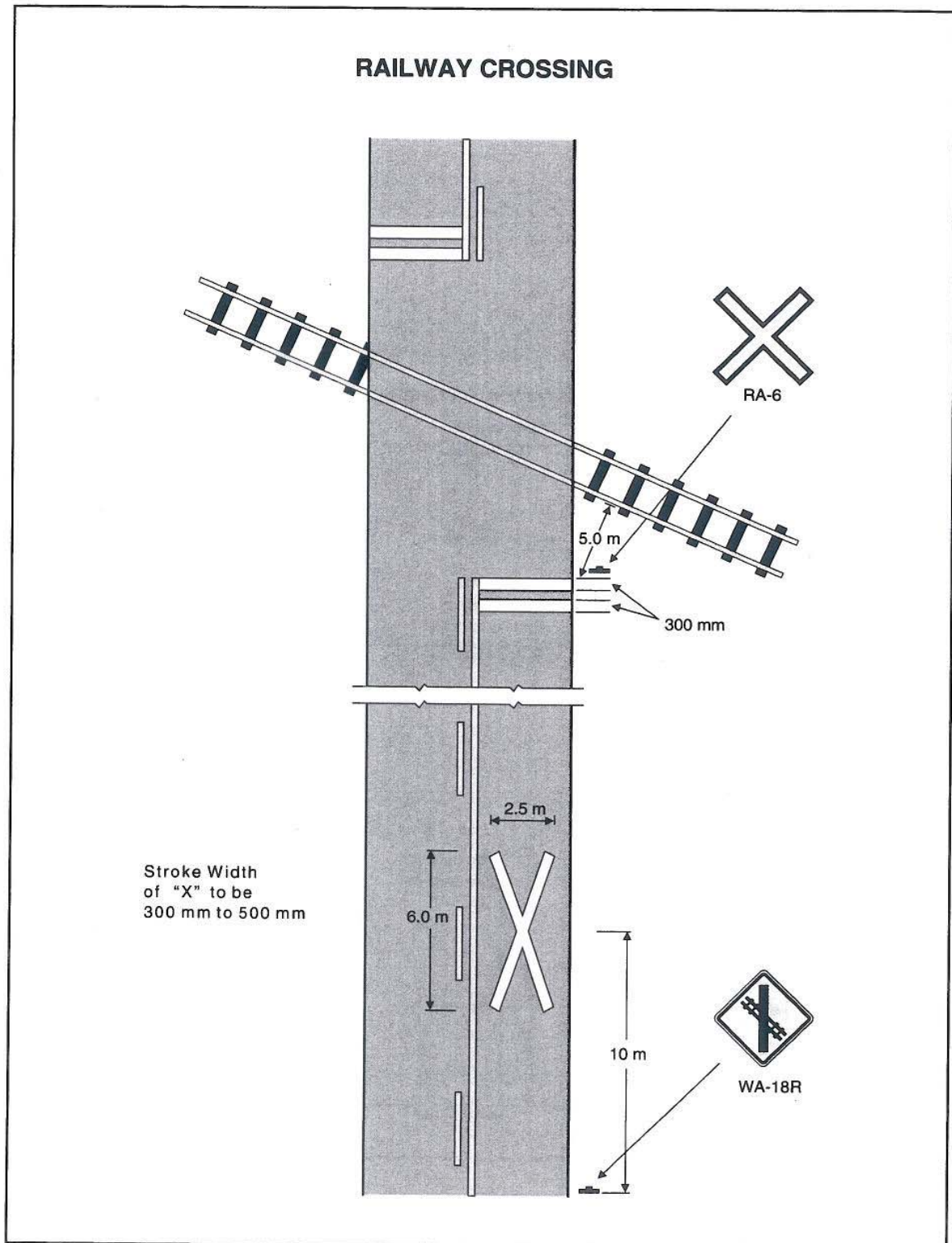


FIGURE C1-5

FIGURE C1-6

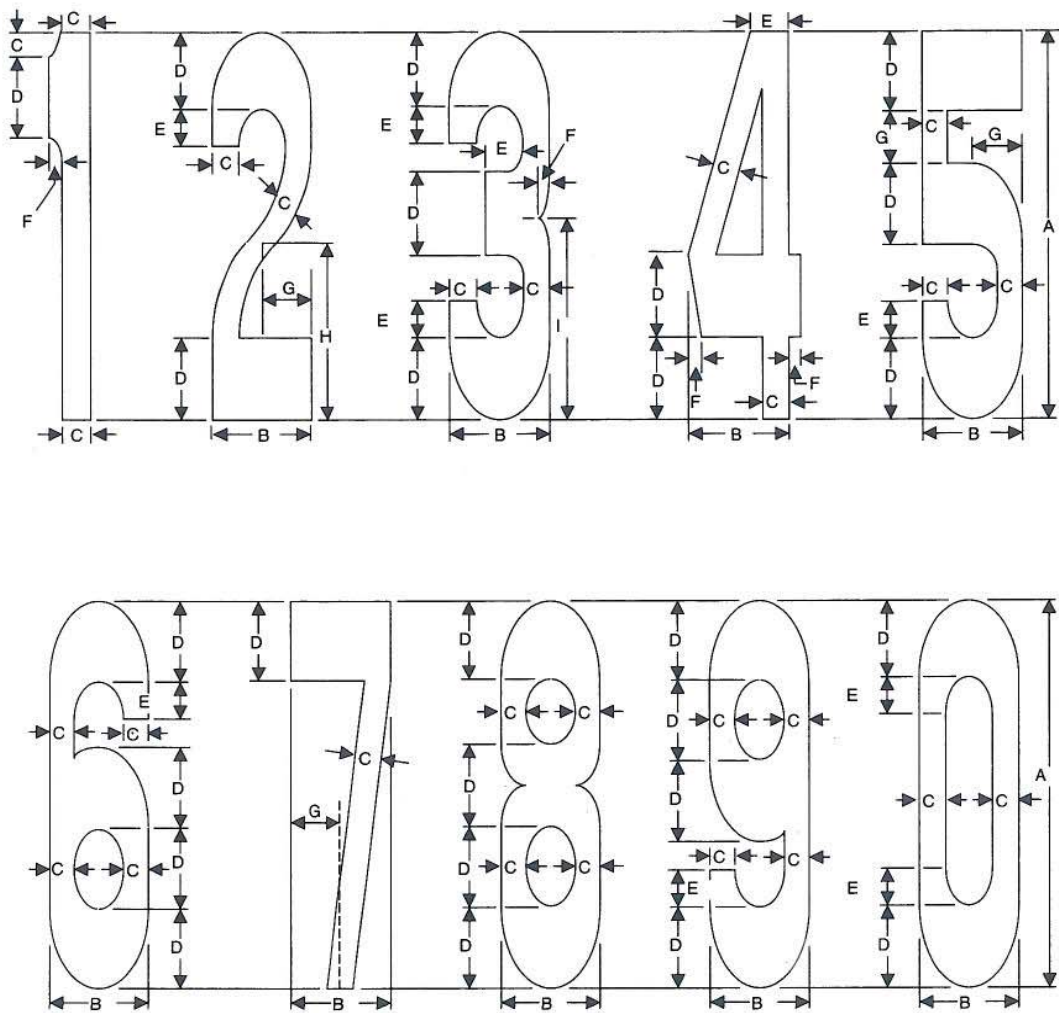
**STANDARD PAVEMENT MARKING
NUMERALS**

FIGURE C1-6

FIGURE C1-7

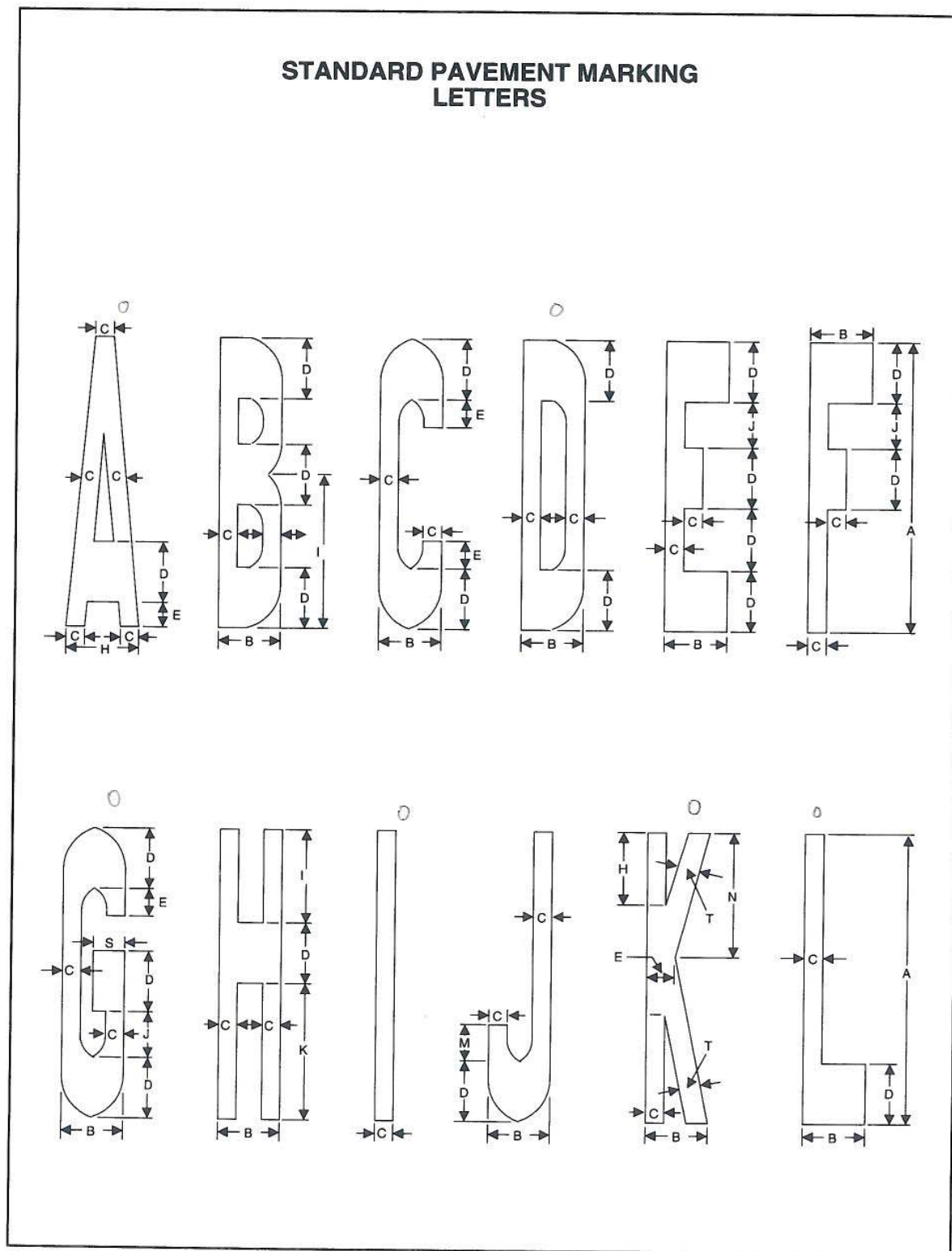


FIGURE C1-7

FIGURE C1-8

STANDARD PAVEMENT MARKING LETTERS

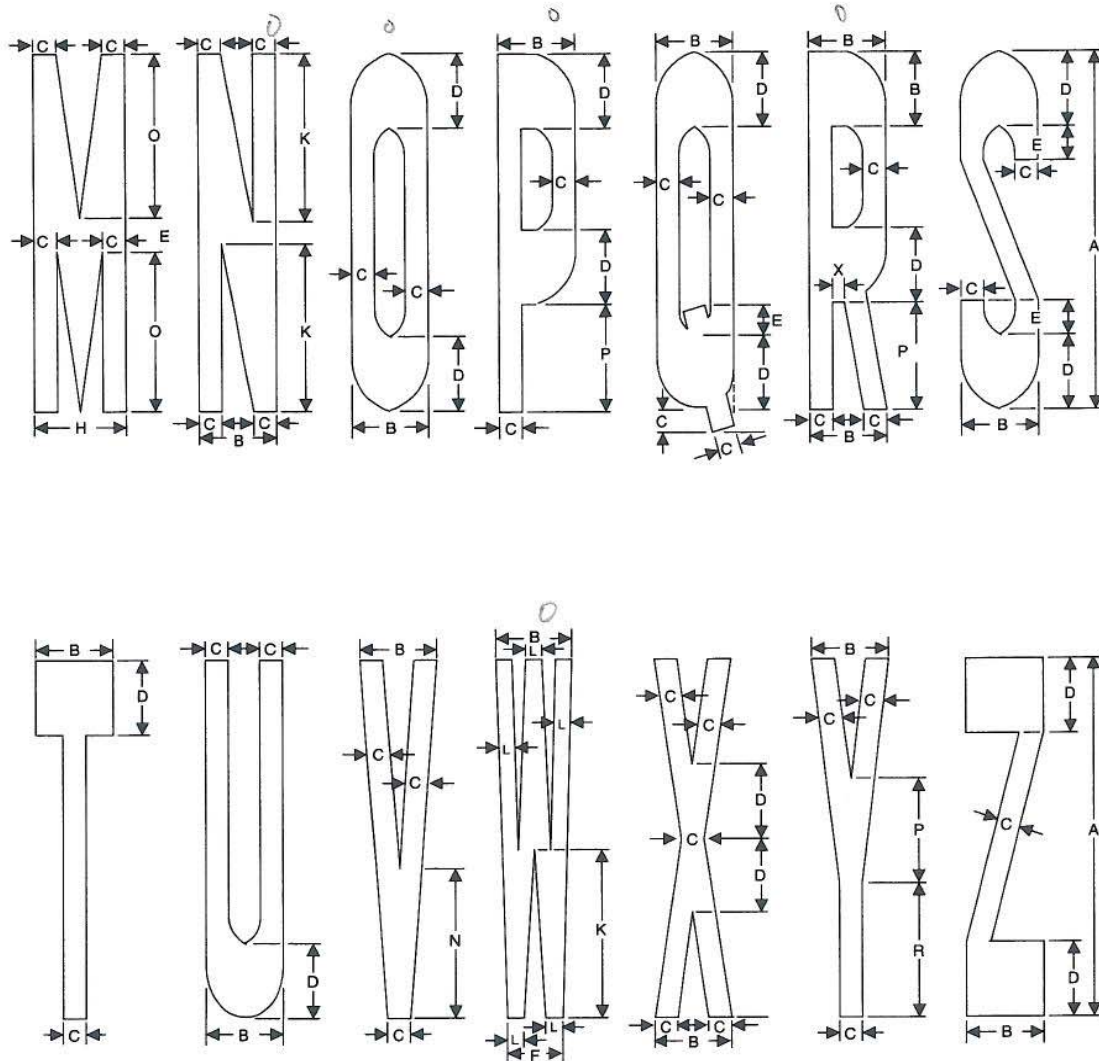
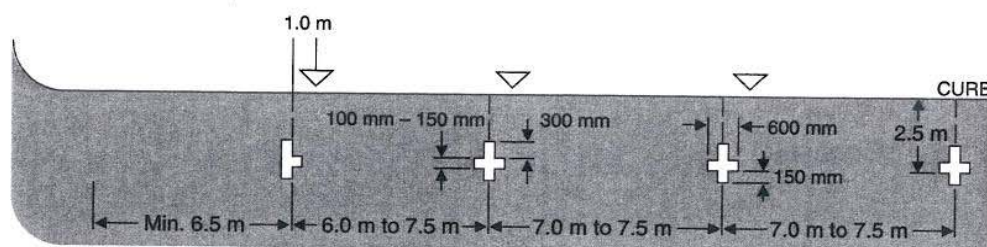


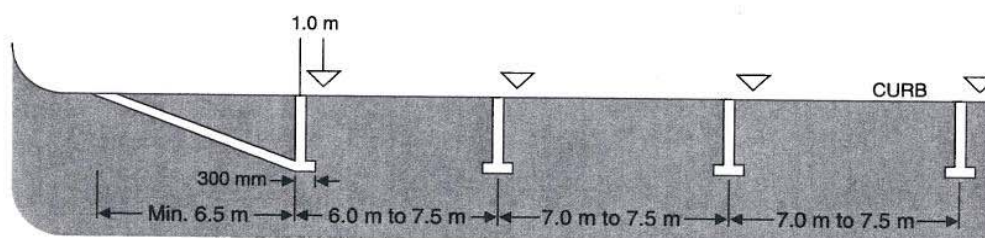
FIGURE C1-8

FIGURE C3-4

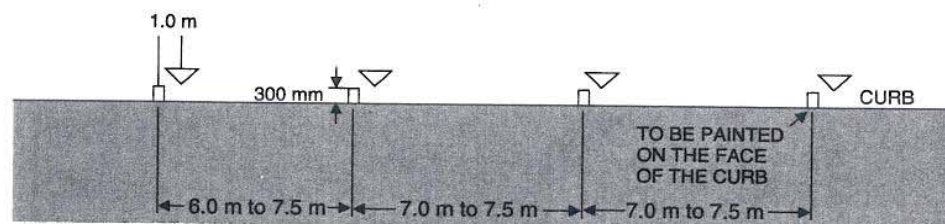
TYPICAL PAVEMENT MARKINGS PARALLEL PARKING



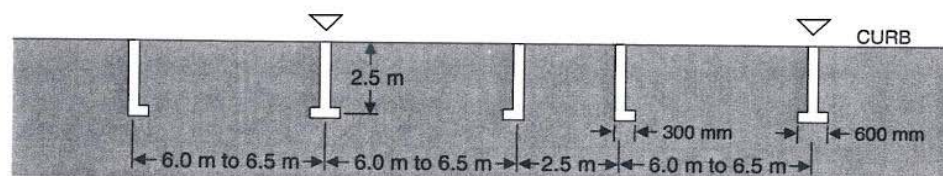
SINGLE METERS



SINGLE METERS



SINGLE METERS



TWIN METERS

FIGURE C3-4

FIGURE C3-5

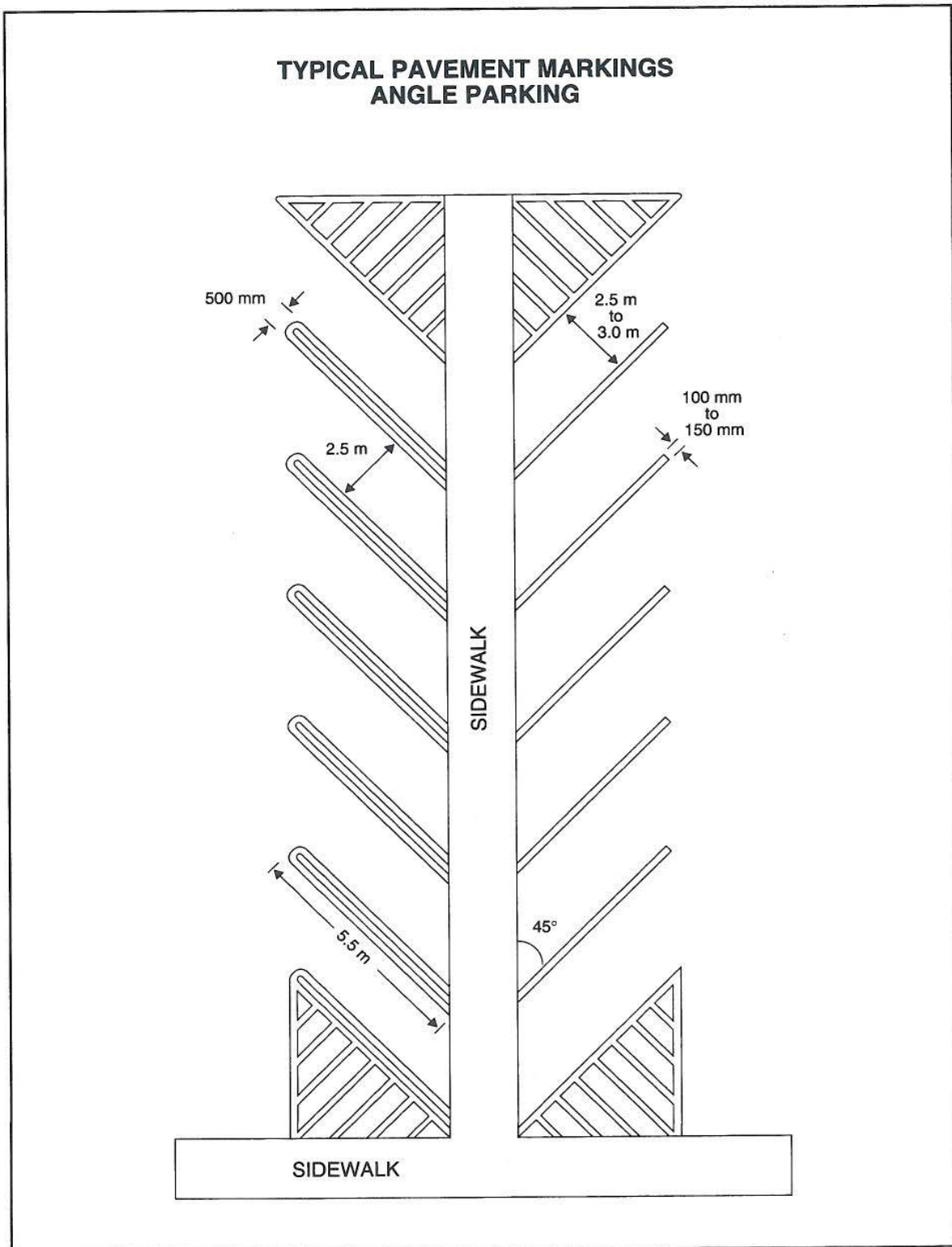


FIGURE C3-5

TABLE C1-1

TABLE C1-1
STANDARD PAVEMENT MARKING DIMENSIONS

Dimension	Rural (mm)	Urban Recommended (mm)	Urban Minimum (mm)
Numerals (Figure C1-6)			
A	2400	1800	1200
B	600	450	300
C	150	110	75
D	500	375	250
E	225	165	110
F	75	55	40
G	300	225	150
H	1100	825	550
I	125	925	625
Letters (Figures C1-7 & C1-8)			
A	2400	1800	1200
B	500	450	300
C	150	110	75
D	500	375	250
E	225	165	125
F	350	290	200
G	200	110	75
H	600	500	350
I	775	580	390
J	375	280	190
K	1125	845	610
L	100	80	65
M	300	225	150
N	1025	850	510
O	1075	875	525
P	725	540	360
R	900	675	450
S	250	225	150
T	175	125	90
X	75	75	50