

**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:**

**Bid Receiving - PWGSC / Réception des
soumissions - TPSGC**
11 Laurier St. / 11, rue Laurier
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

**Proposal To: Public Works and Government
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Title - Sujet Vehicle Lifting Device	
Solicitation No. - N° de l'invitation 31184-142003/A	Date 2015-02-18
Client Reference No. - N° de référence du client 31184-142003	
GETS Reference No. - N° de référence de SEAG PW-\$\$HP-922-66811	
File No. - N° de dossier hp922.31184-142003	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-04-02	Time Zone Fuseau horaire Eastern Standard Time EST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Tanguay, Mike	Buyer Id - Id de l'acheteur hp922
Telephone No. - N° de téléphone (819) 956-0545 ()	FAX No. - N° de FAX (819) 953-2953
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Aerospace – AL National Research Council 1 Levy St., (UPLANDS) BLDG U70 Ottawa, Ontario K1V 9B4 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

Vehicles & Industrial Products Division
11 Laurier St./11, rue Laurier
7A2, Place du Portage, Phase III
Gatineau, Québec K1A 0S5

Delivery Required - Livraison exigée See Herein	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date



Destination Code - Code destinataire	Destination Address - Adresse de la destination	Invoice Code - Code bur.-comptable	Invoice Address - Adresse de facturation
D - 1	Aerospace - AL National Research Council 1 Levy St., (UPLANDS) BLDG U70 Ottawa, Ontario K1V 9B4 Canada	31184	NATIONAL RESEARCH COUNCIL CANADA BLDG M-22 MONTREAL RD OTTAWA Ontario K1A0R6 Canada



Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM Destination	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
1	Vehicle Lifting Device QTY One (1) Vehicle Lifting Device in accordance with Annex A - Statement of Work - Vehicle Lifting Device. • Firm Unit Price:_____	D - 1	31184	1	Each	\$	XXXXXXXXXXXX	See Herein	

Solicitation No. - N° de l'invitation

31184-142003/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur

hp922

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

31184-142003

File No. - N° du dossier

hp92231184-142003

CCC No./N° CCC - FMS No/ N° VME

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PART 1 - GENERAL INFORMATION

1. Requirement

The requirement is detailed under Annex A – Statement of Work – Vehicle Lifting Device.

2. Debriefings

Bidders may request a debriefing on the results of the bid solicitation. Bidders should make the request to the Contracting Authority within 15 working days of receipt of notification that their bid was unsuccessful. The debriefing may be provided in writing, by telephone or in person.

3. Trade Agreements

The requirement is subject to the provisions of the North American Free Trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT).

PART 2 - BIDDER INSTRUCTIONS**1. Standard Instructions, Clauses and Conditions**

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the Standard Acquisition Clauses and Conditions [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) Manual issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract. The 2003 (2014-09-25) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: sixty (60) days

Insert: ninety (90) days

1.1 SACC Manual Clauses

B1000T	Condition of Material - Bid	2014-06-26
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2. Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than seven (7) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

4. Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

5. Environmental Considerations

Canada is committed to greening its supply chain. In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to acquire products and services that have a lower impact on the environment than those traditionally acquired. Environmental performance considerations include, among other things: the reduction of greenhouse gas emissions and air contaminants; improved energy and water efficiency; reduced waste and support reuse and recycling; the use of renewable resources; reduced hazardous waste; and reduced toxic and hazardous substances. In accordance with the Policy on Green Procurement, for this solicitation:

The successful bidder will be requested, after contract award, to provide all correspondence including (but not limited to) documents, reports and invoices in electronic format unless otherwise specified by the Contracting Authority, the Technical Authority or the Procurement Authority, thereby reducing printed material.

Bidders should recycle (shred) unneeded copies of non-classified/secure documents (taking into consideration the Security Requirements).

Product components used in performing the services should be recyclable and/or reusable, whenever possible.

PART 3 - BID PREPARATION INSTRUCTIONS**1. Bid Preparation Instructions**

Canada requests that bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation;

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process Policy on Green Procurement (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- 1) use paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section 1: Technical Bid

In their technical bid, bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

Section II: Financial Bid**1. Pricing**

Bidders must submit their financial bid in accordance with the Basis of Payment specified in Part 6.

2. SACC Manual Clauses**2.1 Exchange Rate Fluctuation Risk Mitigation**

- 1. The Bidder may request Canada to assume the risks and benefits of exchange rate fluctuations. If the Bidder claims for an exchange rate adjustment, this request must be clearly indicated in the bid at time of bidding. The Bidder must submit form [PWGSC-TPSGC 450](#), Claim for Exchange Rate Adjustments with its bid, indicating the Foreign Currency Component (FCC) in Canadian dollars for each line item for which an exchange rate adjustment is required.
- 2. The FCC is defined as the portion of the price or rate that will be directly affected by exchange rate fluctuations. The FCC should include all related taxes, duties and other costs paid by the Bidder and which are to be included in the adjustment amount.
- 3. The total price paid by Canada on each invoice will be adjusted at the time of payment, based on the FCC and the exchange rate fluctuation provision in the contract. The exchange rate adjustment will only be applied where the exchange rate fluctuation is greater than 2% (increase or decrease).

-
4. At time of bidding, the Bidder must complete columns (1) to (4) on form [PWGSC-TPSGC 450](#), for each line item where they want to invoke the exchange rate fluctuation provision. Where bids are evaluated in Canadian dollars, the dollar values provided in column (3) should also be in Canadian dollars, so that the adjustment amount is in the same currency as the payment.
 5. Alternate rates or calculations proposed by the Bidder will not be accepted for the purposes of this exchange rate fluctuation provision.

Section III: Certifications**1. Certifications :**

Bidders must submit the certifications required under Part 5.

Section IV: Additional Information

Canada requests that bidders submit the following information:

1. Delivery Date

While delivery is requested between 1 April 2015 and 30 June 2015, the best delivery that could be offered is as follows:

Item 001 – QTY One (1) Vehicle Lifting Device and related items will be delivered within _____ calendar days from the effective date of the contract.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

- a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- b) An evaluation team composed of representatives of Canada will evaluate the bids.

1.1 Technical Evaluation

1.1.1 Mandatory Technical Evaluation Criteria

Bidders must submit, with their bid, all proof of compliance required in the Annex A – Statement of Work – Vehicle Lifting Device.

1.2. Financial Evaluation

1.2.1 Mandatory Financial Evaluation Criteria

The price of the bid must be in Canadian dollars, Delivered Duty Paid at destination, Incoterms 2000, Canadian Custom Duties and Excise Taxes included where applicable and Applicable Taxes extra.

2. Basis of Selection

A bid must comply with all requirements of the bid solicitation to be declared responsive. The responsive bid with the lowest evaluated price on an aggregate basis will be recommended for award of a contract.

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and associated information to be awarded a contract.

The certifications provided by bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default in carrying out any of its obligations under the Contract, if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority may render the bid non-responsive or constitute a default under the Contract.

1. Certifications Required Precedent to Contract Award**1.1 Integrity Provisions - Associated Information**

By submitting a bid, the Bidder certifies that the Bidder and its Affiliates are in compliance with the provisions as stated in Section 01 Integrity Provisions - Bid of Standard Instructions [2003](#). The associated information required within the Integrity Provisions will assist Canada in confirming that the certifications are true.

1.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "[FCP Limited Eligibility to Bid](#)" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from [Employment and Social Development Canada \(ESDC\) - Labour's](#) website.

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](#)" list at the time of contract award.

2. Additional Certifications Required Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid, but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to comply with the request of the Contracting Authority and to provide the certifications within the time frame provided will render the bid non-responsive.

2.1 Product Conformance

The Bidder certifies that all equipment proposed conforms, and will continue to conform throughout the duration of the contract, to all technical specifications of the Statement of Work.

This certification does not relieve the bid from meeting all mandatory technical evaluation criteria detailed in Part 4.

Bidder's authorized representative signature

Date

PART 6 - RESULTING CONTRACT CLAUSES**1. Security Requirement**

There is no security requirement applicable to this contract.

2. Requirement

The Contractor must provide the items detailed under the "Line Item Detail".

3. Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>)) issued by Public Works and Government Services Canada.

3.1 General Conditions

2010A (2014-11-27) General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

4. Term of Contract**4.1 Delivery Date**

The Contractor must make the delivery as follows:

Item 001: must be delivered on or before _____ (Date to be inserted
by the Contracting Authority at time of contract award.)

5. Authorities**5.1 Contracting Authority**

Name: Mike Tanguay
Title: Supply Officer

Address: Public Works and Government Services Canada
Acquisitions Branch
[Logistics, Electrical, Fuel and Transportation Directorate](#)
11, rue Laurier
Gatineau, Québec K1A 0S5
Canada

Telephone: 819-956-0545
Facsimile: 819-953-2953
E-mail address: Mike.Tanguay@pwgsc-tpsgc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

5.2 Procurement Authority

The Procurement Authority for the Contract is:

Name: _____ (To be inserted by PWGSC at time of contract award.)
Title: _____
Organization: _____
Address: _____

Telephone: ____-____-____
Facsimile: ____-____-____
E-mail: _____

The Procurement Authority is the representative of the department or agency for whom the Work is being carried out under the Contract. The Procurement Authority is responsible for the implementation of tools and processes required for the administration of the Contract. The Contractor may discuss administrative matters identified in the Contract with the Procurement Authority however the Procurement Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of Work can only be made through a contract amendment issued by the Contracting Authority.

5.3 Technical Authority

The Technical Authority for the Contract is:

Name: _____ (To be inserted by PWGSC at time of contract award.)
Title: _____
Organization: _____
Address: _____

Telephone: ____-____-____
Facsimile: ____-____-____
E-mail: _____

The Technical Authority named above is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority, however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

5.4 Contractor's Representative

Name and telephone number of the person responsible for:

General enquiries

Name: _____ (To be completed by the bidder.)
Title: _____
Telephone: ____-____-____
Facsimile: ____-____-____
E-mail: _____

Delivery follow-up

Name: _____ (To be completed by the bidder.)

Title: _____

Telephone: _____ - _____ - _____

Facsimile: _____ - _____ - _____

E-mail: _____

6. Payment**6.1 Basis of Payment -Firm Unit Price**

- 6.1.1 In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm unit price(s), as specified in "Line Item Detail".
- 6.1.2 All firm unit prices in Canadian dollars must be Delivery Duty Paid (DDP) at destination, Incoterms 2000, including Canadian Custom Duties and Excise taxes where applicable, and applicable Taxes are extra.
- 6.1.3 Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

6.2 SACC Manual Clauses

C2000C	Taxes - Foreign-based Contractor	2007-11-30
H1000C	Single Payment	2008-05-12

6.3 Exchange Rate Fluctuation Adjustment

- The foreign currency component (FCC) is defined as the portion of the price or rate that will be directly affected by exchange rate fluctuation. The FCC should include all related taxes, duties and other costs paid by the Bidder and which are to be included in the adjustment amount.
- For each line item where a FCC is identified, Canada assumes the risks and benefits for exchange rate fluctuation, as shown in the Basis of Payment. For such items, the exchange rate fluctuation amount is determined in accordance with the provision of this clause.
- The total price paid by Canada on each invoice will be adjusted at the time of payment, based on the FCC and the exchange rate fluctuation provisions in the contract. The exchange rate adjustment amount will be calculated in accordance with the following formula:

$$\text{Adjustment} = \text{FCC} \times \text{Qty} \times (i_1 - i_0) / i_0$$

where formula variables correspond to:

FCC Foreign Currency Component (per unit)

i_0

Initial exchange rate (CAN\$ per unit of foreign currency [e.g. US\$1])

i_1

exchange rate for adjustments (CAN\$ per unit of foreign currency [e.g. US\$1])
Qty quantity of units

4. The initial exchange rate is typically set as the noon rate as published by the Bank of Canada on the solicitation closing date.
5. For goods, the exchange rate for adjustment will be the noon rate as published by the Bank of Canada on the date the goods were delivered. For services, the exchange rate for adjustment will be the noon rate on the last business day of the month for which the services were performed. For advance payments, the exchange rate for adjustment will be the noon rate on the date the payment was due. The most recent noon rate will be used for non-business days.
6. The Contractor must indicate the total exchange rate adjustment amount (either upward, downward or no change) as a separate item on each invoice or claim for payment submitted under the Contract. Where an adjustment applies, the Contractor must submit with their invoice form [PWGSC-TPSGC 450](#), Claim for Exchange Rate Adjustments.
7. The exchange rate adjustment will only be applied where the exchange rate fluctuation is greater than 2% (increase or decrease), calculated in accordance with column 8 of form [PWGSC-TPSGC 450](#) (i.e. $[i_1 - i_0] / i_0$).
8. Canada reserves the right to audit any revision to costs and prices under this clause.

7. Invoicing Instructions

The Contractor must submit invoices in accordance with the section entitled "Invoice submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

7.1. Invoices must be distributed as follows:

- (a) The original must be forwarded to the following address for certification and payment:

National Research Council Canada
ASPM Material Management
BLDG M22
1200 Montreal Road
Ottawa, ON, K1A 0R6
Attn : (to be inserted by PWGSC at Contract Award)
- (b) One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract for certification and payment.

Note 1: Invoices of Delivered Duty Paid, Incoterms 2000 contract will not be submitted prior to shipment of material.

8. Certifications

8.1 Compliance

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing associated information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the associated information, or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

9. Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

10. Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) 2010A (2014-11-27) General Conditions - Goods (Medium Complexity);
- (c) Line Item Detail;
- (d) Annex A – Statement of Work – Vehicle Lifting Device
- (e) the Contractor's bid dated _____.

11. SACC Manual Clauses

A1009C	Work Site Access	2008-05-12
B4042C	Identification Markings	2008-05-12
D2000C	Marking	2007-11-30
D2001C	Labelling	2007-11-30
D2025C	Wood Packaging Materials	2013-11-06
D6009C	Shipping Instructions - Delivery and Destination Schedules Unknown	2013-04-25
D6010C	Palletization	2007-11-30
D9002C	Incomplete Assemblies	2007-11-30
G1005C	Insurance	2008-05-12

12. Shipping Instructions - DDP Destination

Goods must be consigned and delivered to the destination specified in the contract:

Incoterms 2000 "DDP Delivered Duty Paid" Ottawa, Ontario, Canada to the following address:

Aerospace – AL
 National Research Council
 1 Levy St., (UPLANDS)
 BLDG U70
 Ottawa, Ontario K1V 9B4
 Canada

Contact for delivery: (to be inserted by PWGSC at Contract Award)

13. Environmental Considerations

Canada is committed to greening its supply chain. In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to acquire products and services that have a lower impact on the environment than those traditionally acquired. Environmental performance considerations include, among other things: the reduction of greenhouse gas emissions and air contaminants; improved energy and water efficiency; reduced waste and support reuse and recycling; the use of renewable resources; reduced hazardous waste; and reduced toxic and hazardous substances. In accordance with the Policy on Green Procurement:

The Contractor is requested to provide all correspondence including (but not limited to) documents and reports in electronic format unless otherwise specified by the Contracting Authority, the Technical Authority or the Procurement Authority, thereby reducing printed material.

The Contractor should recycle (shred) unneeded copies of non-classified/secure documents (taking into consideration the Security Requirements).

Product components used in performing the services should be recyclable and/or reusable, whenever possible.

14. Inspection and Acceptance

The Technical Authority is the Inspection Authority. All reports, deliverable items, documents, goods and all services rendered under the Contract are subject to inspection by the Inspection Authority or representative. Should any report, document, good or service not be in accordance with the requirements of the Statement of Work and to the satisfaction of the Inspection Authority, as submitted, the Inspection Authority will have the right to reject it or require its correction at the sole expense of the Contractor before recommending payment.



National Research Council
Canada

Institute for Aerospace
Research

Aerodynamics Laboratory

Ottawa, Canada
K1A 0R6

Conseil national de recherches
Canada

Institute de
recherche aérospatiale

Laboratoire d'aérodynamique



Annex A - Statement of Work

For

**The Design, Fabrication, and Supply of a
Below the Hook Lifting Device for
Light and Medium Duty Vehicles**

Version:
Prepared By:

2
Tim Sadler / Christophe Legare

1. BACKGROUND AND PURPOSE

The National Research Council's 9m Wind Tunnel is frequently used to test production model passenger and commercial vehicles. The wind tunnel facility is arranged such that placement of these vehicles into the wind tunnel requires the use of an electric overhead bridge crane and a lifting device specifically designed for lifting vehicles.

An existing vehicle lifting device at the facility has been used successfully for many years; however a new lifting device is now needed to handle larger and heavier vehicles.

2. SCHEDULE

The contractor shall complete all work defined in this statement of work on or before June 30th, 2015.

The device shall be delivered to the NRC 9m Wind Tunnel on or before June 30th, 2015.

3. PROVIDED CONCEPT

Annex A contains drawings for a conceptual vehicle lifting device that is based on the vehicle lifting device that has been in use at the 9m Wind Tunnel for more than 20 years. Bidders may submit an alternate design as long as it satisfies all of the requirements contained in this specification.

The sketches are provided to demonstrate only the general function of this concept – the optimal solution in terms of structural detail is the bidder's responsibility.

4. SCOPE OF WORK

General note: The specifications and requirements contained in this scope of work are intended to define an efficient solution for hoisting vehicles into and out of the NRC 9m Wind Tunnel. This scope of work makes reference to a conceptual solution for this device. The provided concept and sketches may not be the only or best possible design. Alternate designs or modifications to the provided concept that meet all of the written scope of work requirements shall be considered valid submissions.

This scope of work includes:

- Design and engineering of a device to hoist vehicles as described in this scope of work.
- Fabrication and/or supply of all components required to complete one vehicle lifting device.
- Test and certification of the lifting device.
- Delivery (shipping) of the lifting device to the 9m Wind Tunnel.
- Other associated details and work as described within this statement of work

4.0 Facility Limitations

The vehicle lifting device shall be designed to accommodate the constraints of the wind tunnel facility as follows:

- 4.0.1 This vehicle lifting device will only be used with an electric overhead bridge crane that is equipped with two hoists. The vehicle lifting device shall make use of both hoist hooks to avoid the need for balancing the load fore-aft and to maximize the height of vehicles that can be lifted. The vehicles do not need to be rotated using the lifting device.

- 4.0.2 The lifting device shall be designed such that it can lift a vehicle from the back bay of the 9m Wind Tunnel Facility. The back bay of the facility is very narrow with a concrete wall on one side, a vertical column on the other side and limited space at the front and rear. The maximum acceptable overall width of the lifting device is 120". The Back Bay of the facility is shown in Figure #1

Figure #1: 9m Wind Tunnel Back Bay



- 4.0.3 The lifting device shall be designed such that it is as low-profile as possible in order to maximize the height of vehicles that can be lifted into the facility (over the wind tunnel wall and under the crane girders). The attachment points for the crane's hooks shall be kept as low as possible and the overall height of the lifting device shall be minimized. The maximum allowable height of the lifting device from crane hook attachment to the floor shall be 155".

4.1 Size and Capacity Requirements

- 4.1.1 The lifting device shall be capable of lifting a vehicle with a maximum weight of 6600lbs at the front axle and a maximum weight of 6600lbs at the rear axle for a total maximum weight capacity of 13,200lbs. The lifting device capacity shall include all of the following load cases:
- (a) 6600lb on both vehicle axles with a vehicle track width (center of tire to center of tire) of 70"
 - (b) 6600lb on both vehicle axles with a track width of 80"

- (c) 4000lb on both vehicle axles with a track width of 60"
- 4.1.2 The lifting device shall be capable of lifting a vehicle with the following dimensions:
 - (a) Overall length: 100" to 400"
 - (b) Overall width: any up to 97"
The lifting device interior width shall be not less than 102".
 - (c) Overall height: any up to 125"
 - (d) Wheelbase: 40" to 300"
 - (e) Tire diameter: 12" to 40"

4.2 Functional Requirements

- 4.2.1 The lifting device shall be designed such that one person can easily: lower the device to the vehicle, rig the device, and begin to hoist the vehicle within ten minutes.
- 4.2.2 The lifting device shall be easy for one operator to connect or disconnect to/from the crane.
- 4.2.3 The lifting device shall be stable and safe when not connected to the crane. It shall not present a tipping-over, pinch, or crush hazard to personnel.
- 4.2.4 The lifting device shall be easily folded or disassembled for compact storage, passage through the facility garage doors, and transport using a forklift. One person shall be able to collapse the lifting device for storage in less than 30 minutes. All components shall be clearly marked to indicate the correct location and orientation for re-assembly.
- 4.2.5 Where possible, all loose parts such as pins or handles shall be retained to the device with some sort of leash, strap or tie to prevent lost components.
- 4.2.6 If possible, the height of the device shall be adjustable such that lower vehicles can be hoisted using a lower hook height. This will make it easier for the operator to connect/disconnect the crane, reduce the space required for storage, and increase the vertical clearance of the device when hoisted through the facility.

4.3 Design

- 4.3.1 The design of the lifting device shall be approved by a licensed professional engineer.
- 4.3.2 The lifting device shall be used approximately once per day, 150 days per year, with a desired life of not less than 30 years.
- 4.3.3 The lifting device shall be designed in accordance with
 - (a) ASME B30.20 and;
 - (b) ASME BTH-1, Design Category B, Service Class 1.
- 4.3.4 Temperature: The lifting device shall be suitably designed for temperatures ranging from -30°C to 66°C.

- 4.3.5 The lifting device shall be designed such that the lifting device contacts the vehicle only on the tread of the tires.
- 4.3.6 The lifting device shall be capable of lifting the vehicle without any preparation of the vehicle (i.e. the vehicle is not modified in any way). The lifting device shall be designed to lift the vehicle directly from the facility surface that the vehicle is parked on.
- 4.3.7 The design shall minimize the requirement for the operator to perform heavy manual lifts or movements. Manual lifts or maneuvers in excess of 40lbs should be avoided.
- 4.3.8 The lifting device shall connect directly to the 9m Wind Tunnels' crane hooks. The opening to receive these hooks must be at least 10" tall x 4" wide with pin diameter less than 3".

4.4 Fabrication

- 4.4.1 Shop drawings showing all details of the device shall be submitted to the NRC for review and approval before fabrication begins.
- 4.4.2 All welding shall be in accordance with the following standards: CSA W47 and CSA W59
- 4.4.3 Structural components made of aluminum shall not be welded.
- 4.4.4 The device shall be suitably prepared and neatly spray painted or powder-coated with a high quality industrial paint. Poorly adhered paint or finish will not be accepted. The colour shall be safety yellow.

4.5 Commissioning and Acceptance Testing

- 4.5.1 As a minimum, the vehicle lifting device shall be load tested to 125% of the maximum capacity as per the load cases identified by this document. This load test shall be witnessed and certified by a licensed professional engineer.
- 4.5.2 The device shall be inspected by the NRC Engineer to ensure complete compliance with this specification.

4.6 Misc

- 4.6.1 The vehicle lifting device shall be supplied with the following documents:
 - (a) Three copies of the instructions for the operation of the device;
 - (b) A sample pre-operational inspection checklist;
 - (c) Preventative maintenance schedule (if applicable);
 - (d) Three copies of the approved (stamped and signed by a licensed professional engineer) as-built general assembly drawings.
 - (e) The load test certificate (signed and approved by a licensed professional engineer)
 - (f) If not included in the above, a document or drawing stating the working load capacity, acceptable load configurations, and any other load or usage limitations of the device. This shall be reviewed and approved by a licensed professional engineer.
- 4.6.2 This scope of work shall include delivery of the device to the 9m Wind Tunnel (1 Levy St, Ottawa, Ontario, Canada).

4.7 Warranty

- 4.7.1 The vehicle lifting device shall be guaranteed against defects and workmanship for a period of 2 years from the acceptance date of the work.

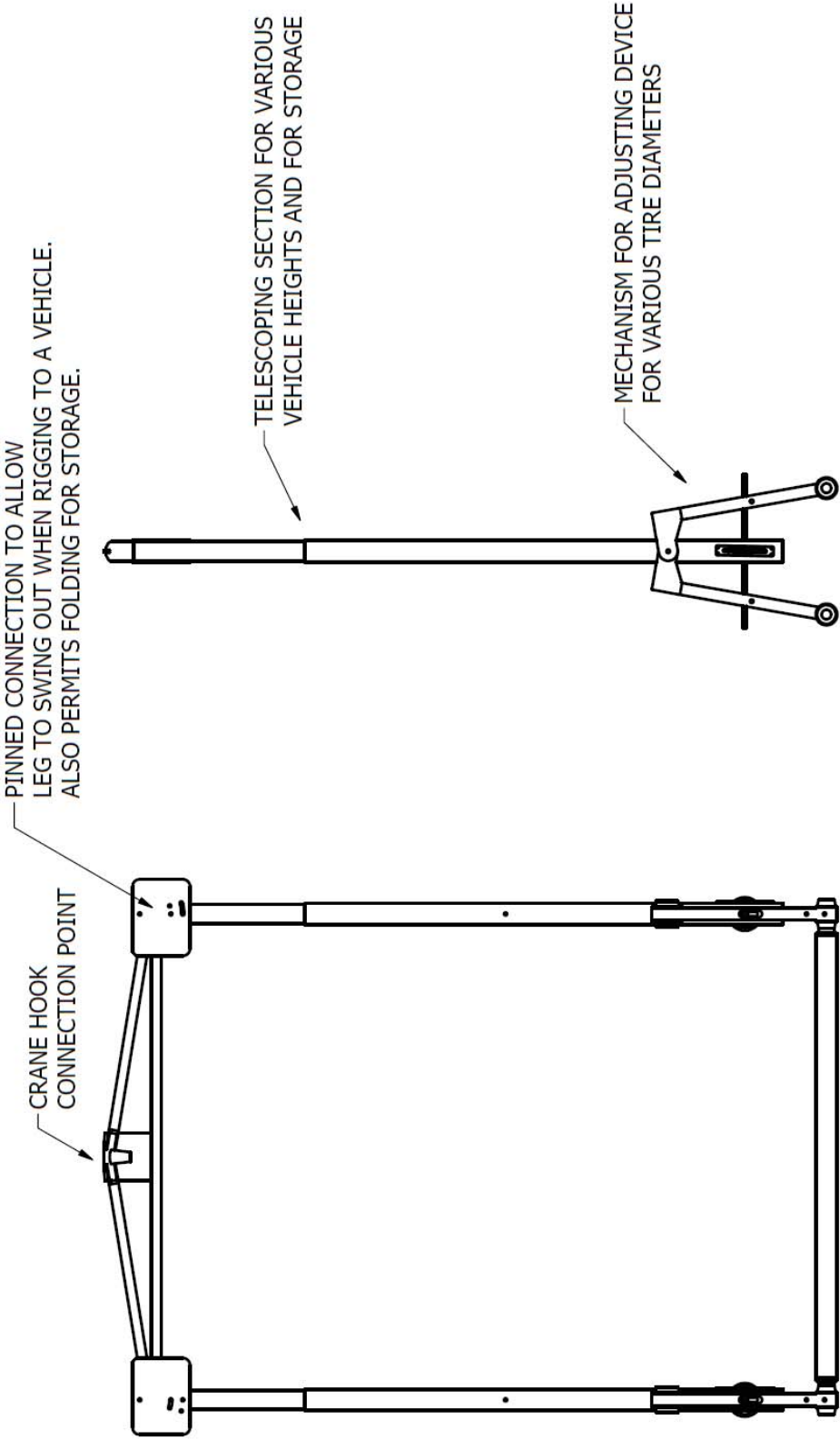
Appendix 1

PROVIDED CONCEPT

Sketch #1: Provided Concept

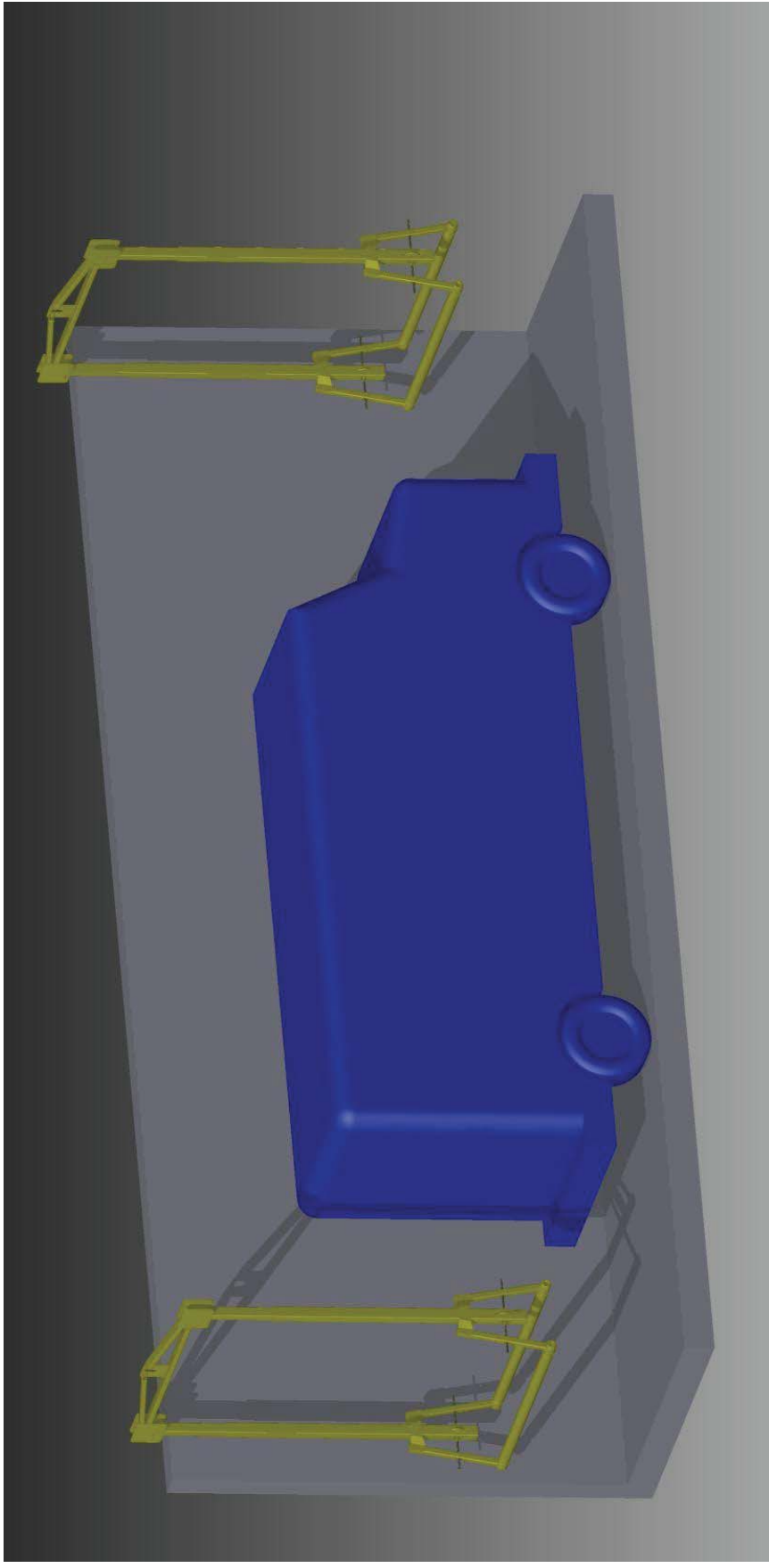


Sketch #2: Provided Concept

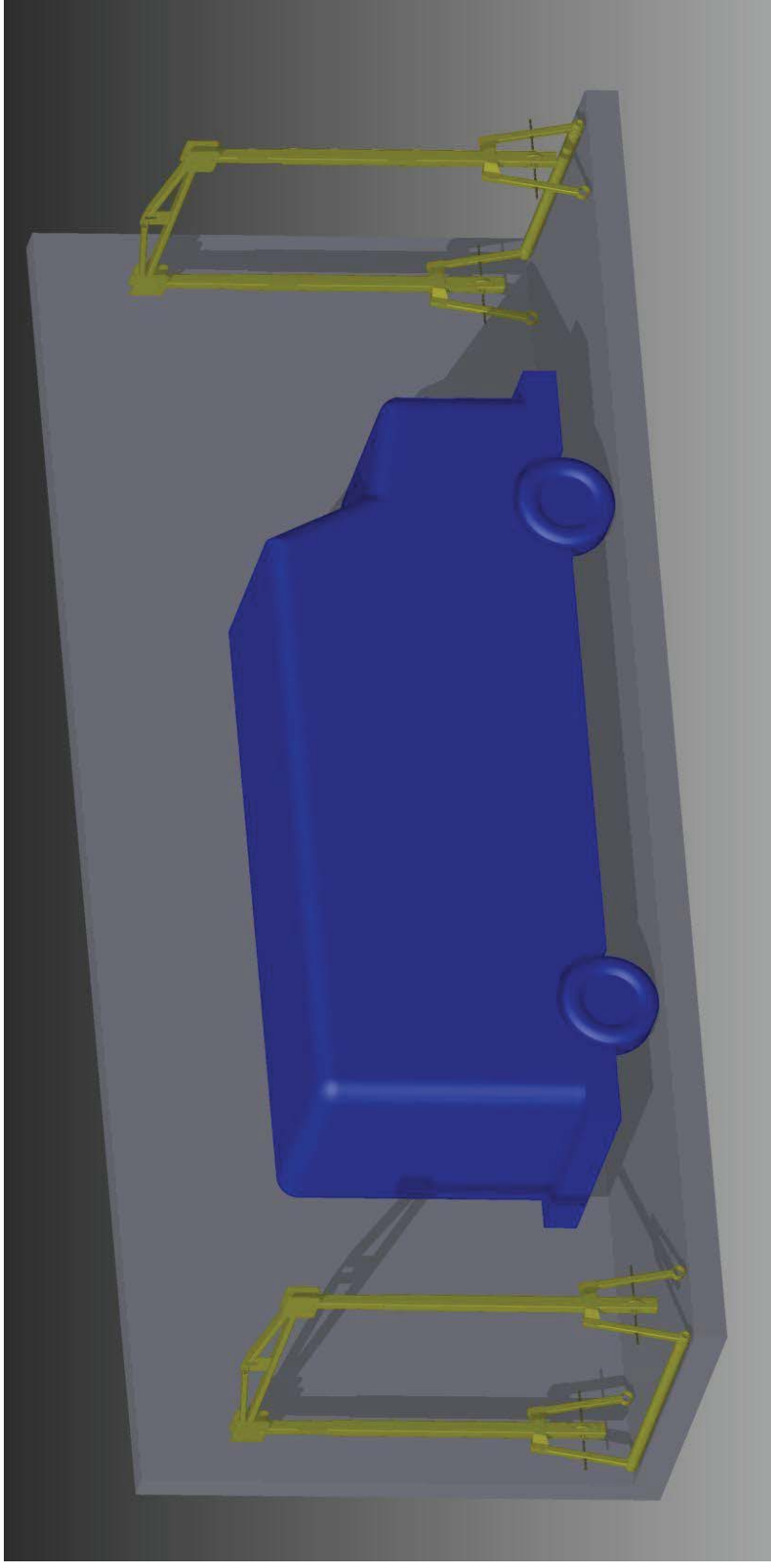


Provided Concept – Procedure for Hoisting a Vehicle

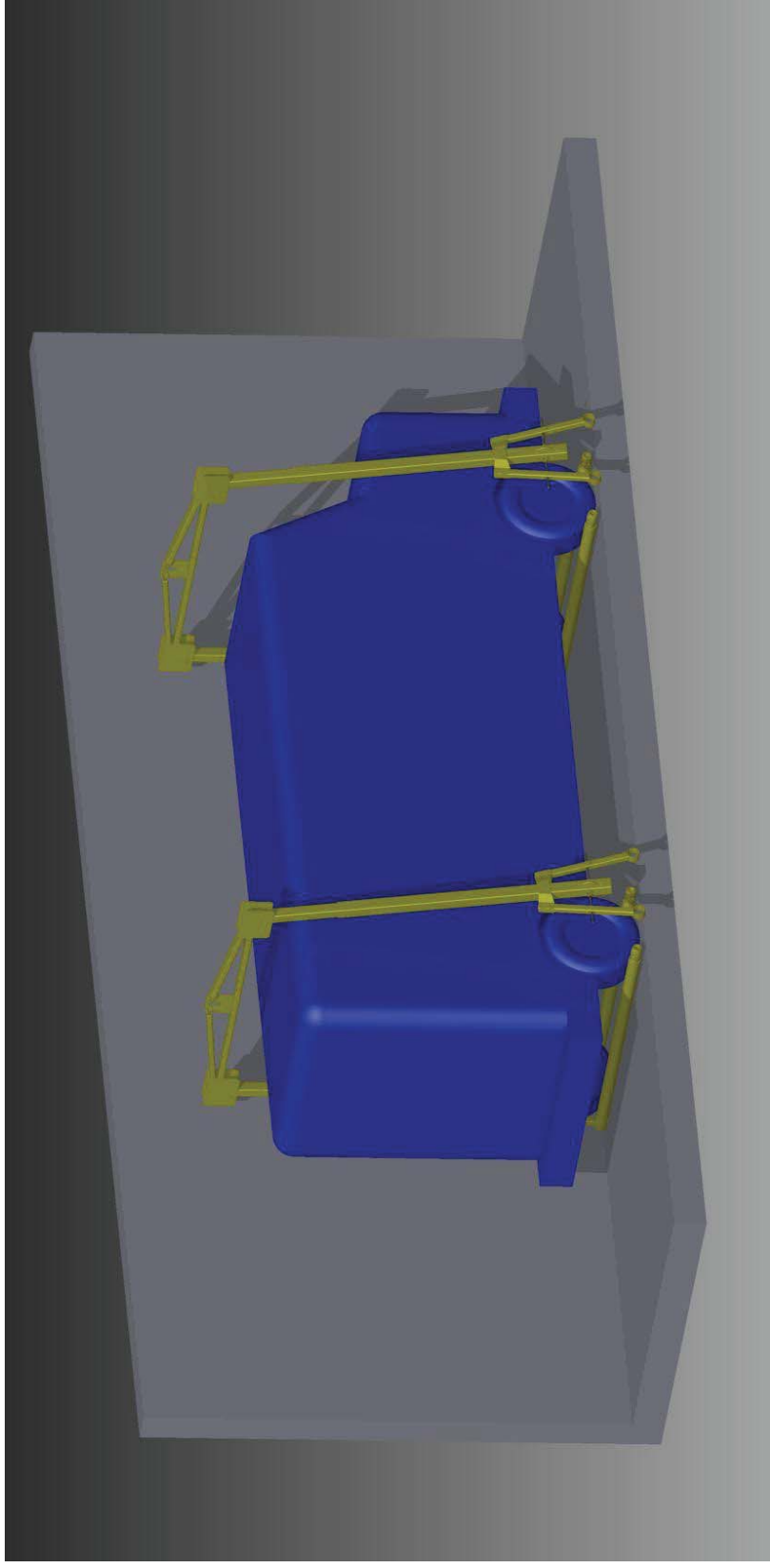
Step 1: The vehicle is parked, the lifting devices are connected to the 2-hoist crane (not shown), and the lifting devices are being lowered into place.



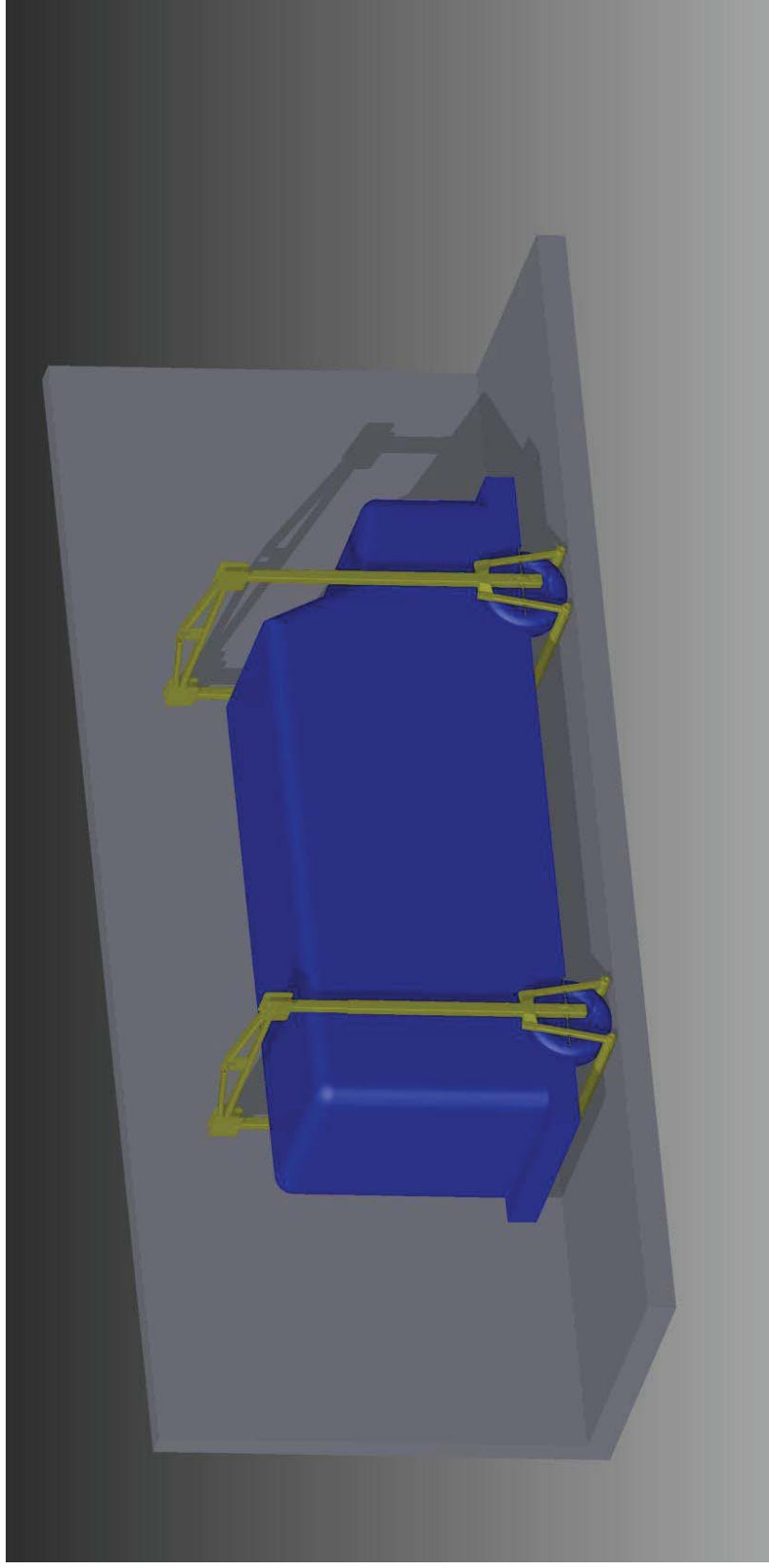
Step 2: One of the lower support pipes has been removed from each lifting device.



Step 3: The lifting devices have been moved into position; and one leg of the lifting devices has been swung out to allow the lower support pipe to be installed.



Step 4: The lower support pipe has been installed. The spread of the pipes has been adjusted to the tire size.



Step 5: The vehicle is hoisted using both hoists.

