



September 17, 2013

CONTRACT SERVICES
Fisheries and Oceans Canada
C/O Natural Resources Canada
1350 Regent St
Fredericton, NB E3C 2G6

**Re: Invitation to Tender F5211-130179
TOWER REPLACEMENT ON AMHERST ISLAND**

Sealed, signed tenders will be received up to 2:00 p.m. Atlantic (1:00 p.m. Eastern): Thursday, October 3rd, for the said service in accordance with the documents enclosed.

Bidders have the option to submit via email to the Contracting Officer processing this tender at Kimberly.walker@dfo-mpo.gc.ca or bids may be submitted and addressed as per sample below. Your bid submission must include:

two (2) signed copies of the Form of Tender;

Do not address the bid to any individual, it may delay the receipt of the tender submission and could be considered late and therefore non-compliant. Make sure any outside envelope (i.e. courier envelopes) are addressed as per the sample below.

The onus is on the bidder to ensure that the bid is delivered on time to the location designated.

Upon acceptance the successful bidder will be required to supply:

proof of insurance;
proof of WCB coverage;

Any tender received after the above noted time will be considered late and will be returned to the sender unopened. Tenders may be revised by email, letter or fax (506) 452-3676, provided the tender and revision(s) are both received prior to Tender Closing Time.

For further project or contract information, please contact Kim Walker by email at Kimberly.walker@dfo-mpo.gc.ca.

Regards,

Kim Walker
Contracts Officer
Enclosures

Canada



Fisheries
and Oceans

Pêches
et Océans

SAMPLE ENVELOPE

Your company name and address

Fisheries and Oceans Canada
TENDER SUBMISSION

Fisheries and Oceans Canada
c/o Natural Resources Canada
1350 Regent Street
Fredericton NB
E3B 5P7

Tender **F5211-130179**
Tower Replacement on Amherst Island

Date Due: **Thursday, October 3rd, 2013**
2:00 PM Atlantic Time



Fisheries and Oceans
Canada

Pêches et Océans
Canada

INVITATION TO TENDER

Sealed Tenders, addressed to:

Fisheries and Oceans, Canada
TENDER SUBMISSION
c/o Natural Resources Canada
1350 Regent Street
Fredericton NB E3C 2G6

**and marked: Tender F5211-130179
TOWER REPLACEMENT ON AMHERST ISLAND**

will be received up to: THURSDAY, 3rd OCTOBER 2013
2:00 p.m. Atlantic time (1:00 p.m. Eastern),

Nature of Work:

The existing Navigational Aid Structure needs to be demolished and a New Navigational Aid Structure needs to be constructed on Amherst Island. This requirement includes, but is not limited to the provision of all labour, materials, and equipment required to:

Fabricate on new steel aid to navigation tower; transport the tower to designated staging location for coating application and transport to project site for erection; foundation to be completed and installed; evacuation and removal of contaminated soils exceed legal standards, including transportation to a licensed facility; back fill and supply clean fill material; and restoration of Coast Guard and private property to pre-construction conditions, including the supply and install of topsoil.

Bidders are instructed to consult the appended tender package for further details and specific requirements.

Site Locations: Amherst Island, Ontario.

Start Date: Upon Award.

Completion Date: All work to be completed by 31 December 2013

Inquiries: Direct all technical and contractual inquiries to the contracting authority Kimberly Walker by email at Kimberly.walker@dfo-mpo.gc.ca.

Fisheries and Oceans Canada will not necessarily accept the lowest or any of the tenders received and reserves the right to reject any and all tenders received which shall be final and at the sole discretion of the Department.

Canada



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APPEL D'OFFRES

Faire parvenir les soumissions cachetées à :

Pêches et Océans Canada
SOUSSION CONSÉCUTIVE À UN APPEL D'OFFRES
a/s de Ressources naturelles Canada
1350, rue Regent
Fredericton (N.-B.) E3C 2G6

**et indiquer : Soumission F5211-130179
Remplacement du Pylône sur l'île Amherst**

Les soumissions seront acceptées jusqu'à : JEUDI 3 OCTOBRE 2013
14 h, heure de l'Atlantique (11 h, heure du Pacifique)

Nature des travaux :

La structure d'aide à la navigation qui existe doit être démolie, et puis une nouvelle structure d'aide à la navigation doit être construite sur l'île Amherst. Cette exigence inclut, mais n'est pas limitée à la main-d'œuvre, matériaux et équipement nécessaire pour:

- Fabriquer un nouveau pylône pour l'aide à la navigation;
- Le transport de ce pylône à l'emplacement désigné de transit pour l'application du revêtement, et le transport vers le site du projet pour la construction;
- La construction d'une fondation;
- l'excavation et l'élimination des sols contaminés s'il dépasse les normes juridiques, y compris le transport vers une installation autorisée,
- le remblai et fournir du matériel propre
- remplissage et la restitution de la propriété du Garde côtière et la propriété privée aux conditions préalables à la construction, y compris la fourniture et l'installation de la couche arable.

On rappelle aux soumissionnaires de consulter le dossier d'appel d'offres pour obtenir de plus amples renseignements et les exigences particulières.

Ce marché comprendra la main-d'œuvre, le matériel et l'équipement fournis par l'entrepreneur, selon la description dans le dossier d'appel d'offres.

Emplacement du site : Île Amherst, Ontario

Date de début : Dès l'attribution.

Date d'achèvement : Tous les travaux doivent se terminer d'ici le 31 Décembre 2014.

Demandes : Toutes les demandes de nature techniques et contractuelles doivent être transmises par courriel à l'autorité contractante Kimberly Walker à l'adresse : Kimberly.walker@dfo-mpo.gc.ca.

Pêches et Océans Canada n'acceptera pas nécessairement la soumission la moins coûteuse ou l'une des soumissions reçues, et il se réserve le droit de refuser une ou l'ensemble des soumissions reçues, cette décision étant sans appel et à la seule discrétion du Ministère.

Canada

Project No.	F5211-130179
Project Location	Amherst Island, Lake Ontario



CONSTRUCTION TENDER FORM

Closing Date/Time	Thursday, October 3, 2013 @ 2PM Atlantic time	Solicitation No.	F5211-130179
Closing Location	Fisheries and Oceans Canada C/O Natural Resources Canada 1350 Regent Street, Fredericton, NB E3B 5P7		
Fax No.	506-452-3676		
Project Title	Tower replacement on Amherst Island		
Project Location	Amherst Island, Lake Ontario		

1. TENDER DOCUMENTS

- 1.1. Construction Tender Form - FP-5155E
- 1.2. DFO Instructions to Bidders - Construction at <http://www.dfo-mpo.gc.ca/contract-contrat/instructions-instructions-eng.htm>
- 1.3. DFO General Conditions - Construction at <http://www.dfo-mpo.gc.ca/contract-contrat/general-generale-eng.htm>
- 1.4. Labour Conditions at 1.1. http://www.hrsdc.gc.ca/en/labour/employment_standards/contracts/conditions.shtml
- 1.5. Schedules of Wages Rates for Federal Construction Contracts.
The appropriate Schedule of Wage rates for the contract are the ones for the location where the work will be performed.
Please refer to: http://www.hrsdc.gc.ca/en/labour/employment_standards/contracts/schedule/index.shtml
- 1.6. Insurance Conditions at <http://www.dfo-mpo.gc.ca/contract-contrat/insurance-assurances-eng.htm>
- 1.7. Insurer's Certificate of Insurance - FP-5140E at http://www.dfo-mpo.gc.ca/forms-formulaires/FP_5140_E.pdf
- 1.8. Plans and Specifications

- 2. We, having informed ourselves fully of the conditions relating to the work to be performed, having full knowledge of site conditions and having carefully examined the plans and specifications and all the terms and covenants of the Tender Documents, including any amendments (IT BEING UNDERSTOOD AND AGREED THAT FAILURE TO HAVE DONE SO WILL NOT RELIEVE US OF OUR OBLIGATION TO ENTER INTO A CONTRACT AND CARRY OUT THE WORK FOR THE CONSIDERATION SET OUT HEREAFTER) do tender and offer to perform the said work in strict accordance with the said documents and such further details, plans and instructions as may be supplied from time to time and to furnish to Her Majesty the Queen in Right of Canada, all materials, plant, machinery, tools, labour and things necessary for the construction or carrying out and proper completion of the said work for the sums stated in the Combined Price Schedule of this tender form.
- 3. We understand and agree that all applicable taxes, duties, permits and fees are our responsibility and are included in our Tendered Price. The exceptions to the foregoing are the Goods and Services Tax (GST) / the Harmonized Sales Tax (HST). GST / HST will be paid to the contractor by Fisheries and Oceans Canada in addition to any amounts due under the contract.
- 4. We certify that Bid Security, if required, in one of the forms outlined in GI09 of the "DFO Instruction to Bidders - Construction", accompanies this Tender.
- 5. It is understood and agreed that in the event of this Tender being accepted within 30 (thirty) calendar days of the date and time stated for closing of tenders and our failing or refusing to carry out the contract in accordance with the terms of our Tender, our bid security, if required by the tender, (i) if in the form of a certified cheque, bank draft, or bonds of, or bonds unconditionally guaranteed as to principal and interest by, the Government of Canada, or (ii) if in the form of a Bid Bond, shall be forfeited to Her Majesty the Queen in Right of Canada and the Bonding Company shall be liable in accordance with the terms of the Bond.



6. It is further understood and agreed that notwithstanding (i) the forfeiture of the certified cheque or bonds of (ii) the liability of the Bonding Company, Her Majesty shall be entitled to the payment of any additional amounts that may be required to meet the cost of all loss and damage suffered by Her Majesty by reason of our default in carrying out the contract.
7. We understand this project must be completed by _____. If our Tender is accepted, we agree to start work immediately upon notification of contract award and once all required insurances, permits, Letter of Good Standing and Clearance from applicable provincial compensation authority, etc., are in place. We will attend start-up meeting and will work vigorously and continuously to complete the project within this prescribed time.
8. Bidders shall take note that the performance of the Contractor during and upon completion of the work shall be evaluated by Her Majesty. The evaluation shall be based on the quality of workmanship; timeliness of completion of the work; project management, contract management and management of health and safety.

Should the Contractor's performance be considered unsatisfactory, the Contractor's bidding privileges for future work may be suspended.

The form Contractor Performance Evaluation Report Form (FP 5135E) at http://www.dfo-mpo.gc.ca/forms-formulaires/FP_5135_E.pdf will be used to record the performance.
9. By signing below we certify that we are authorized to sign this tender on behalf of the Corporation, Partnership, Joint Venture or Sole Proprietorship and bind the company to it.
10. We certify that we are in possession of all the tender documents listed in this tender form.
11. Special tender form inserts/additional instructions (For DFO use only)

Project No. F5211-130179
Project Location Amherst Island, Lake Ontario



Fisheries and Oceans Canada
Pêches et Océans Canada

12. We certify that our tender is inclusive of all obligations as required by the preceding pages of this tender form, without change.

Our Goods and Services Tax/Harmonized Sales Tax (GST/HST) Registration number is: _____

Please indicate type of business and check one of the following :

Corporation Partnership Sole Proprietorship Joint Venture

_____	_____	_____
Tenderer Name (Print)	Title	Company Name
_____	_____	Address: _____
Tenderer Signature	Date	Fax: _____
Duly Authorized Representative* *As per Paragraph 10 of this Tender Form		Phone: _____
		Email: _____

IF APPLICABLE

Witness Name (Print)

Witness Signature

CORPORATE SEAL



13. **COMBINED PRICE SCHEDULE**

- The prices per unit shall govern in establishing the Total Extended Amount. Any arithmetical errors in this Appendix will be corrected by Her Majesty
- Her Majesty may reject the bid if any of the prices submitted do not reasonably reflect the cost of performing the part of the work to which that price applies.

Tenderer Name _____

LUMP SUM

The Lump Sum Amount designates Work to which a Lump Sum Arrangement applies.

(a) Work included in the Lump Sum Amount represents all work not included in the unit price table.

LUMP SUM AMOUNT (LSA) Excluding GST/HST	
--	--

Tenderer Name _____

UNIT PRICE TABLE

The Unit Price Table designates Work to which a Unit Price Arrangement applies.

- (a) Work included in each item is as described in the referenced specification section.
- (b) The Price per Unit shall not include any amounts for Work that is not included in that unit price item.

Item	Specification Reference	Class of Labour, Plant or Material	Unit of Measurement	Estimated Quantity (EQ)	Price per Unit (PU) (GST/HST extra)	Extended Amount (EQ x PU) (GST/HST extra)
TOTAL EXTENDED AMOUNT (TEA) Excluding GST/HST						

TOTAL BID AMOUNT

TOTAL BID AMOUNT (LSA + TEA) Excluding GST/HST	
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Labour Conditions Fair Wages and Hours of Labour

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- 01 Interpretation
- 02 General Fair Wage Clause
- 03 Hours of Work
- 04 Labour Conditions to be Posted
- 05 The Contractor to Keep Records which are to be Kept Open for Inspection
- 06 Departmental Requirements before Payment made to Contractor
- 07 Authority to pay Wages in the Event of Default by the Contractor
- 08 Conditions of Subcontracting
- 09 Non-discrimination in Hiring and Employment of Labour

01 Interpretation

In these Conditions

- (a) "Act" means the Fair Wages and Hours of Labour Act;
- (b) "Regulations" means the Fair Wages and Hours of Labour Regulations made pursuant to the Act;
- (c) "contract" means the contract of which these Labour Conditions are part;
- (d) "contracting authority" means the department of Government or a crown corporation with whom the contract is made;
- (e) "contractor" means the person who has entered into the contract with the contracting authority;
- (f) "regional director" means the director of a regional office of the Department of Human Resources Development or the director's designated representative;
- (g) "inspector" has the meaning assigned to the term by Part III of the Canada Labour Code.
- (h) "Minister" means the Minister of Labour of Canada;
- (i) "persons" means those workers employed by the contractor, subcontractor or any other person doing or contracting to do the whole or any part of the work contemplated by the contract;

02 General Fair Wage Clause

- (a) All persons in the employ of the contractor, subcontractor, or any other person doing or contracting to do the whole or any part of the work contemplated by the contract, shall during the continuance of the work:
 - i) be paid fair wages that is, such wages as are generally accepted as current for competent workers in the district in which the work is being performed for the character or class of work in which such workers are respectively engaged; and

- ii) in all cases, be paid no less than the minimum hourly rate of pay established by the Labour Program of the Department of Human Resources Development in the Fair Wage Schedules which form a part of this contract as Appendix A to these Labour Conditions; and
 - iii) for contracts covering work performed in the province of Quebec, be paid at least the wage rates established by that province for the purposes of the Quebec "Construction Decree".
- (b) Where there is no wage rate in the schedules referred to in (a) for a particular character or class of work, the contractor shall pay wages for that character or class of work at a rate not less than the rate for an equivalent character or class of work.
 - (c) Where during the term of the contract, the contractor receives notice from the contracting authority of any change in wage rates, the contractor shall pay not less than the changed wage rate beginning on the first day after receipt, by the contractor, of the notice of the change in wage rates.

03 Hours of Work

- (a) The hours of work in a day and in a week of persons employed in the execution of the contract, including the hours of work in excess of which a person shall be paid overtime at a rate at least equal to one and one half times the fair wage, are the hours of work for the province in which the work is being performed as set out from time to time in an Act of that province.
- (b) The daily or weekly hours of work referred to in paragraph (a) may be exceeded in accordance with the applicable provincial law.

04 Labour Conditions to be Posted

For the information and the protection of all persons, the contractor agrees to post and keep posted, in a conspicuous place on the premises where work contemplated by the contract is being carried out or on premises occupied or used by persons engaged in carrying out such work, a copy of these Labour Conditions, and a copy of the applicable Fair Wage Schedules along with any subsequent changes.

05 The Contractor to Keep Records which are to be Kept Open for Inspection

- (a) The contractor agrees to keep books and records showing the names, addresses, classifications of employment and work of all workers employed under the contract, the rate of wages to be paid, the wages paid and the daily hours worked by the workers.
- (b) The contractor also agrees that the contractor's books, records and premises will be open at all reasonable times for inspection by an inspector.
- (c) The contractor also agrees to furnish the inspector and the contracting authority, on request, with such further information as is required to ascertain that the requirements of the Act, the Regulations and the contract with respect to wages, hours of work and other labour conditions have been complied with.

06 Departmental Requirements before Payment made to Contractor

- (a) The contractor agrees that the contractor will not be entitled to payment of any money otherwise payable under the contract until the contractor has filed with the contracting authority in support of a claim for payment a sworn statement:
 - (i) that the contractor has kept the books and records required by these Regulations,

- (ii) that there are no wages in arrears in respect of work performed under the contract, and
 - (iii) that to the contractor's knowledge, all the conditions in the contract required by the Act and the Regulations have been complied with.
- (b) The contractor also agrees that, where fair wages have not been paid by the contractor to persons employed under the contract, the contracting authority shall withhold from any money otherwise payable under the contract to the contractor the amount necessary to ensure that fair wages are paid to all employees until fair wages are paid.

07 Authority to pay Wages in the Event of Default by the Contractor

- (a) The contractor agrees that where the contractor is in default of payment of fair wages to an employee, the contractor will pay the Minister the amount the contractor is in default.
- (b) The contractor agrees that where the contractor fails to comply with paragraph (a), the contracting authority will pay to the Receiver General, out of any money otherwise payable to the contractor, the amount for which the contractor is in default.

08 Conditions of Subcontracting

The contractor and the subcontractor agree that in subcontracting any part of the work contemplated by the contract, they will place in the subcontract the conditions respecting fair wages, hours of work and other labour conditions set out in the contract and the requirements set out in Section 4. The contractor further agrees that the contractor will be responsible for carrying out these conditions in the event the subcontractor fails to carry them out.

09 Non-discrimination in Hiring and Employment of Labour

The contractor agrees that in the hiring and employment of workers to perform any work under the contract, the contractor will not refuse to employ and will not discriminate in any manner against any person because

- (a) of that person's race, national or ethnic origin, colour, religion, age, sex, sexual orientation, marital status, disability, conviction for which a pardon has been granted, or family status;
- (b) of the race, national or ethnic origin, colour, religion, age, sex, sexual orientation, marital status, disability, conviction for which a pardon has been granted, or family status of any person having a relationship or association with that person, or
- (c) a complaint has been made or information has been given in respect of that person relating to an alleged failure by the contractor to comply with subparagraph (a) or (b).

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APPENDIX B

TOWER REPLACEMENT

LL 438 PIG POINT

AMHERST ISLAND, ON

MARITIME AND CIVIL INFRASTRUCTURE

Prepared by: SF

Approved by:

Revision: 1

File: EWA 8010-20-0352

Rev Date: 16 AUG 2013



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APPENDIX B1 – SITE LOCATION AND PHOTOGRAPHS

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APPENDIX B4 – GEOTECHNICAL REPORT



SECTION: 011100 GENERAL INSTRUCTIONS

PART 1 - GENERAL

1.1 Minimum Standards

- .1 Perform work in accordance with National Building Code of Canada (NBC) and any other code of provincial or local application. In the case of any conflict or discrepancy, the more stringent requirements shall apply.
- .1 Meet or exceed requirements of:
 - .1 Contract documents,
 - .2 Specified standards, codes and referenced documents.

1.2 Description of Work

- .1 Work under this Contract includes but is not limited to the provision of all labour, materials, and equipment required to:
 - .1 Fabricate one (1), 7.3 m [24'] new steel aid to navigation tower ("tower");
 - .2 Transport the tower to the designated staging location for coating application;
 - .3 Collect the tower from designated staging location and transport the tower to project site for erection;
 - .4 Complete the installation of new reinforced concrete foundation;
 - .5 Erect the tower; including all appurtenances; and,
 - .6 Demolish and dispose the existing steel tower and foundations;
 - .7 Clearing and grubbing of vegetation within the defined limits;
 - .8 Excavation and removal of contaminated soils exceeding CCME R/P criteria, estimated volume, $\pm 10 \text{ m}^3$;
 - .1 Soil contains elevated concentrations of lead and zinc;
 - .9 Safe transportation and disposal of contaminated soils at a licensed facility;
 - .1 Impacted soil is classified as a solid, non-hazardous waste for disposal purposes;
 - .10 Backfill, including the supply and installation of clean fill material;
 - .11 Restoration of Coast Guard and private property to pre-construction conditions, including the supply and installation of topsoil.
- .2 The following work will be undertaken by others and is hereby excluded:



- .1 Application of Coast Guard Marine Coating System;
- .2 Supply and installation of new tower lighting system.

1.3 Submittals

- .1 Mandatory submittals and schedule for submission are detailed below and in Appendix B2. The following identifies general requirements only. The relevant sections must be consulted for a complete listing of mandatory content.
- .2 Detailed Schedule:
 - .1 Deadline: no later than ten (10) working days following award
 - .2 Deliverables, Project construction schedule
 - .1 The project construction schedule must detail as a minimum commencement, duration, and completion of the following tasks:
 - .1 Fabrication of the tower assembly;
 - .1 Application of coating system (assume 1 week);
 - .2 Foundation installation (detail any curing period);
 - .3 Tower erection;
 - .4 Excavation and removal of contaminated soils;
 - .5 Safe transportation and disposal of contaminated soils at a licensed facility;
 - .6 Backfilling of excavated areas with clean fill material; and,
 - .7 Restoration of private property to pre-construction conditions.
- .3 Construction Plan
 - .1 Deadline: no less than 10 working days prior to mobilization.
 - .2 The Construction Plan shall be of sufficient detail to demonstrate that the Contractor has considered all the challenges of the project and is prepared to undertake the works in a competent and professional manner in accordance with all legislation.
 - .3 Document must include:
 - .1 Complete listing of Contractor's personnel, include:
 - .1 Core project members (project manager /site foreman) and all site crew, indicate each person's role and responsibilities while on-site.
 - .2 Complete listing of all Subcontractors;



- .3 Project specific safety program (Section 013530);
- .4 Project environmental protection program (Section 013543);
- .5 Detailed demolition plan (Section 024116);
- .6 Concrete construction plan (Section 033000);
- .7 Tower erection plan (Section 133613,1.3); and,
- .8 Excavation construction procedures (Section 310000)

1.4 Bidder Qualifications

- .1 The work shall be carried out under the supervision and responsibility of a sole specialized Contractor.
- .2 The Contractor shall demonstrate experience in the installation of aid to navigation structures or other similar free standing steel structures.
 - .1 Provide one (1) current reference, complete with appropriate contact information for verification only.
 - .3 The Contractor shall designate the following key project members with their submitted bid. The project members shall have completed projects of similar scope and complexity to the work described herein.
 - .1 Project Manager: The project manager shall have overall responsibility for the project completion and shall be the primary contact throughout the duration of the contract.
 - .2 Tower Manufacturer: The Tower Manufacturer shall be responsible for the fabrication of the tower.
 - .1 Certification: provide CWB Certification.
 - .3 Requests to amend the project team, following contract award, must be forwarded in writing. Coast Guard reserves the right to reject any proposal to amend the project team.

1.5 Site Location

- .1 The location of the site is as follows:
 - .1 Lat./Long.: 44°7'40.72"N, 76°48'45.57"W
- .2 The site is located on Amherst Island.

1.6 Existing Conditions

- .1 Bidders must make their own estimate of the difficulties associated with all phases of the works.



- .2 The contractor must include in their costs all expenses related to the difficulties of working at the sites.
- .3 Photographs of the existing site are included in Appendix B1.
- .4 A geotechnical investigation has been completed for this location. A copy of the findings is provided in Appendix B4.
- .5 The contractor is responsible for the restoration of private property to pre-construction conditions, if applicable.

1.7 Contractor's Access to Site

- .1 Contractor is responsible for transportation of all labour, materials, and equipment to and from the sites, including any and all material furnished or itemized for salvage by Coast Guard.
- .2 The Site is located on an island which will accommodate either marine access or land access via ferry service from Millhaven, ON.
 - .1 Marine access - vessels used by the contractor must be compliant with the rules for marine access in Appendix B5.
 - .2 Land access – information regarding scheduling and capacity of the ferry service can be found at <http://amherstisland.on.ca/ferry.htm>. Once on the island, the site is accessible via public and private roadways. The site must be accessed through private property. Access must be coordinated with the Coast Guard Representative who will contact the property owner. The contractor shall be responsible for the restoration of any damage to private property incurred during site access.

1.8 Completion, Scheduling and Planning of the Works

- .1 Tower fabrication and off-site work may commence as early as practical following coast guards acceptance and approval of mandatory submissions.
- .2 Site work and installation of the new tower may commence as early as Tuesday, 2 Sept 2013.
- .3 Work shall be completed no later than 31, Dec. 2013, unless otherwise negotiated and approved in writing.
- .4 Existing tower shall not be demolished until new tower is fully operational. Any other service outage must be approved by Coast Guard Representative who will coordinate notice to impacted mariners.

1.9 Coast Guard Staging Location

- .1 Items itemized to as supplied by, or, salvaged to Coast Guard shall be collected or delivered by the Contractor to the following staging location. The Contractor shall be responsible for all transportation costs between the project site and the identified staging area.

Coast Guard will receive and store materials for the Contractor in anticipation of the Contractors mobilization free of charge at the following staging location. The Contractor shall be responsible for the transportation of all materials to and from the staging location. Material drop



Fisheries and Oceans Canada / Pêches et Océans Canada

Canadian Coast Guard

Garde côtière canadienne



off or access to stored goods outside of regular operating hours shall be at the discretion of Coast Guard and may be subject to cost recovery.

- .1 Staging location: **CCG Base - Prescott, 401 King Street West, Prescott, ON K0E 1T0.**
- .2 Advise Coast Guard at least three (3) working days prior to pick-up/delivery
For Delivery or Pickup,

**Bill Mullin: (613) 925-2865 ext.132,
Bill.Mullin@dfo-mpo.gc.ca.**

Shipping/Receiving hours: Monday through Friday, 9:00AM to 4:00PM.



1.10 Temporary Facilities

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Arrange, pay for, and maintain temporary electrical power supply as required for construction, and water supply as required, in accordance with governing regulations and ordinances.
- .3 Maintain emergency spills kit on-site at all times.

1.11 Fees, Permits, Certificates and Information

- .1 Contractor shall provide authorities having jurisdiction with all information requested.
 - .1 Contractor shall provide copies to Coast Guard of any documentation submitted to other authorities related to the work described in this document.
 - .2 Contractor shall pay fees and obtain certificates and permits required.
 - .3 Contractor shall furnish certificates and permits when requested.

1.12 Reference Documents

- .1 The most recent publication or edition of any document referenced in this specification should be used unless the referencing clause states that this clause does not apply.

1.13 Required Submissions

- .1 A summary of the minimum mandatory submissions required can be found in Appendix B2. This summary is not an exhaustive list of all submissions required for the duration of the project. Additional submissions may be required after award.

PART 2 - PRODUCTS

2.1 Not Used

PART 3 - EXECUTION

3.1 Not Used



SECTION: 013300 SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 General

- .1 This section specifies general requirements and procedures for the Contractor's submissions of documents to Coast Guard for review.
- .2 Do not proceed with the work until submitted documents or samples have been reviewed by Coast Guard.
- .3 Where items or information is not produced in SI Metric units, converted values are acceptable.
- .4 Contractor's responsibility for errors and omissions in submission is not relieved by Coast Guard's review of the submitted documents.
- .5 Notify Coast Guard, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .6 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Coast Guard's review of submission, unless Coast Guard gives written acceptance of specific deviations.
- .7 Make any changes to submissions that Coast Guard may require consistent with Contract Documents and resubmit as directed by Coast Guard.
- .8 Provide Coast Guard with a written notice, when resubmitting, of any revisions other than those requested Coast Guard.

1.2 Submission Requirements

- .1 Coordinate each submission with requirements of work and Contract Documents. Individual submissions will not be reviewed until all related information is available.
- .2 Allow three (3) working days, or as stipulated in the specifications, for Coast Guard to review the submission.
- .3 The Contractor's Engineer shall stamp and sign any submissions requiring a Professional Engineer's seal certifying his approval of samples, verification of field measurements, and compliance with Contract Documents.



SECTION: 013530 HEALTH AND SAFETY REQUIREMENTS

PART 1 - GENERAL

1.1 Scope

- .1 The Contractor shall be responsible to develop, implement and enforce a safety program which addresses all elements of the work.

1.2 References

- .1 Work under this section shall be undertaken in strict conformance with all listed references, In the case of any conflict or discrepancy the more stringent requirements shall apply.
 - .1 Canada Labour Code Part II - January 2008
 - .2 NRC-CNRC National Building Code of Canada
 - .3 Ontario Occupational Health and Safety Act and Regulations, 2009.
 - .4 Any and all other Provincial/Territorial Regulations and Policies; Worker's Compensation Board Policies; Local municipal regulations; pertaining to safety of the contractors workers

1.3 Submittals

- .1 Project Specific Safety Program
 - .1 Deadline: with Construction Plan
 - .2 Deliverables: Safety Program Document, include:
 - .1 A listing of all activities specific to this phase of the project and their Health & Safety risks or hazards.
 - .2 Detailed descriptions of how the activities are to be carried out as well as methods for mitigating hazards and risks.
 - .3 A listing of personnel responsible for health and safety measures, and Emergency procedures.
 - .4 Material Safety Data Sheets for hazardous products to be utilized in the execution of the works.



SECTION: 013543 ENVIRONMENTAL PROCEDURES

PART 1 - GENERAL

1.1 Scope of Work

- .1 The Contractor must implement and enforce the following procedures throughout the duration of the work to mitigate potential negative impacts on the surrounding environment.
- .2 This section addresses the handling and disposal of contaminated soils

1.2 References

- .1 Work under this section shall be undertaken in strict conformance with all listed references, in the case of any conflict or discrepancy the more stringent requirements shall apply.
 - .1 Canadian Environmental Protection Act
 - .2 Canadian General Standards Board (CGSB)
 - .3 Canadian Council of Ministers of the Environment (CCME) Documentation
 - .4 Ontario Environmental Protection Act

1.3 Related Sections

- .1 Not used.

1.4 Submittals

- .1 Contractor's submitted construction plan shall address procedures to be implemented to mitigate any negative impact on the environment. Detail:
 - .1 Equipment features (age, spill containment)
 - .2 Staging, refueling, and cleaning areas
 - .3 Clean-up and/or containment procedures.
 - .4 Waste disposal methods and sites

PART 2 - PRODUCTS

2.1 General

- .1 Avoid use of hazardous products. Use environmentally friendly products where practical.



PART 3 - EXECUTION

3.1 Construction Area

- .1 Confine construction activities to as small an area as practical.
- .2 Establish material storage, cleaning, and refueling areas where impacts to the surrounding environment will be negligible or readily mitigated.

3.2 Stockpiling of materials

- .1 Materials must be stockpiled as far from the shoreline as practical. Stockpiles should be surrounded with silt fence if site grading is such that it allows run-off to reach waters.

3.3 Disposal of Wastes

- .1 Clean-up the site at the end of each working day.
- .2 All waste material to be disposed of in a legal manner at a site approved by local authorities. Transporter/hauler must be appropriately licensed.
 - .1 Recycle or reuse materials where possible;
 - .2 Contaminated wastes must be transported in accordance with applicable federal and provincial acts, regulations and guidelines;
 - .1 Contaminated soils to be removed under this contract have been classified through Toxicity Characteristic Leaching Procedure as a solid, non-hazardous waste for disposal purposes.
- .3 Fires and burning of rubbish on site not permitted.
- .4 Do not bury rubbish and waste materials on site.

3.4 Clearing and Grubbing

- .1 Clearing and grubbing of vegetation within the delineated area of impacted soils, as well as any vegetation that interferes with construction.

3.5 Drainage

- .1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
 - .1 Suspend works during periods of heavy rainfall and add temporary covers to encourage run-off
 - .2 Control disposal or runoff of water containing suspended materials or other harmful substances by constructing appropriate control measures (straw bale check dams/silt fence)
 - .1 Sediment control measures shall be inspected and improved/cleaned/replaced as necessary.



3.6 Pollution Control

- .1 Provide methods, means, and facilities to prevent the contamination of soil, water, and atmosphere from the discharge of pollutants produced by construction operations.
- .2 Vehicles, machinery, and equipment shall be in good repair, equipped with emission controls as applicable and operated within regulatory requirements.
- .3 Abide by local noise by-laws.
- .4 Avoid unnecessary idling of vehicles or heavy machinery
- .5 Limit use of equipment around the shoreline where possible
- .6 Implement and maintain dust and particulate control measures in accordance with provincial requirements
 - .1 All bulk material haul equipment shall be appropriately tarped. Watertight vehicles shall be used to haul wet materials
- .7 Designate a cleaning area for tools to limit water use and runoff. Do not allow deleterious materials to enter waterways. Ensure emptied containers are sealed and stored safely for disposal.
 - .1 All equipment shall be decontaminated prior to subsequent work or travel on clean areas.
 - .1 Decontamination shall include the mechanical removal of packed dirt, grit, and debris by scraping and brushing (use of steam or high pressure water is prohibited). Particular attention shall be given to tire treads or tracks, the vehicle undercarriage, and all springs, joints and sprockets. Decontamination shall be to the satisfaction of Coast Guard or its representative.
 - .2 All contaminated materials must be removed from the cleaning area regularly and at a frequency of no less than twice a day. All debris shall be appropriately stockpiled with all other contaminated materials and disposed of in accordance with this specification.
 - .3 The contractor shall restore the cleaning area following construction. Restoration shall include the excavation and disposal of all soils impacted by cleaning operations as well as the backfill with clean granular materials and the replacement of topsoil and vegetative cover.
 - .8 The contractor shall take all necessary precautions to guard against the release of any noxious substance or pollutant to the environment. In the event of any spill the Contractor shall take immediate action to contain the release and mitigate any impact.
 - .1 Materials and equipment to intercept, contain, and clean-up any spill or other release shall be maintained on site throughout the construction period and must be readily accessible at all times.
 - .9 Any uncontrolled release of a known contaminant (spills, fire/smoke) shall be reported to appropriate Provincial Authority and Coast Guard. Spills of deleterious substances to be immediately contained and cleaned up in accordance with provincial regulatory requirements.



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.1 Provincial Authority: Ontario Spills Action Centre 1-800-268-6060



SECTION: 014500 QUALITY CONTROL

PART 1 - GENERAL

1.1 Inspection

- .1 Canadian Coast Guard or its representative shall have access to the work at all times. If parts of the work are prepared off-site or in a shop, access shall be given to such work throughout the duration of the project.
- .2 In the event constructions must be submitted to special testing, inspection or approvals prescribed by Canadian Coast Guard in these specifications or provided for in work-site regulations, the request for inspection must be made without unreasonable delay.

1.2 Procedures

- .1 Provide Canadian Coast Guard with advance notice whenever testing is required in accordance with these specifications, so that all parties involved can be present.
- .2 Submit samples and material required for testing as per specifications without unreasonable delay and in a predetermined order so as not to delay work in progress.
- .3 Provide necessary manpower and installations for obtaining and handling samples and material on site.

1.3 Rejected Work

- .1 Remove defective work, whether incorporated into the work or not, which has been rejected by Canadian Coast Guard as failing to comply with the contract documents. Replace or re-execute in accordance with the Contract Documents.

1.4 Tests and Mixture Formulas

- .1 Supply test reports and required mixture formulas.

1.5 Factory Tests

- .1 Submit test certificates as prescribed in the relevant section of the specifications.

1.6 Acceptance of Work

- .1 Canadian Coast Guard will make acceptance visits of work executed by the Contractor at critical milestones identified in the following sections.
- .2 The Contractor shall inform Canadian Coast Guard at least three (3) working days before these inspection visits.
- .3 All work shall be completed in compliance with the specifications before requesting the visit for inspection. If the work is not completed or deemed non-compliant, the Contractor shall be responsible for all costs incurred for subsequent inspections.



SECTION: 016100 COMMON PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 General

- .1 Secure Coast Guard approval of all products to be incorporated into the works. Work shall not commence until product data and/or samples have received Coast Guard approval.
- .2 Supply and/or fabricate material and equipment of prescribed quality, with performance conforming to established standards.
- .3 Use new material and equipment unless otherwise specified.
- .4 Ensure replacements parts may be readily procured.
- .5 Use products from one manufacturer for material and equipment of same type or classification, unless otherwise specified.

1.2 Manufacturer's Instructions

- .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.
- .2 Notify Canadian Coast Guard in writing of any conflict between these specifications and manufacturer's instructions; Canadian Coast Guard will designate which document is to be followed.

1.3 Compliance

- .1 When material or equipment is specified by standard or performance specifications, upon request of Canadian Coast Guard, obtain an independent testing laboratory report from the manufacturer, stating that material or equipment meets or exceeds specified requirements.

1.4 Substitution

- .1 Where specific products have been specified, proposals for substitution may only be submitted after award of contract. Such requests must include statements of respective costs of items originally specified and the proposed substitution.
- .2 No substitutions will be permitted without prior written approval of Canadian Coast Guard. Substitutions will be considered by Canadian Coast Guard only when:
 - .1 Materials specified in Contract Documents, are not available; or,
 - .2 Delivery date of materials selected from those materials specified would unduly delay completion of contract; or,
 - .3 Alternative materials to those specified which are brought to the attention of and considered by Canadian Coast Guard as equivalent to the material specified will result in a credit to the Contract amount.



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- .3 Should the proposed substitution be accepted either in whole or in part, the Contractor must assume full responsibility and costs when such substitution affects other work on the project including any and all design or drawing changes required as a result of substitution.

1.5 Submittals

- .1 Provide product specifications and/or samples upon request from Coast Guard..



SECTION: 024116 DEMOLITION OF STRUCTURES

PART 1 - GENERAL

1.1 Scope of Work

- .1 Work under this section consists of the provision of all labour, materials, and equipment necessary to complete the following activities:
 - .1 Demolition of the existing steel tower and concrete foundation;
 - .2 Disposal of all waste at a licensed waste disposal facility; and,
 - .3 Salvage of the existing lantern system (lantern, batteries, solar panel).
- .2 Work under this section excludes:
 - .1 Restoration detailed in Section 310000, Earthwork.
 - .2 Deactivation of existing lighting system.

1.2 References

- .1 Work under this section shall be undertaken in strict conformance with all listed references, In the case of any conflict or discrepancy the more stringent requirements shall apply.
 - .1 Canada Labour Code Part II - January 2008
 - .2 NRC-CNRC National Building Code of Canada 2005
 - .3 Ontario Occupational Health and Safety Act and Regulations, 2009.
 - .4 CSA S350-[M1980(R1998)], Code of Practice for Safety in Demolition of Structures.

1.3 Submittals

- .1 Demolition Plan:
 - .1 Deadline: with Construction Plan
 - .2 Deliverables:
 - .1 Written plans detailing:
 - .1 Method of demolition including all associated tasks and schedule;
 - .2 Procedures to be implemented to protect adjacent property, pedestrians, motorists, and surrounding environment;
 - .3 The ultimate disposal location of all waste materials and debris.



- .1 Include documentation detailing regulatory approval for waste disposal facility and transporter.
- .3 Work under this section shall not proceed until written approval of the demolition plan has been received from the Coast Guard.
- .2 Submit copies of certified receipts from the disposal sites for all material removed from the work site upon request.

1.4 Existing Conditions

- .1 Existing tower has reached its life expectancy. Contractor must ensure the tower is dismantled and demolished in a safe manner.
 - .1 Photos of the existing tower are included in Appendix B1.
 - .2 The following are to be salvaged and transported by the Contractor to the identified Coast Guard Staging Location.
 - .1 Existing navaid lantern (Prescott DLD Range Lantern);
 - .2 Marine batteries;
 - .3 Navigational daymark panel and support assembly.

PART 2 - PRODUCTS

- 2.1 Not used.

PART 3 - EXECUTION

3.1 General

- .1 Work under this section shall be continuous and proceed without interruption unless otherwise approved by Coast Guard.
- .2 Tower shall be dismantled in place. Tower shall not be felled without the specific authorization of Coast Guard and the Property Owner.

3.2 Protection

- .1 Prevent movement, settlement or damage of adjacent structures/vegetation.
- .2 Implement effective controls to prevent injury to workers, mariners, motorists, and pedestrians.

3.3 Preparation

- .1 Erect warning signs and barricades.
- .2 Ensure all environmental protection/mitigation measures are in place.



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- .3 Ensure facilities have been de-energized.
- .4 Ensure all items identified for salvage have been removed and stored.

3.4 Demolition

- .1 Demolish existing steel structure in its entirety.
- .2 Demolish existing concrete foundations
- .3 Ensure that demolition does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
- .4 Ensure demolition is undertaken safely. If at any period during demolition the safety of the Contractor's staff cannot be maintained take preventative measures, stop work and immediately notify Coast Guard.

3.5 Disposal

- .1 All material is to be disposed of off-site and a licensed disposal/recycling facility.



SECTION: 033000 CONCRETE WORK

PART 1 - GENERAL

1.1 Scope of Work

- .1 Work of this section includes the supply of all labour, material, and equipment, necessary to complete the installation of the tower foundation.
- .2 Work includes any and all provisions necessary to ensure that the anticipated performance of the placed concrete will be obtained if work is undertaken in cold weather.
- .3 Work under this section excludes:
 - .1 excavation and restoration (see, Section 310000, Earthwork);
 - .2 grouting (see, Section 133613, Metal Towers)

1.2 References

- .1 Work under this section shall be undertaken in strict conformance with all listed references, In the case of any conflict or discrepancy the more stringent requirements shall apply.
 - .1 Canada Labour Code Part II - January 2008
 - .2 NRC-CNRC National Building Code of Canada 2010
 - .3 Ontario Occupational Health and Safety Act and Regulations
 - .4 CAN/CSA-A23.1-04 Concrete Materials and Methods of Concrete Construction
 - .5 CAN/CSA A23.2-04 Methods of Test and Standard Practices for Concrete
 - .6 CAN/CSA-G30.18 Billet Steel Bars for Concrete Reinforcement
 - .7 CAN/CSA S269.3 Concrete Formwork
 - .8 ACI Specification 306 Cold Weather Concreting

1.3 Submittals

- .1 Submittals shall be forwarded to Coast Guard in accordance with the provisions of section 013530.
- .2 Concrete Mix Parameters:
 - .1 Deadline: furnish with Construction Plan
 - .2 Deliverables:



- .1 Provide high level summary of mix properties and admixtures to demonstrate compliance with Coast Guard Criteria and completed foundation design.
- .2 Provide MSDS, (pre-mixed products only).
- .3 Concrete placement methods and curing procedures
 - .1 Deadline: with Construction Plan (Section 011100)
 - .2 Deliverables:
 - .1 detailed written description of concrete placement, including:
 - .1 anticipated haul routes and distances;
 - .2 Shop drawings for formwork and falsework;
 - .3 Placement methods and procedures to control consolidation/segregation;
 - .4 Location of necessary cold joints;
 - .5 Finishing procedures;
 - .6 Curing methods and schedule;
 - .7 Strength requirements for structural stability (removal of forms);
 - .8 Clean-up procedures; and,
 - .9 Mitigation measures to account for hot or cold temperatures where reasonably anticipated during the construction period.
 - .4 Quality Control Certification
 - .1 Deadline: no more than 45 days following completion of the works
 - .2 Deliverables:
 - .1 In accordance with CAN CSA A23.1, provide documentation demonstrating that Coast Guard requirements as detailed in Appendix B3 have been met.

1.4 Quality Assurance

- .1 Coast Guards minimum inspection requirements are detailed below. The Contractor shall be responsible to notify Coast Guard of the date and time that the works may be inspected. Notice must be provided no less than three (3) working days in advance to permit scheduling of quality assurance testing. All deficiencies in the works identified at the time of inspection shall be remedied to the satisfaction of Coast Guard, by the Contractor at their expense. Work shall not progress until inspections have been completed and the Contractor has been provided with written notice to proceed with the works.
 - .1 Upon completion of the excavation and placement of formwork and reinforcement



- .2 During execution of concrete placement

PART 2 - PRODUCTS

2.1 Formwork

- .1 Shall be in accordance with CAN CSA S269.3.

2.2 Concrete

- .1 Concrete shall possess the minimum characteristic detailed in the Contract Drawings.

2.3 Water

- .1 Water utilized for the production of concrete must be potable, unless otherwise approved in writing by Coast Guard.

2.4 Reinforcement

- .1 Reinforcing steel must be as mandated in CAN CSA A23.1

PART 3 - EXECUTION

3.1 General

- .1 Concrete must be placed, finished, and cured in accordance with the Contractor's submitted construction plan.

3.2 Preparation

- .1 Preparation shall not commence until bearing surfaces have been inspected by Coast Guard.
- .2 Remove all loose and deleterious material.
- .3 Construct forms as detailed in the submitted construction plan.
- .4 Place reinforcement in accordance with Contract Drawings.
- .5 Surfaces must be heated as necessary to account for climatic conditions at the time of the pour.



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3.3 Placement

- .1 Concrete placement shall not commence until formwork and reinforcement have been inspected by Coast Guard.
- .2 Contractor shall place finish and cure concrete as per CAN CSA A23.1 making all adjustment necessary to account for climatic conditions anticipated during the curing period.
- .3 Concrete shall be placed in one continuous pour.
 - .1 The development of cold joints must be previously approved in writing.
- .4 Finish exposed concrete surfaces to provide a lightly brushed non-skid surface.
- .5 Cut control joints where specified.
- .6 Contractor shall provide samples as required during placement operation for the performance of quality assurance testing.

3.4 Curing

- .1 Concrete curing must be undertaken in accordance with CAN CSA A23.1 and the Contractor's approved Construction Plan.
 - .1 Curing regiment employed must take into account local climatic conditions reasonably anticipated to occur during the curing period.
 - .1 Heating and hoarding of the work must be anticipated.



SECTION: 133613 METAL TOWERS

PART 1 - GENERAL

1.1 Scope of Work

- .1 Work under this section includes the supply of all labour, material, and equipment required to complete:
 - .1 The fabrication of the 7.3 m (24') tower detailed in the appended Contract Drawings;
 - .2 Transportation of the completed tower to designated staging location for application of coating system;
 - .3 Transportation of the tower from the designated staging location to the project site; and,
 - .4 The installation of the tower and all appurtenances
- .2 Work of this section excludes:
 - .1 Installation of the new foundation (see Section 033000 Concrete Work);
 - .2 Application of the coating system

1.2 References

- .1 Work under this section shall be undertaken in strict conformance with all listed references. In the case of any conflict or discrepancy the more stringent requirements shall apply.
 - .1 Canada Labour Code Part II
 - .2 NRC-CNRC National Building Code of Canada
 - .3 CSA S37-01 - Antenna Towers and Antenna Supporting Structures
 - .4 CAN/CSA S16.1 - Limit States Design of Steel Structures

1.3 Related Sections

- .1 Section 033000, Concrete
- .2 Section 310000, Earthwork and Foundations



1.4 System Description

- .1 Tower Height: approximately 7.3 m (24 ft)
 - .1 Height as measured between base plate and top plate (excludes lantern pedestal).
 - .2 Height excludes any increase in elevation gained from the installation of the concrete foundations.
- .2 Tower as detailed in Appendix B3, Contract Drawings

1.5 Submittals

- .1 Make submittals in accordance with Section 013300 - Submittal Procedures.
- .2 Contract Submittals
 - .1 Erection package
 - .1 Deadline: with construction plan (ref sect, 011100)
 - .2 Deliverables:
 - .1 Written plan: detail proposed labour, equipment, and timings. Plan must clearly demonstrate procedures and methods to be employed to:
 - .1 Erect the tower;
 - .2 Prevent any and all damage to the existing light tower;
 - .3 Measures taken to protect surrounding property and pedestrians; and,
 - .4 Field remedies to address any damage to the coating system incurred during transportation and erection.
 - .2 Maintenance package
 - .1 Deadline: within 45 calendar days following final acceptance of the works by Coast Guard.
 - .2 Deliverables: A complete maintenance manual for the complete tower. The manual shall include as a minimum:
 - .1 As-built drawings detailing any and all amendments or revisions to the previously submitted design drawings or documentation indicating final works are as detailed in design drawings.
 - .2 Provide one (1) electronic copy (.pdf format).



1.6 Quality Assurance

- .1 Coast Guards minimum inspection requirements are detailed below. The Contractor shall be responsible to notify Coast Guard of the date and time that the works may be inspected. Notice must be provided no less than three (3) working days in advance to permit scheduling of quality assurance testing. All deficiencies in the works identified at the time of inspection shall be remedied to the satisfaction of Coast Guard, by the Contractor at their expense. Work shall not progress until inspections have been completed and the Contractor has been provided with written notice to proceed with the works.
- .1 The structure,
 - .1 Prior to the installation.
 - .2 Upon delivery of the structure to the work site prior to erection.
 - .3 Upon completion of the work after cleaning has been carried out.

PART 2 - PRODUCTS

2.1 Materials

- .1 Steel
 - .1 As specified in Contract Drawings
- .2 Bolts, Nuts, Washers
 - .1 As specified in Contract Drawings
- .3 Miscellaneous Materials
 - .1 Fall Restraint System
 - .1 DBI SALA LAD-SAF flexible cable system.
 - .2 Tower Nameplate
 - .1 Supply and install an identification plate for the new tower displaying the following information:
 - .2 Fabricator's project name and number.
 - .3 Tower type and model.
 - .4 Height in metres and in feet.
 - .5 Year of erection.
 - .6 Wind and ice loads.



- .3 Base grout:
 - .1 Non shrink, gassing, cementitious grout.
 - .1 Sika M-Bed Standard, or equal.

PART 3 - EXECUTION

3.1 Fabrication

- .1 All members shall be fabricated in accordance with the Contract Drawing and as per the specified references.
- .2 Each tower component shall be designated with a number that is easily read after the final coating has been applied. Markings shall permanent and applied in such a manner, or in such a place, as will not injure or reduce the strength of the piece.
 - .1 The marks on like pieces shall be in the same relative position on each piece.
 - .2 The markings indicated on each piece shall correspond with that shown on the Contract Drawings.
 - .3 Like parts must be interchangeable and must bear the same identification number.
- .3 In any bending or reworking of any material, methods employed shall ensure that the physical properties of the material are not impaired.
- .4 The Contractor shall ensure that electrical continuity exists between all tower sections.

3.2 Galvanization and Protective Coatings

- .1 Tower to be hot dip galvanized;
 - .1 Hot dip galvanizing shall conform to CAN/CSA-G164.
- .2 Application of the coating system will be completed by Coast Guard.
 - .1 The Contractor must deliver the completed tower to the designated staging location for the application of the coating system.
 - .1 Delivery shall be scheduled to occur within the periods itemized in Section 011000.
 - .2 The Contractors schedule shall for seven (7) calendar days to completed applications of coating system.

3.3 Handling of Material and Transportation

- .1 The Contractor shall take all necessary precautions to avoid damage to the tower members or to tower coating during transport, unloading and erection. All components or damaged members shall be replaced to the satisfaction of Coast Guard at the expense of the Contractor.



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- .2 It is the responsibility of the Contractor to ensure that the tower sections, particularly the joints are protected from bending and alignment damage.

3.4 Site preparation

- .1 Complete installation of all foundation elements prior to tower erection.
- .2 Adjust supporting/leveling nuts to uniform elevation.

3.5 Erection

- .1 Erect tower in accordance with submitted plan.
- .2 Preserve electrical continuity between all sections.
- .3 Grout between tower base and prepared concrete foundation.
- .4 Affix tower name plate.



SECTION: 31000 EARTHWORK

PART 1 - GENERAL

1.1 General

- .1 Work of this section includes the supply of all labour, material and equipment required to complete:
 - .1 The excavation for the installation of tower base foundation, including:
 - .1 Stripping and stockpiling of existing topsoil or granular materials to expose subsoils;
 - .2 Installation and operation of any dewatering measures;
 - .3 Backfilling of the excavation, including:
 - .1 Supply of all required materials; and,
 - .2 Placement and/or compaction of granular material;
 - .2 Work under this section excludes:
 - .1 Installation of concrete foundations (see Section 033000 Concrete Work)

1.2 References

- .1 Work under this section shall be undertaken in strict conformance with all listed references, In the case of any conflict or discrepancy the more stringent requirements shall apply.
 - .1 Canada Labour Code Part II - January 2008
 - .2 NRC-CNRC National Building Code of Canada 2010
 - .3 Ontario Occupational Health and Safety Act and Regulations
 - .4 Any and all other Provincial/Territorial Regulations and Policies; Worker's Compensation Board Policies; Local municipal regulations; pertaining to work of this section.



1.3 Related Sections

- .1 Section 013543, Environmental Procedures
- .2 Section 033000, Concrete Work
- .3 Section 133613, Metal Towers

1.4 Submittals

- .1 Submittals shall be forwarded to Coast Guard in accordance with the provisions of section 013530.
- .2 Construction procedures:
 - .1 Deadline: with Construction Plan.
 - .2 Deliverables:
 - .1 Written Plan: Excavation and backfill procedures detail:
 - .1 Proposed side slopes and control measures;
 - .2 Include shop drawings of any shoring or bracing required;
 - .1 Drawings must be stamped by a licensed professional engineer;
 - .3 Dewatering measures;
 - .4 Measures to be undertaken to prevent exposed soils from freezing;
 - .5 Stockpile locations and methods for controlling erosion; and,
 - .6 Backfill placement:
 - .1 Document equipment and procedures. Provide methods for undertaking backfill placement in cold weather, if reasonably anticipated.

1.5 Existing Conditions

- .1 A geotechnical investigation as been completed at this site a copy of the report is included in Appendix B4.
 - .1 Groundwater elevation is anticipated to be the same as the water level in the St. Lawrence River immediately surrounding the site.
- .2 Before commencing work under this section the Contractor must establish the location of all buried services that may interfere with the execution of the work.



1.6 Quality Assurance

- .1 Coast Guards minimum inspection requirements are detailed below. The Contractor shall be responsible to notify Coast Guard of the date and time that the works may be inspected. Notice must be provided no less than three (3) working days in advance to permit scheduling of quality assurance testing. All deficiencies in the works identified at the time of inspection shall be remedied to the satisfaction of Coast Guard, by the Contractor at their expense. Work shall not progress until inspections have been completed and the Contractor has been provided with written notice to proceed with the works.
- .1 Bearing surfaces prior to casting of mubslab and installation of formwork and concrete reinforcement.
- .2 Work of this section shall be undertaken in the presence of Coast Guard or its designated representative.

PART 2 - PRODUCTS

2.1 General

- .1 All materials described in this section shall be supplied by Contractor.

2.2 Water

- .1 Backfill: shall be free of deleterious material.

2.3 Backfill

- .1 19 mm [3/4"] well graded aggregate

2.4 Topsoil

- .1 Topsoil shall be fertile loam, free of roots, vegetation or other debris which would restrict the proper placement and grading of the material. Topsoil shall not contain stones or clods in excess of 25 mm [1"]. Topsoil shall be free of any contaminant that would inhibit the growth of vegetation.

PART 3 - EXECUTION

3.1 Site Preparation

- .1 Prior to commencing excavation, document the condition of all existing structures, landscaping, roadways, and other adjacent facilities anticipated to be impacted by the work.
- .2 Install any features required to protect existing infrastructure (temporary bridging).

3.2 Excavation

- .1 Strip topsoil over areas impacted by new construction. Stockpile materials on-site



- .2 Excavate the area defined in Appendix B3.
- .1 Side slopes must be maintained around the perimeter of the excavation in accordance with provincial legislation; or,
- .2 Engineered shoring and bracing to be constructed in accordance with submitted excavation plan.
- .3 Hand clean and grade base of excavation.
- .4 Take all reasonable precautions to minimize the disturbance of the existing vegetation.

3.3 Dewatering

- .1 Remove water which accumulates in the excavation during the progress of the work so that work may be completed in the dry.
- .1 Keep excavated areas free of infiltrated water while foundation is constructed, while concrete is setting and until backfill has been placed to a sufficient elevation to anchor the work against buoyancy uplift forces
- .2 Prevent damage to adjacent properties, buildings and structures.
- .2 Install and operate dewatering measures as indicated in approved Construction Plan.
- .1 At all times, have on the work site sufficient pumping equipment for immediate use, including stand-by pumps.
- .2 Dispose of water in accordance with environmental procedures (Section 013543) limiting the transfer of suspended sediment to the watercourse.

3.4 Backfill

- .1 Ensure that surrounding soil is unfrozen or take measures required to thaw frozen materials.
- .2 Backfill to be placed in uniform lifts to a maximum depth of 0.2m (8") and compacted to 95% SPMDD.

3.5 Restoration

- .1 Restore all disturbed areas within work area and along haul routes. Fill and grade all ruts. Ensure positive drainage away from completed and existing foundations.



Fisheries and Oceans
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APPENDIX B1: SITE LOCATION AND PHOTOGRAPHS

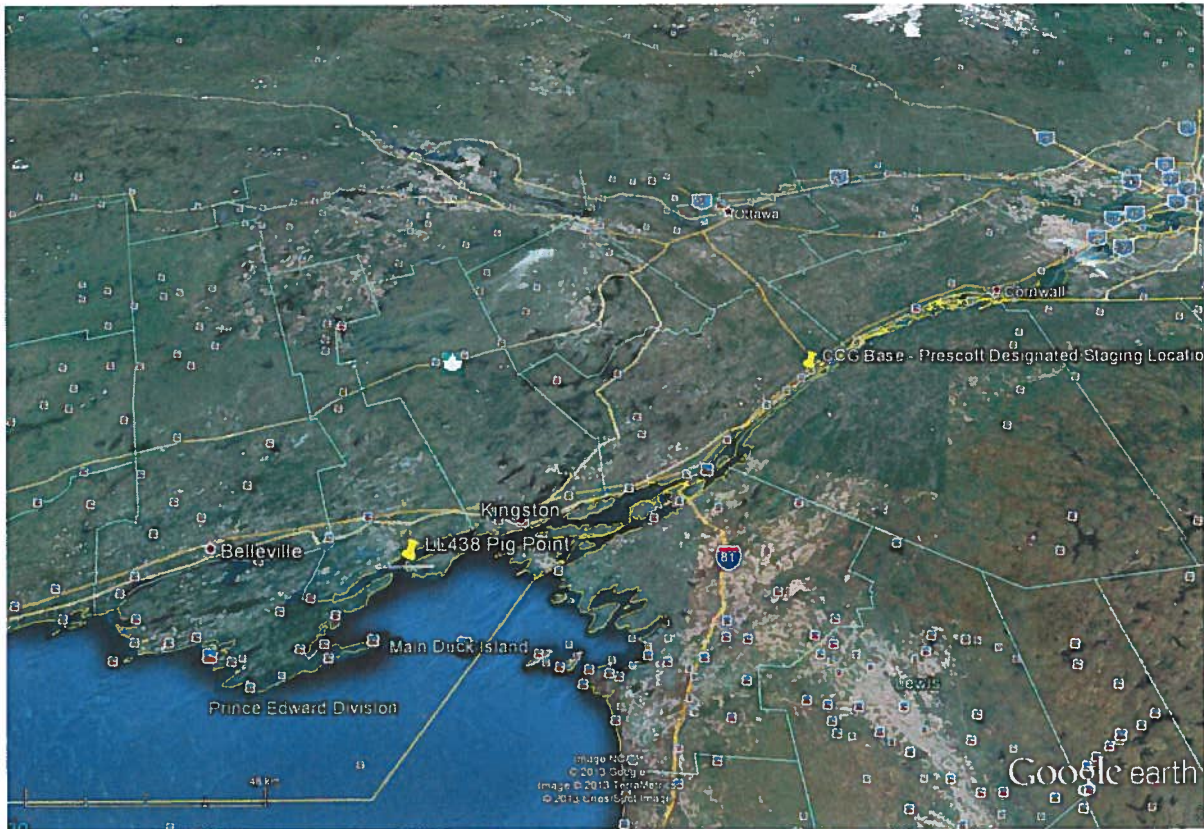


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Project Site
LL 438 Pig Point
44°7'40.72"N - 76°48'45.57"W

Designated Staging Location
CCG Base Prescott
401 King St. W., Prescott, ON
(Approximately 150 km from Site)

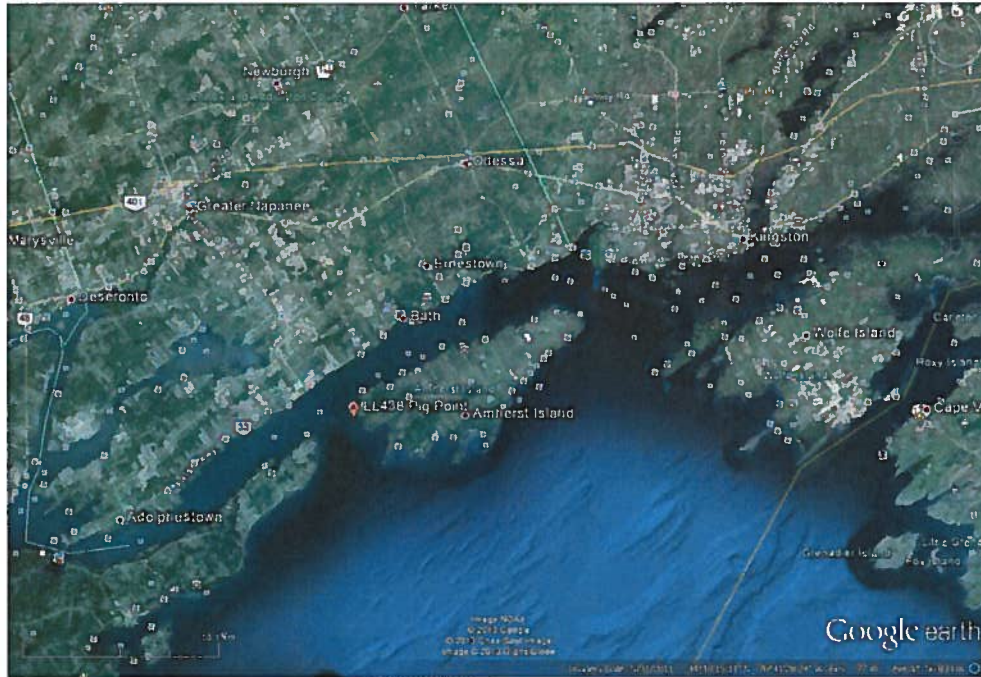


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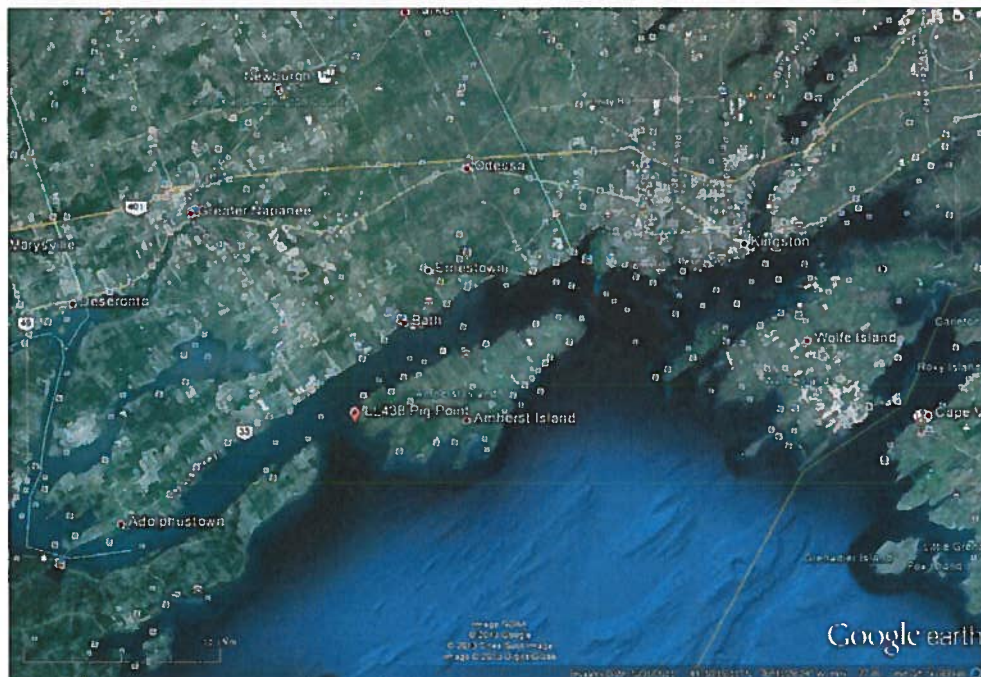
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LL 438 Pig Point Site Location: 44°7'40.72"N - 76°48'45.57"W



Site Location



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Existing Tower



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APPENDIX B2 – SUMMARY OF SUBMITTALS



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Following Contract Award	
Submission Description	Section(s)
Deadline: 10 working days following award	
Detailed schedule:	011100 – 1.3
Deadline: 10 working days prior to mobilization	
Proof of registration with Ontario WSIB	
Construction Plan – Final Submission	
a) Complete listing of personnel	011100
b) Complete listing of subcontractors	011100
c) Final project specific safety plan	013530
d) Project environmental protection program	013543
e) Detailed demolition plan	024116
f) Concrete construction plan (include Concrete Mix Parameters)	033000
g) Tower erection plan	133613
h) Excavation construction procedures	310000
Deadline: 45 calendar days following acceptance of the works	
Waste disposal receipts	024116
Concrete quality control documentation	033000
Tower maintenance package	133613



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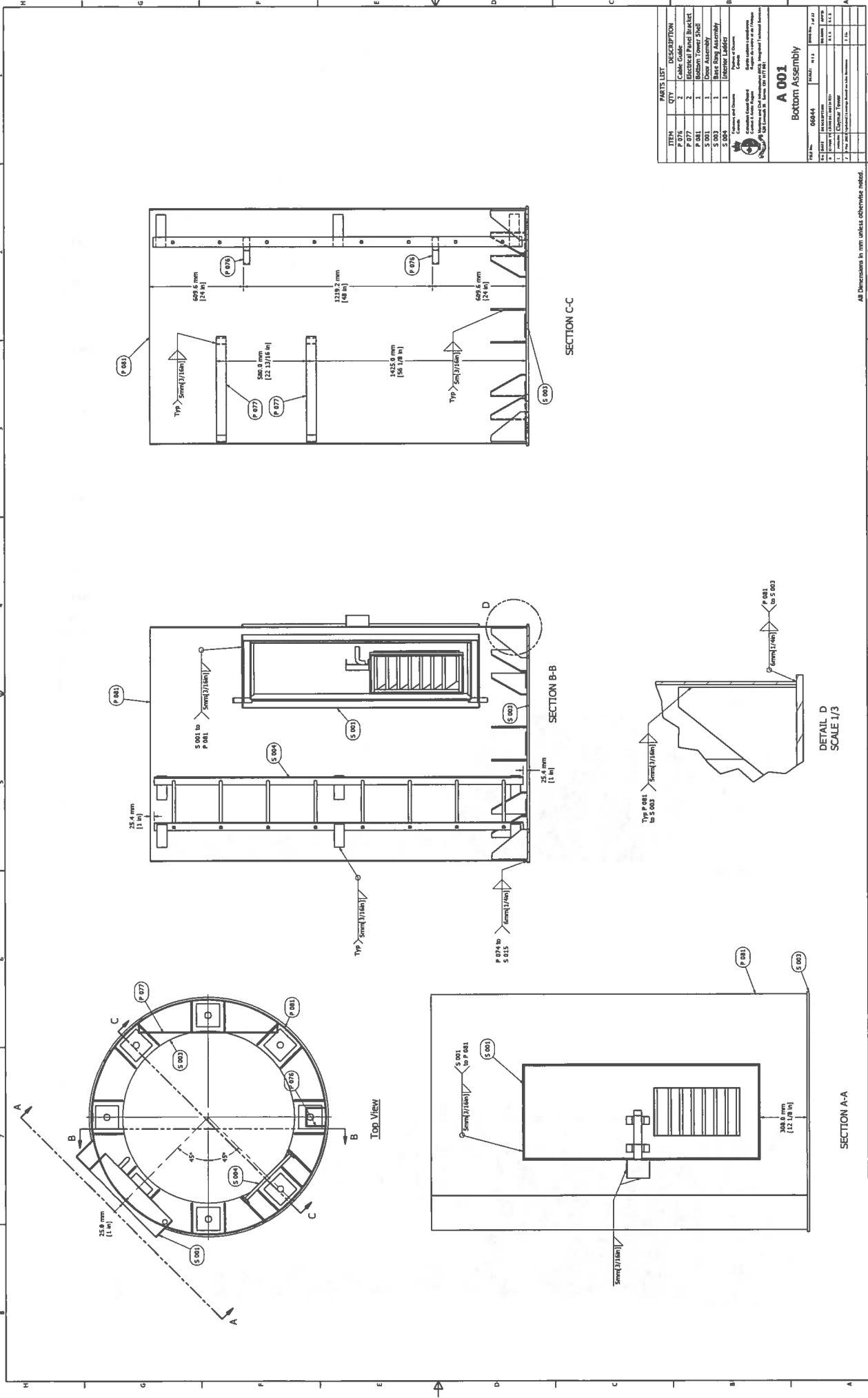
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APPENDIX B3 – DRAWINGS



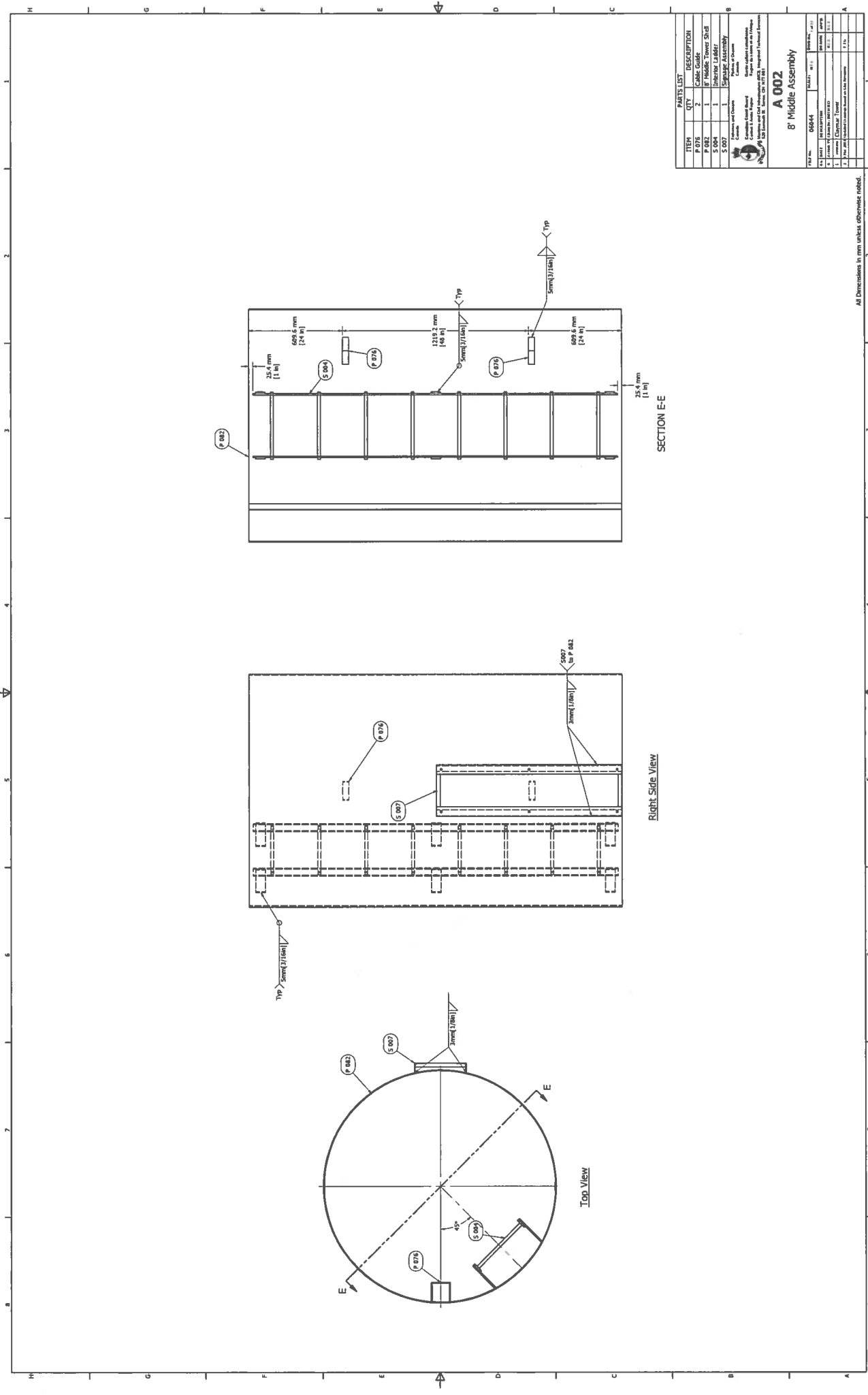
ITEM	QTY	DESCRIPTION
P 076	2	Cable Guide
P 077	2	Electrical Panel Bracket
P 081	1	Bottom Tower Shell
S 001	1	Door Assembly
S 002	1	Bottom Assembly
S 003	1	Bottom Lid/Bag

Assembly and Drawing
 Prepared by: [Name]
 Checked by: [Name]
 Approved by: [Name]
 Date: [Date]
 Scale: [Scale]

A 001
Bottom Assembly

Part No.	00000	Rev. No.	1.1
Part Name	Bottom Assembly	Part No.	00000
Part No.	00000	Rev. No.	1.1
Part Name	Bottom Assembly	Part No.	00000
Part No.	00000	Rev. No.	1.1
Part Name	Bottom Assembly	Part No.	00000

All Dimensions in mm unless otherwise noted.



All Dimensions in mm unless otherwise noted.

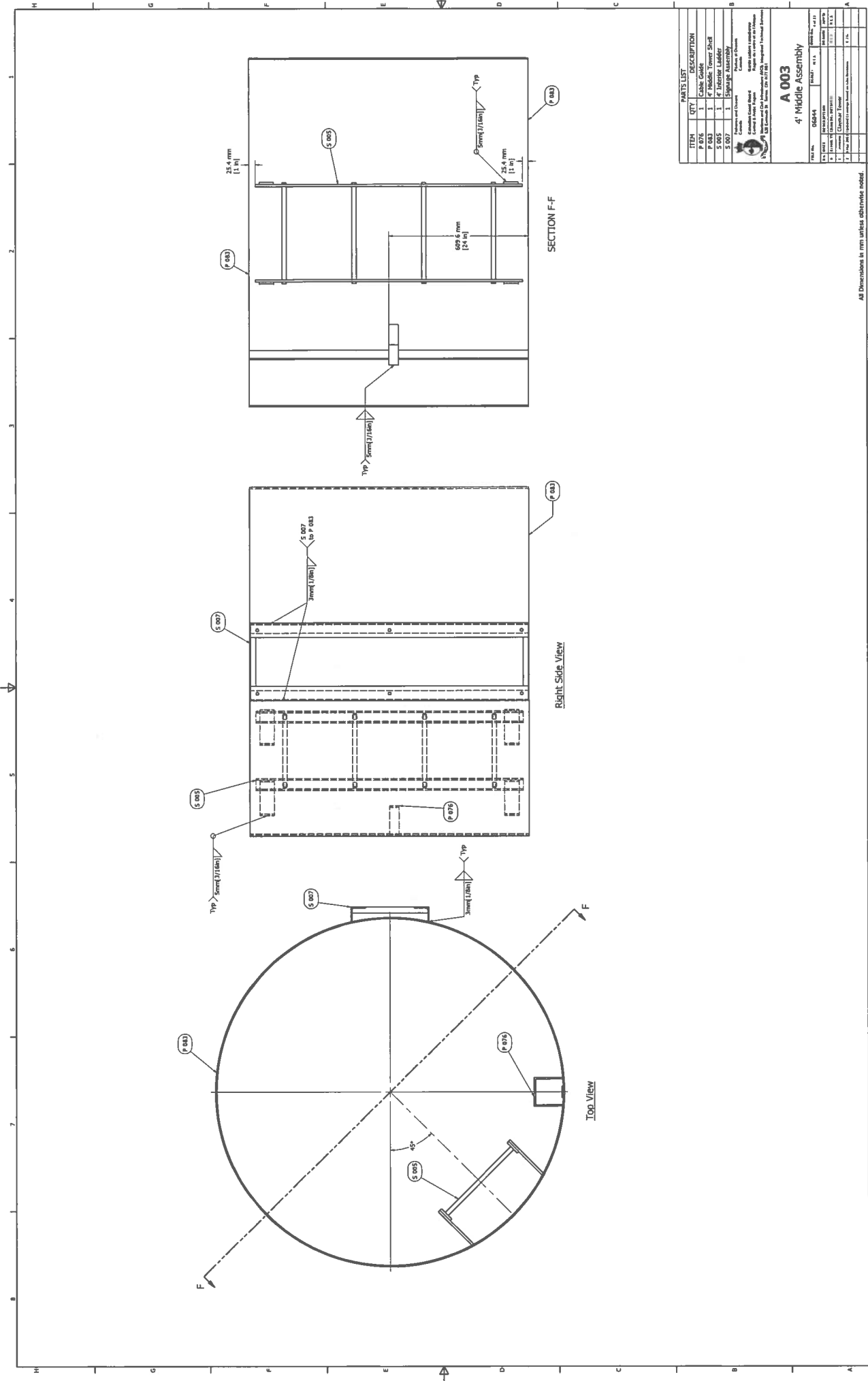
PARTS LIST	
ITEM	DESCRIPTION
P 076	CABLE GUIDE
S 004	BRACKET FOR CABLE GUIDE
S 005	BRACKET FOR CABLE GUIDE
S 007	SIGNALAGE ASSEMBLY

Quantity: 1 each of P 076, S 004, S 005, S 007.

Notes: 1. See drawing for dimensions and tolerances. 2. See drawing for material specifications. 3. See drawing for surface finish requirements. 4. See drawing for assembly instructions.

Part Name: **A 002**
8' Middle Assembly

Rev: 001
 Date: 01/11/2011
 Author: [Name]
 Checker: [Name]
 Approver: [Name]



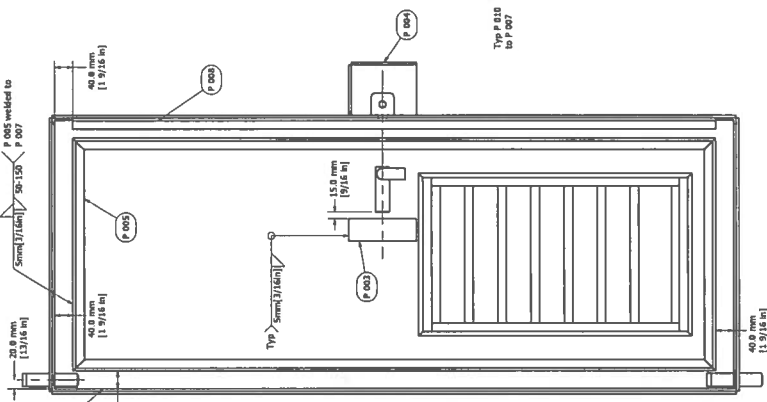
PARTS LIST	
ITEM	QTY DESCRIPTION
P 076	1 Cable Guide
P 003	1 4' Middle Tower Shelf
S 005	1 25.4 mm (1.0 in) Cable Guide
S 007	1 25.4 mm (1.0 in) Cable Guide

Assembly and Drawing:
 Checked:
 Drawn:
 Title:
 Scale:
 Project:
 Date:
 Drawing No.:
 Revision:
 Part No.:
 Description:
 Quantity:
 Unit:
 Material:
 Finish:
 Notes:
 1. All dimensions are in mm unless otherwise noted.
 2.
 3.
 4.
 5.
 6.
 7.
 8.
 9.
 10.

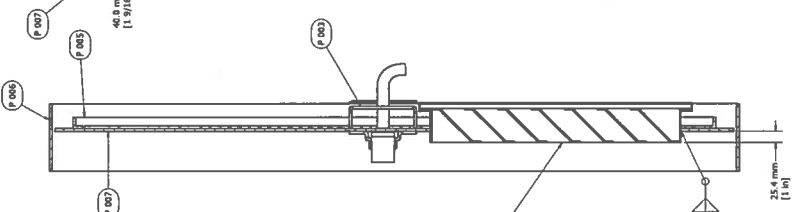
All Dimensions in mm unless otherwise noted.

A 003
4' Middle Assembly

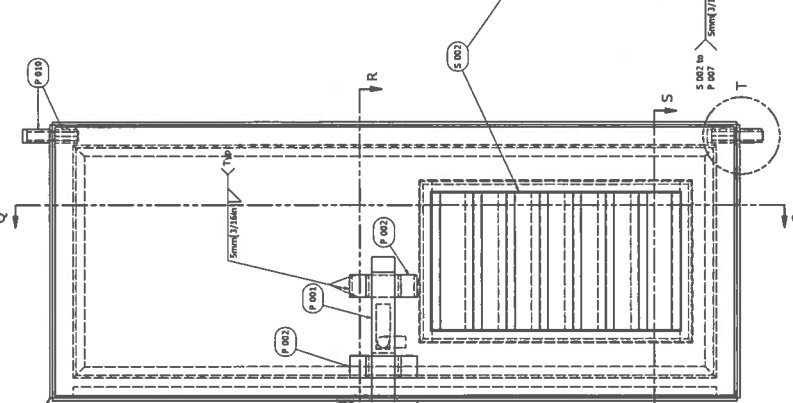
REV	DATE	DESCRIPTION
1	06/24/04	Initial Release
2	06/24/04	Change to Cable Guide
3	06/24/04	Change to Cable Guide
4	06/24/04	Change to Cable Guide
5	06/24/04	Change to Cable Guide
6	06/24/04	Change to Cable Guide
7	06/24/04	Change to Cable Guide
8	06/24/04	Change to Cable Guide
9	06/24/04	Change to Cable Guide
10	06/24/04	Change to Cable Guide



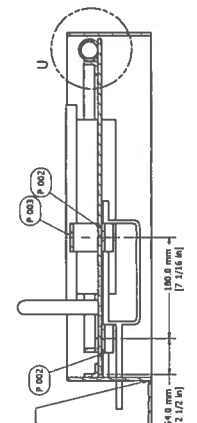
Rear View



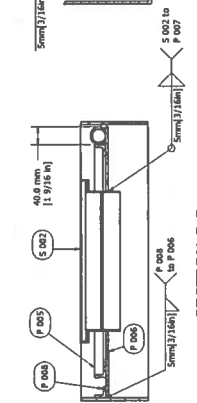
SECTION Q-Q



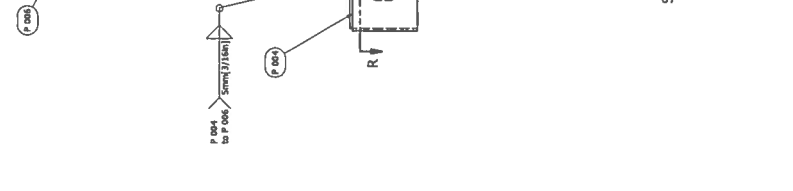
Front View



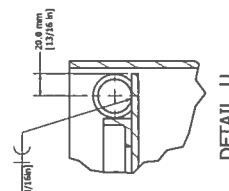
SECTION R-R



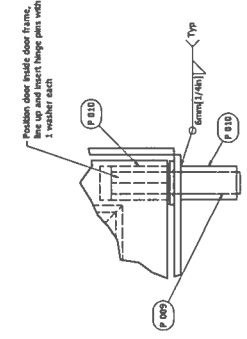
SECTION S-S



Top Right Isometric View



DETAIL U



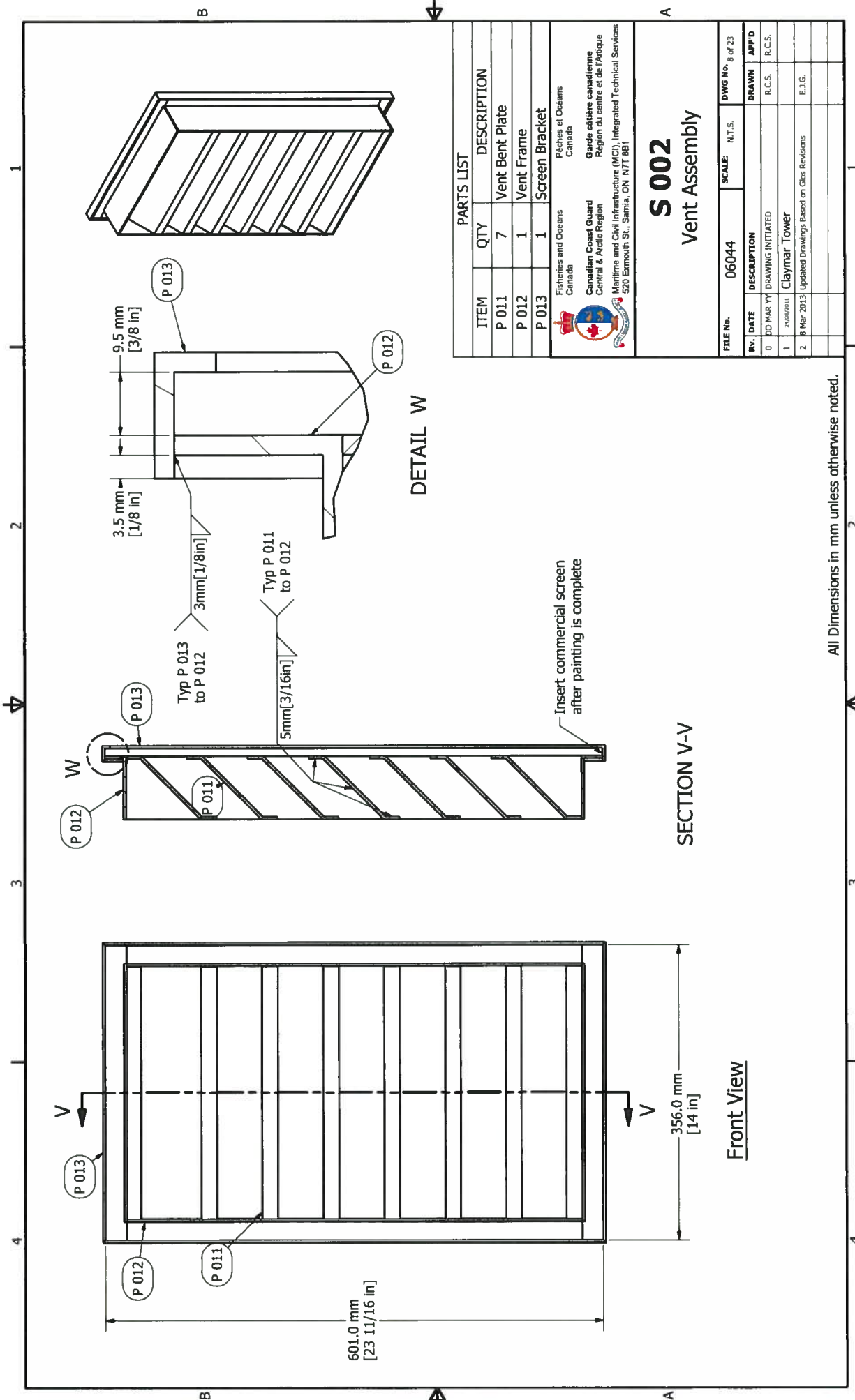
DETAIL T

Bottom Door Hinge Detail (Similar to Top)

ITEM	QTY	DESCRIPTION
P 001	1	DOOR HANDLE
P 002	2	DOOR HANDLE BRACKET
P 003	2	DOOR HANDLE PIN
P 004	1	DOOR L. BRACKET
P 005	1	DOOR FRONT
P 006	1	DOOR FRAME
P 007	1	DOOR STOP ANGLE
P 008	2	DOOR STOP ANGLE
P 009	4	DOOR HINGE
S 001	1	DOOR ASSEMBLY

PARTS LIST	
REV. NO.	001/04
REV. DATE	01/12
REV. BY	001/04
REV. REASON	001/04
REV. 11	001/04
REV. 12	001/04
REV. 13	001/04
REV. 14	001/04
REV. 15	001/04
REV. 16	001/04
REV. 17	001/04
REV. 18	001/04
REV. 19	001/04
REV. 20	001/04

All Dimensions in mm unless otherwise noted.



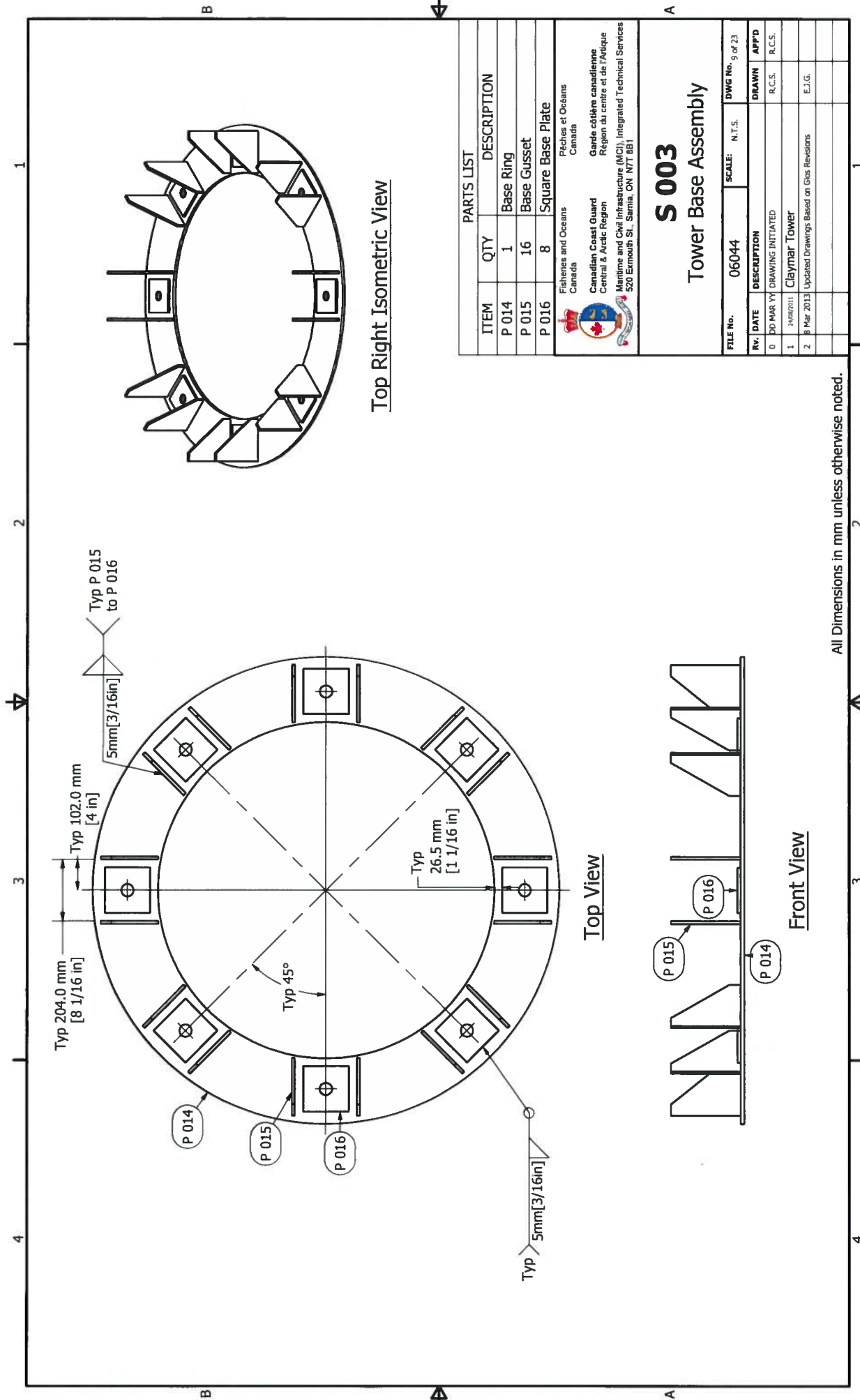
ITEM	QTY	DESCRIPTION
P 011	7	Vent Bent Plate
P 012	1	Vent Frame
P 013	1	Screen Bracket

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S 002
Vent Assembly

FILE No.	06044	SCALE:	N.T.S.	DWG No.	8 of 23
REV.	DATE	DESCRIPTION	DRAWN	APP'D	
0	20 MAR 11	DRAWING INITIATED	R.C.S.	R.C.S.	
1	20 MAR 11	CLAYMAR TOWER			
2	8 MAR 2013	Updated Drawings Based on Glos Revisions	E.J.G.		

All Dimensions in mm unless otherwise noted.



ITEM	QTY	DESCRIPTION
P 014	1	Base Ring
P 015	16	Base Gusset
P 016	8	Square Base Plate

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Pêches et Océans
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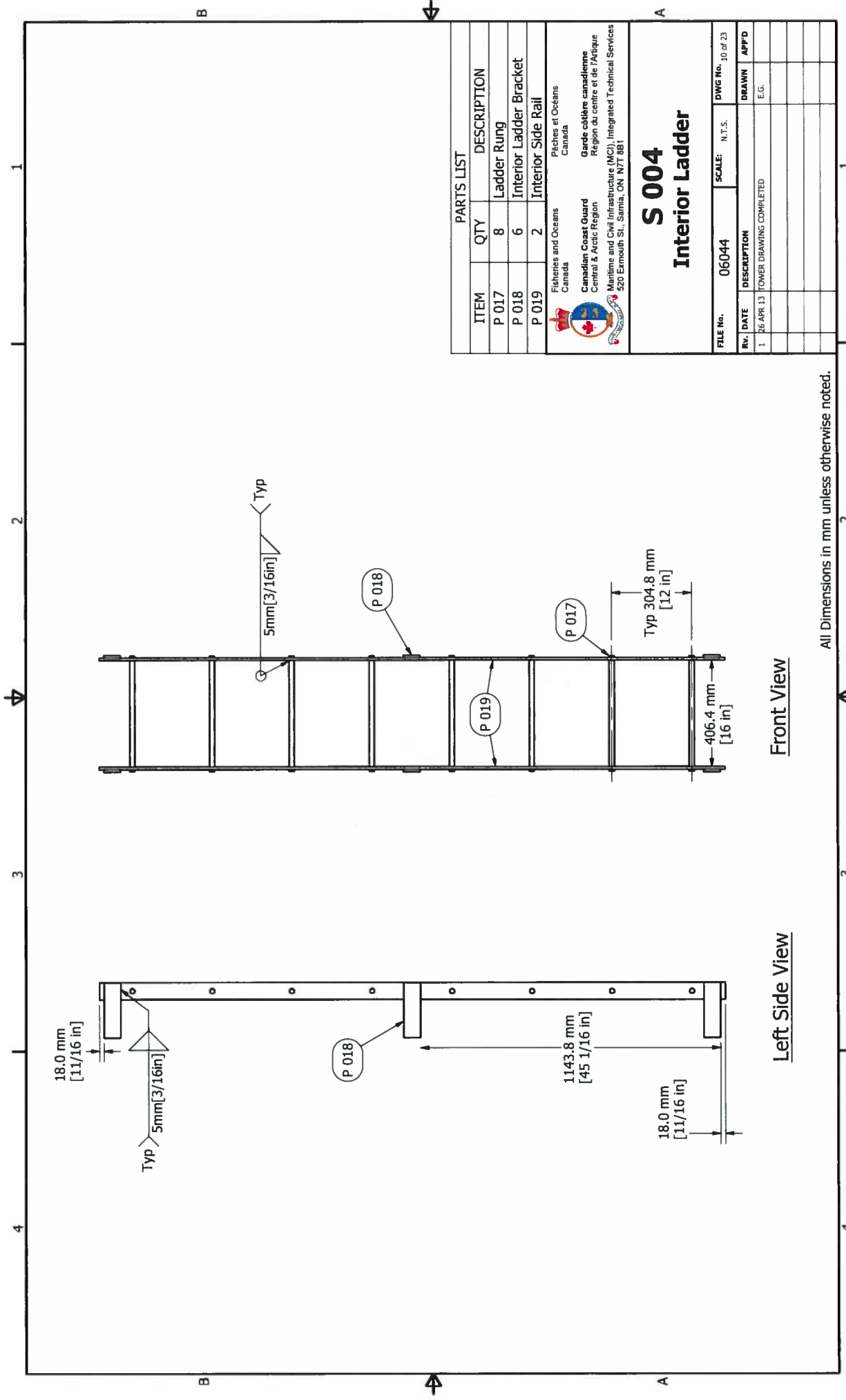
Garde côtière canadienne
Région du centre et de l'Arctique
Services techniques intégrés (STI), Services techniques maritimes et civils (SMCC)
520, rue Exmouth, Sarnia, ON N7T 8B1

S 003
Tower Base Assembly

FILE No. 06044 SCALE: N.T.S. DWG No. 9 of 23

Rv.	DATE	DESCRIPTION	DRAWN	APP'D
0	DD MAR YY	DRAWING INITIATED	R.C.S.	R.C.S.
1	14 FEB 2011	CLAYMAR TOWER	R.C.S.	R.C.S.
2	18 MAR 2013	Updated Drawings Based on Gas Revisions	E.J.G.	

All Dimensions in mm unless otherwise noted.



PARTS LIST	
ITEM	DESCRIPTION
P 017	Ladder Rung
P 018	Interior Ladder Bracket
P 019	Interior Side Rail

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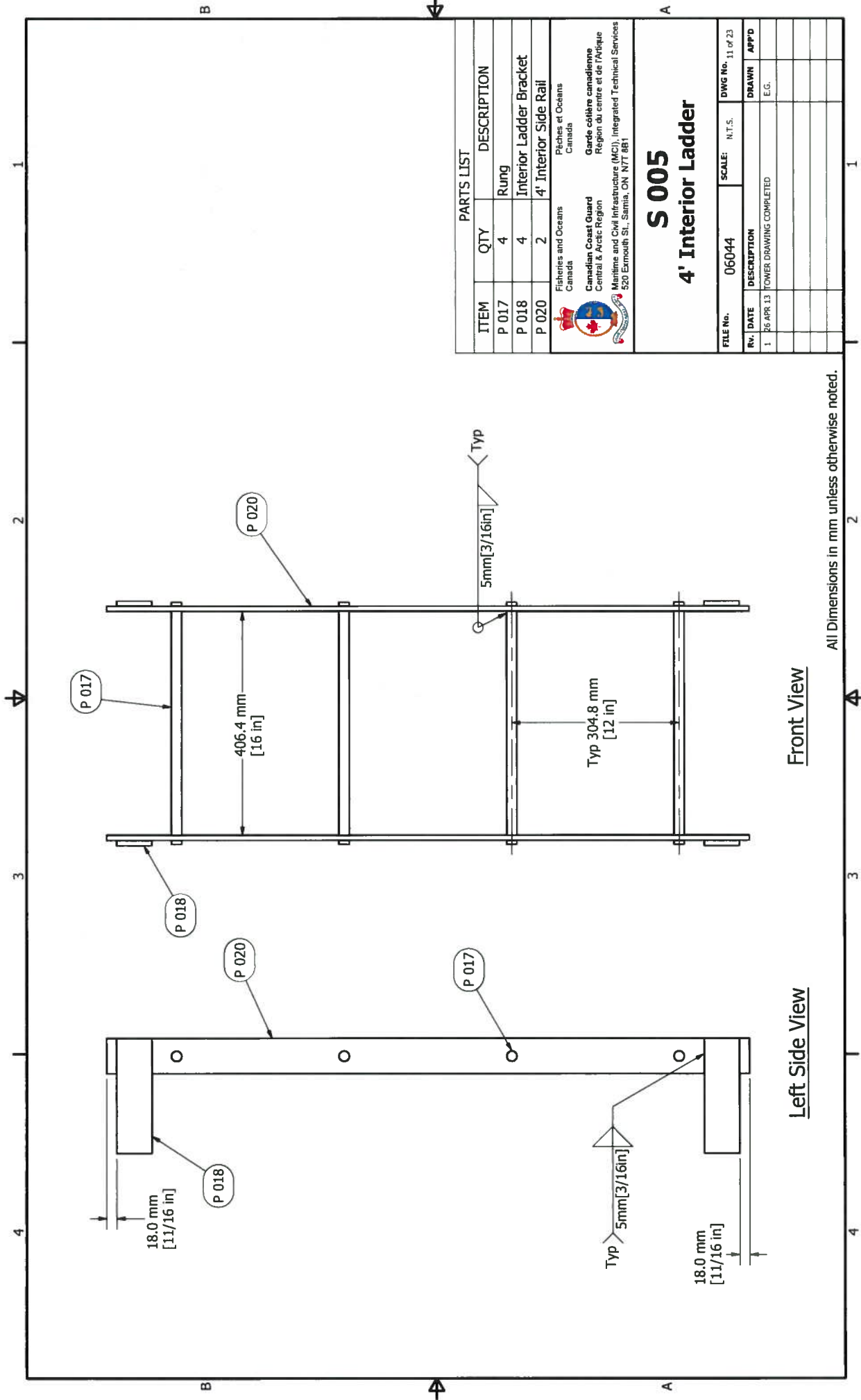
S 004
Interior Ladder

FILE No.	06044	SCALE	N.T.S.	DWG No.	10 of 23
Nr.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWING COMPLETED	E.G.		

Front View

Left Side View

All Dimensions in mm unless otherwise noted.



PARTS LIST	
ITEM	QTY DESCRIPTION
P 017	4 Rung
P 018	4 Interior Ladder Bracket
P 020	2 4' Interior Side Rail

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Pêches et Océans
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 Garde côtière canadienne
 Région du centre et de l'Atlantique
 Services Techniques Intégrés et Infrastructure Maritime et Civile (SMIC)

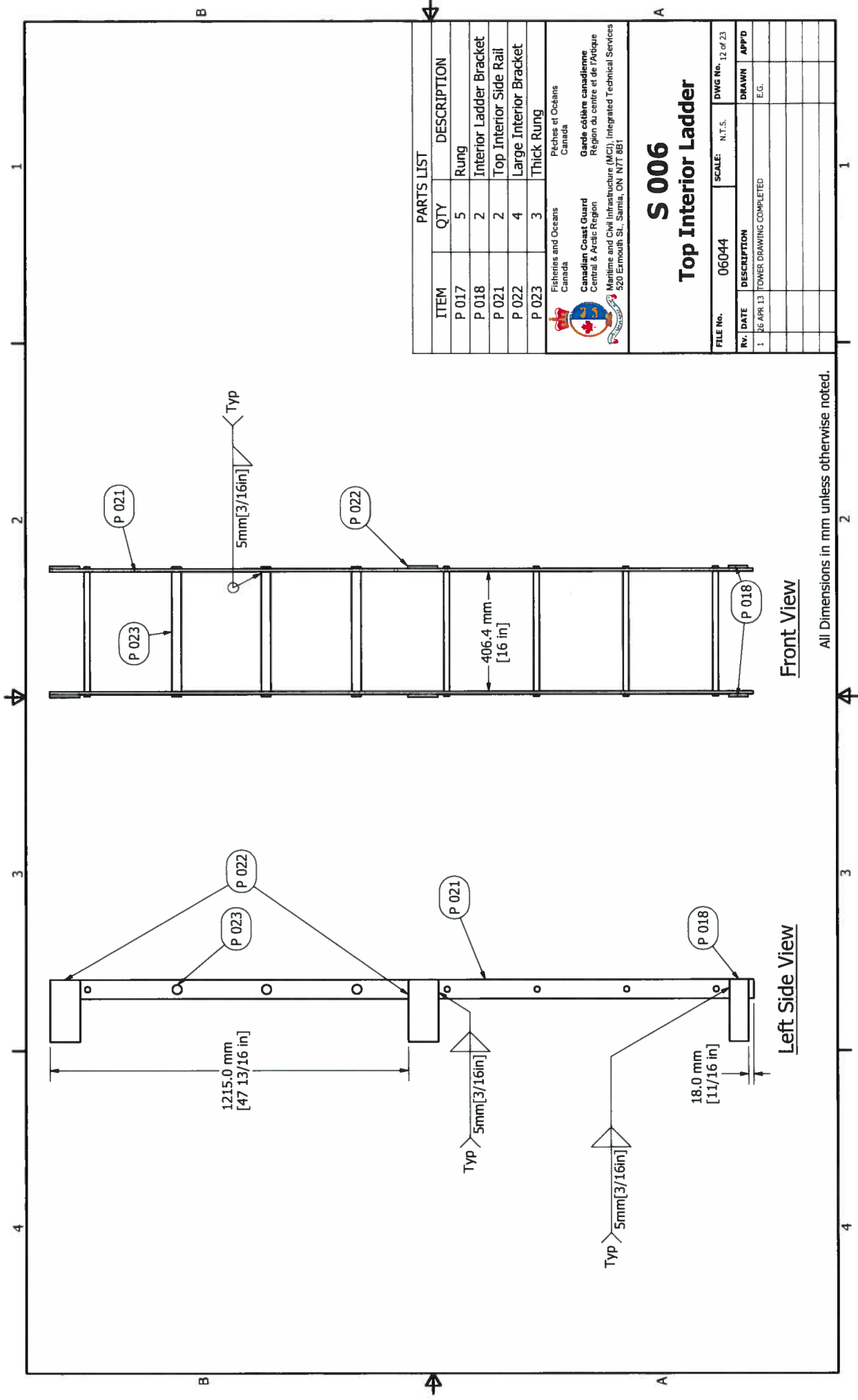
S 005
4' Interior Ladder

FILE No.	06044	SCALE:	N.T.S.	DWG No.	11 of 23
Rv.	DATE	DESCRIPTION	DRAWN	APPD	
1	26 APR 13	TOWER DRAWING COMPLETED	E.G.		

All Dimensions in mm unless otherwise noted.

Front View

Left Side View



PARTS LIST	
ITEM	QTY DESCRIPTION
P 017	5 Rung
P 018	2 Interior Ladder Bracket
P 021	2 Top Interior Side Rail
P 022	4 Large Interior Bracket
P 023	3 Thick Rung

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 Région du centre et de l'Arctique
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 520 Esplanade St. James, ON N7T 8B1

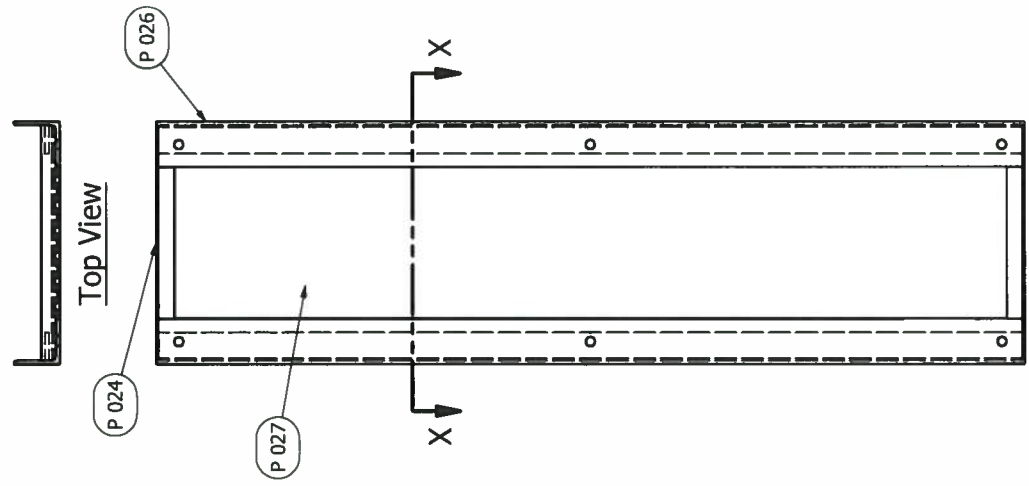
S 006
Top Interior Ladder

FILE No.	06044	SCALE	N.T.S.	DWG No.	12 of 23
REV.	DATE	DESCRIPTION	DRAWN APP'D		
1	26 APR 13	TOWER DRAWING COMPLETED	E.G.		

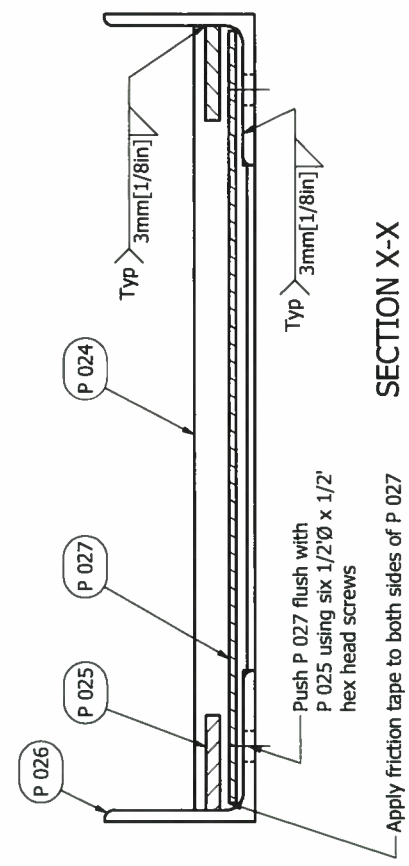
Front View
 All Dimensions in mm unless otherwise noted.

Left Side View

1 2 3 4



Top View



SECTION X-X

PARTS LIST

ITEM	QTY	DESCRIPTION
P 024	2	Coped Angle
P 025	2	Sign Flat Bar
P 026	2	Sign Angle
P 027	1	Name Plate

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 520 Exmouth St., Sarnia, ON N7T 8B1

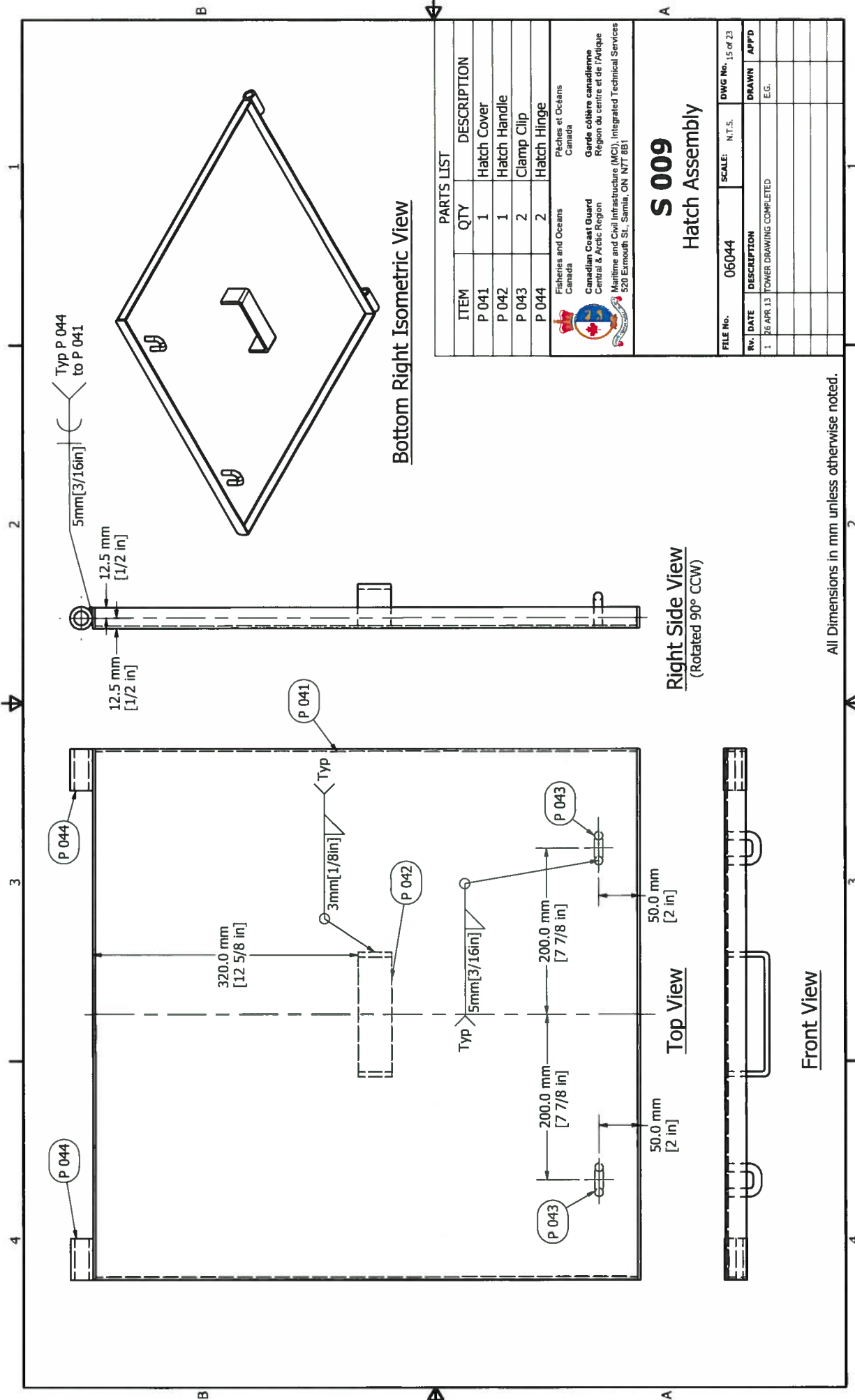
S 007
Sign Assembly

FILE No.	06044	SCALE:	N.T.S.	DWG No.	13 of 23
Rv.	DATE	DESCRIPTION	DRAWN	APPD	
0	DD MAR 11	DRAWING INITIATED	R.C.S.	R.C.S.	
1	24/02/2011	Claymar Tower			
2	8 Mar 2013	Updated Drawings Based on Obs. Revisions	E.J.G.		

Front View

All Dimensions in mm unless otherwise noted.

1 2 3 4



Bottom Right Isometric View

Right Side View
(Rotated 90° CCW)

Top View

Front View

PARTS LIST

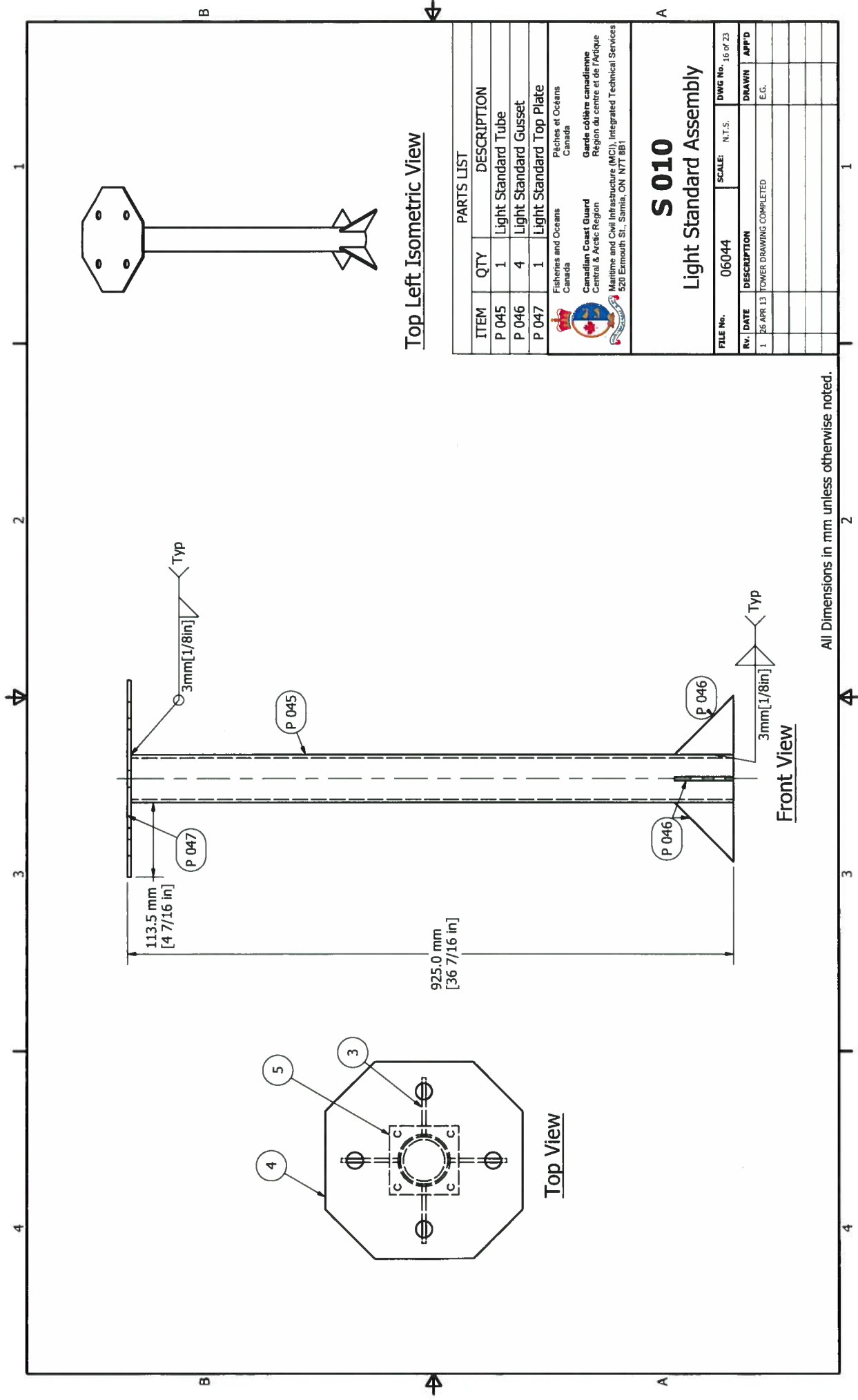
ITEM	QTY	DESCRIPTION
P 041	1	Hatch Cover
P 042	1	Hatch Handle
P 043	2	Clamp Clip
P 044	2	Hatch Hinge

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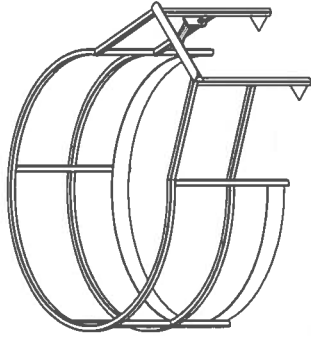
S 009
Hatch Assembly

FILE No.	06044	SCALE:	N.T.S.	DWG No.	15 of 23
Rv.	DATE	DESCRIPTION	DRAWN APP'D		
1	26 APR 13	TOWER DRAWING COMPLETED	E.G.		

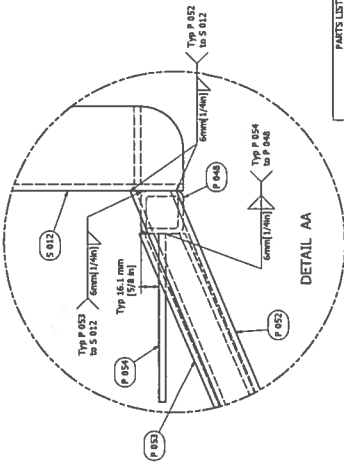
All Dimensions in mm unless otherwise noted.



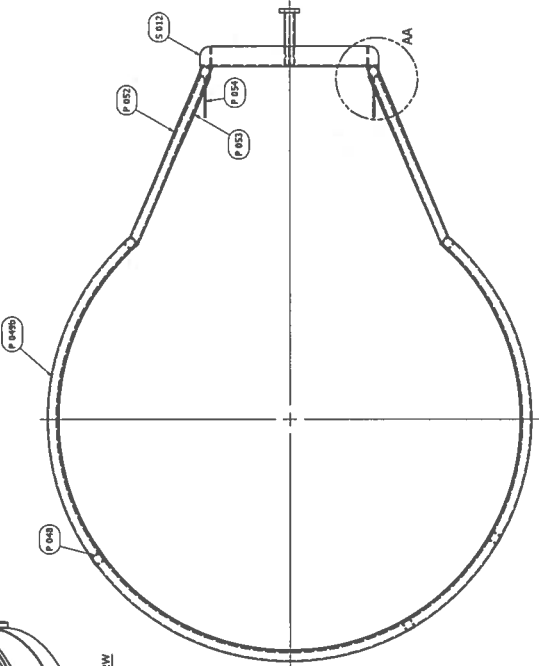
All Dimensions in mm unless otherwise noted.



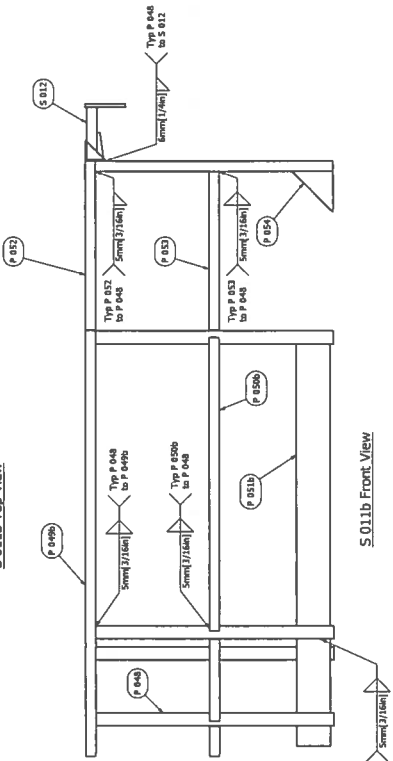
S.011b Top Right Isometric View



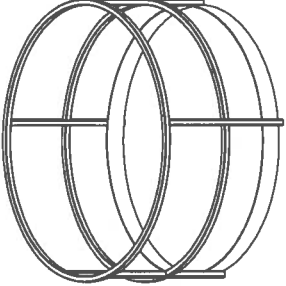
DETAIL AA



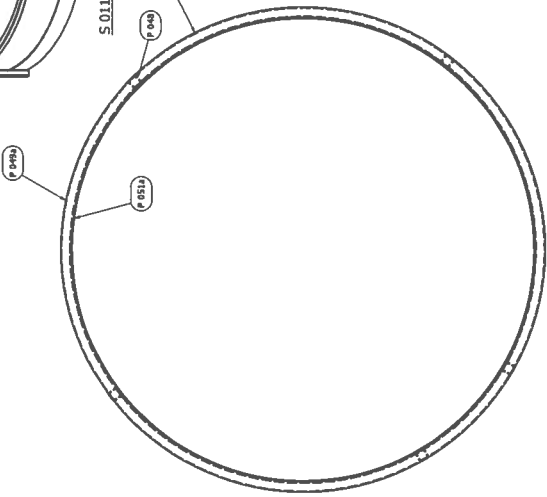
S.011b Top View



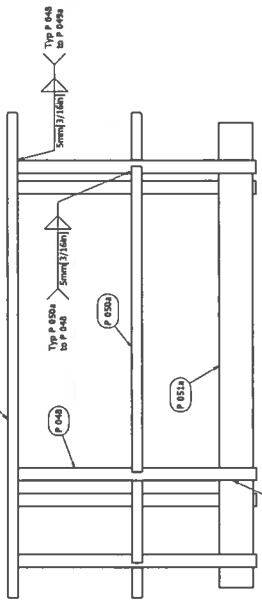
S.011b Front View



S.011a Top Right Isometric View



S.011a Top View



S.011a Front View

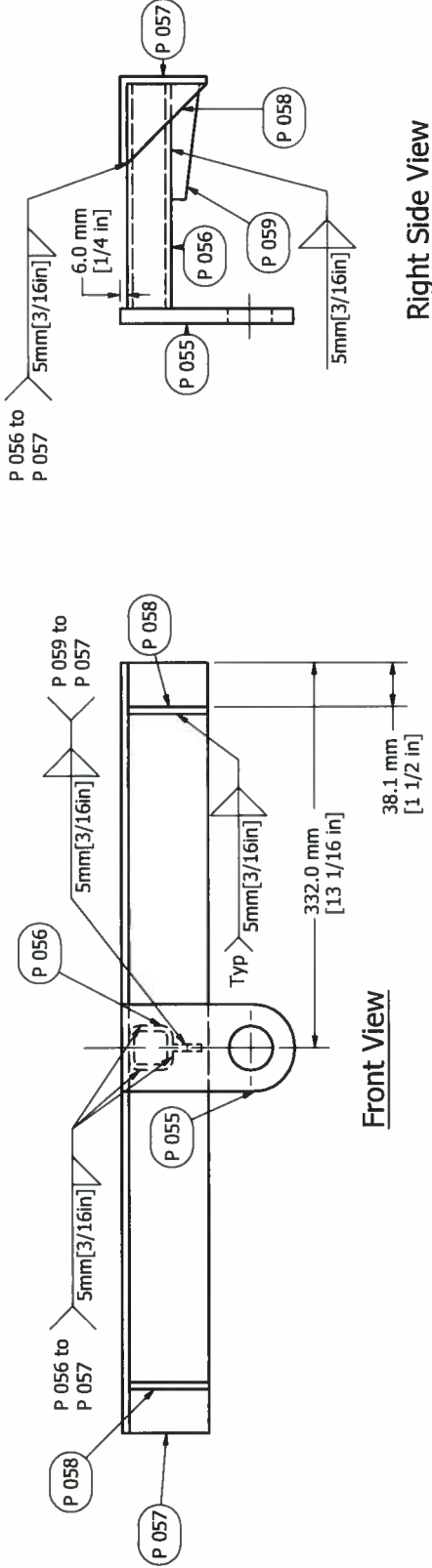
ITEM	QTY	DESCRIPTION
P.050	5	RAIL END
P.051	5	RAIL END
P.052a	1	MIDDLE RAIL
P.051a	1	MIDDLE RAIL
P.051b	1	MIDDLE RAIL
P.051c	1	MIDDLE RAIL
P.051d	1	MIDDLE RAIL
P.051e	1	MIDDLE RAIL
P.051f	1	MIDDLE RAIL
P.051g	1	MIDDLE RAIL
P.051h	1	MIDDLE RAIL
P.051i	1	MIDDLE RAIL
P.051j	1	MIDDLE RAIL
P.051k	1	MIDDLE RAIL
P.051l	1	MIDDLE RAIL
P.051m	1	MIDDLE RAIL
P.051n	1	MIDDLE RAIL
P.051o	1	MIDDLE RAIL
P.051p	1	MIDDLE RAIL
P.051q	1	MIDDLE RAIL
P.051r	1	MIDDLE RAIL
P.051s	1	MIDDLE RAIL
P.051t	1	MIDDLE RAIL
P.051u	1	MIDDLE RAIL
P.051v	1	MIDDLE RAIL
P.051w	1	MIDDLE RAIL
P.051x	1	MIDDLE RAIL
P.051y	1	MIDDLE RAIL
P.051z	1	MIDDLE RAIL
S.012	1	LIFTING ASSEMBLY

S.011a/S.011b
Top Railing/Top Railing with Daymark

REV	DATE	DESCRIPTION
1	06/04/2011	ISSUED FOR CONSTRUCTION
2	06/04/2011	ISSUED FOR CONSTRUCTION
3	06/04/2011	ISSUED FOR CONSTRUCTION
4	06/04/2011	ISSUED FOR CONSTRUCTION
5	06/04/2011	ISSUED FOR CONSTRUCTION
6	06/04/2011	ISSUED FOR CONSTRUCTION
7	06/04/2011	ISSUED FOR CONSTRUCTION
8	06/04/2011	ISSUED FOR CONSTRUCTION
9	06/04/2011	ISSUED FOR CONSTRUCTION
10	06/04/2011	ISSUED FOR CONSTRUCTION

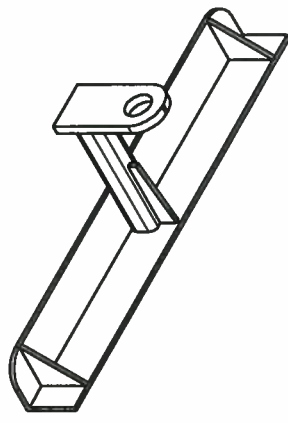
All Dimensions in mm unless otherwise noted.

1 2 3 4

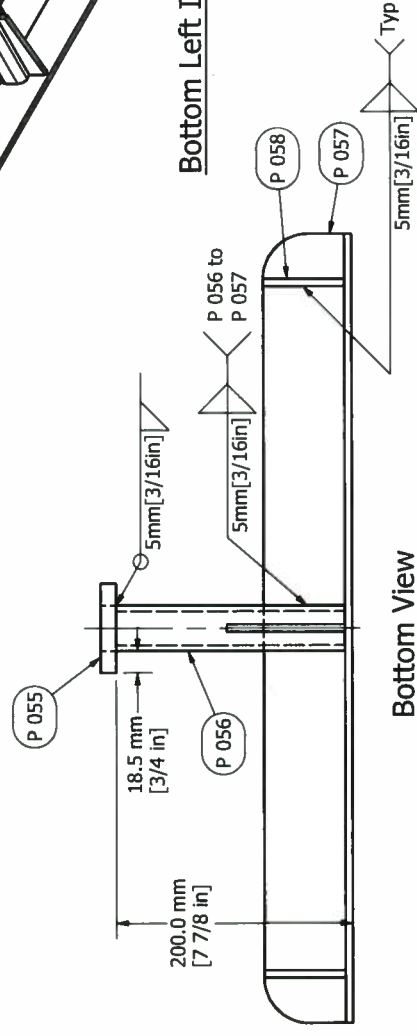


Right Side View

Front View



Bottom Left Isometric View



Bottom View

All Dimensions in mm unless otherwise noted.

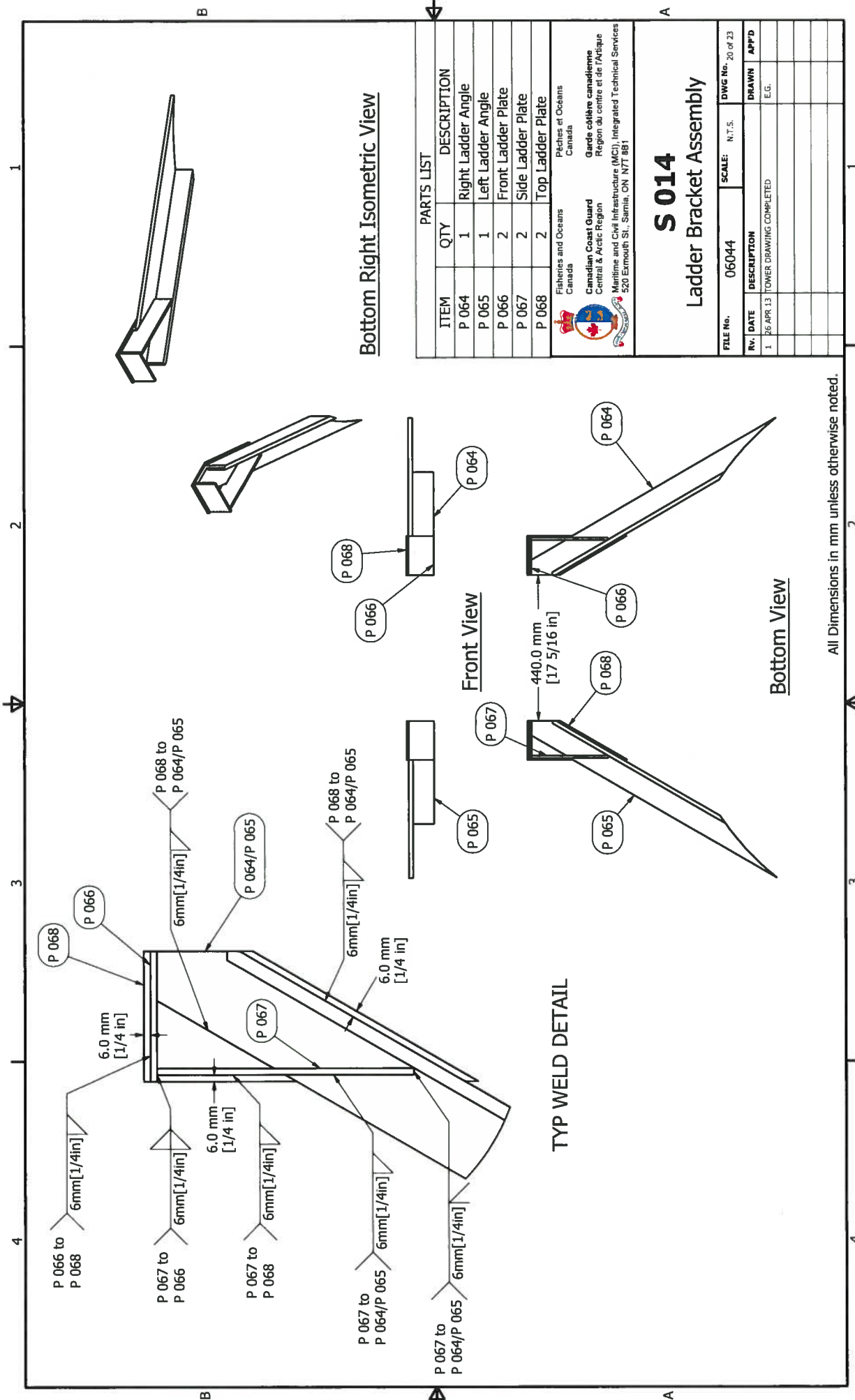
ITEM	QTY	DESCRIPTION
P 055	1	Lift Arm Bracket
P 056	1	Lift Arm Tube
P 057	1	Lift Arm Angle
P 058	2	Lift Arm Gusset
P 059	1	Lift Arm Secondary Gusset

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Maritime and Civil Infrastructure (MCI), Integrated Technical Services
520 Esplanade St., Sarnia, ON N7T 8B1

S 012
Lifting Assembly

FILE No.	06044	SCALE:	N.T.S.	DWG No.	18 of 23
Nr.	DATE	DESCRIPTION	DRAWN	APPD	
0	30 MAR '11	DRAWING INITIATED	R.C.S.	R.C.S.	
1	24 FEB 2011	Clayton Tower			
2	18 Mar 2013	Updated Drawings Based on Gros Revisions		E.J.G.	

1 2 3 4



Bottom Right Isometric View

Front View

Bottom View

PARTS LIST

ITEM	QTY	DESCRIPTION
P 064	1	Right Ladder Angle
P 065	1	Left Ladder Angle
P 066	2	Front Ladder Plate
P 067	2	Side Ladder Plate
P 068	2	Top Ladder Plate

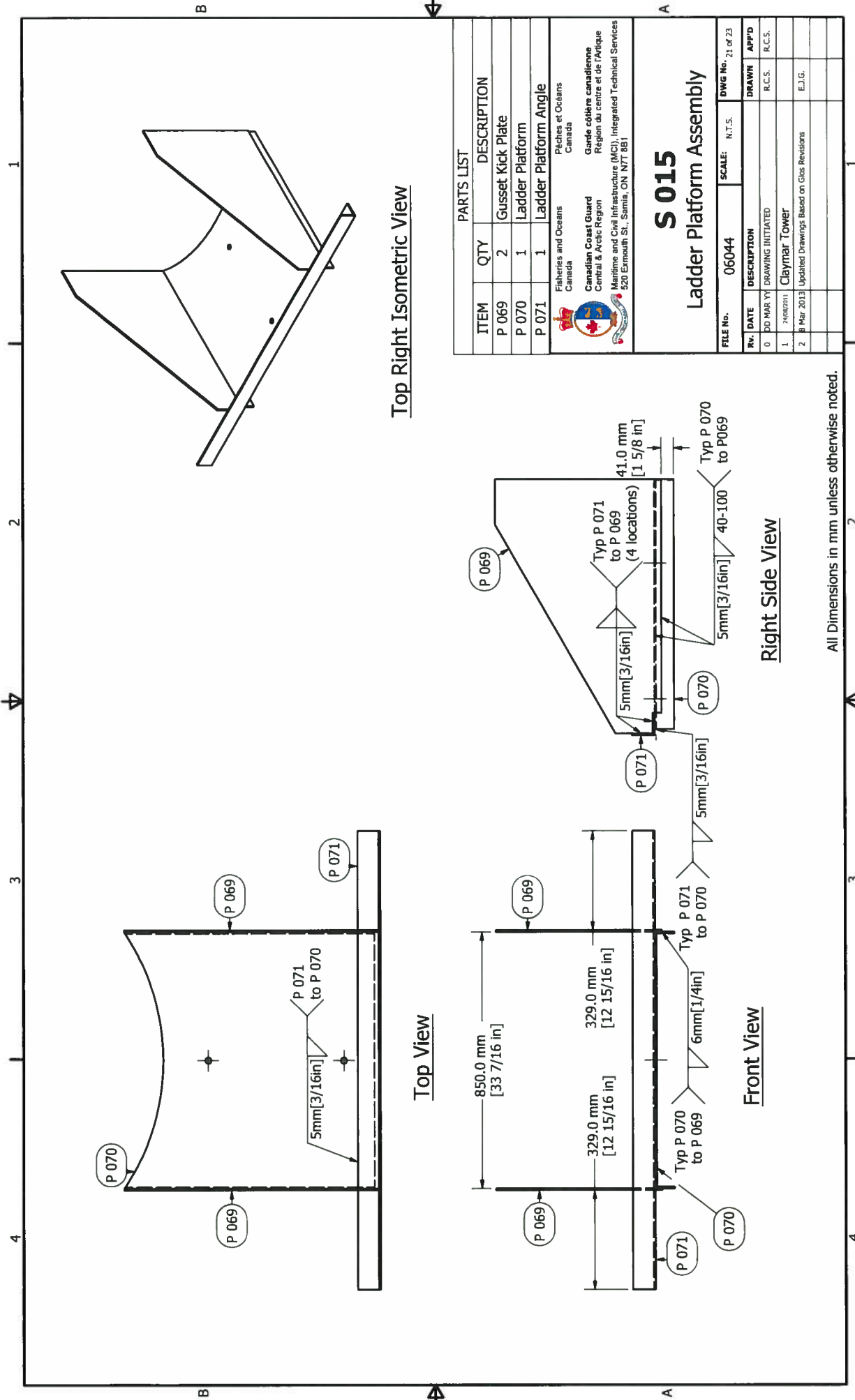
Fisheries and Oceans
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Canadian Coast Guard
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Maritime and Civil Infrastructure (MC), Integrated Technical Services
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Pêches et Océans
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Services Techniques Intégrés (STI), Infrastructure Maritime et Civile

S 014
Ladder Bracket Assembly

FILE No.	06044	SCALE:	N.T.S.	DWG No.	20 of 23
REV.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR. 13	TOWER DRAWING COMPLETED	E.G.		

All Dimensions in mm unless otherwise noted.



ITEM	QTY	DESCRIPTION
P 069	2	Gusset Kick Plate
P 070	1	Ladder Platform
P 071	1	Ladder Platform Angle

Fisheries and Oceans
Canada

Canadian Coast Guard
Central & Arctic Region
Maritime and Civil Infrastructure (MC), Integrated Technical Services
520 Elmouthe St., Sarnia, ON N7T 8B1

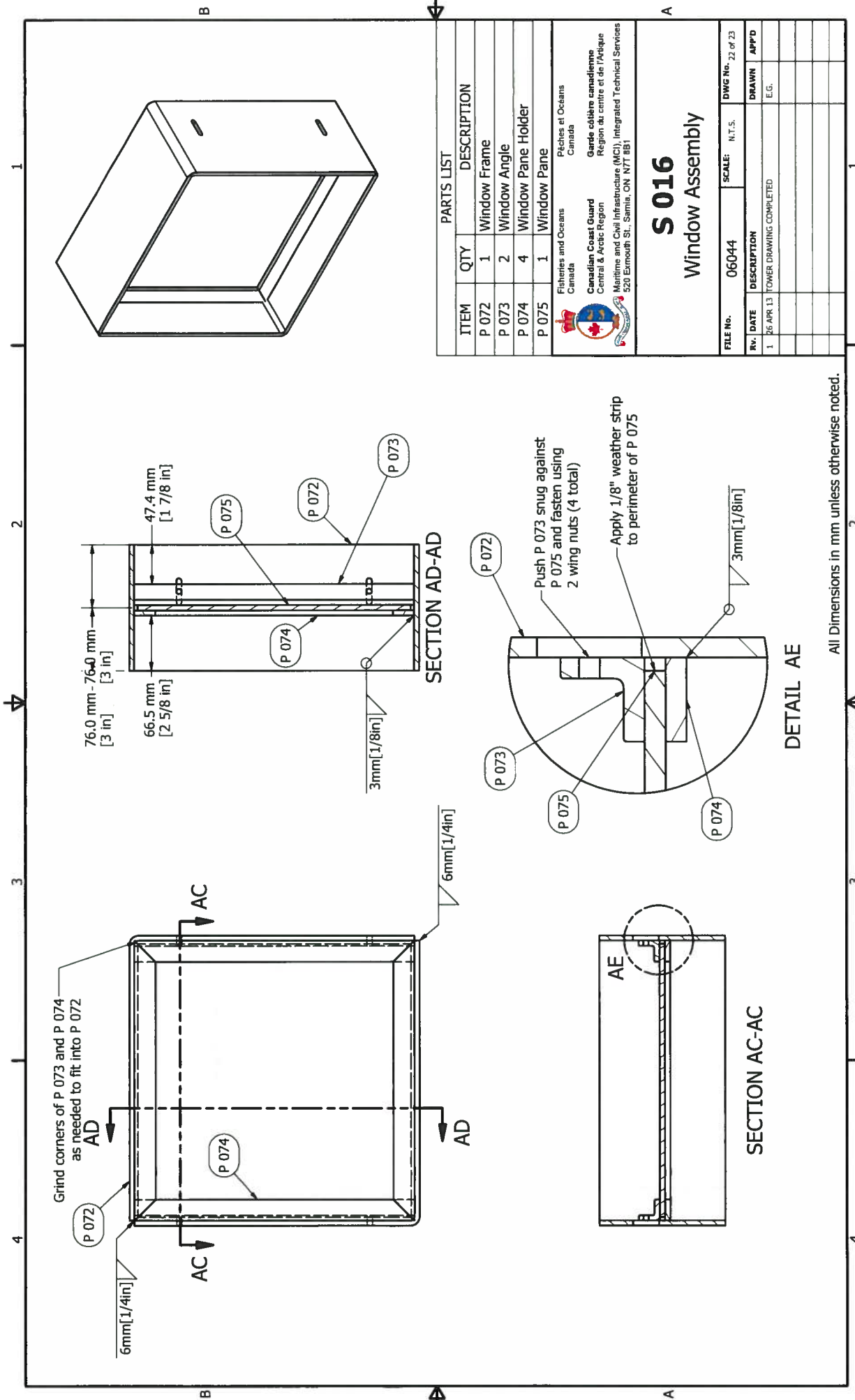
Garde côtière canadienne
Région du centre et de l'Atlantique
520 Elmouthe St., Sarnia, ON N7T 8B1

S 015

Ladder Platform Assembly

FILE No.	06044	SCALE:	N.T.S.	DWG No.	21 of 23
Rv.	DATE	DESCRIPTION	DRAWN	APPD	
0	00 MAR '11	DRAWING INITIATED	R.C.S.	R.C.S.	
1	24 FEB 2011	CLAYMAT TOWER			
2	08 MAR 2013	Updated Drawings Based on Class Revisions	E.J.G.		

All Dimensions in mm unless otherwise noted.



PARTS LIST

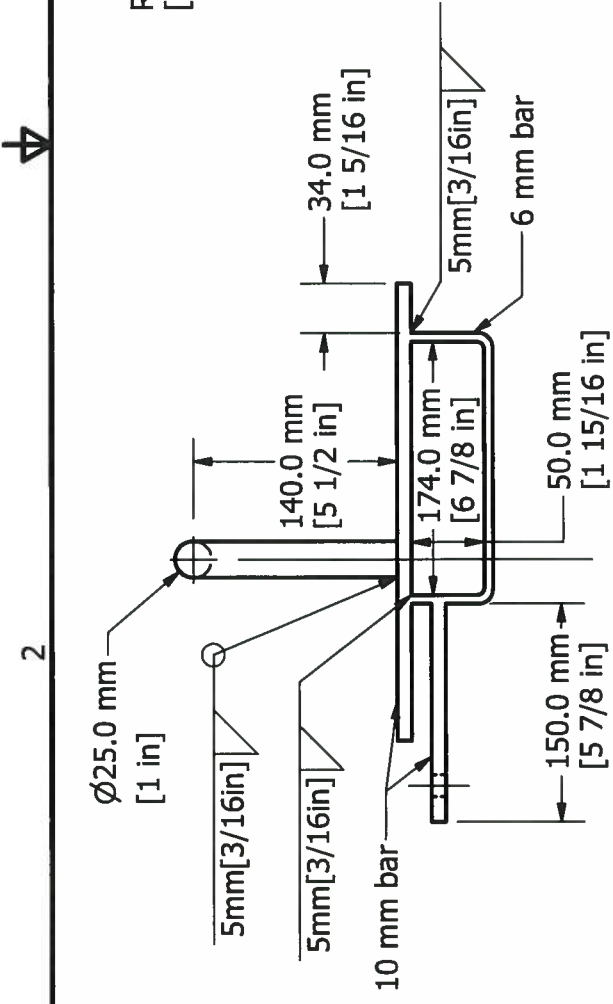
ITEM	QTY	DESCRIPTION
P 072	1	Window Frame
P 073	2	Window Angle
P 074	4	Window Pane Holder
P 075	1	Window Pane

Fisheries and Oceans
Canada
Canadian Coast Guard
 Central & Arctic Region
 Gardie côtière canadienne
 Région du centre et de l'Arctique
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

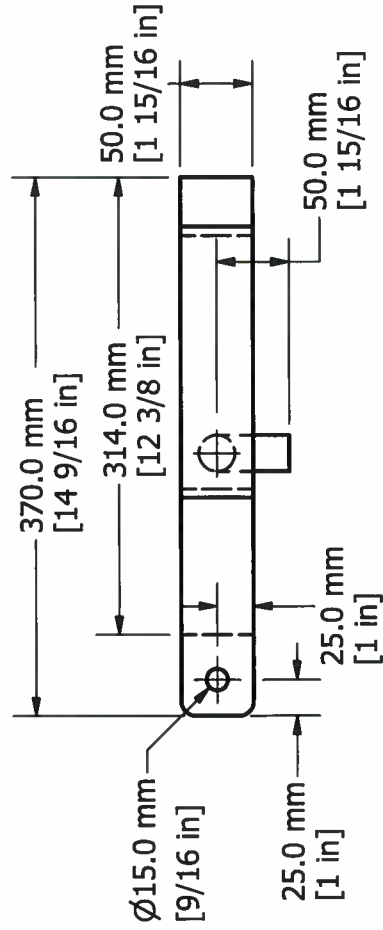
S 016
Window Assembly

FILE No.	06044	SCALE:	N.T.S.	DWG No.	22 of 23
REV.	DATE	DESCRIPTION			
1	26 APR 13	TOWER DRAWING COMPLETED	DRAWN E.G.		
			APPROD		

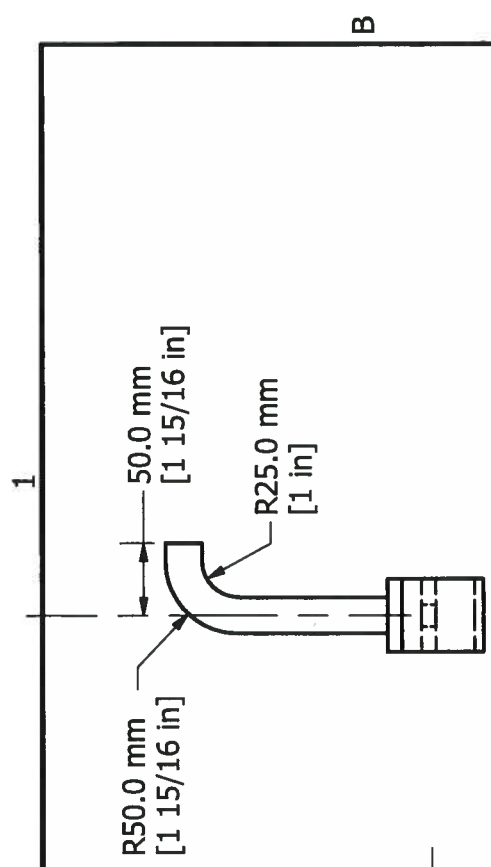
All Dimensions in mm unless otherwise noted.



Top View




Front View



Right Side View
(Rotated 90° CCW)

PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 001	Slide Handle	10mm[3/8in] Thick Flat Bar
		6mm[1/4in] Thick Bent Bar
		25mm[1in] Dia Rod


 Fisheries and Oceans
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Pêches et Océans
 Canada
 Garde côtière canadienne
 Région du centre et de l'Arctique

NAME

P 001

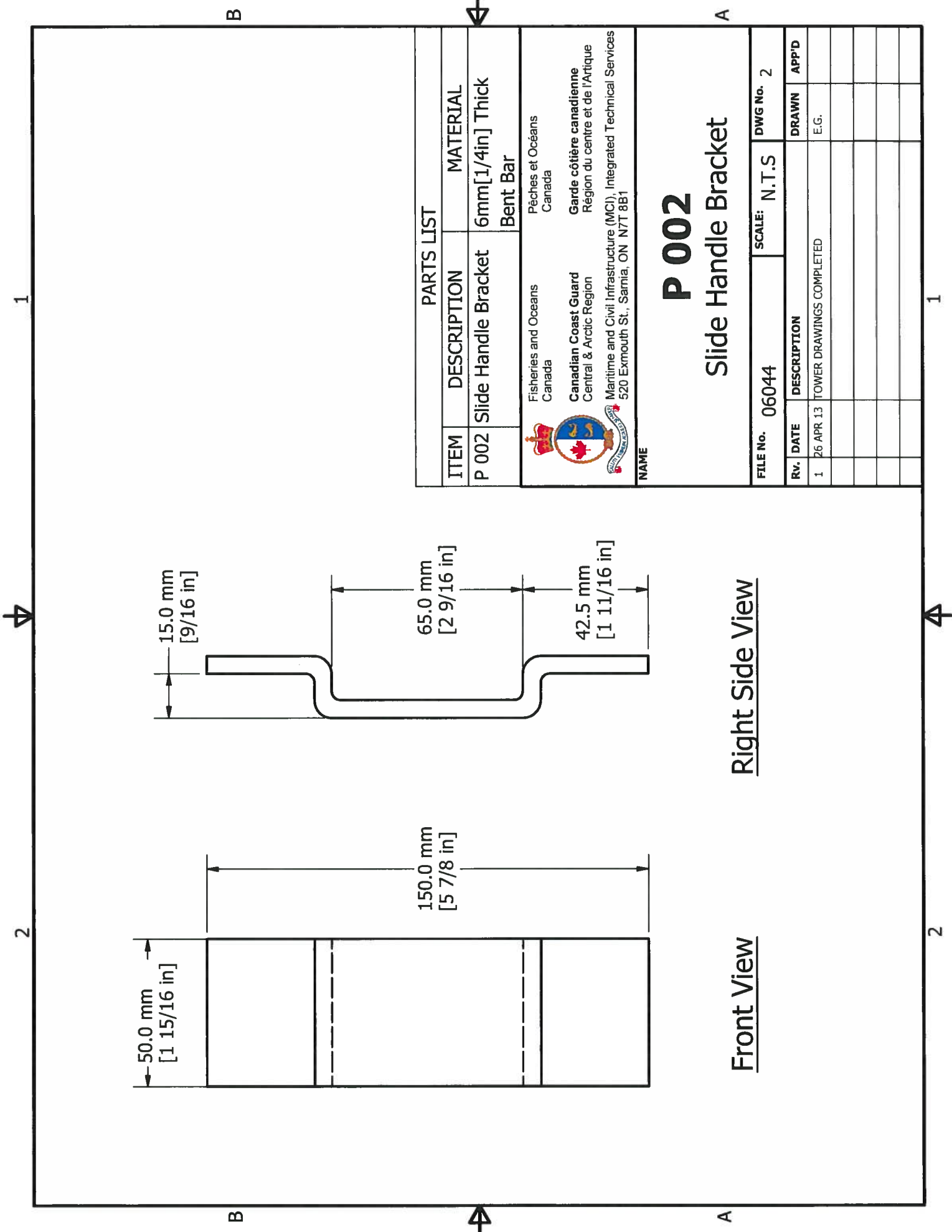
Slide Handle

FILE No. 06044


SCALE: N.T.S

DWG No. 1

Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 002	Slide Handle Bracket	6mm[1/4in] Thick Bent Bar


 Fisheries and Oceans
 Canada
 Canadian Coast Guard
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 Maritime and Civil Infrastructure (MC), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

P 002
Slide Handle Bracket
 FILE No. 06044 SCALE: N.T.S. DWG No. 2

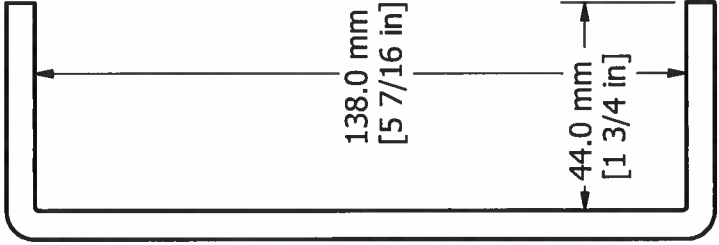
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

1

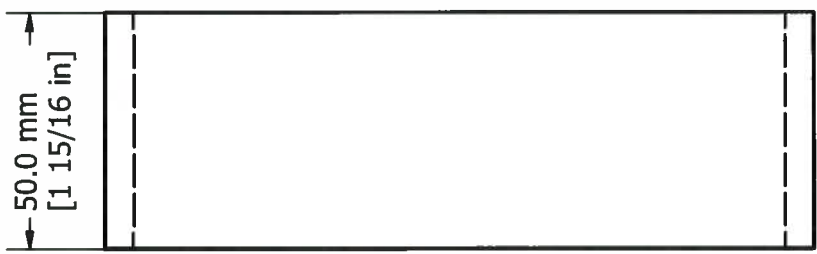
B



A



Left Side View



Rear View

2

B




A

1

2

PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 003	Pull Handle	6mm[1/4in] Thick Bent Bar
 Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Pêches et Océans Canada Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		

NAME

P 003

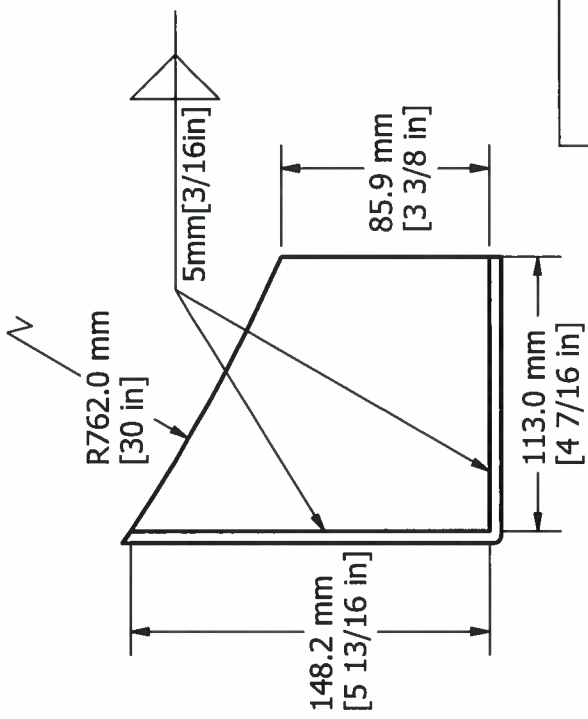
Inside Handle

FILE No.	06044	SCALE:	N.T.S	DWG No.	3
Rv.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		

1

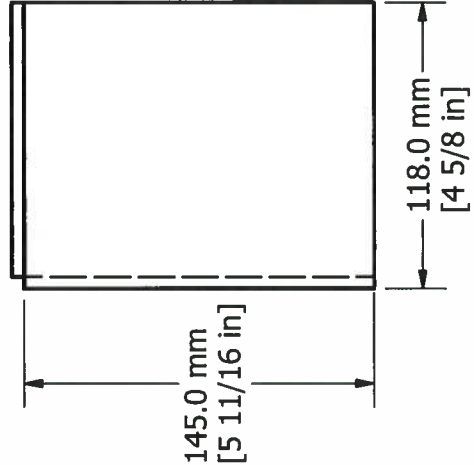
2

B

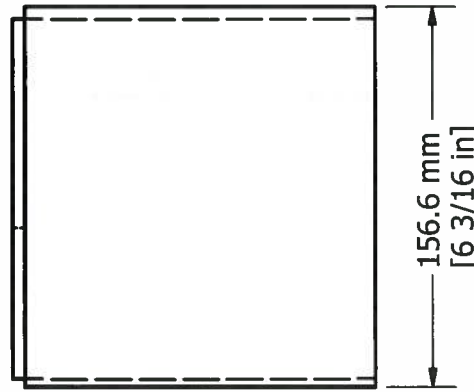


Top Left Isometric View

Top View




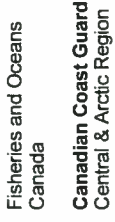

Front View



Left Side View

PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 004	Handle Cover	5 mm [3/16 in] Thick Bent Plate


 Fisheries and Oceans
 Canada

 Canadian Coast Guard
 Central & Arctic Region

 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

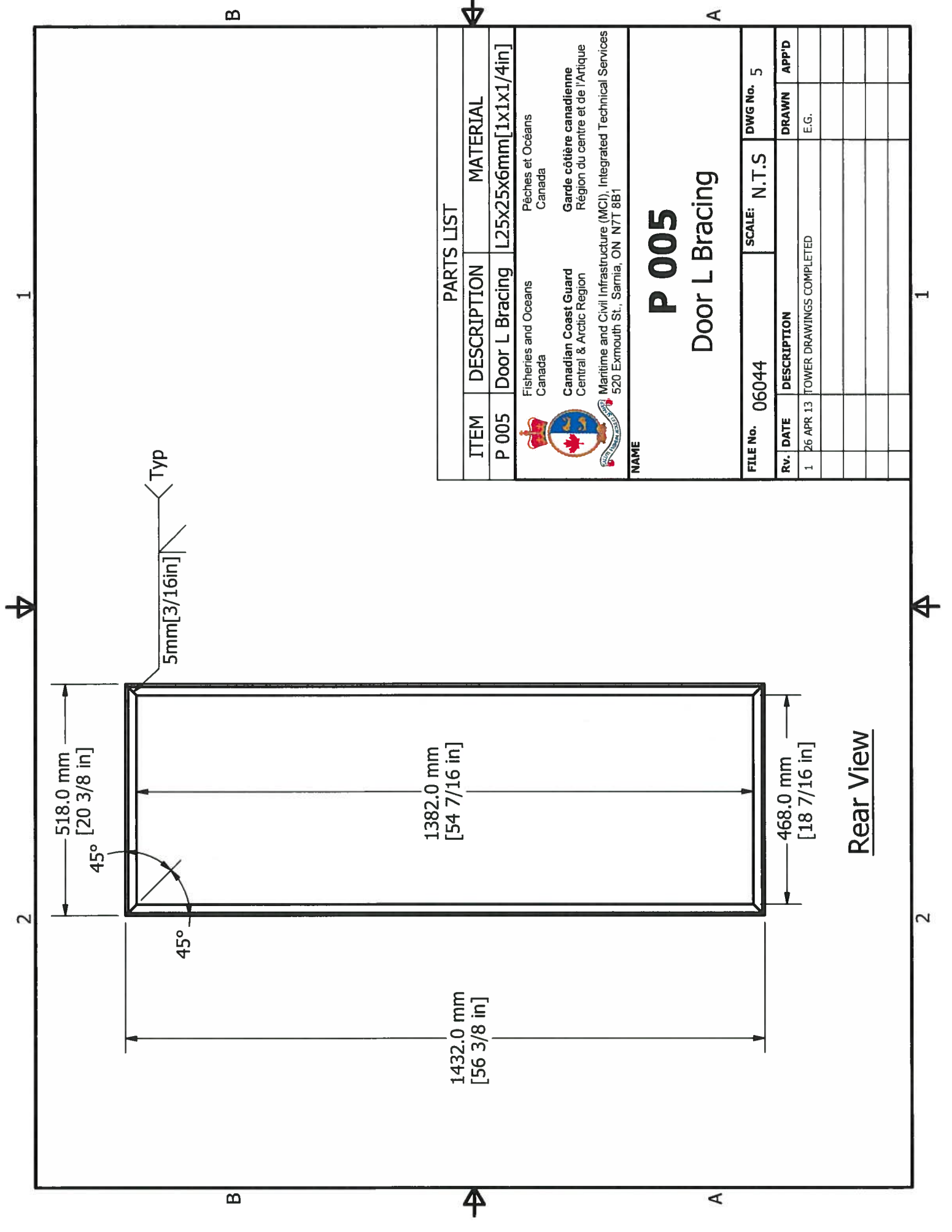
P 004
 Handle Cover

FILE No.	06044	SCALE:	N.T.S	DWG No.	4
Rv. DATE	DESCRIPTION	DRAWN	APP'D		
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		

1


2

A



Rear View

PARTS LIST

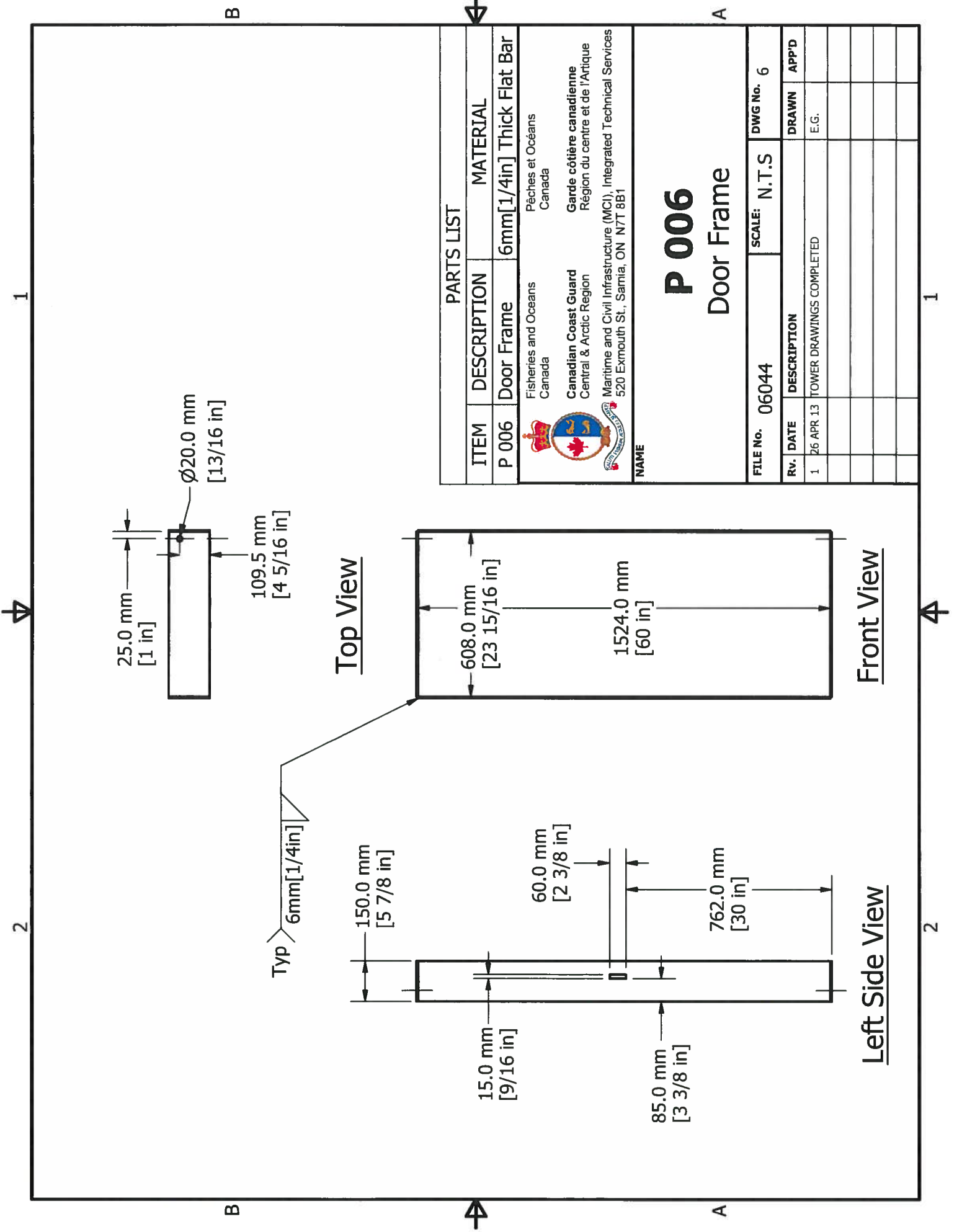
ITEM	DESCRIPTION	MATERIAL
P 005	Door L Bracing	L25x25x6mm[1x1x1/4in]
 Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1 Pêches et Océans Canada Garde côtière canadienne Région du centre et de l'Arctique		

NAME

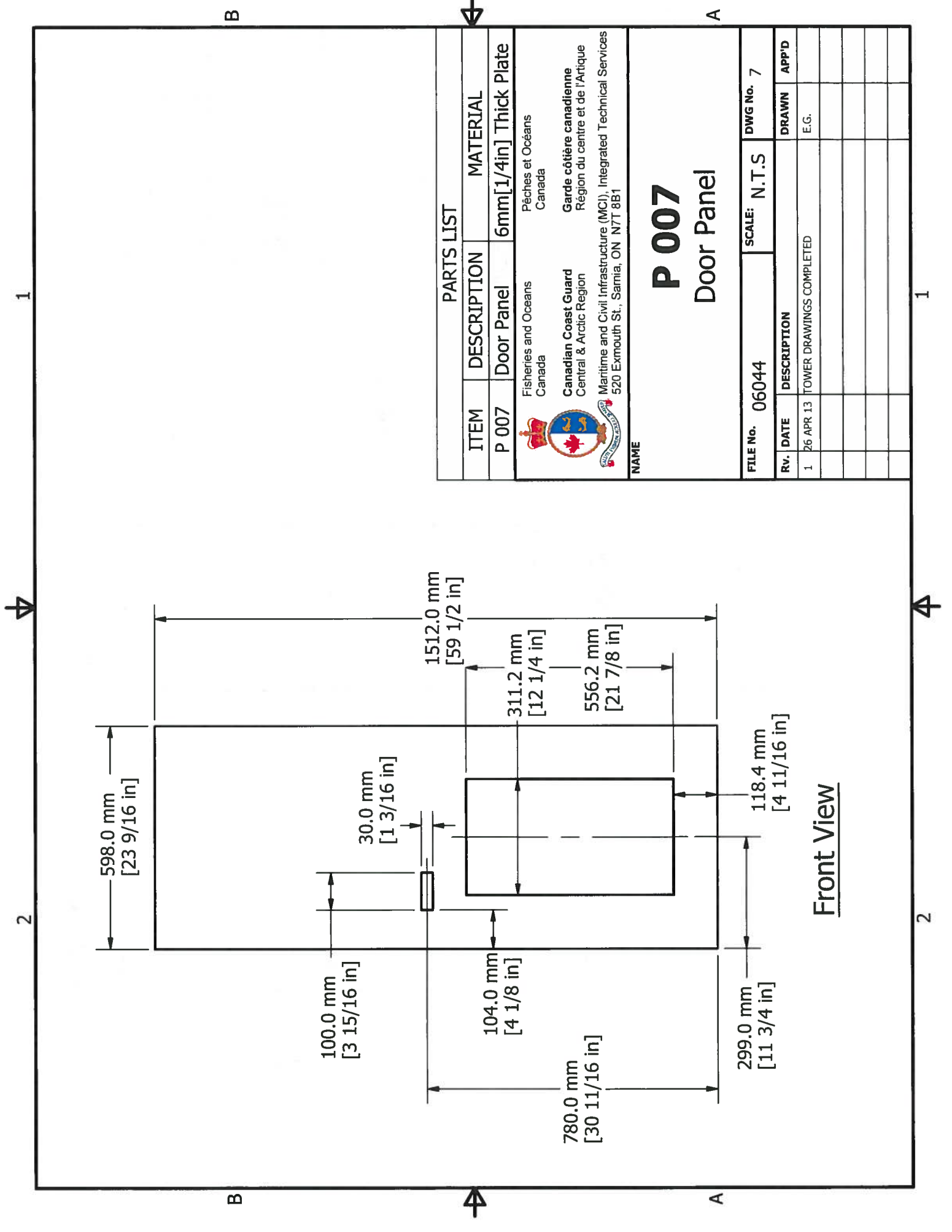
P 005

Door L Bracing




FILE No.	06044	SCALE:	N.T.S	DWG No.	5
Rv. DATE	DESCRIPTION	DRAWN	APP'D		
1	26 APR 13 TOWER DRAWINGS COMPLETED	E.G.			

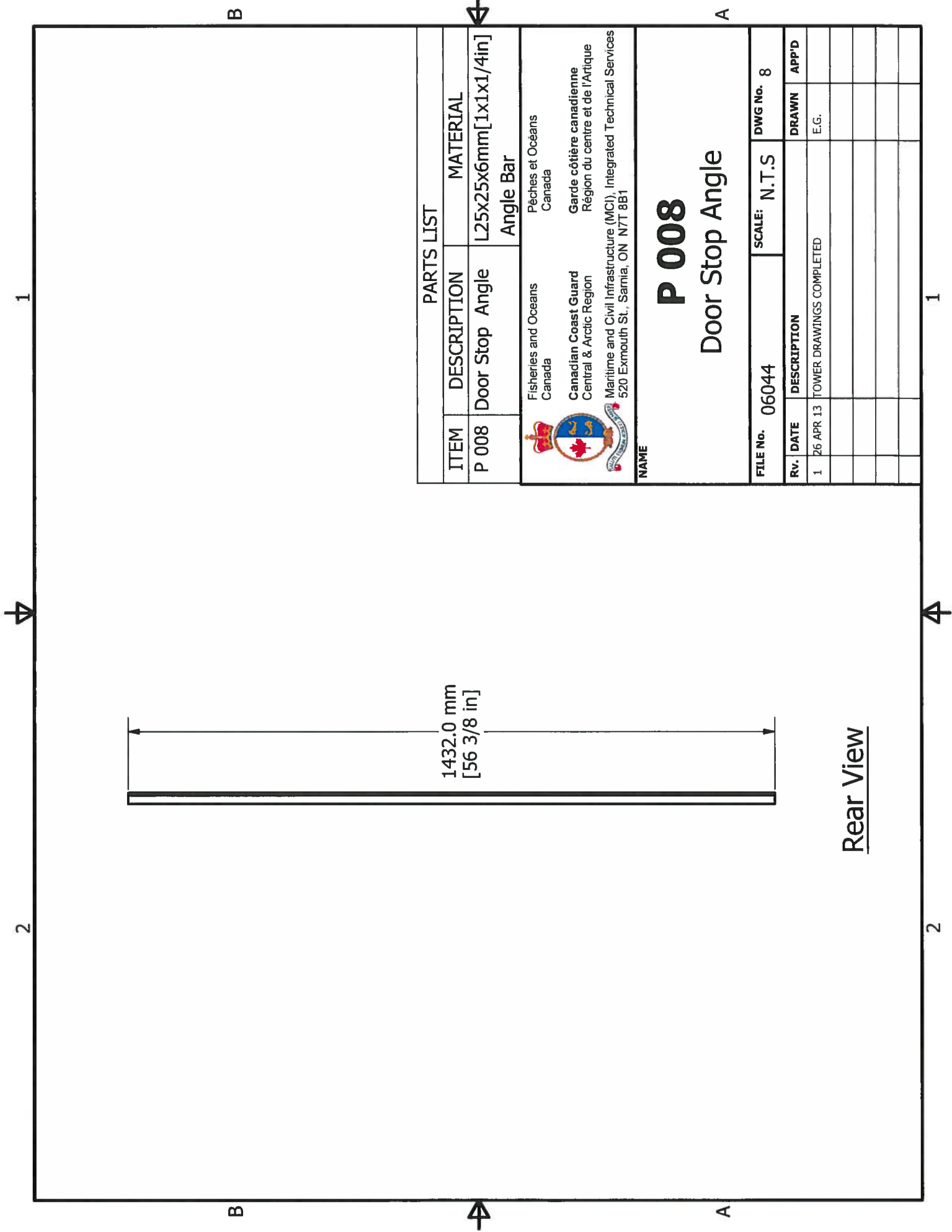


PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 006	Door Frame	6mm[1/4in] Thick Flat Bar		
Fisheries and Oceans Canada Pêches et Océans Canada Canadian Coast Guard Central & Arctic Region Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MC), Integrated Technical Services 520 Exmouth St., Samia, ON N7T 8B1				
NAME <h1 style="text-align: center;">P 006</h1> <h2 style="text-align: center;">Door Frame</h2>				
FILE No. 06044		SCALE: N.T.S		
DWG No. 6				
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	




Front View

PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 007	Door Panel	6mm[1/4in] Thick Plate		
 Fisheries and Oceans Canada		Pêches et Océans Canada		
 Canadian Coast Guard Central & Arctic Region		Garde côtière canadienne Région du centre et de l'Arctique		
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
NAME <h1 style="text-align: center;">P 007</h1> <h2 style="text-align: center;">Door Panel</h2>				
FILE No.	06044	SCALE: N.T.S	DWG No. 7	
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	



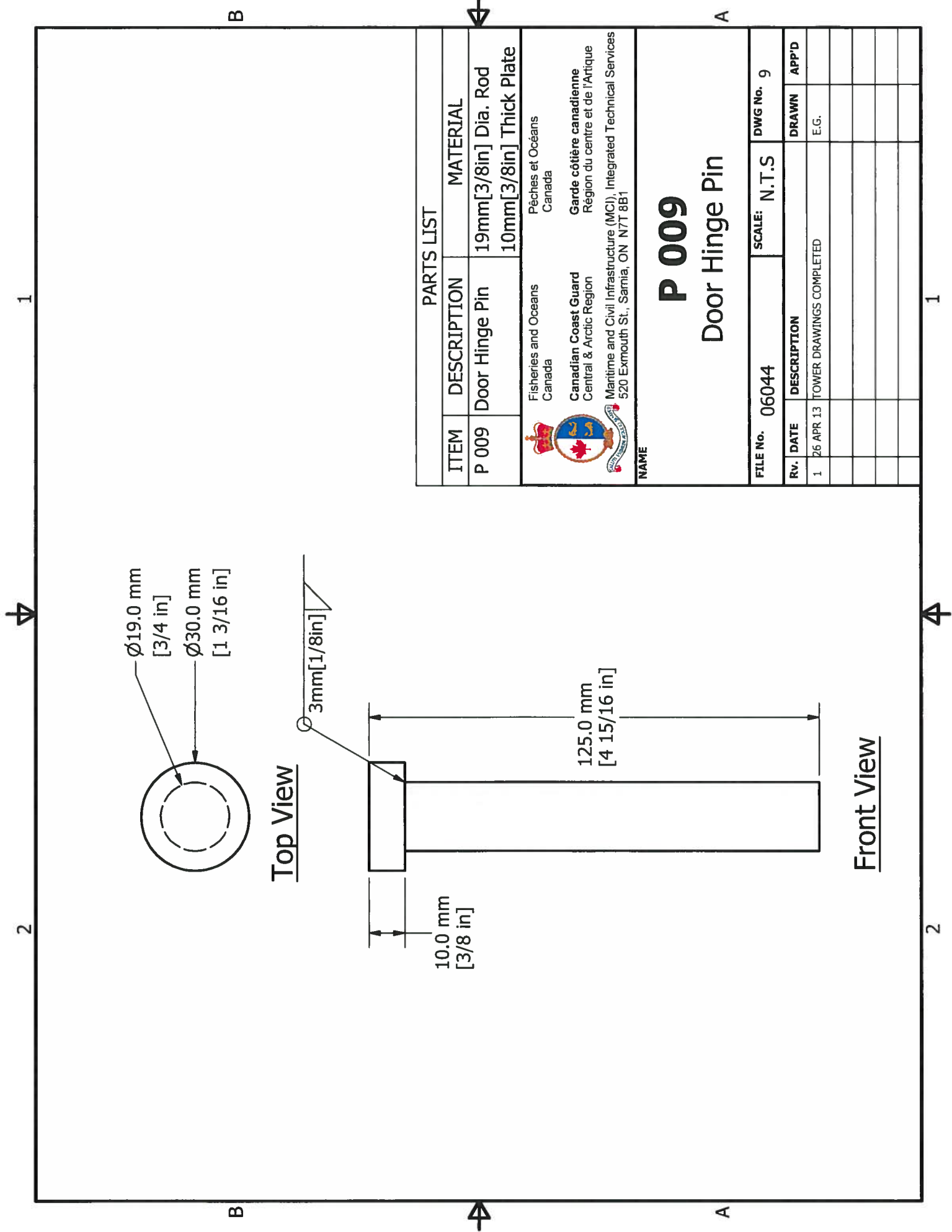
PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 008	Door Stop Angle	L25x25x6mm[1x1x1/4in] Angle Bar


 Fisheries and Oceans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Pêches et Océans
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 Maritime and Civil Infrastructure (MC), Integrated Technical Services
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NAME
P 008
 Door Stop Angle

FILE No. 06044		SCALE: N.T.S	DWG No. 8
RV. DATE	DESCRIPTION	DRAWN	APP'D
1 26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

Rear View

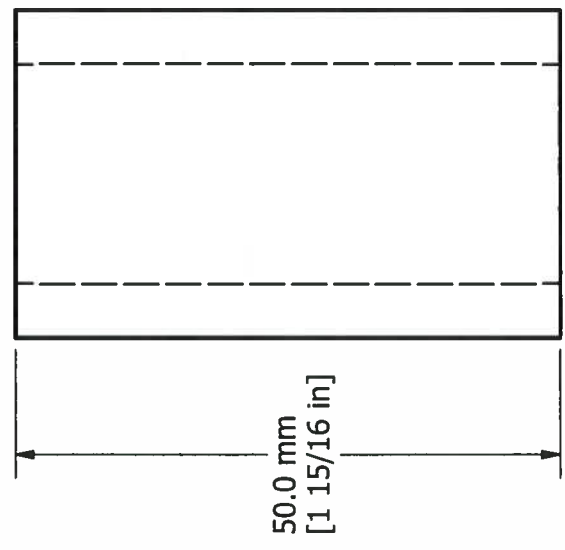
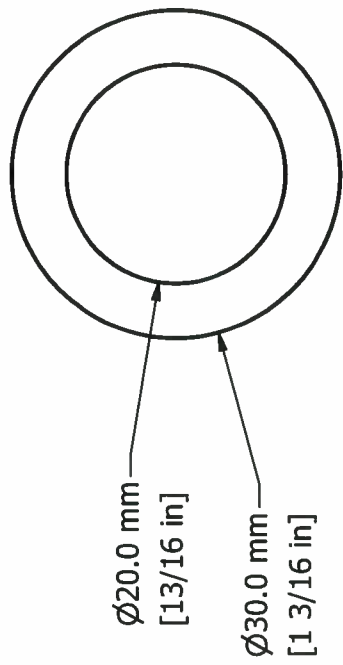
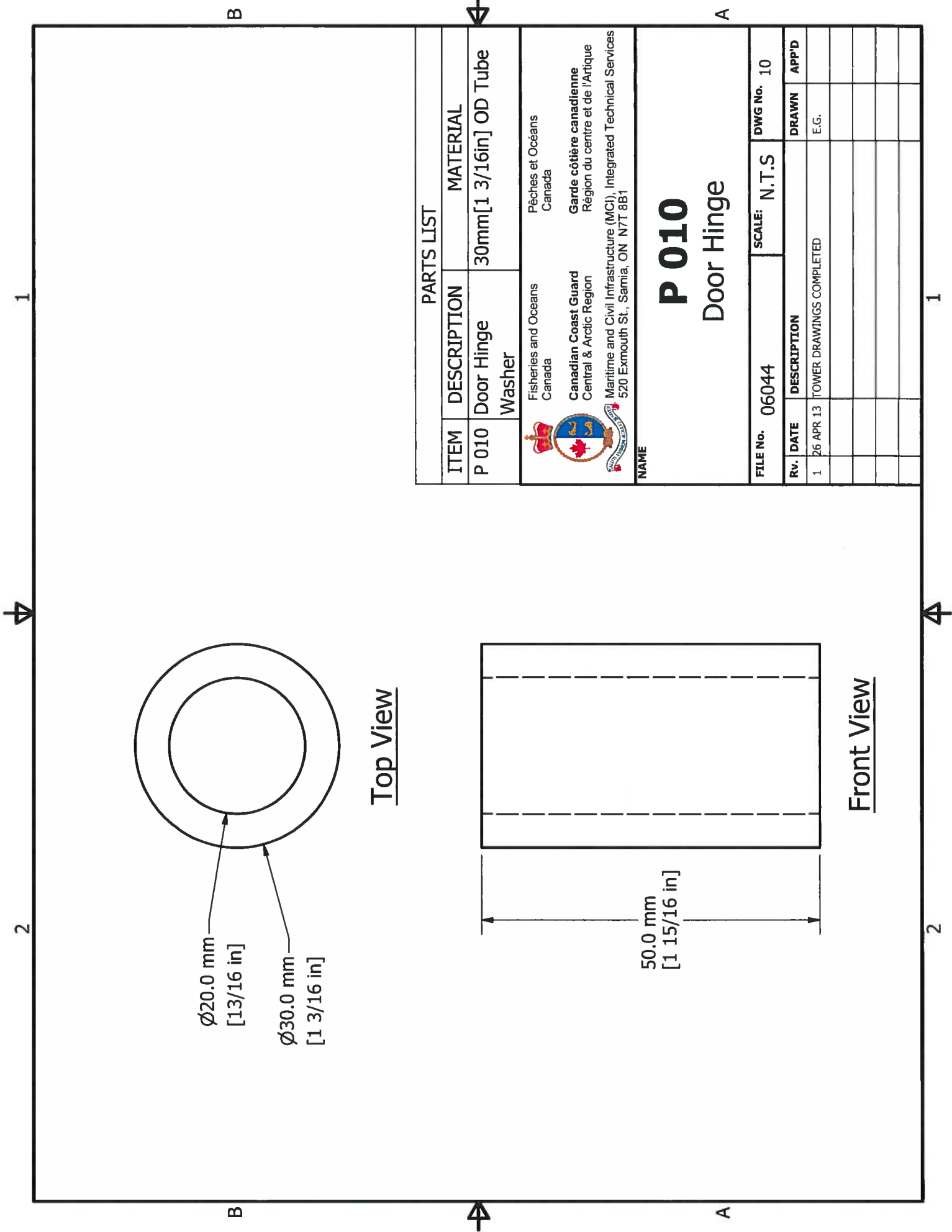



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 009	Door Hinge Pin	19mm[3/8in] Dia. Rod
		10mm[3/8in] Thick Plate

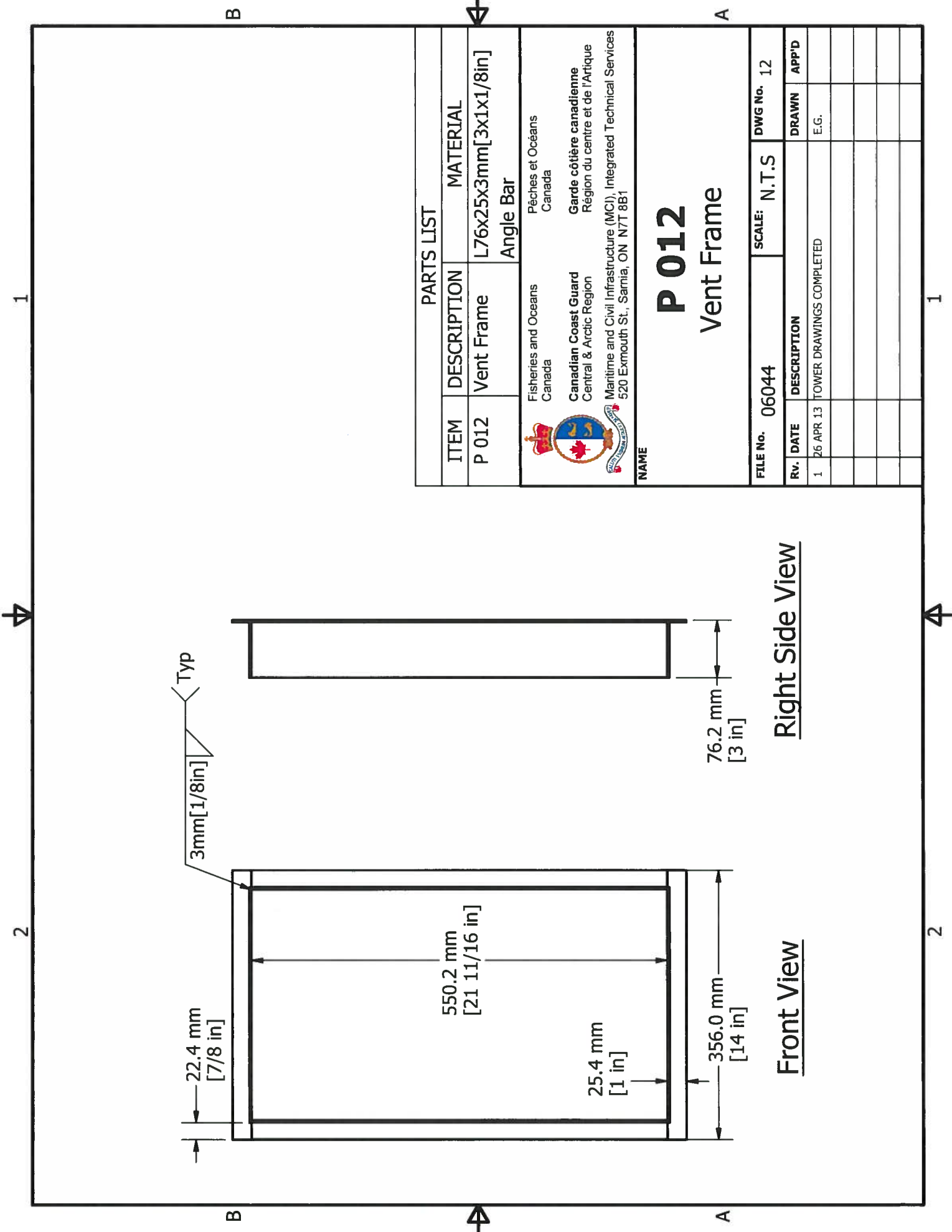

 Fisheries and Oceans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
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NAME
P 009
 Door Hinge Pin

FILE No.	06044	SCALE:	N.T.S	DWG No.	9
Rv.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		



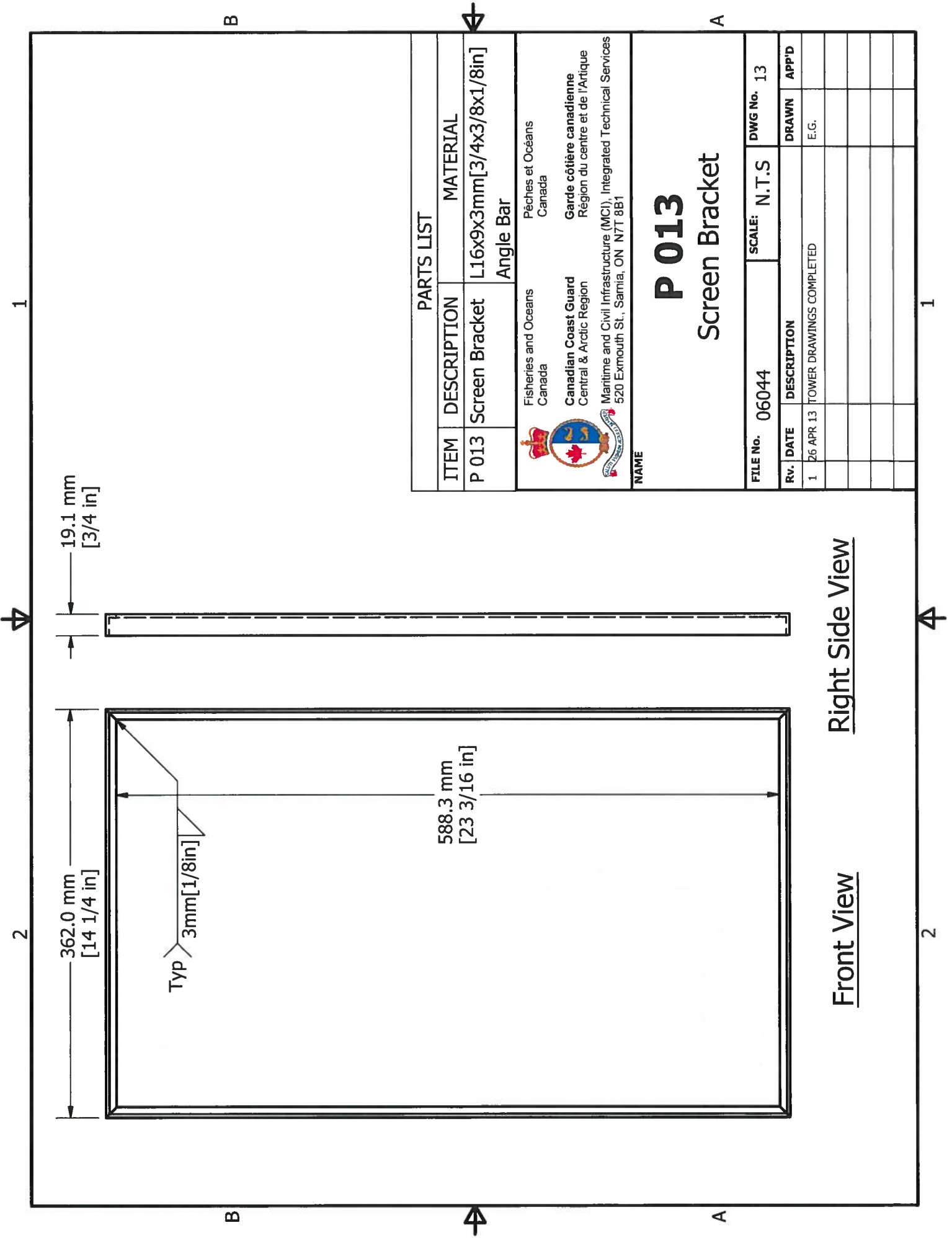
PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 010	Door Hinge Washer	30mm[1 3/16in] OD Tube		
				
Fisheries and Oceans Canada		Pêches et Océans Canada		
Canadian Coast Guard Central & Arctic Region		Garde côtière canadienne Région du centre et de l'Arctique		
Maritime and Civil Infrastructure (MC), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
NAME P 010 Door Hinge				
FILE No.	06044	SCALE: N.T.S		
DWG No.	10			
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	




PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 012	Vent Frame	L76x25x3mm[3x1x1/8in] Angle Bar		
 Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region  Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
P 012				
Vent Frame				
FILE No.	06044	SCALE: N.T.S		
DWG No.	12			
RV.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

Right Side View

Front View



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 013	Screen Bracket	L16x9x3mm[3/4x3/8x1/8in] Angle Bar


 Fisheries and Oceans
 Canada
Canadian Coast Guard
 Central & Arctic Region
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

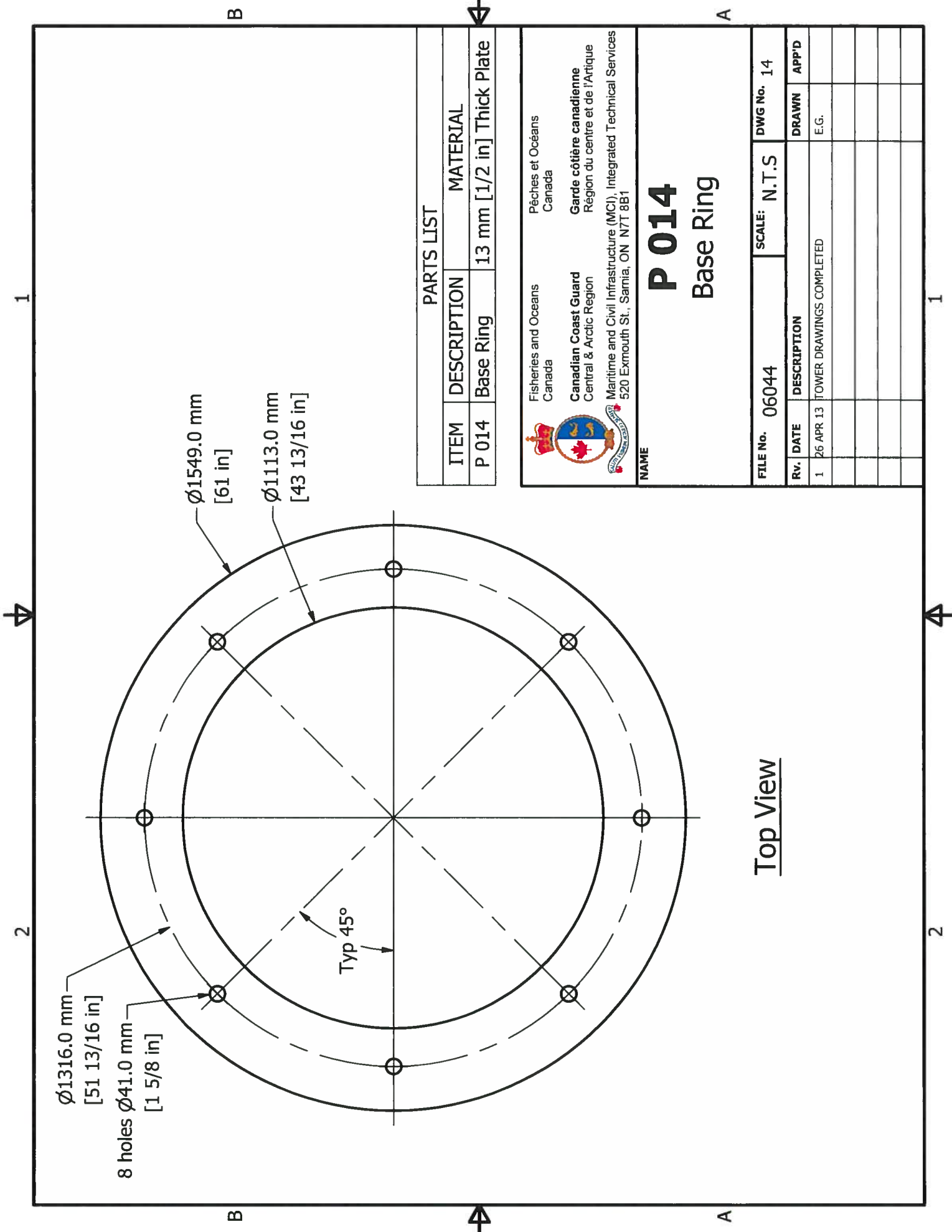
Pêches et Océans
 Canada
Garde côtière canadienne
 Région du centre et de l'Arctique

P 013
Screen Bracket

FILE No.	06044	SCALE:	N.T.S	DWG No.	13
Rv. DATE	DESCRIPTION	DRAWN	APP'D		
1	26 APR 13 TOWER DRAWINGS COMPLETED	E.G.			

Right Side View

Front View



$\varnothing 1316.0$ mm
 [51 13/16 in]
 8 holes $\varnothing 41.0$ mm
 [1 5/8 in]

$\varnothing 1549.0$ mm
 [61 in]
 $\varnothing 1113.0$ mm
 [43 13/16 in]

Typ 45°

Top View

PARTS LIST

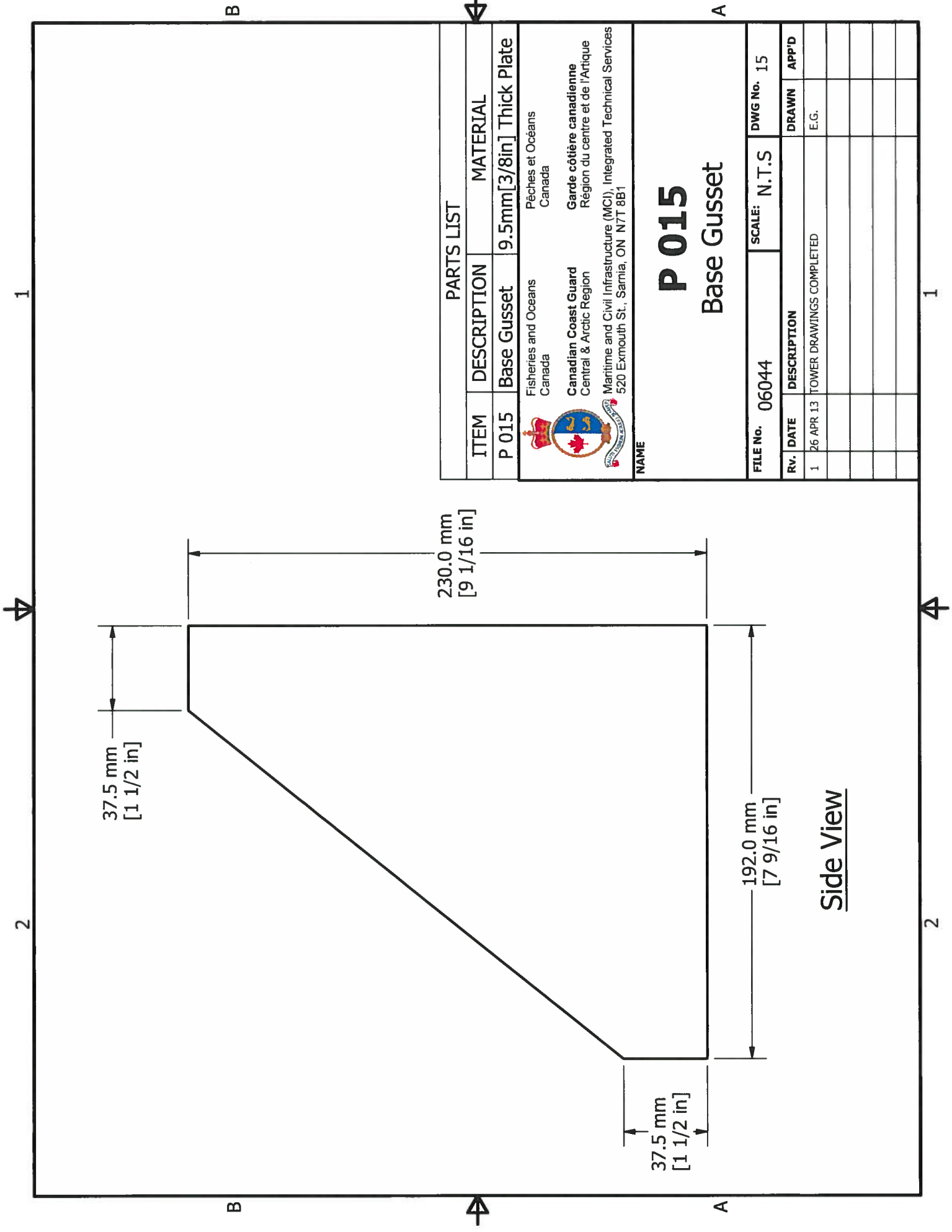
ITEM	DESCRIPTION	MATERIAL
P 014	Base Ring	13 mm [1/2 in] Thick Plate




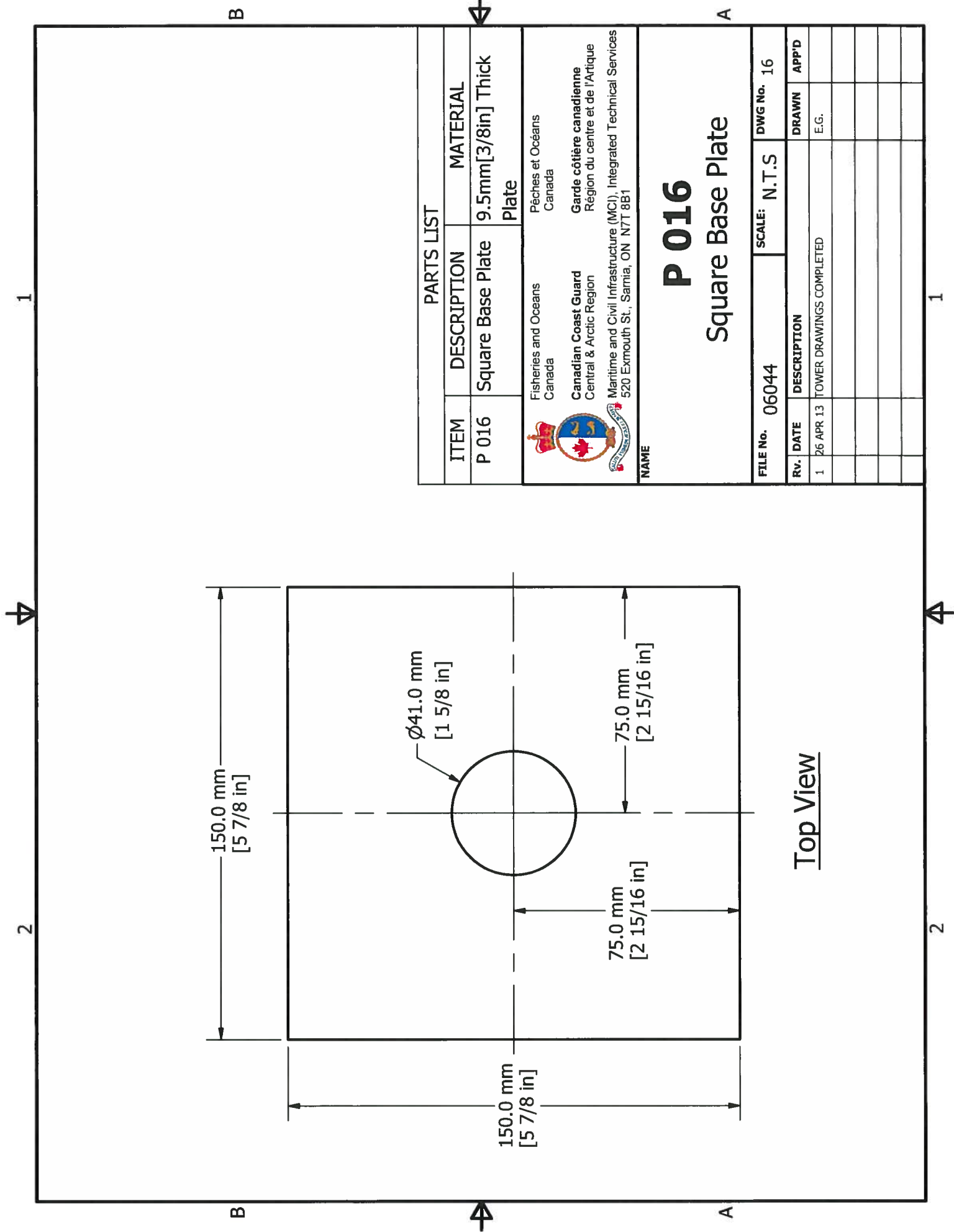
Fisheries and Oceans
 Canada
 Pêches et Océans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Garde côtière canadienne
 Région du centre et de l'Arctique
 Maritime and Civil Infrastructure (MC), Integrated Technical Services
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P 014
Base Ring

FILE No.	06044	SCALE:	N.T.S	DWG No.	14
Rv.	DATE	DESCRIPTION		DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED		E.G.	



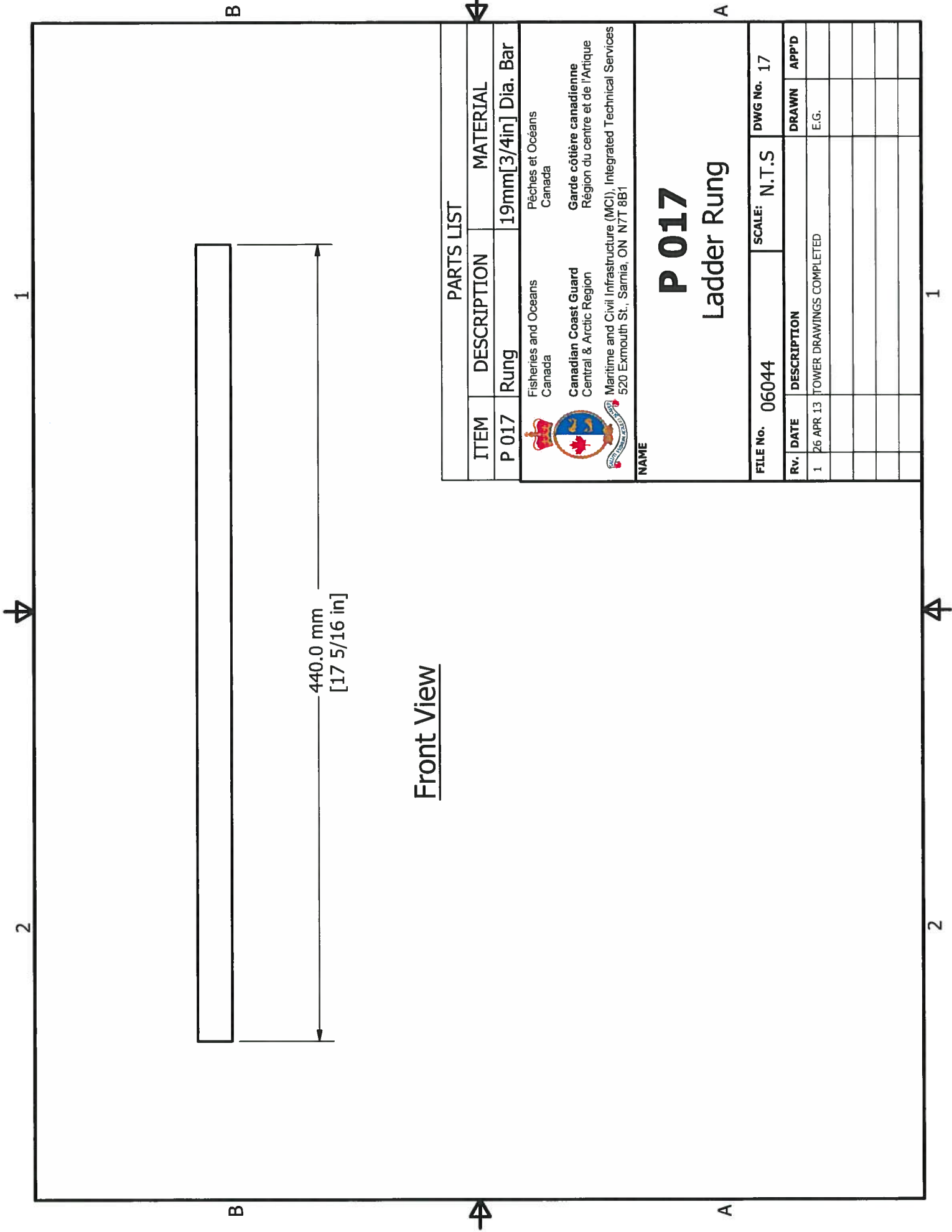
PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 015	Base Gusset	9.5mm[3/8in] Thick Plate
 Fisheries and Oceans Canada Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		
NAME <h1 style="text-align: center;">P 015</h1> <h2 style="text-align: center;">Base Gusset</h2>		
FILE No. 06044		SCALE: N.T.S
RV. DATE 26 APR 13		DWG No. 15
DESCRIPTION TOWER DRAWINGS COMPLETED		DRAWN
		APP'D E.G.




PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 016	Square Base Plate	9.5mm[3/8in] Thick Plate
Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Maritime and Civil Infrastructure (MC), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		

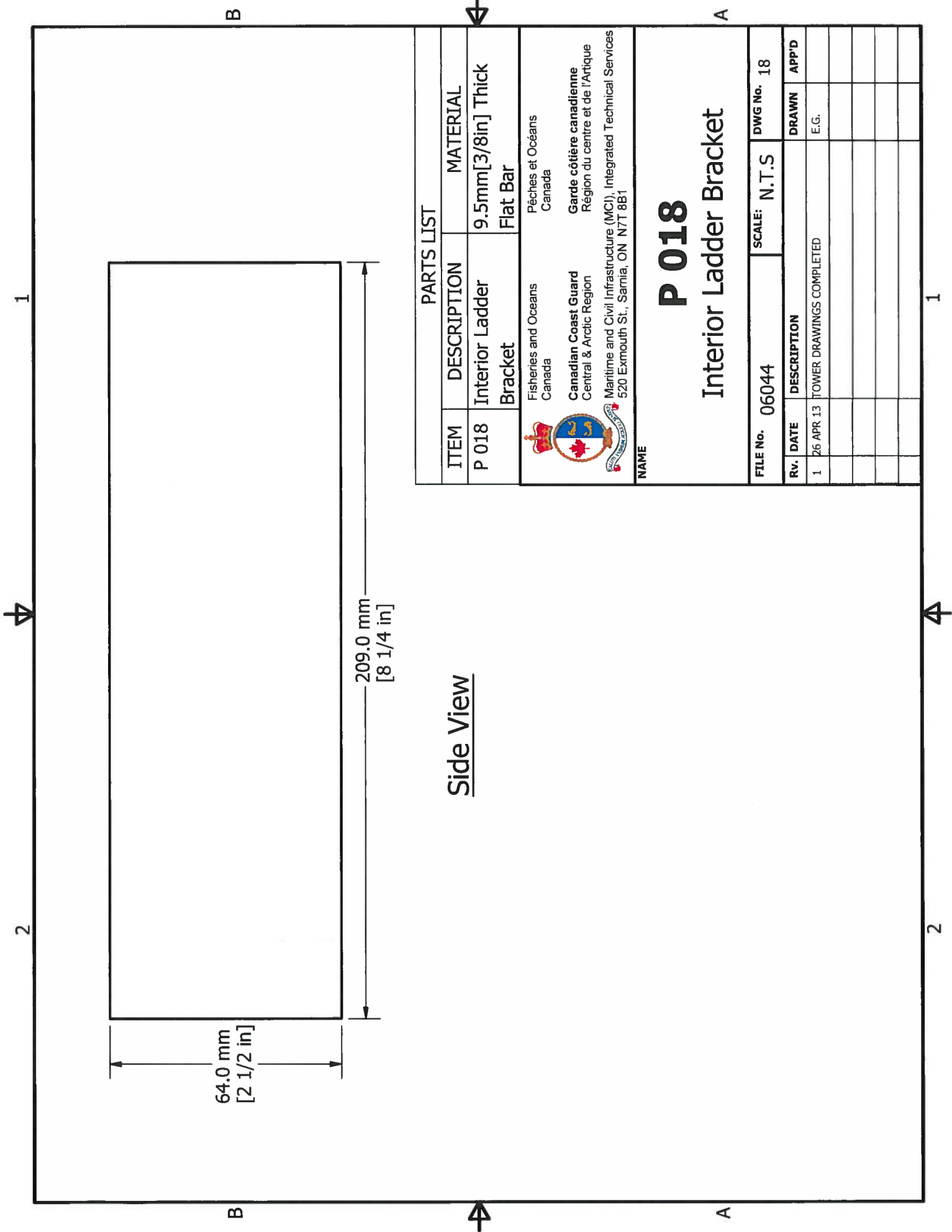
NAME P 016 Square Base Plate			
FILE No. 06044	SCALE: N.T.S		
DWG No. 16			
RV. DATE	DESCRIPTION	DRAWN	APP'D
1 26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

Top View




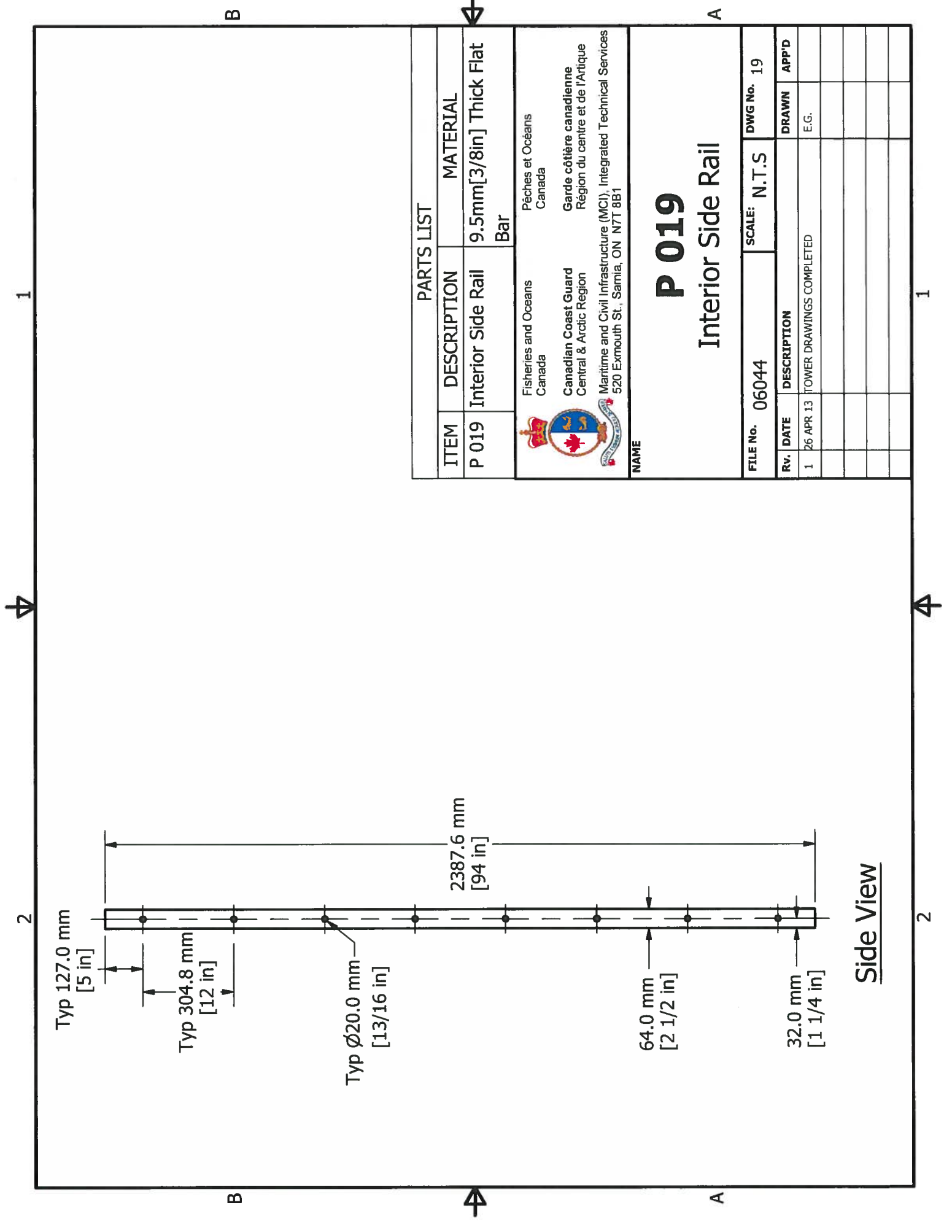
Front View

PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 017	Rung	19mm[3/4in] Dia. Bar		
 Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
P 017 Ladder Rung				
FILE No.	06044	SCALE: N.T.S		
DWG No.	17			
RV.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	




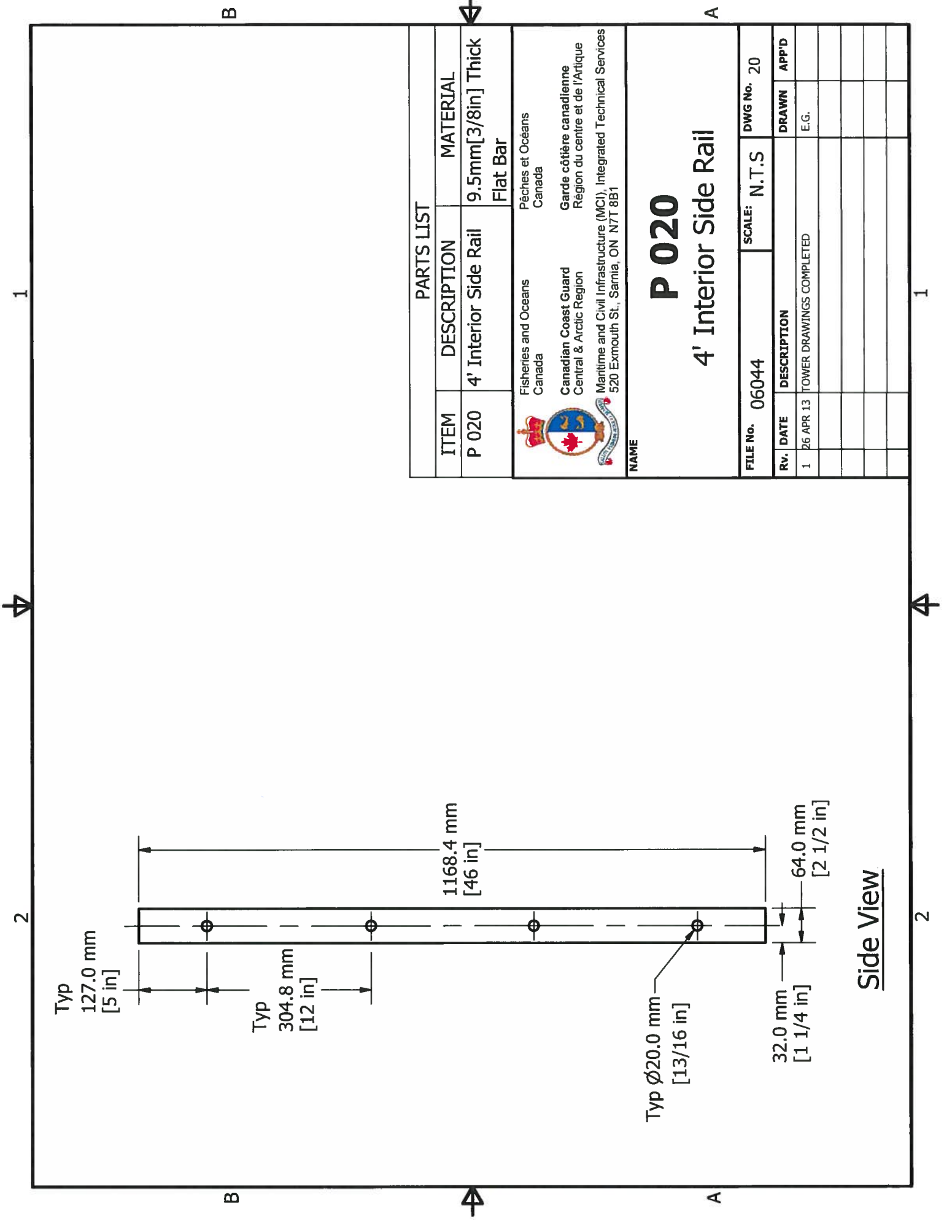
Side View

PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 018	Interior Ladder Bracket	9.5mm[3/8in] Thick Flat Bar		
				
Fisheries and Oceans Canada Pêches et Océans Canada				
Canadian Coast Guard Central & Arctic Region Garde côtière canadienne Région du centre et de l'Arctique				
Maritime and Civil Infrastructure (MC), Integrated Technical Services 520 Exmouth St., Samia, ON N7T 8B1				
NAME				
<h1>P 018</h1> <h2>Interior Ladder Bracket</h2>				
FILE No.	06044	SCALE: N.T.S		
DWG No.	18			
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	



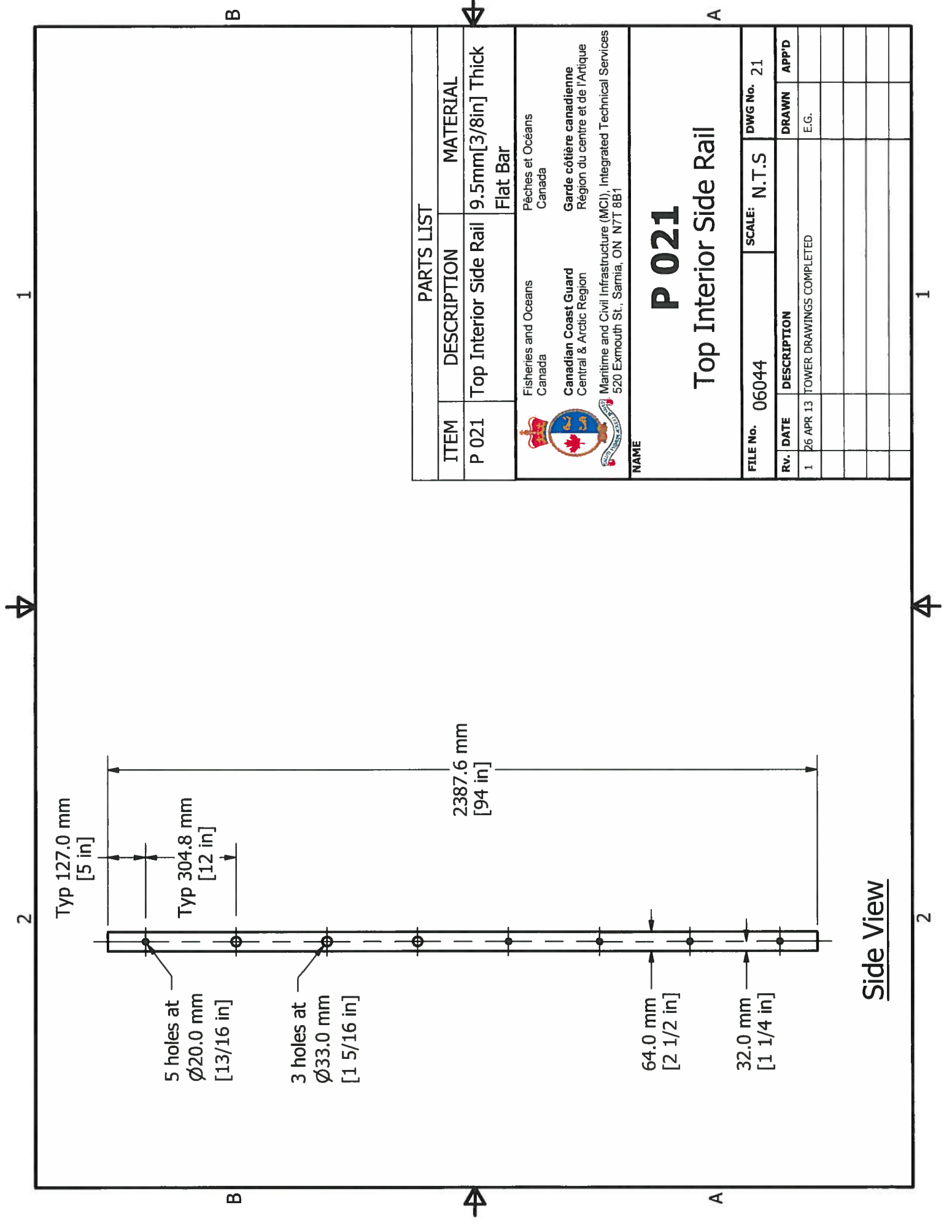
Side View

PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 019	Interior Side Rail	9.5mm[3/8in] Thick Flat Bar		
 Fisheries and Oceans Canada Pêches et Océans Canada Canadian Coast Guard Central & Arctic Region Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Samia, ON N7T 8B1				
NAME				
<h1>P 019</h1> <h2>Interior Side Rail</h2>				
FILE No.	06044	SCALE: N.T.S		
DWG No.	19			
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	




Side View

PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 020	4' Interior Side Rail	9.5mm[3/8in] Thick Flat Bar		
Fisheries and Oceans Canada Pêches et Océans Canada Canadian Coast Guard Central & Arctic Region Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MC), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
NAME <h1 style="text-align: center;">P 020</h1> <h2 style="text-align: center;">4' Interior Side Rail</h2>				
FILE No.	06044	SCALE: N.T.S		
DWG No.	20			
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 021	Top Interior Side Rail	9.5mm[3/8in] Thick Flat Bar


 Fisheries and Oceans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

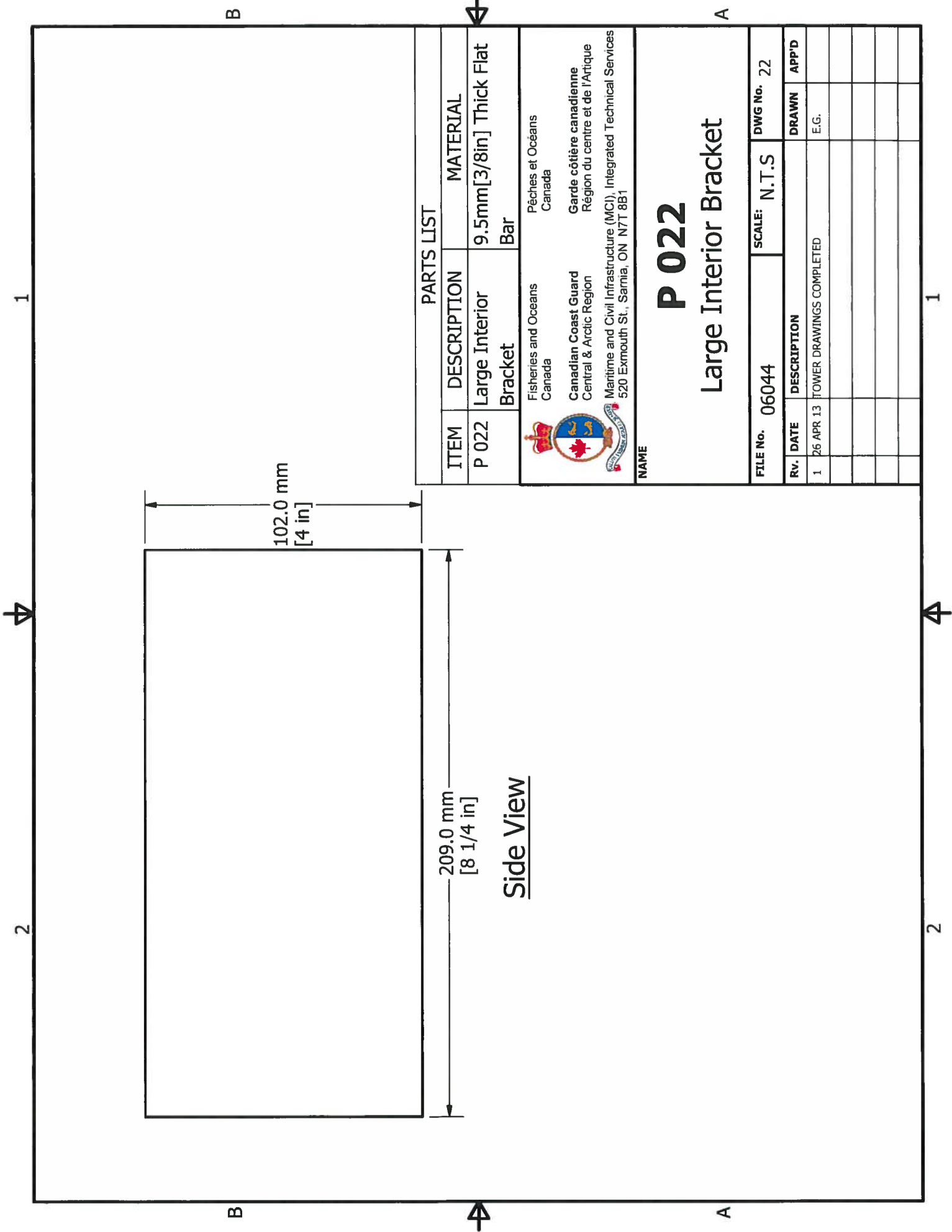
Pêches et Océans
 Canada
 Garde côtière canadienne
 Région du centre et de l'Arctique

P 021

Top Interior Side Rail


NAME

FILE No.	06044	SCALE:	N.T.S	DWG No.	21
RV. DATE	1 26 APR 13	DESCRIPTION	TOWER DRAWINGS COMPLETED		
			DRAWN	APP'D	
				E.G.	



PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 022	Large Interior Bracket	9.5mm[3/8in] Thick Flat Bar


 Fisheries and Oceans
 Canada
 Gardes côtière canadienne
 Région du centre et de l'Arctique
 Maritime and Civil Infrastructure (MC), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

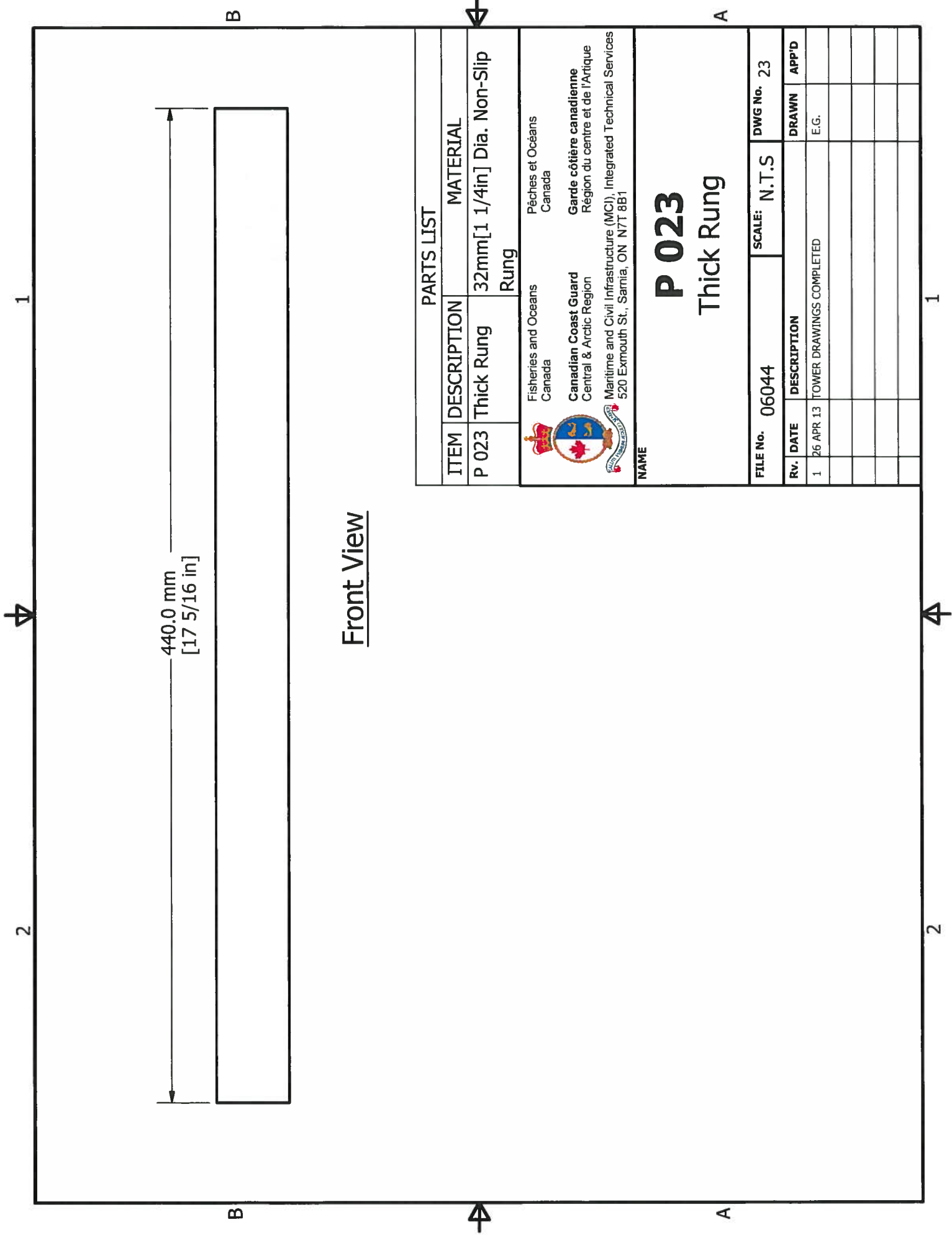
NAME

P 022

Large Interior Bracket


FILE No. 06044		SCALE: N.T.S	DWG No. 22
Rv.	DATE	DESCRIPTION	DRAWN APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.

Side View



440.0 mm
[17 5/16 in]

Front View

PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 023	Thick Rung	32mm[1 1/4in] Dia. Non-Slip Rung		
 Fisheries and Oceans Canada Pêches et Océans Canada Canadian Coast Guard Central & Arctic Region Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
NAME				
<h1>P 023</h1> <h2>Thick Rung</h2>				
FILE No.	06044	SCALE: N.T.S		
		DWG No. 23		
RV.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

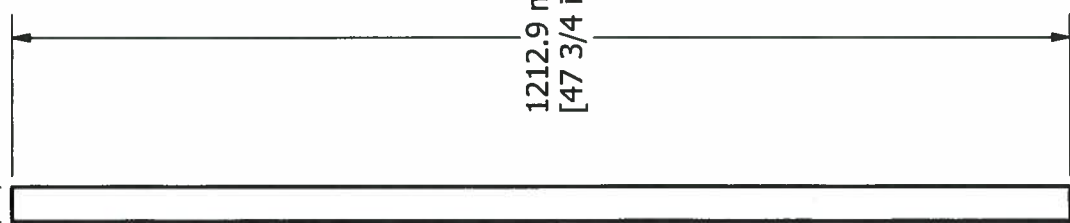
1

B



A

40.0 mm
[1 9/16 in]



1212.9 mm
[47 3/4 in]

Front View

2

B



A

2

PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 025	Sign Flat Bar	6mm[1/4in] Thick Flat Bar

Fisheries and Oceans
Canada

Pêches et Océans
Canada

Canadian Coast Guard
Central & Arctic Region

Garde côtière canadienne
Région du centre et de l'Arctique

Maritime and Civil Infrastructure (MCI), Integrated Technical Services
520 Exmouth St., Sarnia, ON N7T 8B1



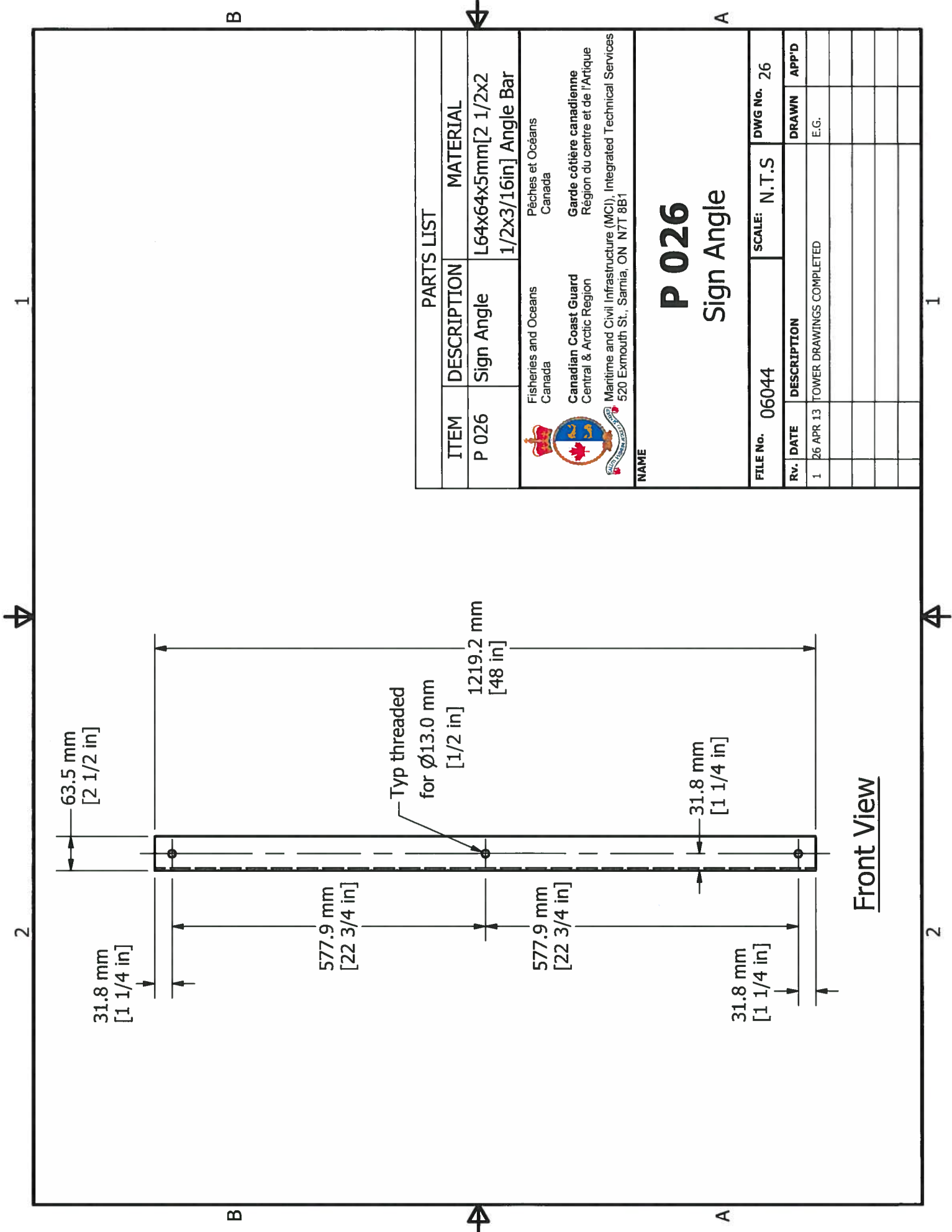
NAME

P 025

Sign Flat Bar

FILE No.	06044	SCALE:	N.T.S	DWG No.	25
Rv.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		

1



PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 026	Sign Angle	L64x64x5mm[2 1/2x2 1/2x3/16in] Angle Bar

Fisheries and Oceans
Canada

Canadian Coast Guard
Central & Arctic Region

Pêches et Océans
Canada

Garde côtière canadienne
Région du centre et de l'Arctique

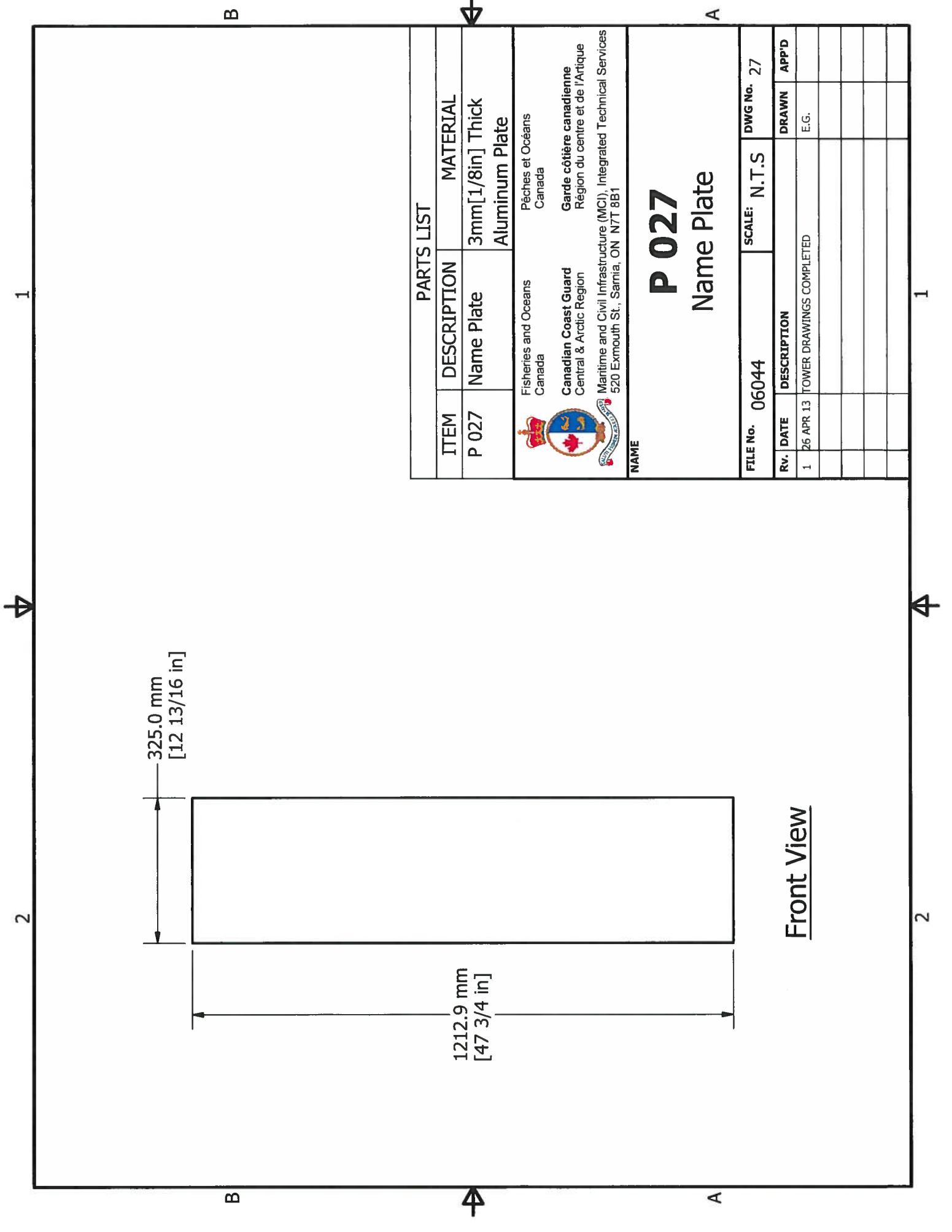
Maritime and Civil Infrastructure (MCI), Integrated Technical Services
520 Exmouth St., Sarnia, ON N7T 8B1

P 026
Sign Angle

FILE No.	06044	SCALE:	N.T.S	DWG No.	26
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Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

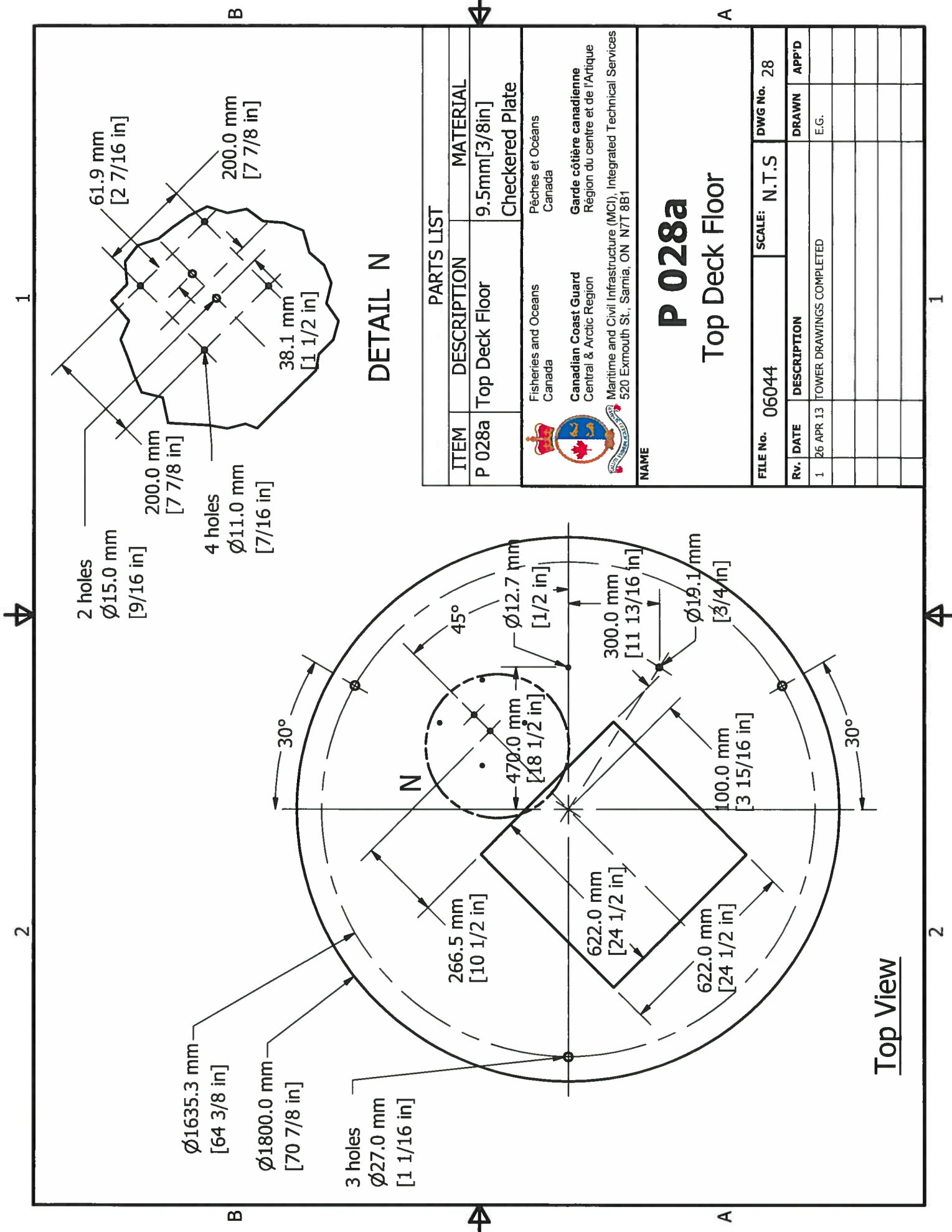
Front View




PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 027	Name Plate	3mm[1/8in] Thick Aluminum Plate
Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		

P 027
Name Plate

FILE No.	06044	SCALE:	N.T.S	DWG No.	27
Rv.	DATE	DESCRIPTION		DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED		E.G.	



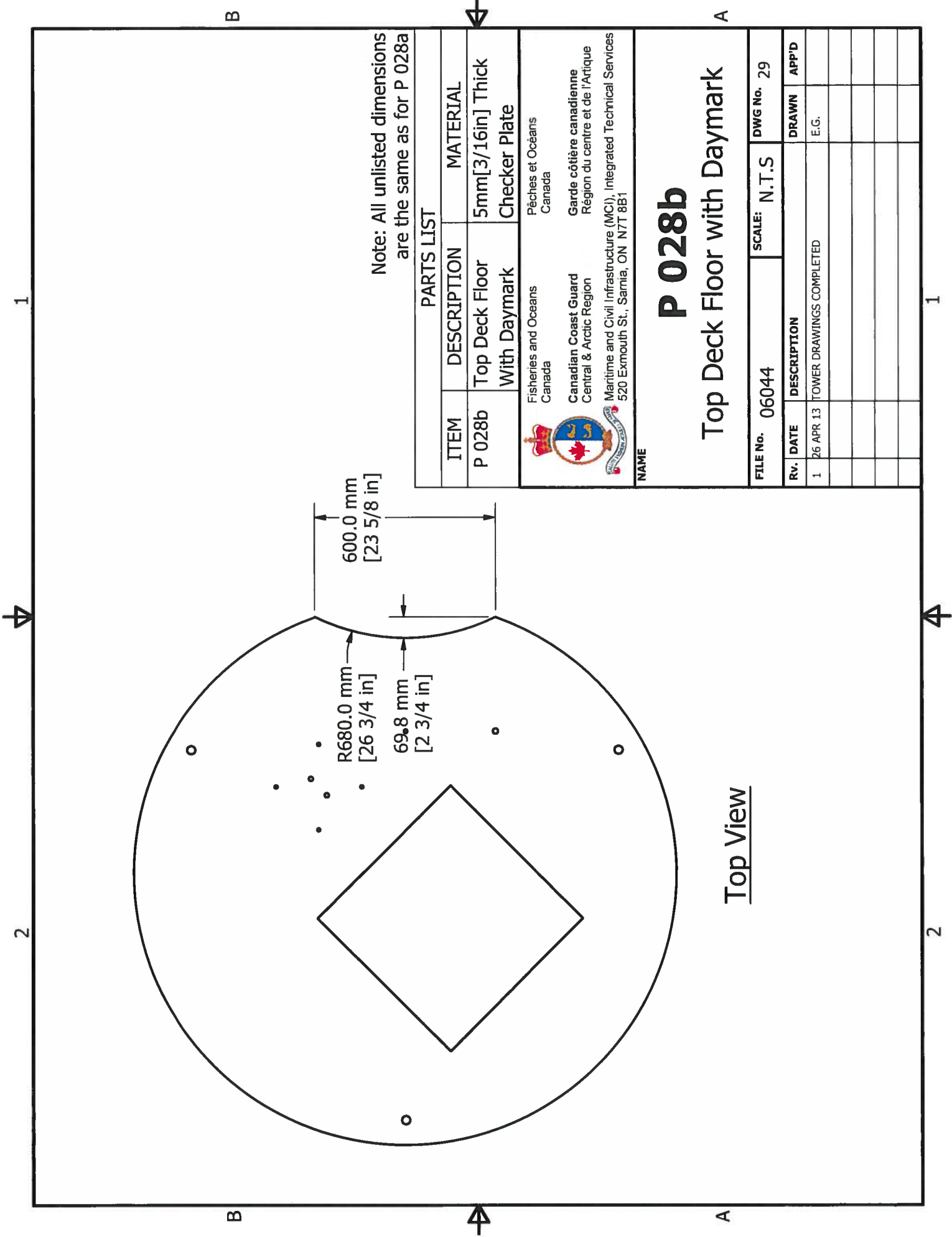
PARTS LIST		MATERIAL
ITEM	DESCRIPTION	
P 028a	Top Deck Floor	9.5mm[3/8in] Checkered Plate



 Fisheries and Oceans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Pêches et Océans
 Canada
 Garde côtière canadienne
 Région du centre et de l'Arctique
 Maritime and Civil Infrastructure (MC), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

P 028a
Top Deck Floor
 FILE NO. 06044 SCALE: N.T.S. DWG No. 28

Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

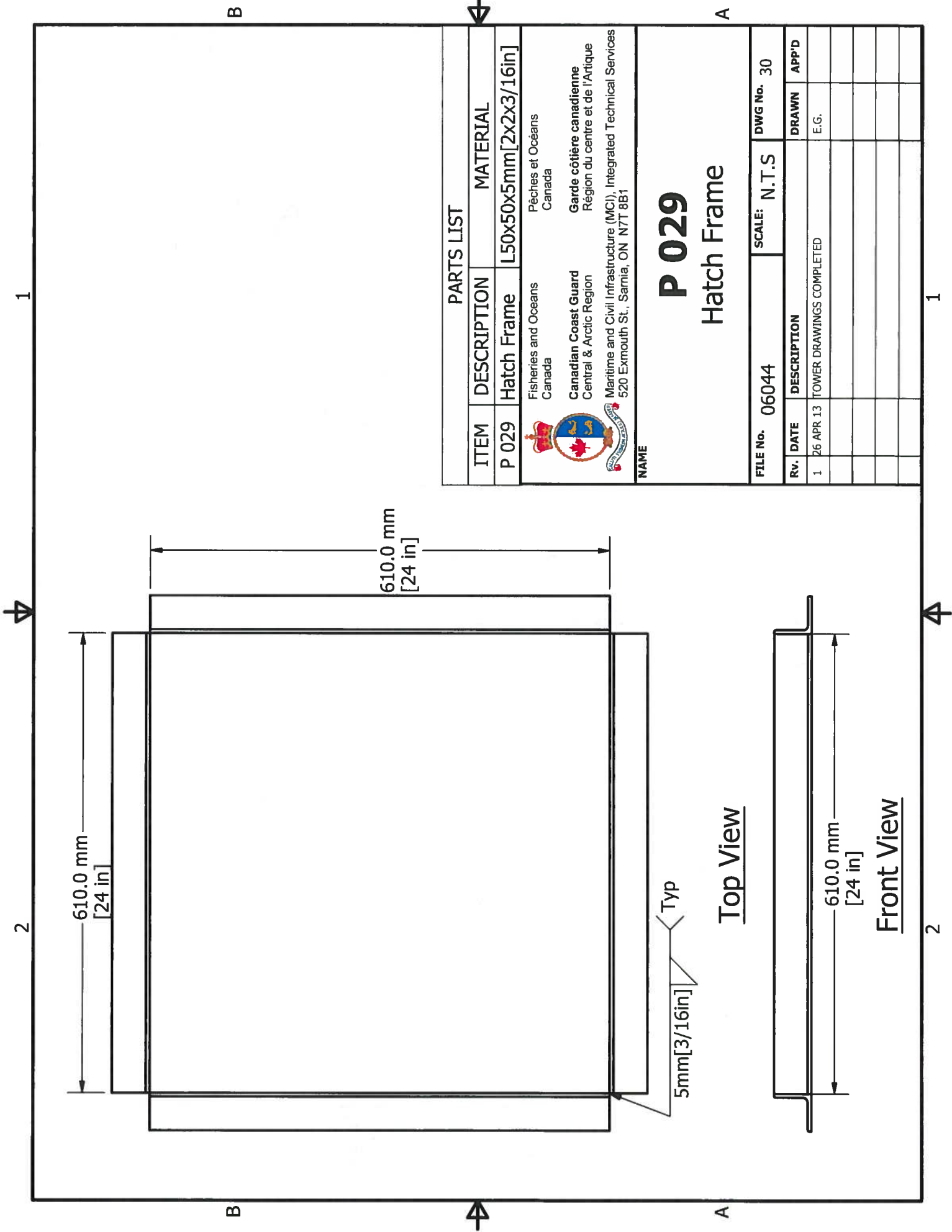



P 028b

Top Deck Floor with Daymark

FILE No.	06044	SCALE:	N.T.S	DWG No.	29
Rv.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		

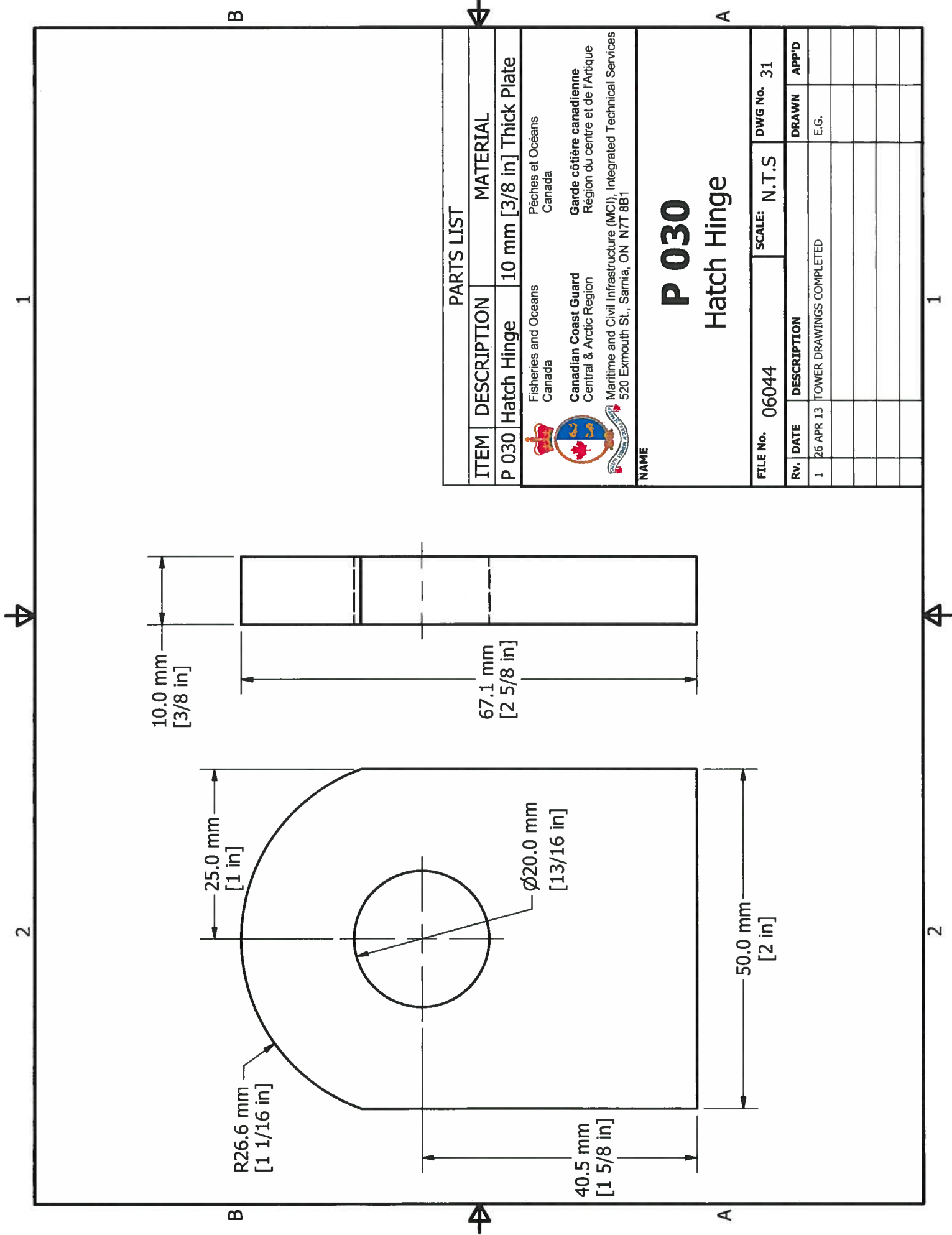
Top View





PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 029	Hatch Frame	L50x50x5mm [2x2x3/16in]
 Fisheries and Oceans Canada		
Canadian Coast Guard Central & Arctic Region Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		
Pêches et Océans Canada Garde côtière canadienne Région du centre et de l'Arctique		

P 029
Hatch Frame

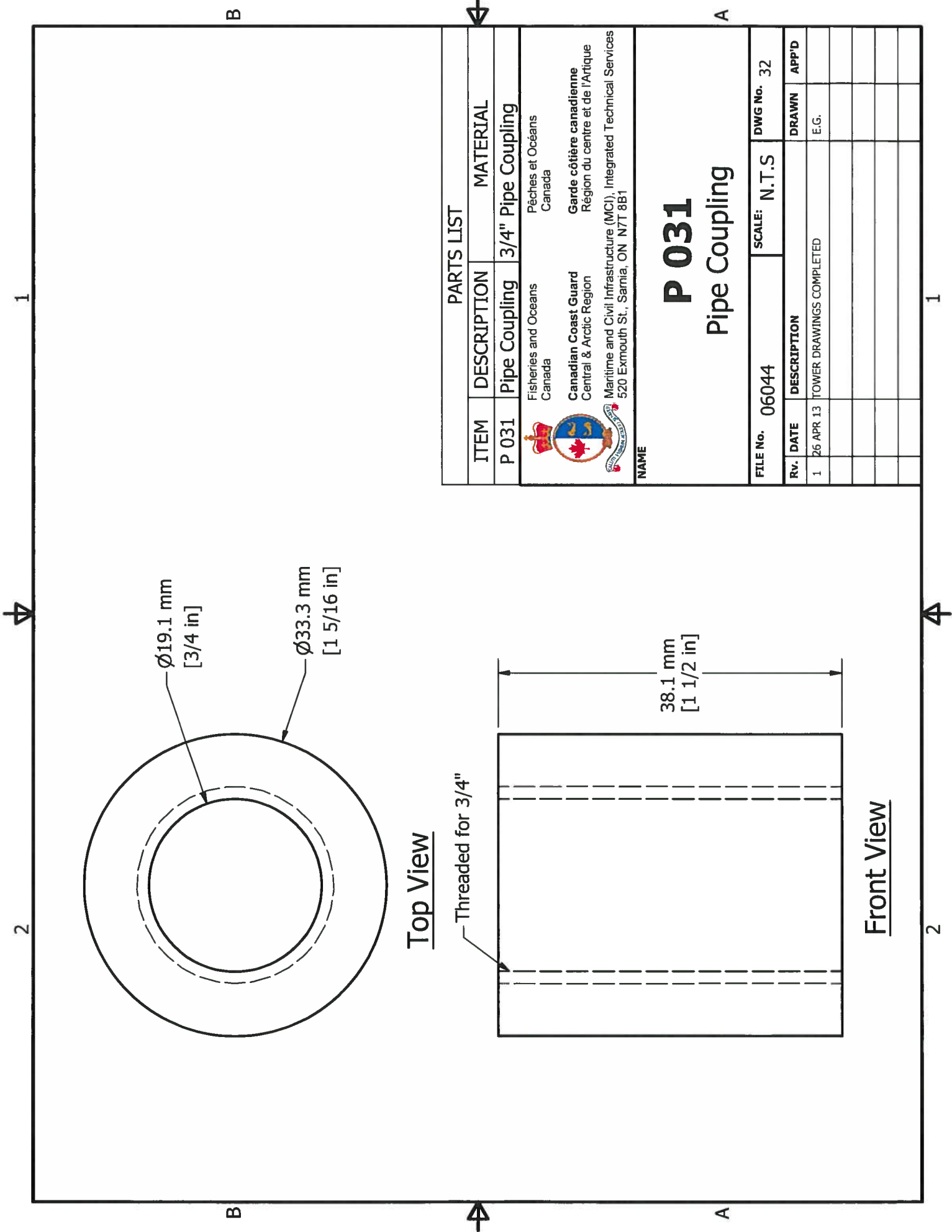
FILE No.	06044	SCALE:	N.T.S	DWG No.	30
Rv.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		



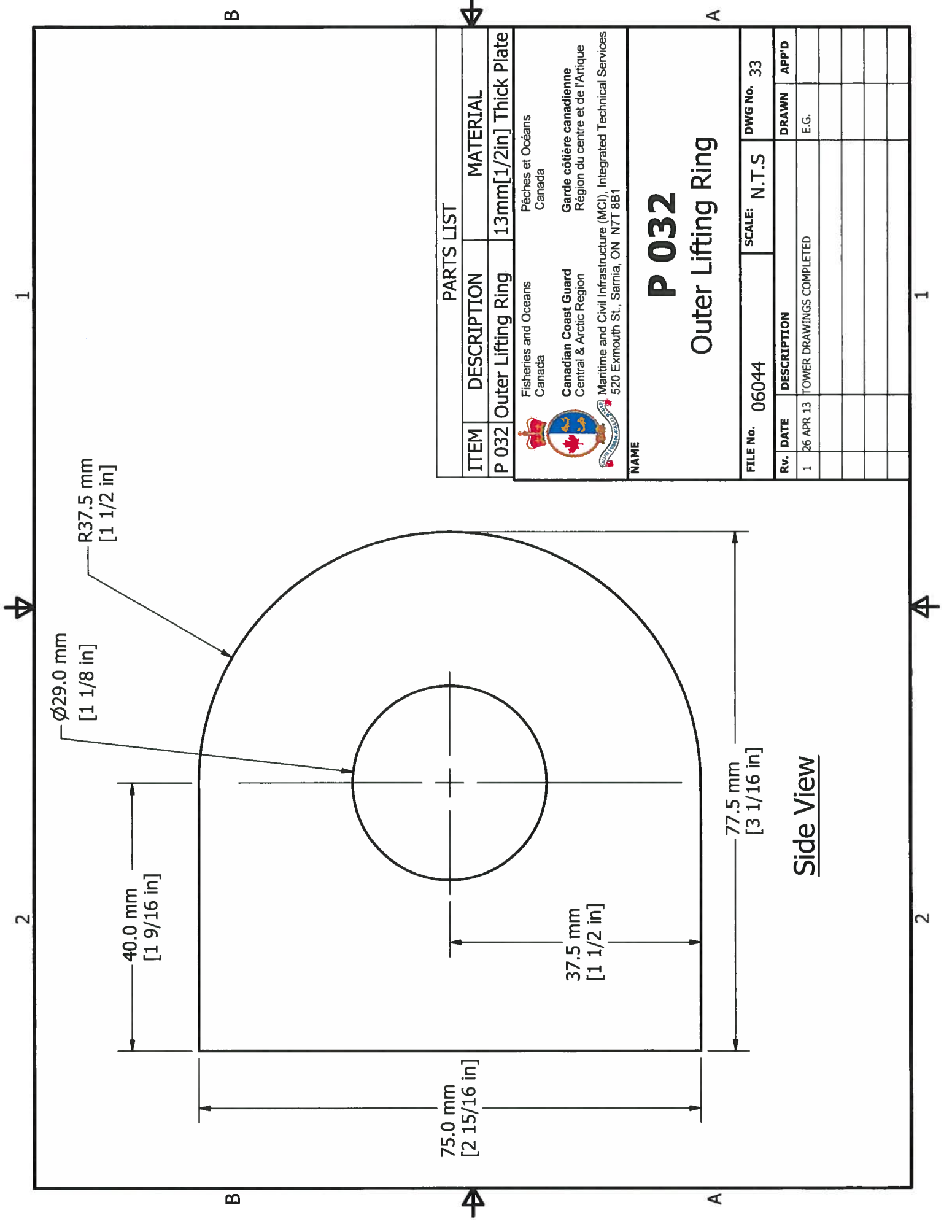
PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 030	Hatch Hinge	10 mm [3/8 in] Thick Plate

 Fisheries and Oceans Canada	Pêches et Océans Canada
 Canadian Coast Guard Central & Arctic Region	Garde côtière canadienne Région du centre et de l'Arctique
Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1	


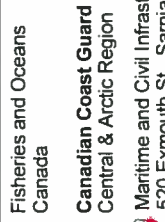
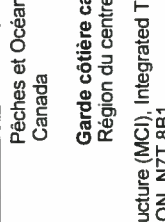
<h1 style="margin: 0;">P 030</h1> <h2 style="margin: 0;">Hatch Hinge</h2>			
FILE No. 06044	SCALE: N.T.S	DWG No. 31	
RV. DATE	DESCRIPTION	DRAWN	APP'D
1 26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

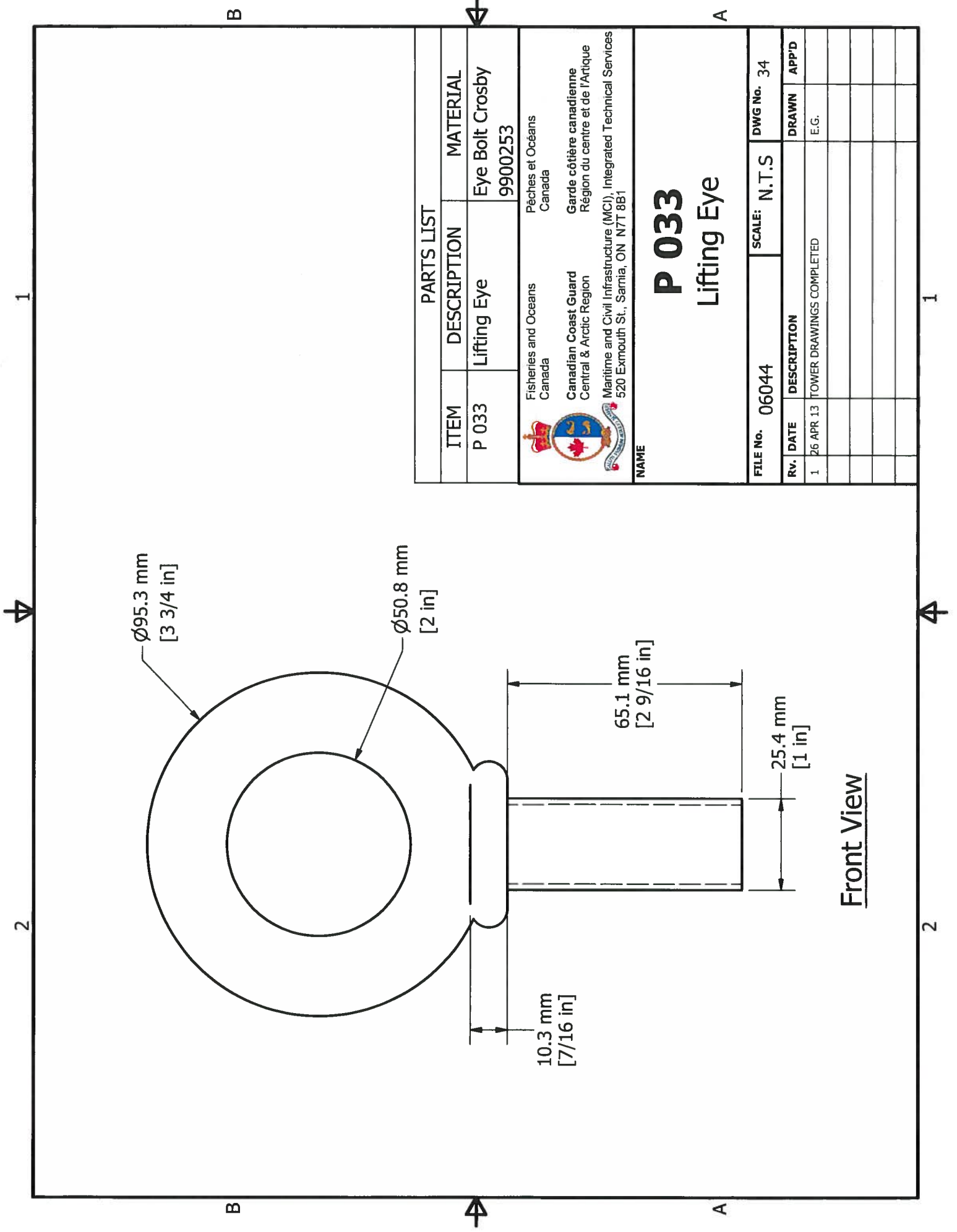



PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 031	Pipe Coupling	3/4" Pipe Coupling		
Fisheries and Oceans Canada Pêches et Océans Canada Canadian Coast Guard Central & Arctic Region Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MC), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
NAME <h1 style="text-align: center;">P 031</h1> <h2 style="text-align: center;">Pipe Coupling</h2>				
FILE No.	06044	SCALE: N.T.S		
DWG No.	32			
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	



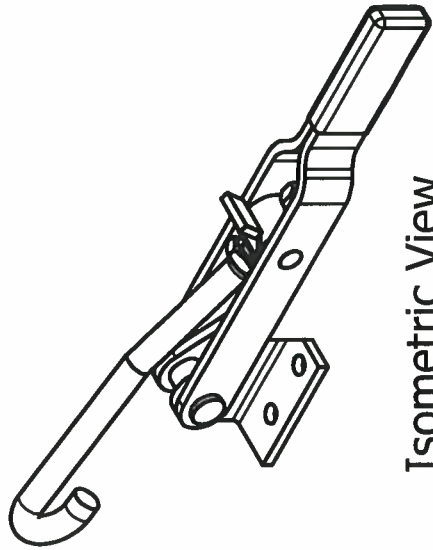
Side View

PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 032	Outer Lifting Ring	13mm[1/2in] Thick Plate		
 Fisheries and Oceans Canada		Pêches et Océans Canada		
 Canadian Coast Guard Central & Arctic Region		Garde côtière canadienne Région du centre et de l'Arctique		
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
NAME <h1 style="text-align: center;">P 032</h1> <h2 style="text-align: center;">Outer Lifting Ring</h2>				
FILE No.	06044	SCALE: N.T.S		
		DWG No. 33		
RV.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	



PARTS LIST		MATERIAL	
ITEM	DESCRIPTION		
P 033	Lifting Eye	Eye Bolt Crosby	9900253
		Pêches et Océans Canada Garde côtière canadienne Région du centre et de l'Arctique	
NAME: P 033 Lifting Eye FILE No. 06044 SCALE: N.T.S DWG No. 34 Rv. DATE DESCRIPTION DRAWN APP'D 1 26 APR 13 TOWER DRAWINGS COMPLETED E.G.			

1

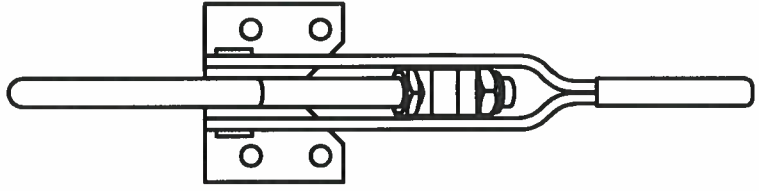


Isometric View

B



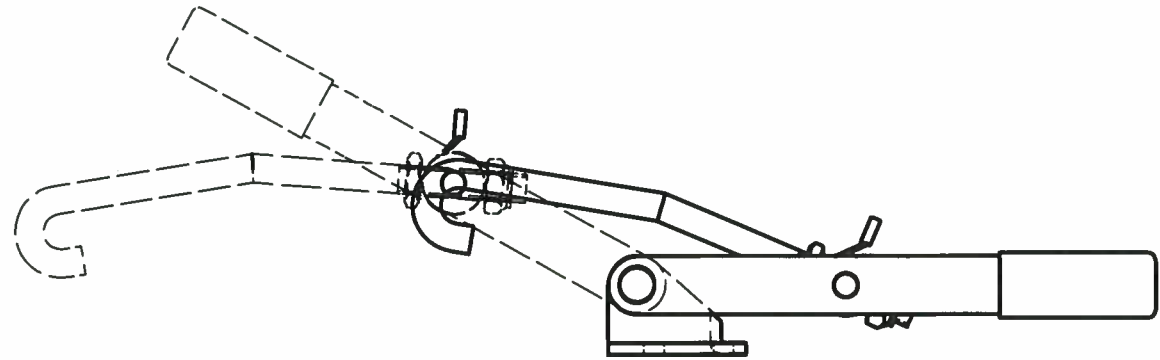
A



Front View



2





Side View

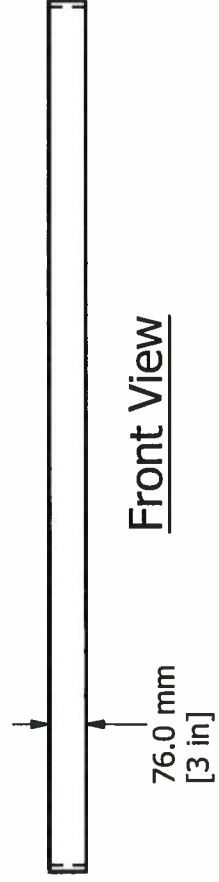
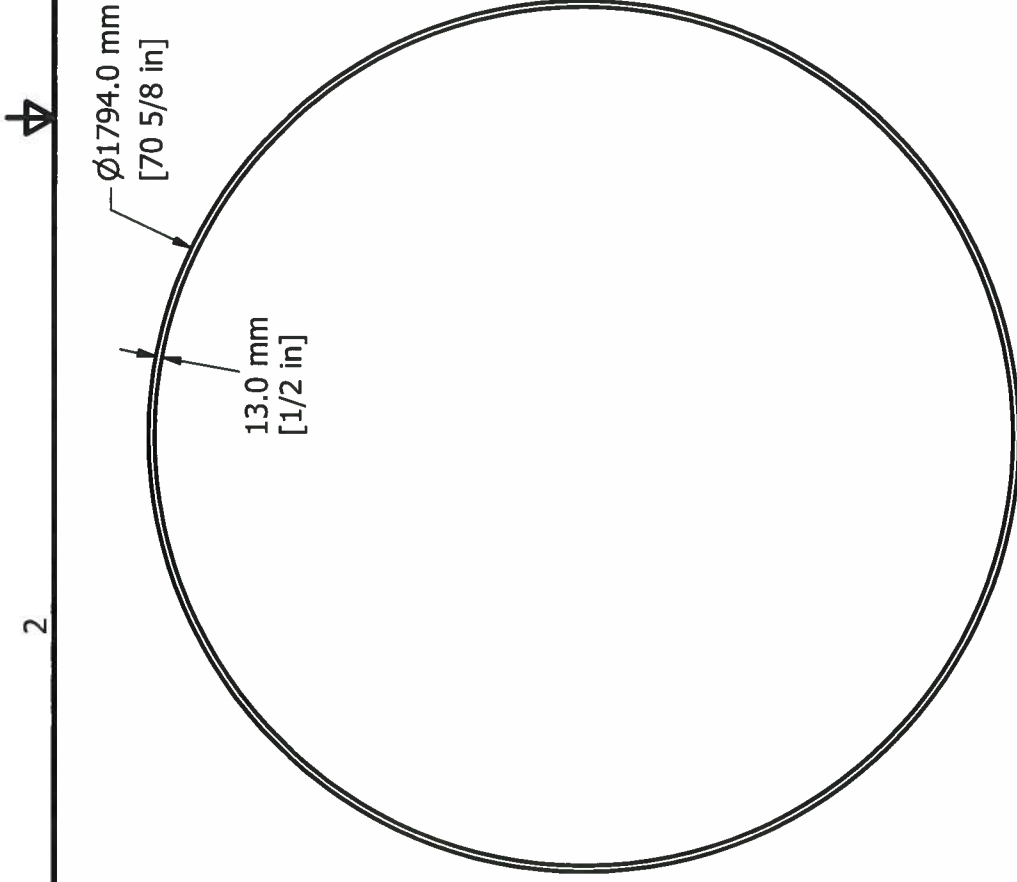
B


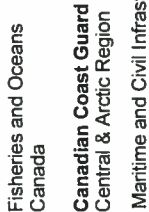


A

2

PARTS LIST		MATERIAL		
P 034	Hatch Clamp	De-Sta-Co Adjustable J-Hook Latch Pull-Action Toggle Clamp Model No. 351		
 Fisheries and Oceans Canada		Pêches et Océans Canada		
 Canadian Coast Guard Central & Arctic Region		Garde côtière canadienne Région du centre et de l'Arctique		
Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
NAME P 034 Hatch Clamp				
FILE No.	06044	SCALE: N.T.S		
FILE No.	06044	DWG No. 35		
RV.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR. 13	TOWER DRAWINGS COMPLETED	E.G.	



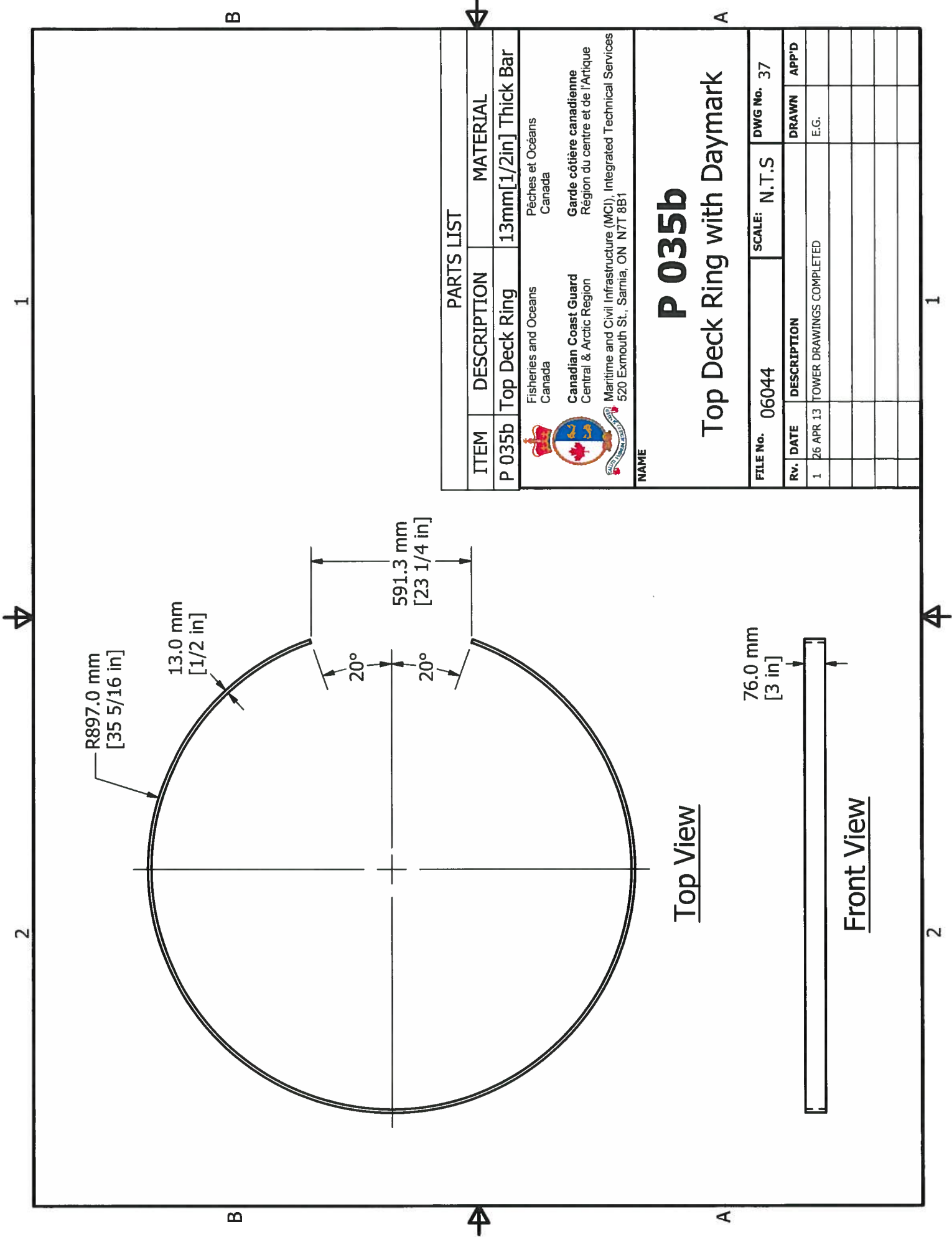
PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 035a	Top Deck Ring	13mm[1/2in]Thick Bar
 Fisheries and Oceans Canada		
 Canadian Coast Guard Central & Arctic Region		
Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		


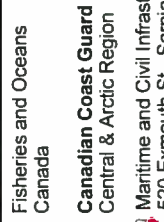
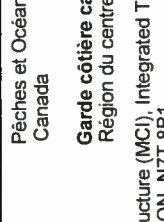
NAME

P 035a

Top Deck Ring

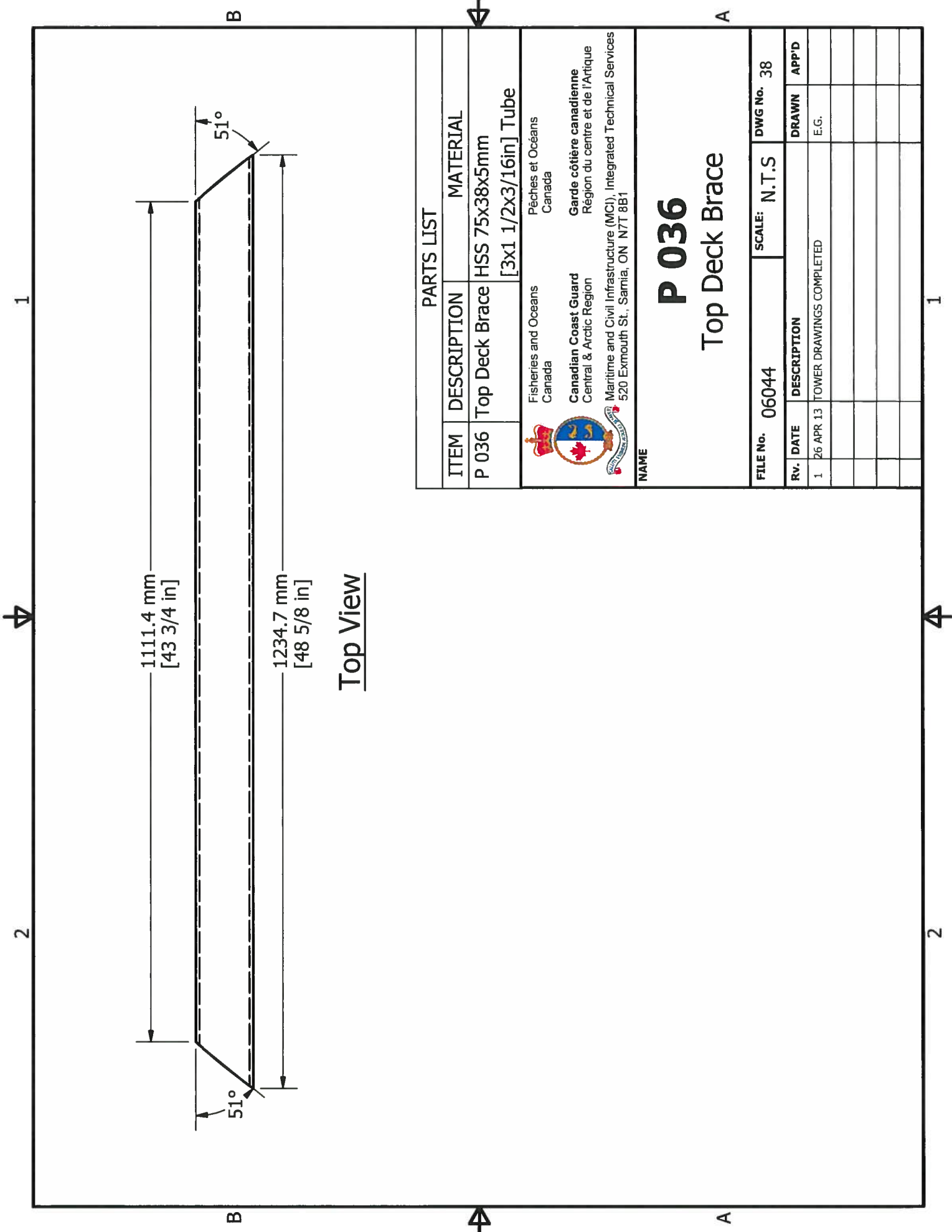
FILE No.	06044	SCALE:	N.T.S	DWG No.	36
Rv. DATE	DESCRIPTION	DRAWN	APP'D		
1	26 APR 13 TOWER DRAWINGS COMPLETED	E.G.			



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 035b	Top Deck Ring	13mm[1/2in] Thick Bar
 Fisheries and Oceans Canada		
 Canadian Coast Guard Central & Arctic Region		
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		

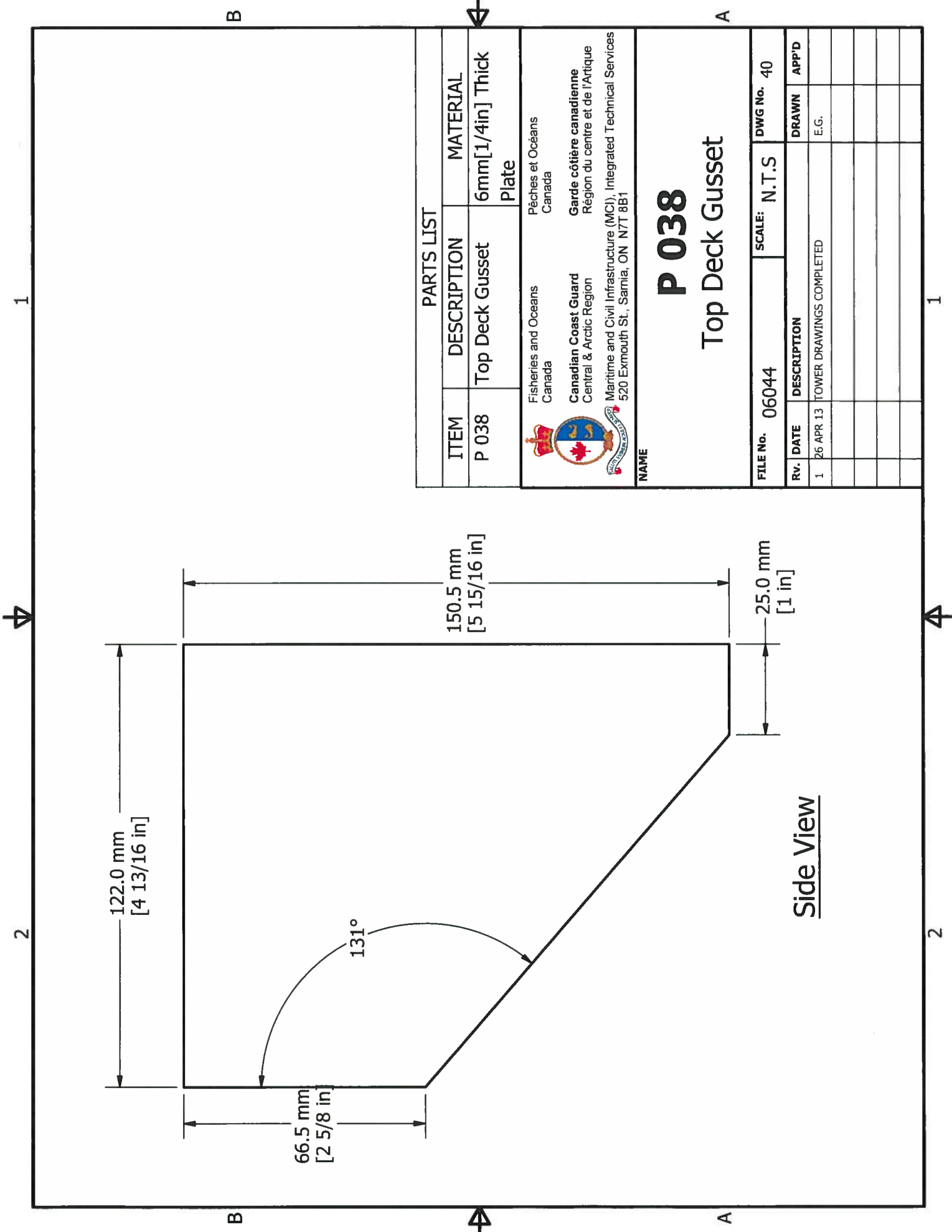
P 035b
Top Deck Ring with Daymark

FILE No.	06044	SCALE:	N.T.S	DWG No.	37
Rv.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		




Top View

PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 036	Top Deck Brace	HSS 75x38x5mm [3x1 1/2x3/16in] Tube
Fisheries and Oceans Canada Pêches et Océans Canada Canadian Coast Guard Central & Arctic Region Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		
NAME		
<h1>P 036</h1> <h2>Top Deck Brace</h2>		
FILE No. 06044	SCALE: N.T.S	DWG No. 38
Rv. DATE	DESCRIPTION	DRAWN APP'D
1 26 APR 13	TOWER DRAWINGS COMPLETED	E.G.



PARTS LIST

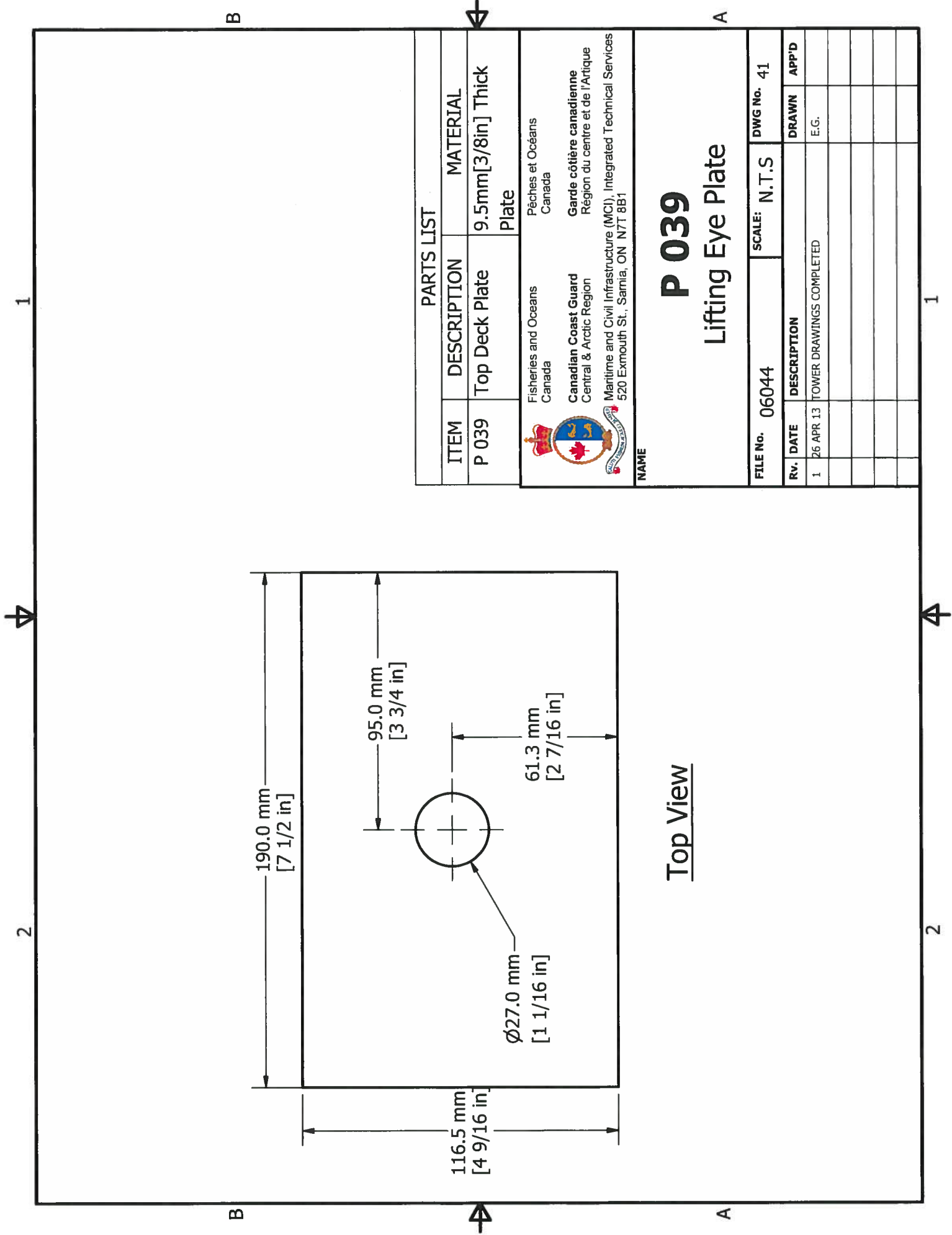
ITEM	DESCRIPTION	MATERIAL
P 038	Top Deck Gusset	6mm[1/4in] Thick Plate


 Fisheries and Oceans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Samia, ON N7T 8B1

NAME
P 038
Top Deck Gusset


FILE No. 06044		SCALE: N.T.S	DWG No. 40
Rv. DATE	DESCRIPTION	DRAWN	APP'D
1 26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

Side View



Top View

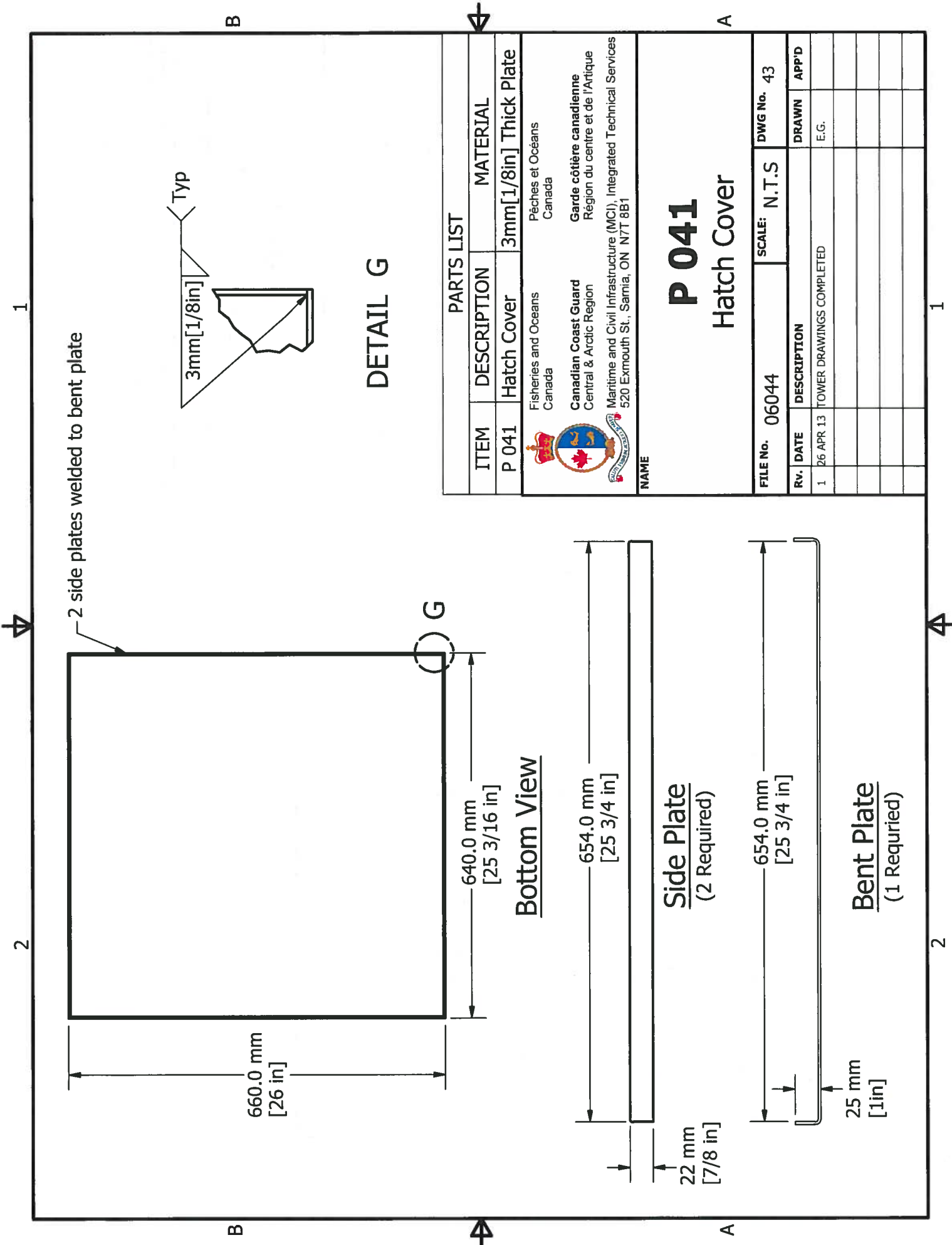
PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 039	Top Deck Plate	9.5mm[3/8in] Thick Plate


 Fisheries and Oceans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1
 Pêches et Océans
 Canada
 Garde côtière canadienne
 Région du centre et de l'Arctique

NAME

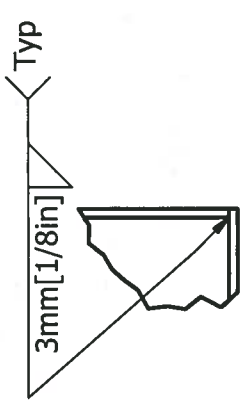
P 039
Lifting Eye Plate


FILE No.	06044	SCALE:	N.T.S	DWG No.	41
Rv.	DATE	DESCRIPTION		DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED		E.G.	



2 side plates welded to bent plate

DETAIL G

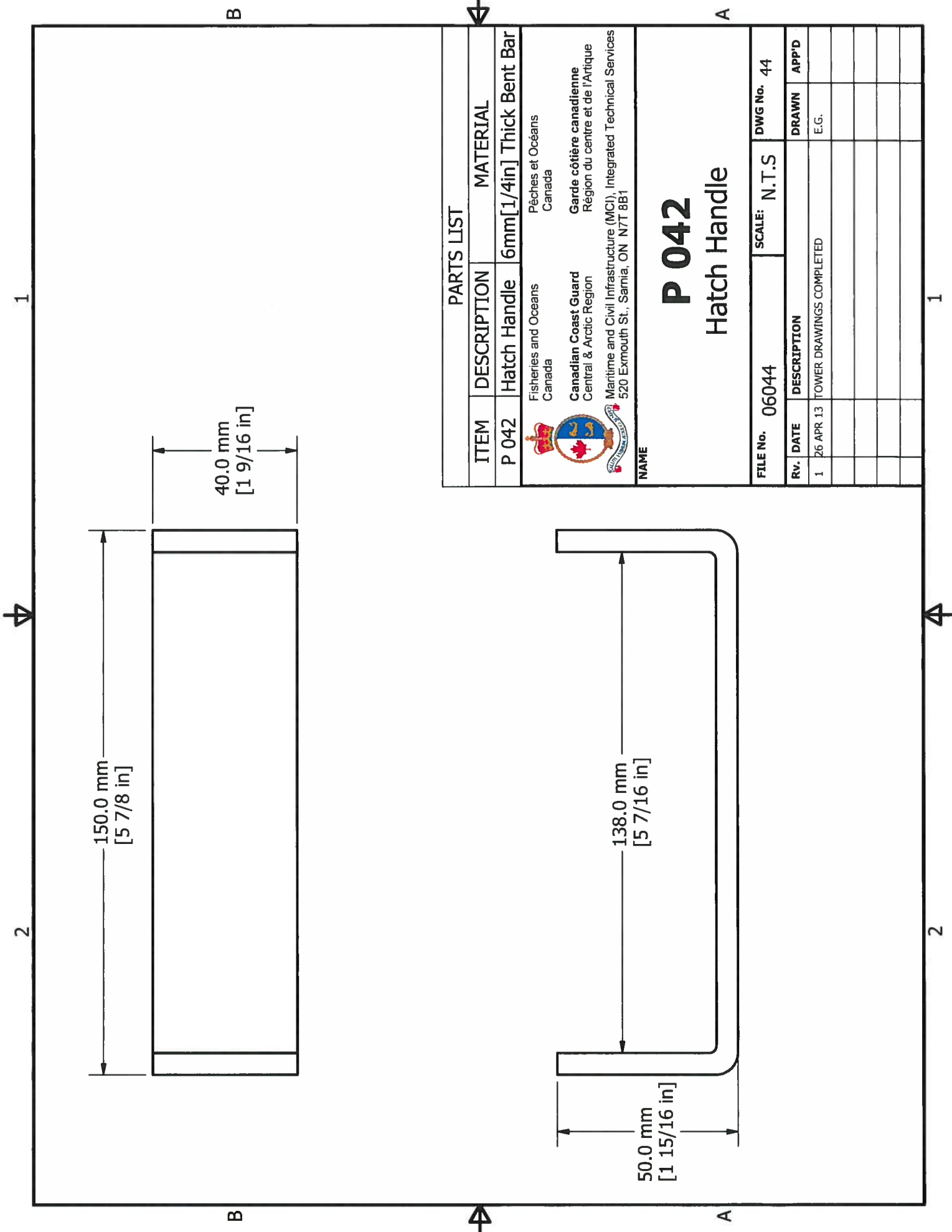


PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 041	Hatch Cover	3mm[1/8in] Thick Plate		
 Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
P 041 Hatch Cover				
FILE No.	06044	SCALE: N.T.S		
DWG No.	43			
RV.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	


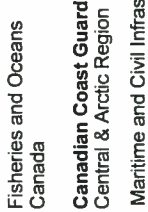
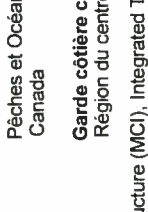
Side Plate
(2 Required)

Bent Plate
(1 Required)

Bottom View



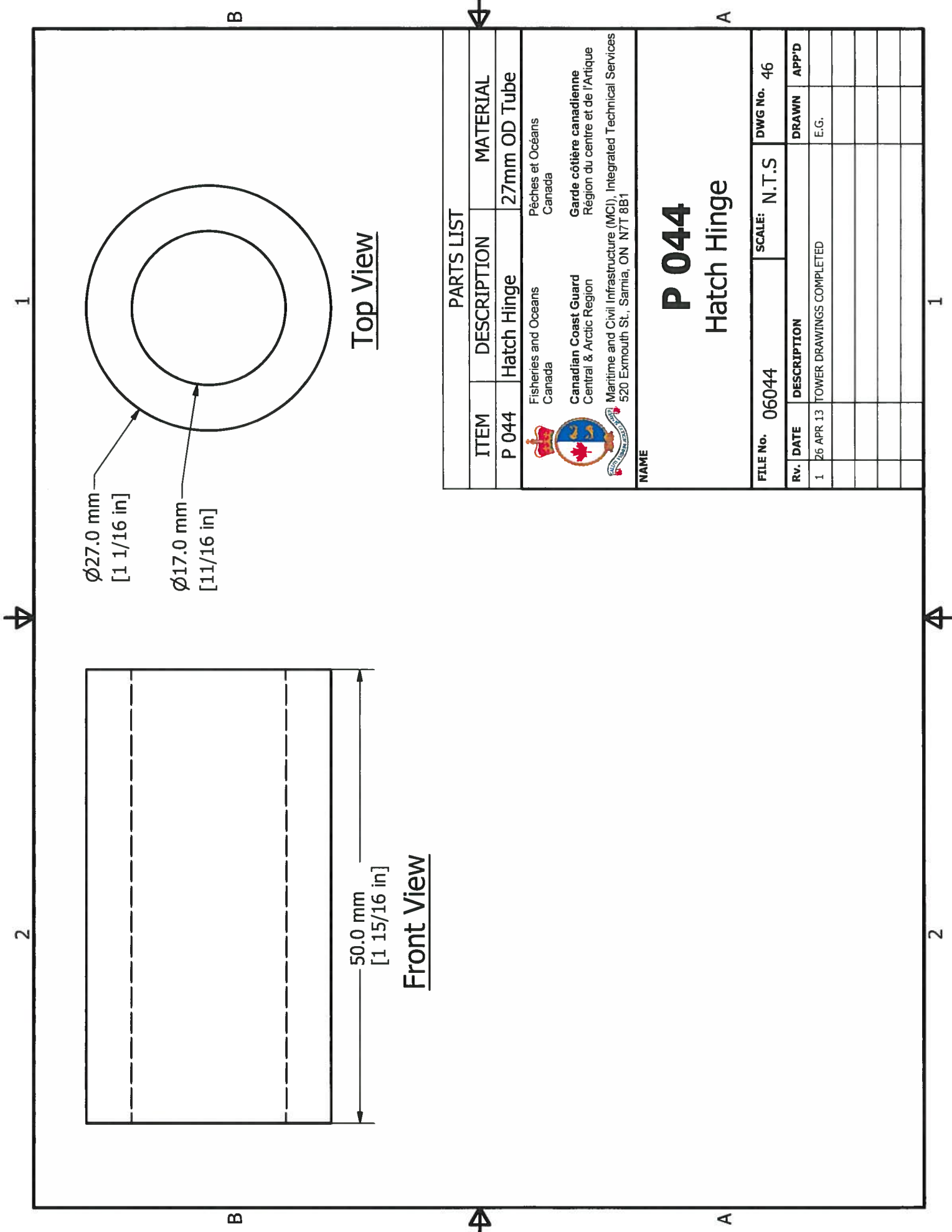
PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 042	Hatch Handle	6mm[1/4in] Thick Bent Bar
 Fisheries and Oceans Canada		Pêches et Océans Canada
 Canadian Coast Guard Central & Arctic Region		Garde côtière canadienne Région du centre et de l'Arctique
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		

NAME


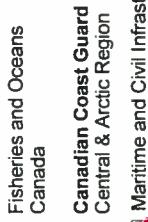
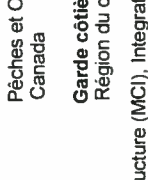
P 042
Hatch Handle

FILE No.	06044	SCALE:	N.T.S	DWG No.	44
Rv.	DATE	DESCRIPTION		DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED		E.G.	



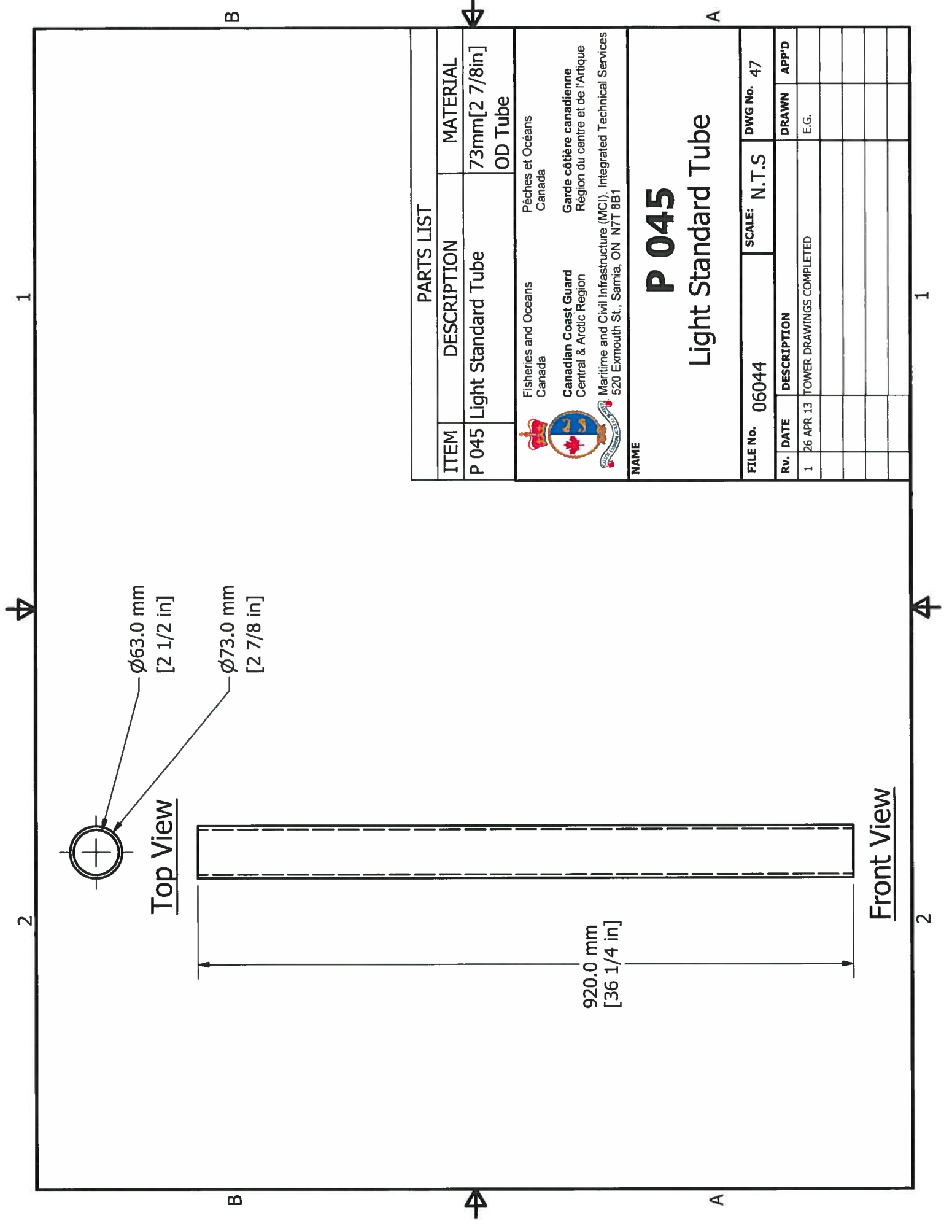
Top View

Front View

PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 044	Hatch Hinge	27mm OD Tube
 Fisheries and Oceans Canada		
 Canadian Coast Guard Central & Arctic Region		
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		

P 044
Hatch Hinge

FILE No.	06044	SCALE:	N.T.S	DWG No.	46
Rv.	DATE	DESCRIPTION		DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED		E.G.	



PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 045	Light Standard Tube	73mm[2 7/8in] OD Tube		
<p>Fisheries and Oceans Canada Pêches et Océans Canada</p> <p>Canadian Coast Guard Central & Arctic Region Garde côtière canadienne Région du centre et de l'Arctique</p> <p>Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1</p>				
<p>P 045 Light Standard Tube</p>				
FILE No.	06044	SCALE: N.T.S		
FILE No.	06044	DWG No. 47		
RV.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

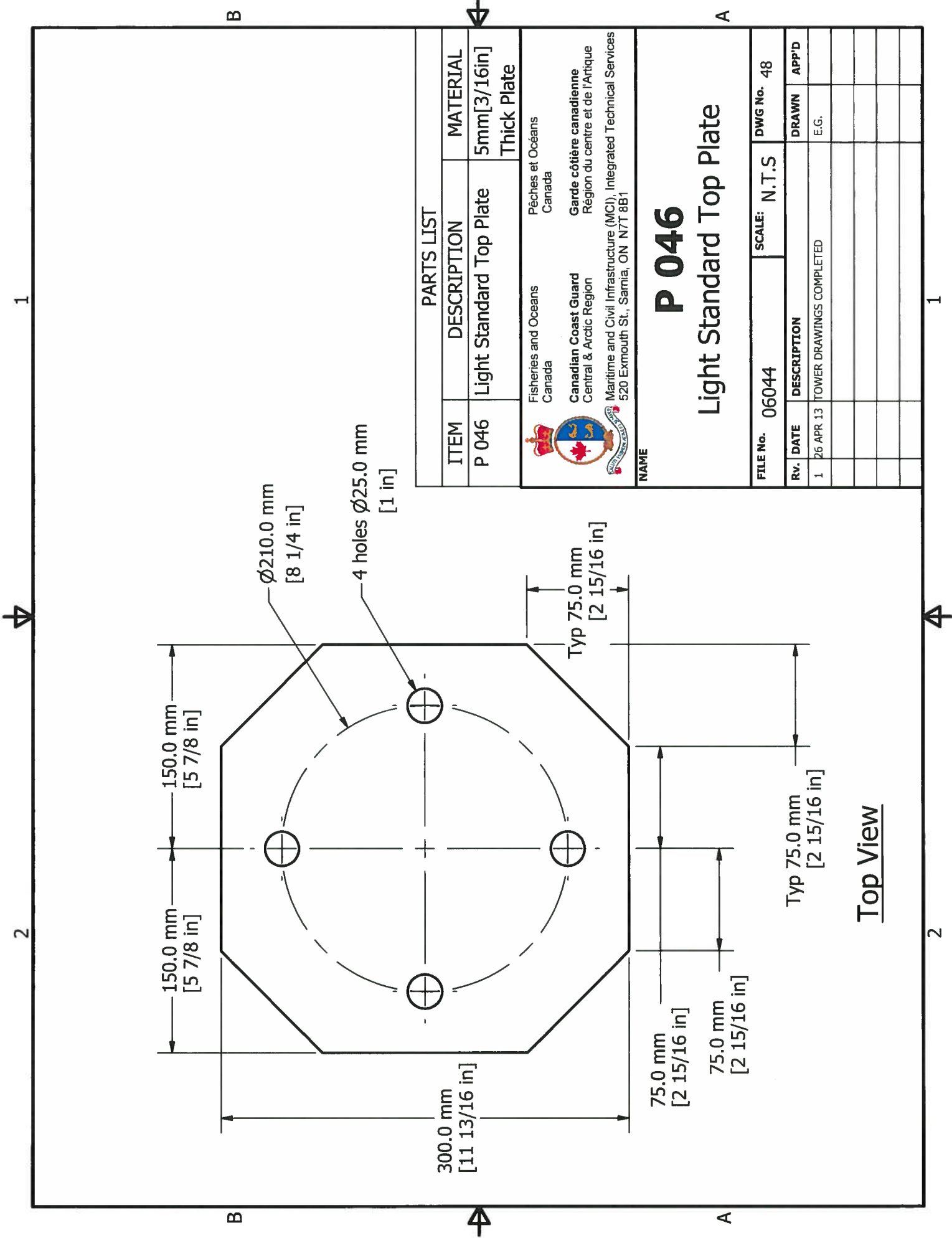
Front View


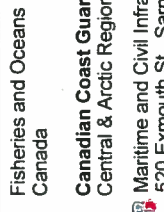
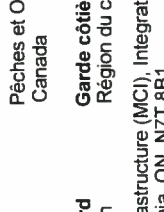
Top View

Ø63.0 mm
[2 1/2 in]

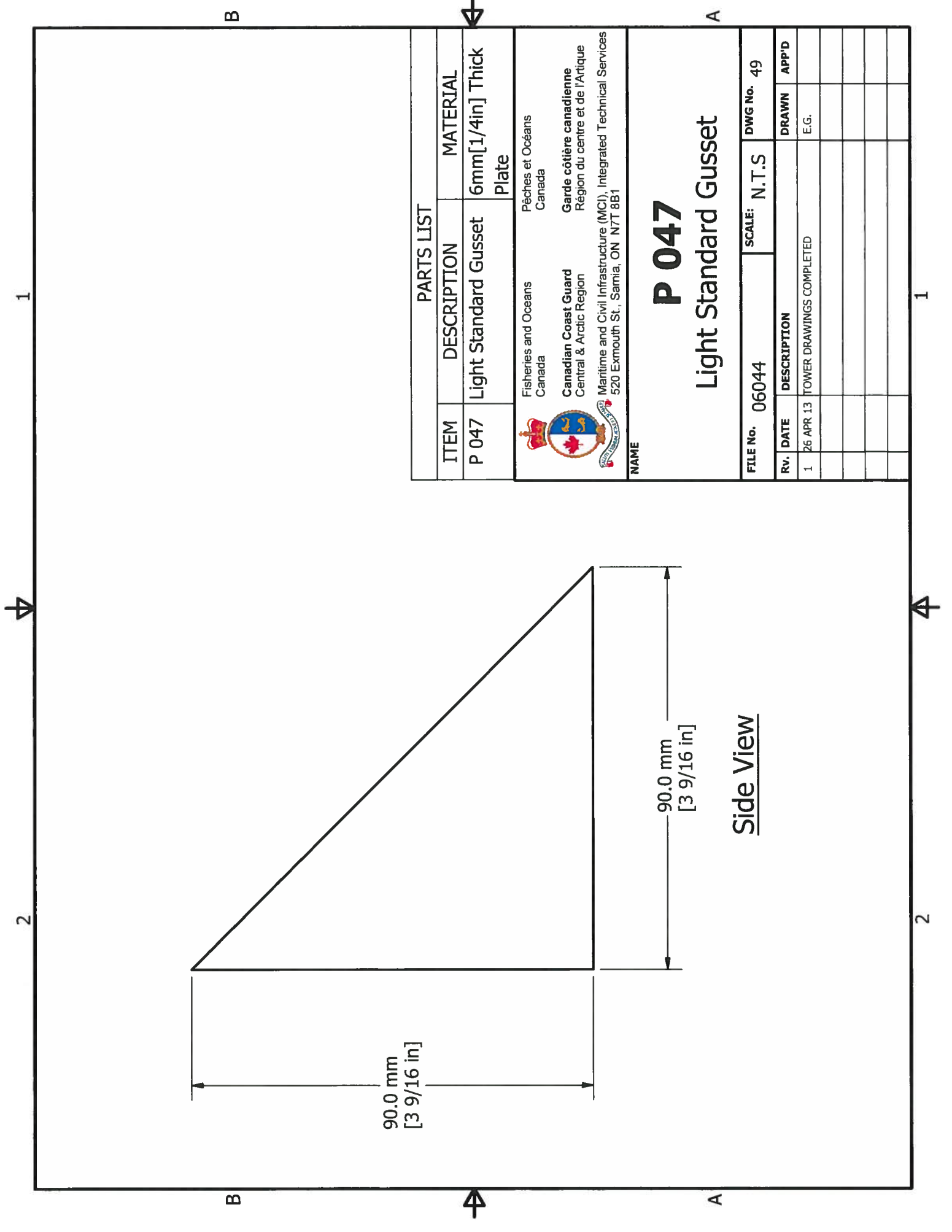
Ø73.0 mm
[2 7/8 in]

920.0 mm
[36 1/4 in]



PARTS LIST		MATERIAL	
ITEM	DESCRIPTION	MATERIAL	
P 046	Light Standard Top Plate	5mm[3/16in] Thick Plate	
 Fisheries and Oceans Canada		Pêches et Océans Canada	
 Canadian Coast Guard Central & Arctic Region		Garde côtière canadienne Région du centre et de l'Arctique	
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Samia, ON N7T 8B1			
NAME P 046 Light Standard Top Plate			
FILE No. 06044		SCALE: N.T.S	
FILE No. 06044		DWG No. 48	
Rv.	DATE	DESCRIPTION	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.

Top View



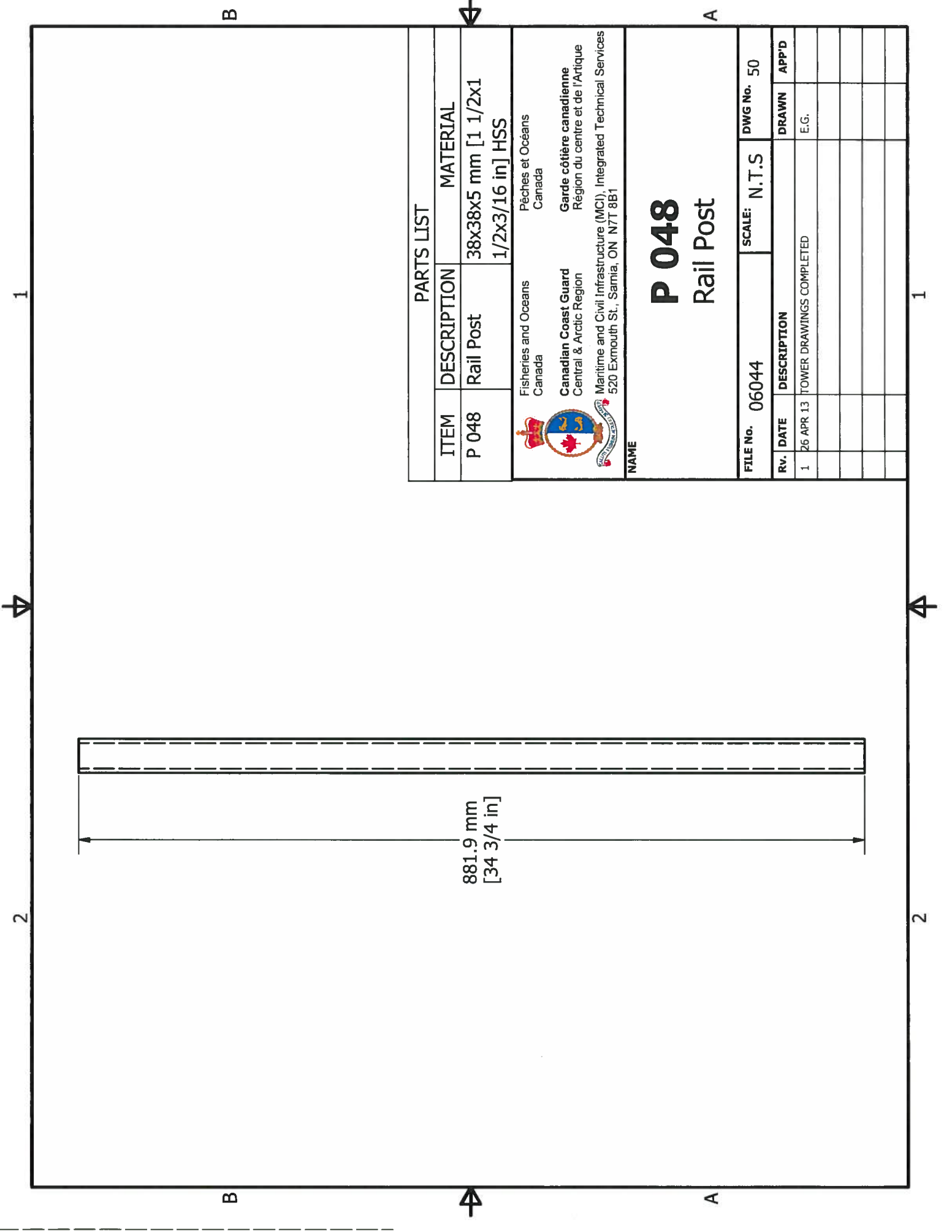
PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 047	Light Standard Gusset	6mm[1/4in] Thick Plate



Fisheries and Oceans
 Canada
 Pêches et Océans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Garde côtière canadienne
 Région du centre et de l'Arctique
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

NAME
P 047
Light Standard Gusset

FILE No. 06044	SCALE: N.T.S	DWG No. 49
RV. 1	DATE 26 APR 13	DESCRIPTION TOWER DRAWINGS COMPLETED
		DRAWN E.G.
		APP'D



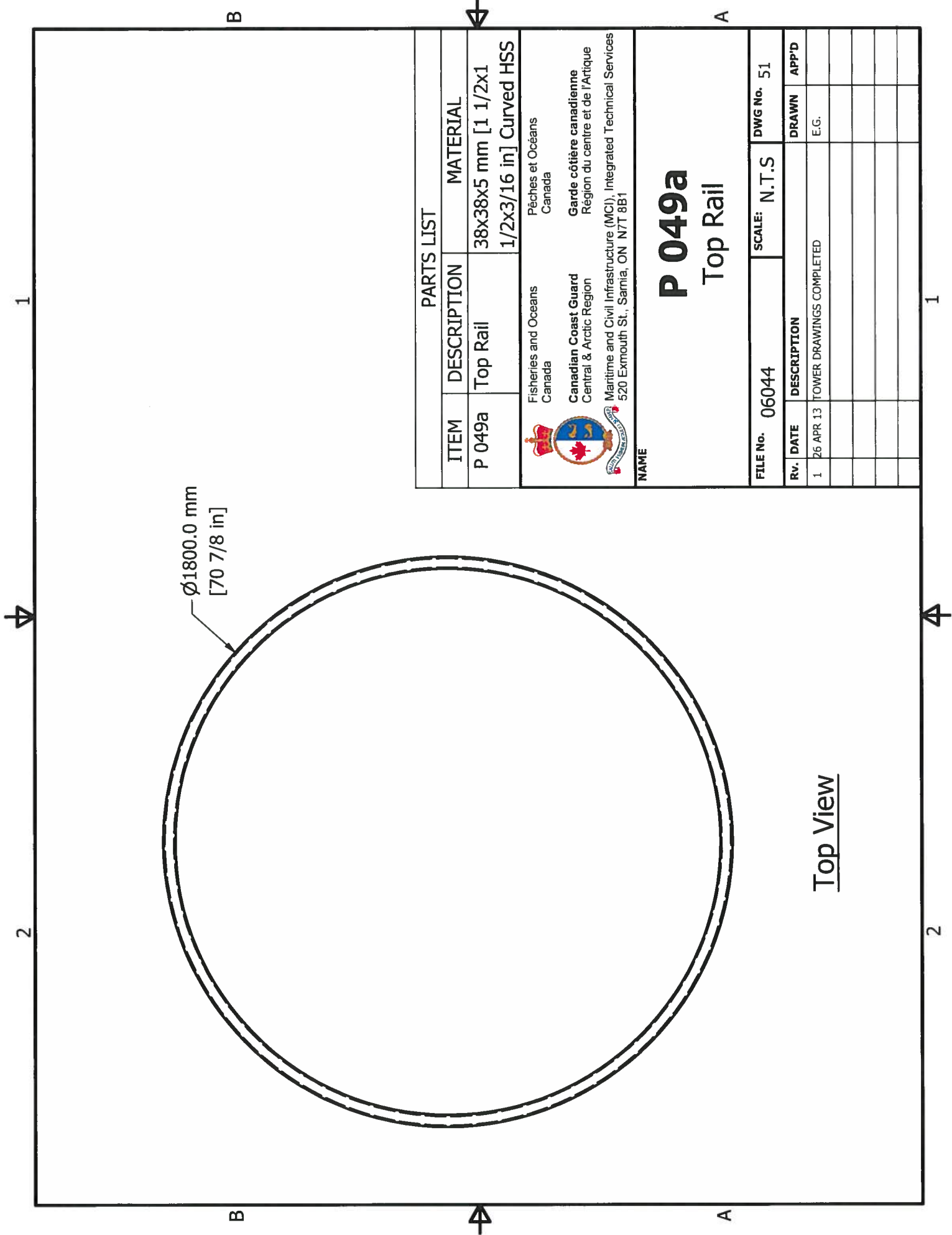
PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 048	Rail Post	38x38x5 mm [1 1/2x1 1/2x3/16 in] HSS




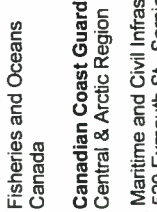
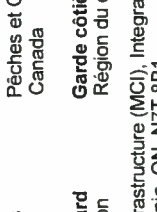
Fisheries and Oceans
 Canada
Canadian Coast Guard
 Central & Arctic Region
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

NAME
P 048
Rail Post

FILE No. 06044	SCALE: N.T.S	DWG No. 50		
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	



Top View

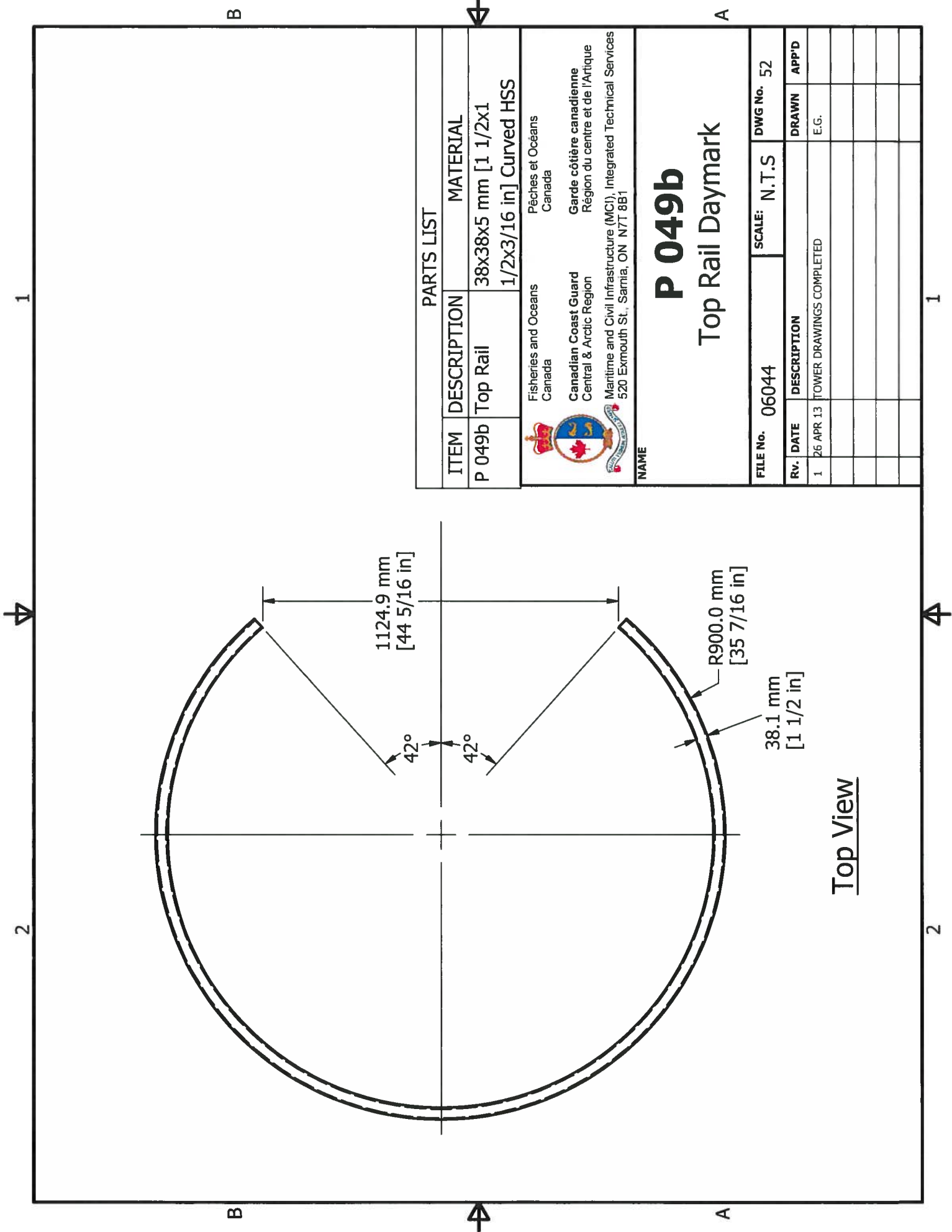
PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 049a	Top Rail	38x38x5 mm [1 1/2x1 1/2x3/16 in] Curved HSS
 Fisheries and Oceans Canada		Pêches et Océans Canada
 Canadian Coast Guard Central & Arctic Region		Garde côtière canadienne Région du centre et de l'Arctique
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		

NAME

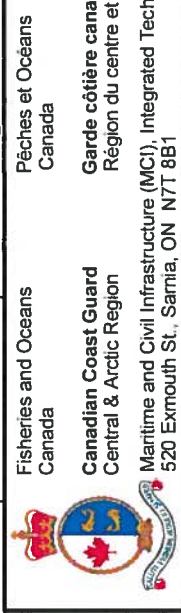
P 049a

Top Rail

FILE No.	06044	SCALE:	N.T.S	DWG No.	51
RV.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		

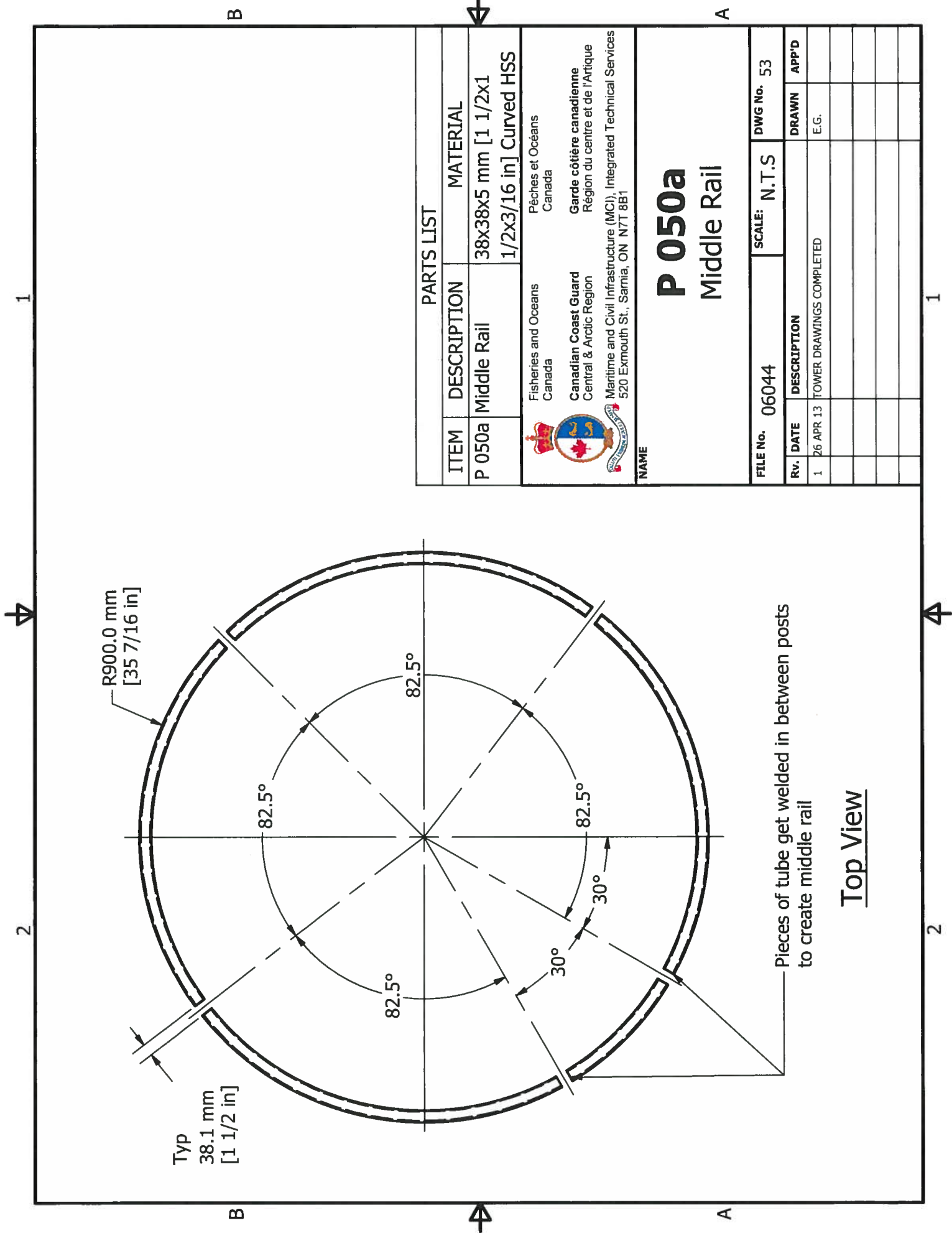


PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 049b	Top Rail	38x38x5 mm [1 1/2x1 1/2x3/16 in] Curved HSS



 Fisheries and Oceans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Pêches et Océans
 Canada
 Garde côtière canadienne
 Région du centre et de l'Arctique
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

P 049b		SCALE: N.T.S	DWG No. 52	
Top Rail Daymark				
FILE No.	06044			
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

Top View



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 050a	Middle Rail	38x38x5 mm [1 1/2x1 1/2x3/16 in] Curved HSS

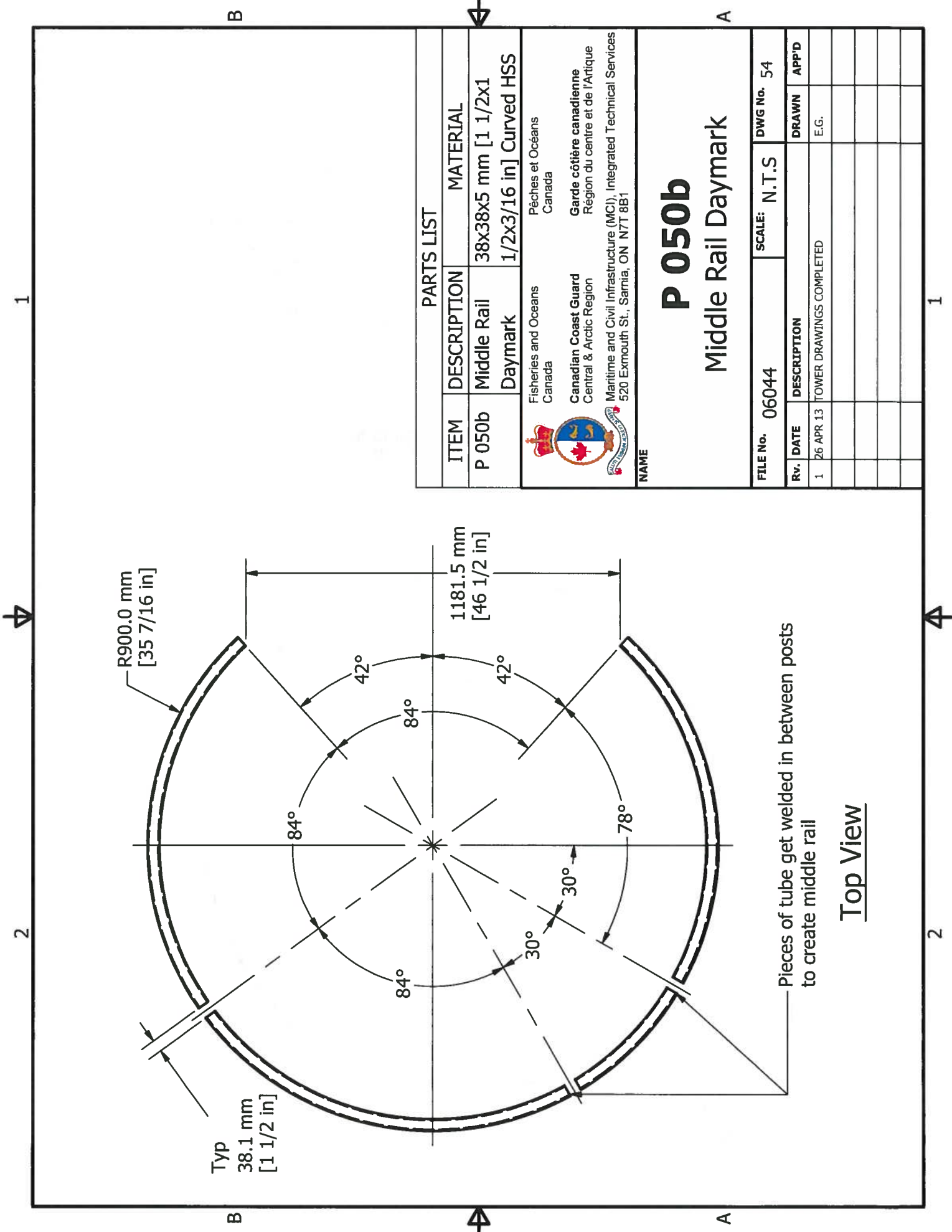

 Fisheries and Oceans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Pêches et Océans
 Canada
 Garde côtière canadienne
 Région du centre et de l'Arctique
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

NAME
P 050a
Middle Rail

FILE No. 06044		SCALE: N.T.S		DWG No. 53	
RV. DATE	DESCRIPTION	DRAWN	APP'D		
1 26 APR 13	TOWER DRAWINGS COMPLETED	E.G.			

Pieces of tube get welded in between posts to create middle rail

Top View



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 050b	Middle Rail	38x38x5 mm [1 1/2x1
	Daymark	1/2x3/16 in] Curved HSS



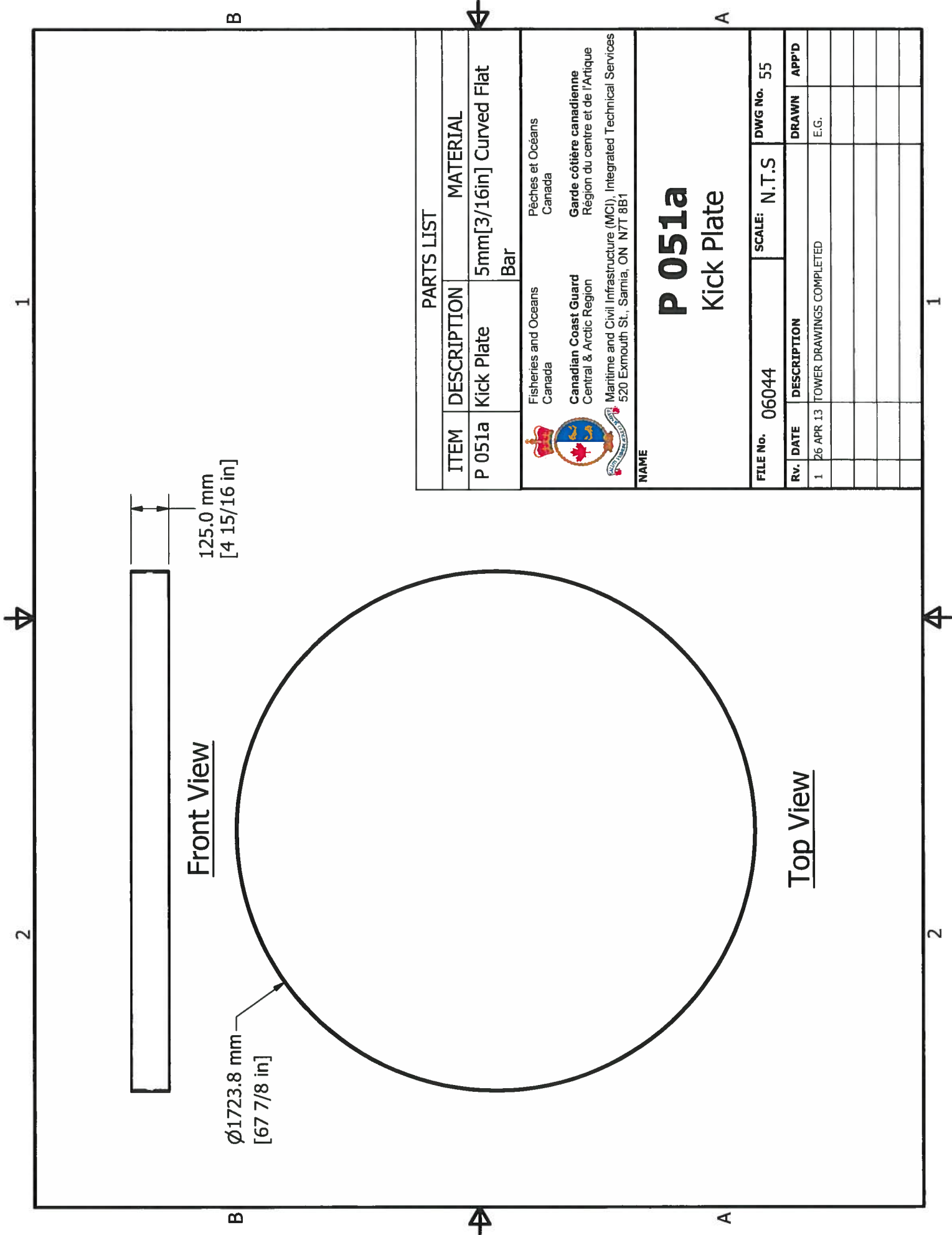
Fisheries and Oceans
 Canada
 Pêches et Océans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Garde côtière canadienne
 Région du centre et de l'Arctique
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

P 050b
Middle Rail Daymark

FILE No.	06044	SCALE:	N.T.S	DWG No.	54
Rv.	DATE	DESCRIPTION		DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED		E.G.	

Pieces of tube get welded in between posts to create middle rail

Top View



Front View


Top View

125.0 mm
[4 15/16 in]

Ø1723.8 mm
[67 7/8 in]

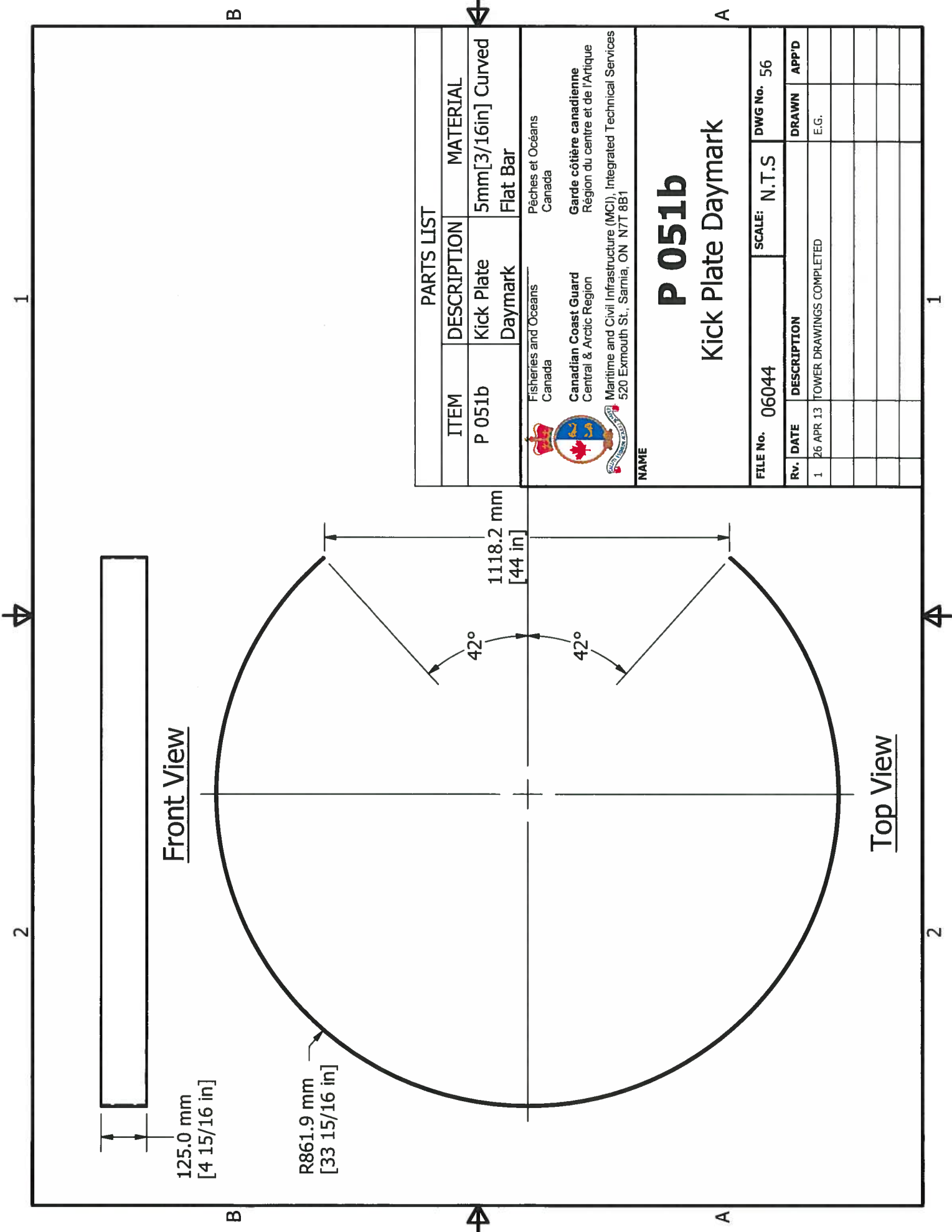
PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 051a	Kick Plate	5mm[3/16in] Curved Flat Bar


 Fisheries and Oceans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Pêches et Océans
 Canada
 Garde côtière canadienne
 Région du centre et de l'Arctique
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

NAME
P 051a
Kick Plate

FILE No. 06044	SCALE: N.T.S	DWG No. 55		
RV.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	



Front View

Top View

125.0 mm
[4 15/16 in]

R861.9 mm
[33 15/16 in]

42°

42°

1118.2 mm
[44 in]

PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 051b	Kick Plate	5mm[3/16in] Curved
	Daymark	Flat Bar

Fisheries and Oceans
Canada



Canadian Coast Guard
Central & Arctic Region

Pêches et Océans
Canada

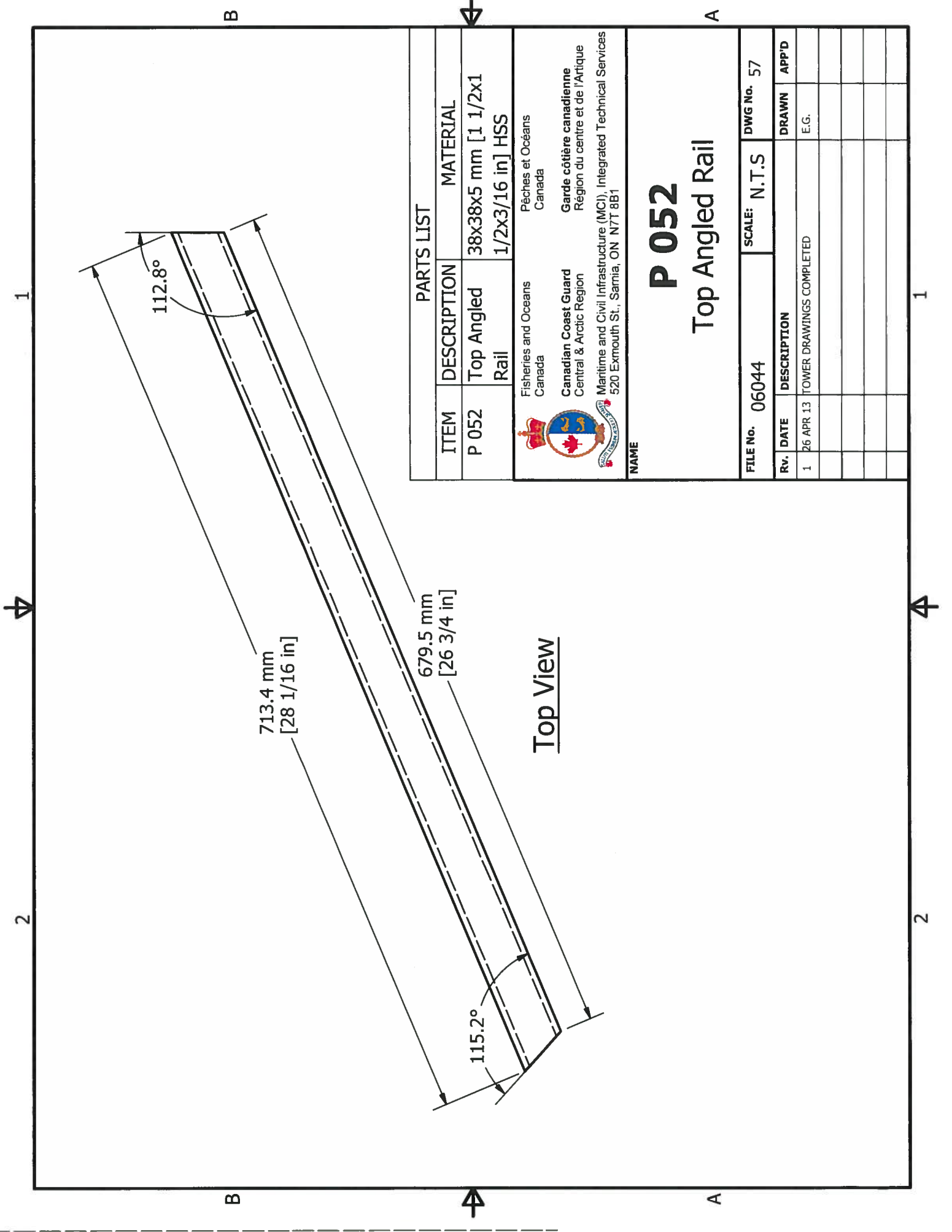
Garde côtière canadienne
Région du centre et de l'Arctique

Maritime and Civil Infrastructure (MC), Integrated Technical Services
520 Exmouth St., Sarnia, ON N7T 8B1


NAME

P 051b
Kick Plate Daymark

FILE No.	06044	SCALE:	N.T.S	DWG No.	56
Rv.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		



Top View

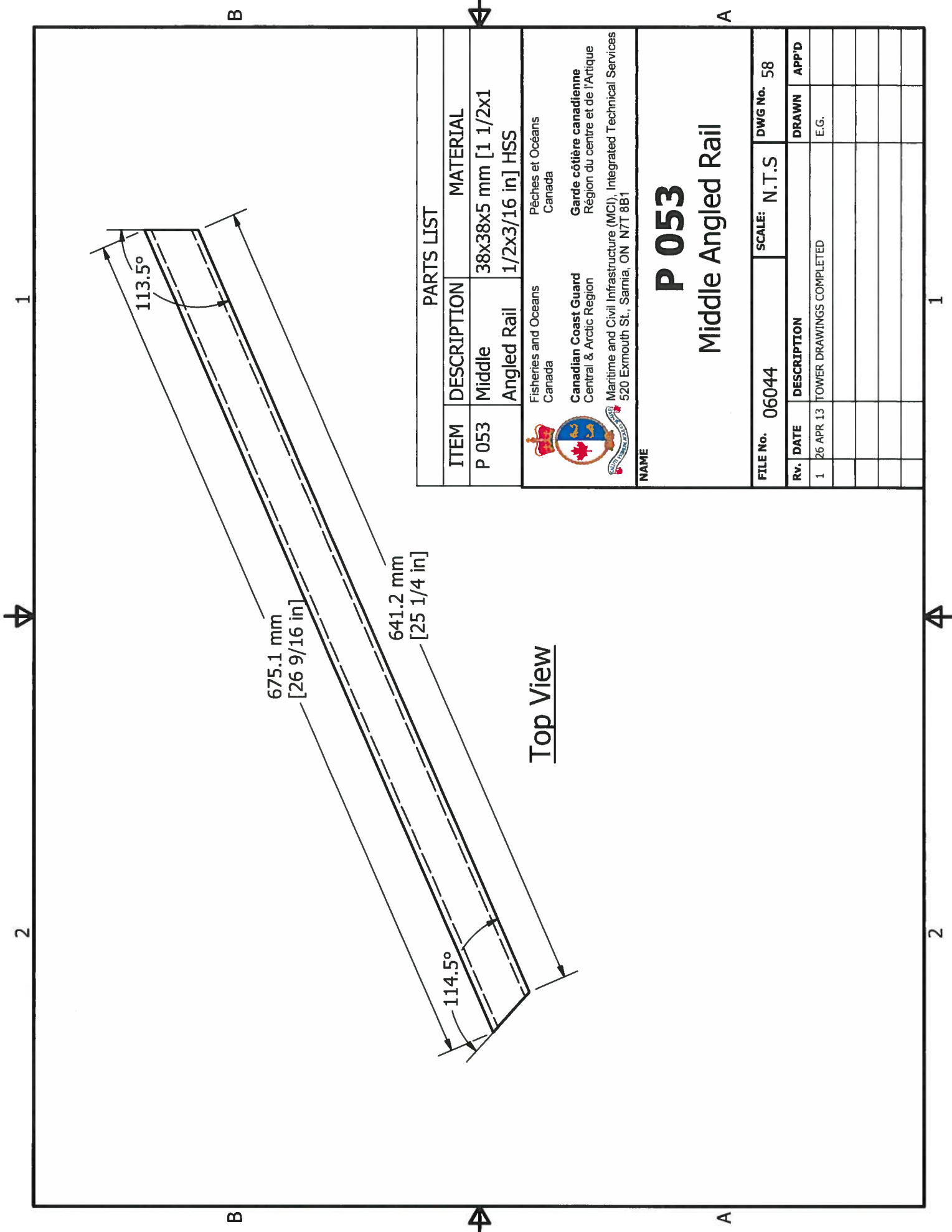
PARTS LIST		MATERIAL
ITEM	DESCRIPTION	
P 052	Top Angled Rail	38x38x5 mm [1 1/2x1 1/2x3/16 in] HSS
 Fisheries and Oceans Canada		Pêches et Océans Canada
Canadian Coast Guard Central & Arctic Region		Garde côtière canadienne Région du centre et de l'Arctique
Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		

NAME

P 052


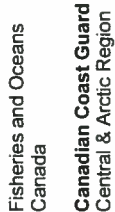

Top Angled Rail

FILE No.	06044	SCALE:	N.T.S	DWG No.	57
Rv.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		



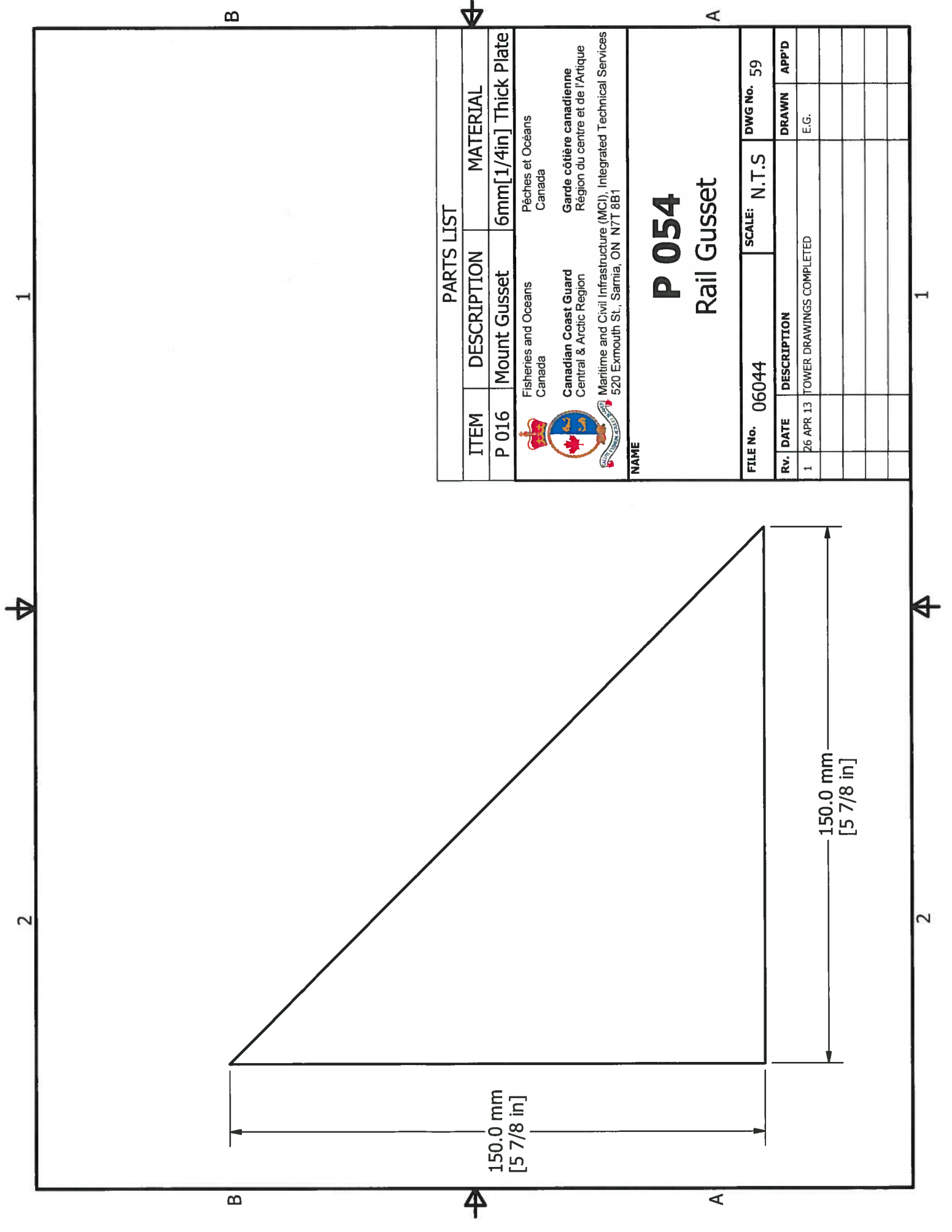
Top View


PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 053	Middle Angled Rail	38x38x5 mm [1 1/2x1 1/2x3/16 in] HSS

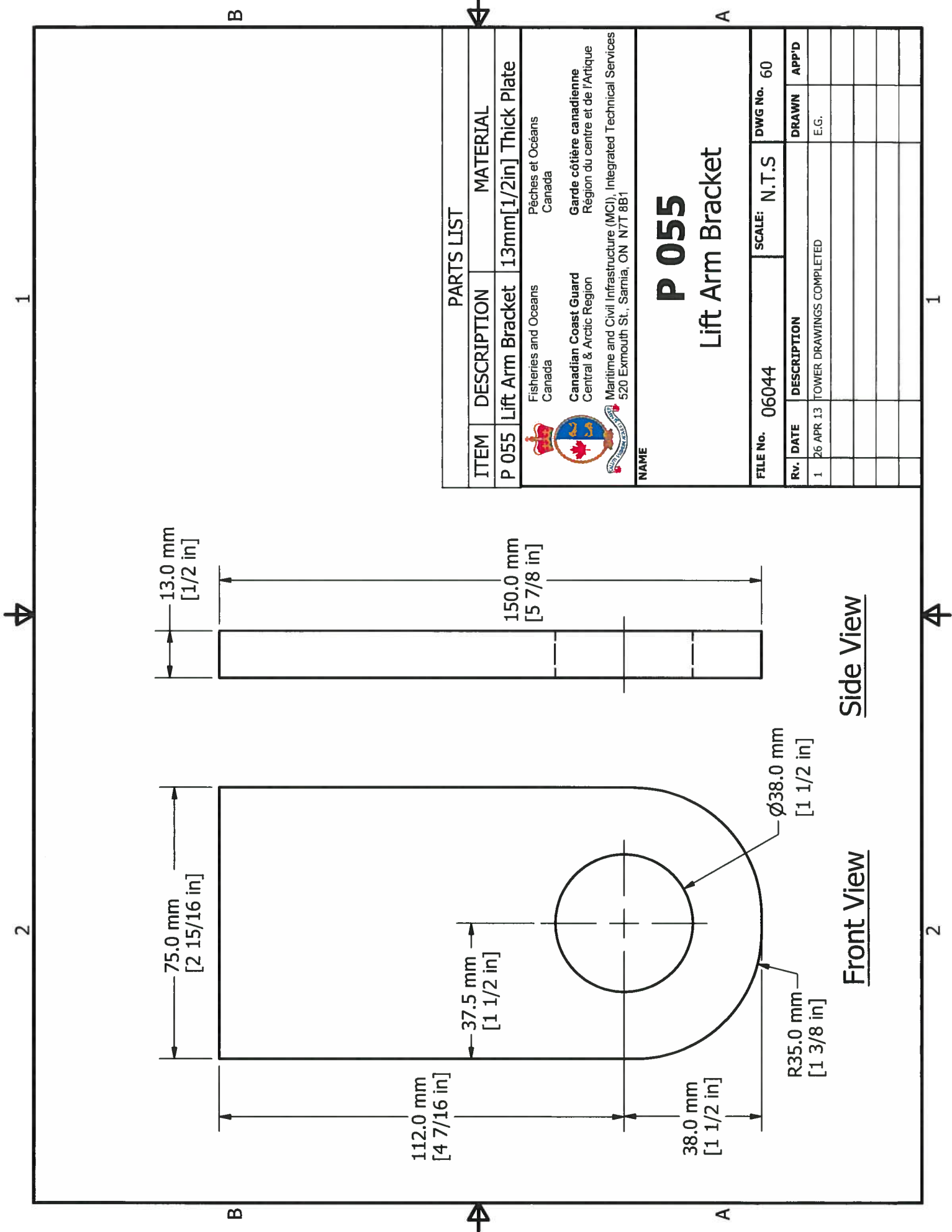
 Fisheries and Oceans Canada
 Canadian Coast Guard Central & Arctic Region
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1


NAME
P 053
 Middle Angled Rail

FILE No. 06044		SCALE: N.T.S	DWG No. 58
Rv.	DATE	DESCRIPTION	DRAWN APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.



PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 016	Mount Gusset	6mm[1/4in] Thick Plate		
 Fisheries and Oceans Canada Pêches et Océans Canada Canadian Coast Guard Central & Arctic Region Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
NAME <h1>P 054</h1> <h2>Rail Gusset</h2>				
FILE No. 06044		SCALE: N.T.S		
DWG No. 59				
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

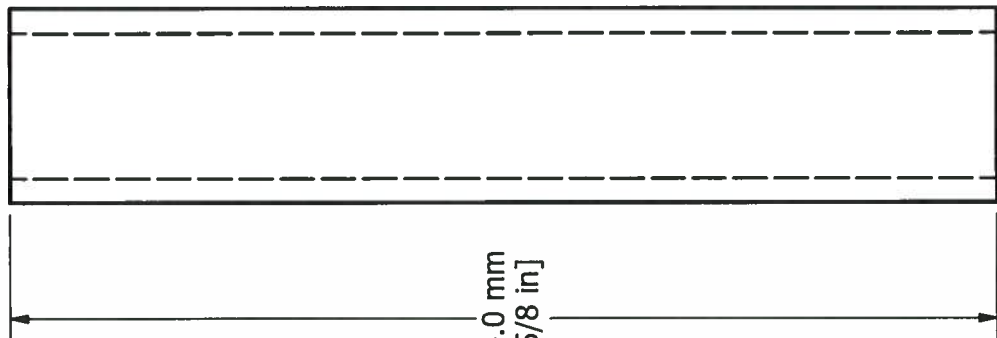


PARTS LIST			
ITEM	DESCRIPTION	MATERIAL	
P 055	Lift Arm Bracket	13mm[1/2in] Thick Plate	
		Pêches et Océans Canada Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1	
NAME <h1 style="text-align: center;">P 055</h1> <h2 style="text-align: center;">Lift Arm Bracket</h2>			
FILE No.	06044	SCALE: N.T.S	
DWG No.	60		
RV. DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13 TOWER DRAWINGS COMPLETED	E.G.	

Side View

Front View

1
2



Top View


B



A

PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 056	Lift Arm Tube	38x38x5mm [1 1/2x1 1/2x3/16in] HSS


 Fisheries and Oceans
 Canada
Canadian Coast Guard
 Central & Arctic Region
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

NAME

P 056
Lift Arm Tube

FILE No.	06044	SCALE:	N.T.S	DWG No.	61
Rv.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		

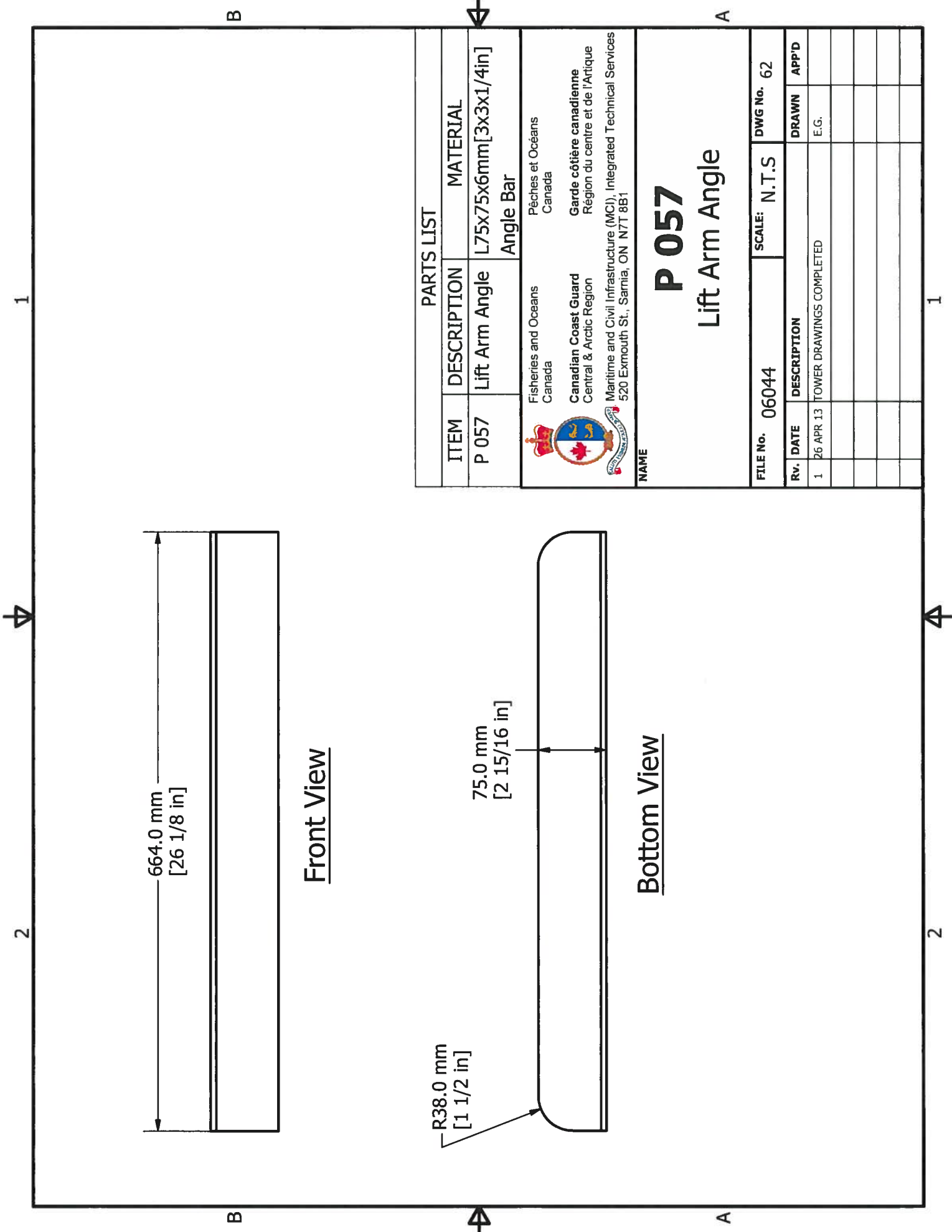
2
1



B



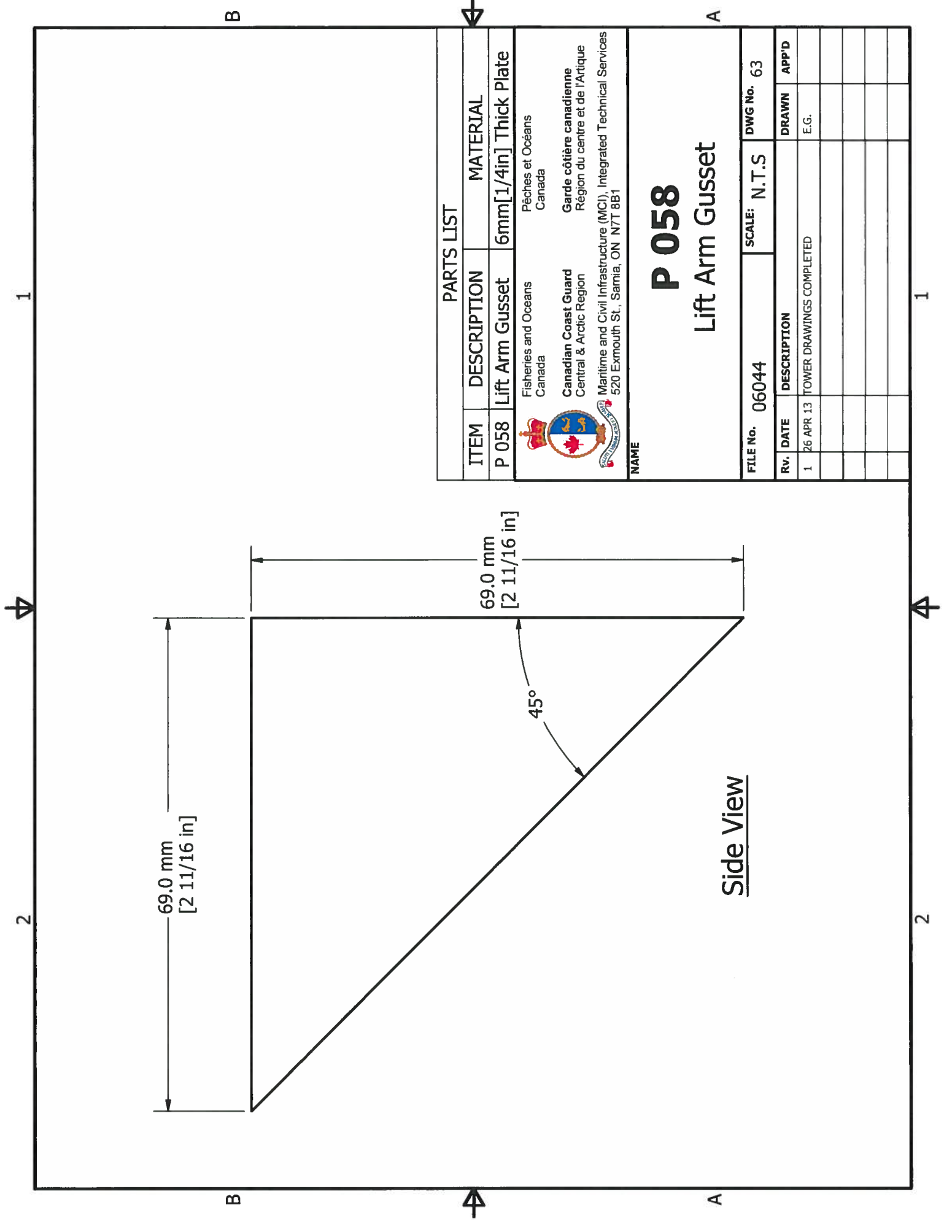
A



Front View


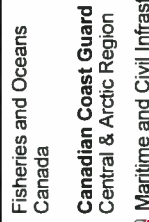
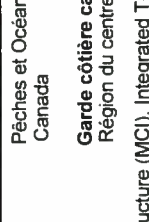
Bottom View

PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 057	Lift Arm Angle	L75x75x6mm[3x3x1/4in] Angle Bar		
Fisheries and Oceans Canada Pêches et Océans Canada Canadian Coast Guard Central & Arctic Region Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
NAME				
P 057				
Lift Arm Angle				
FILE No.	06044	SCALE: N.T.S		
		DWG No. 62		
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	



Side View

PARTS LIST

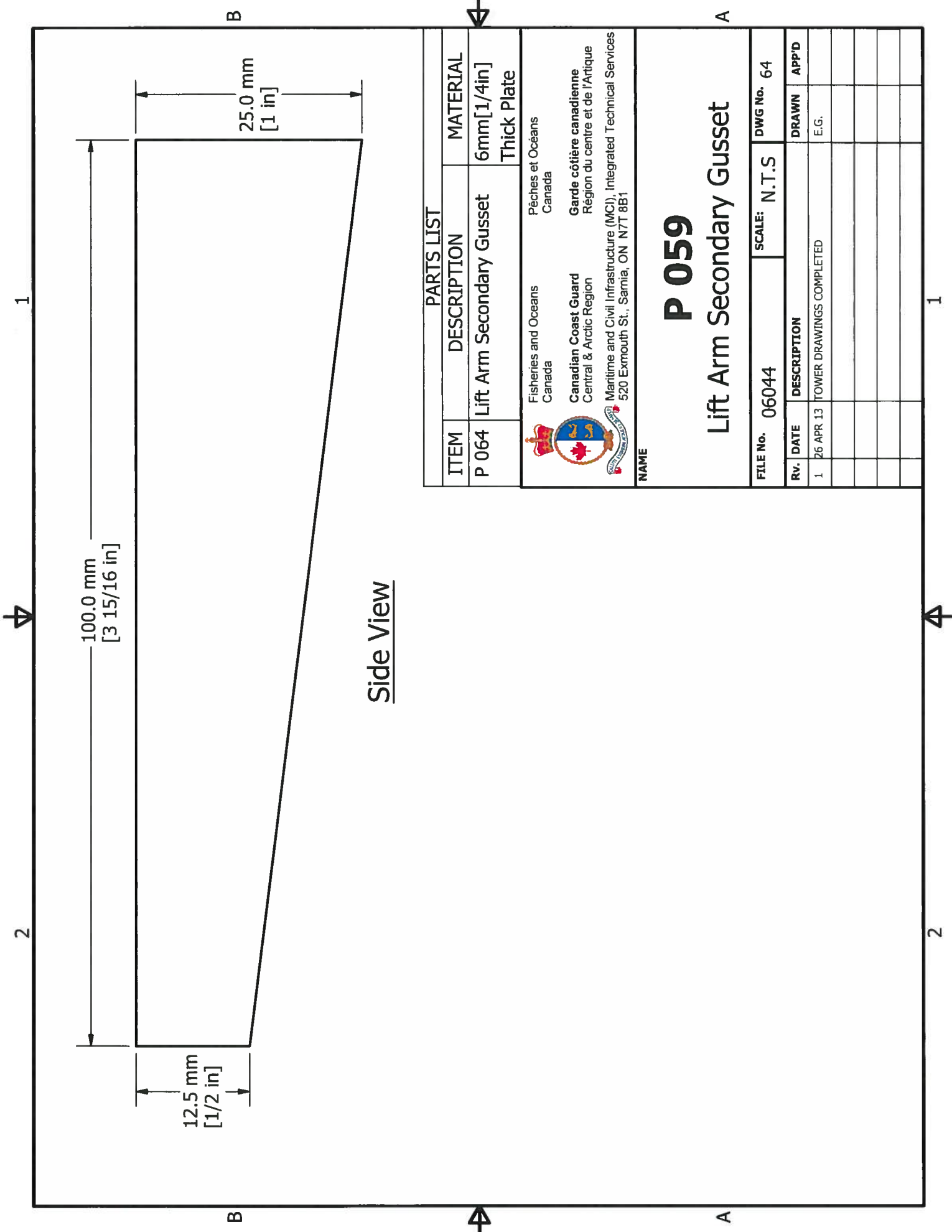
ITEM	DESCRIPTION	MATERIAL
P 058	Lift Arm Gusset	6mm[1/4in] Thick Plate
 Fisheries and Oceans Canada		
 Canadian Coast Guard Central & Arctic Region		
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		

NAME

P 058

Lift Arm Gusset


FILE No.	06044	SCALE:	N.T.S	DWG No.	63
RV.	DATE	DESCRIPTION		DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED		E.G.	



Side View

PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 064	Lift Arm Secondary Gusset	6mm [1/4in] Thick Plate

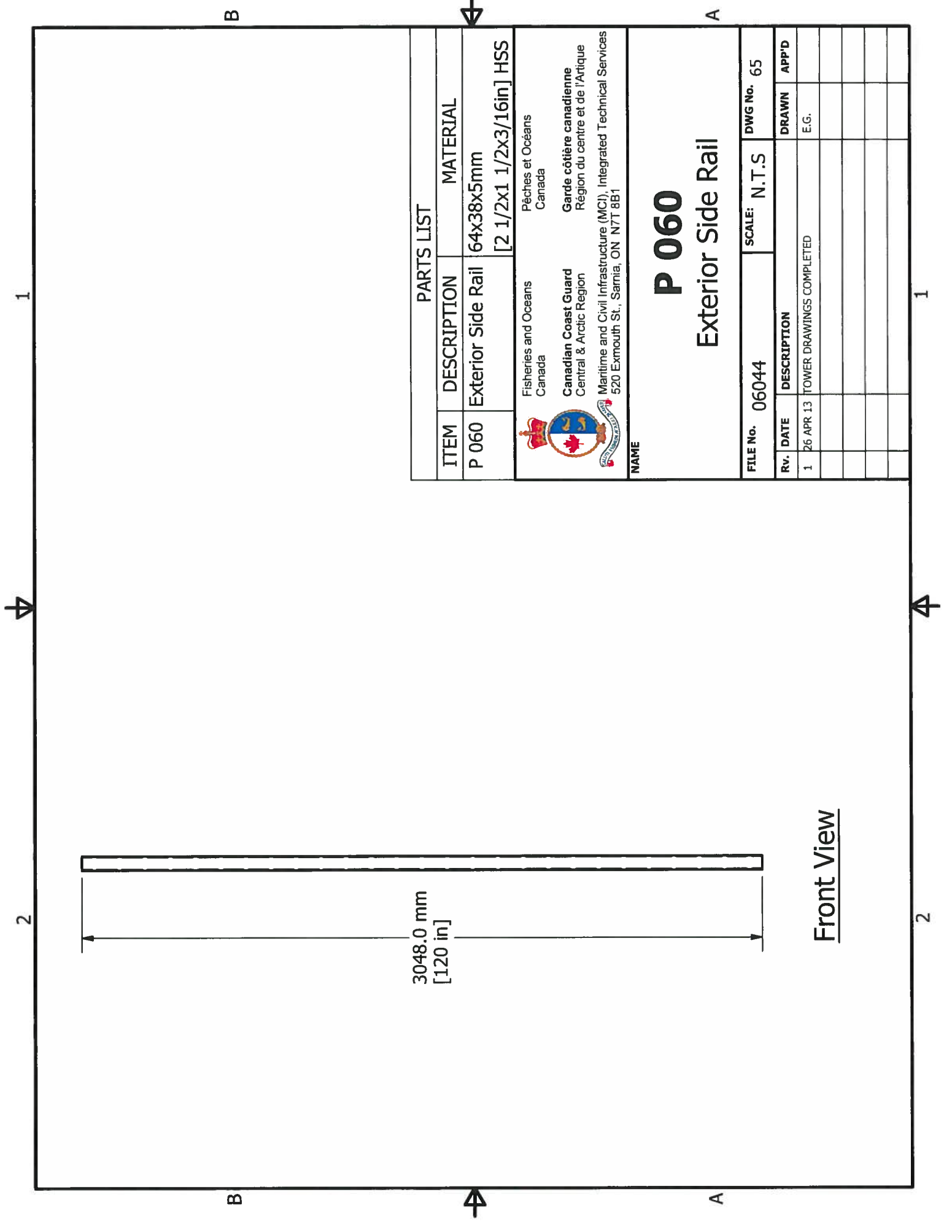

 Fisheries and Oceans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Maritime and Civil Infrastructure (MC), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

NAME

P 059


Lift Arm Secondary Gusset

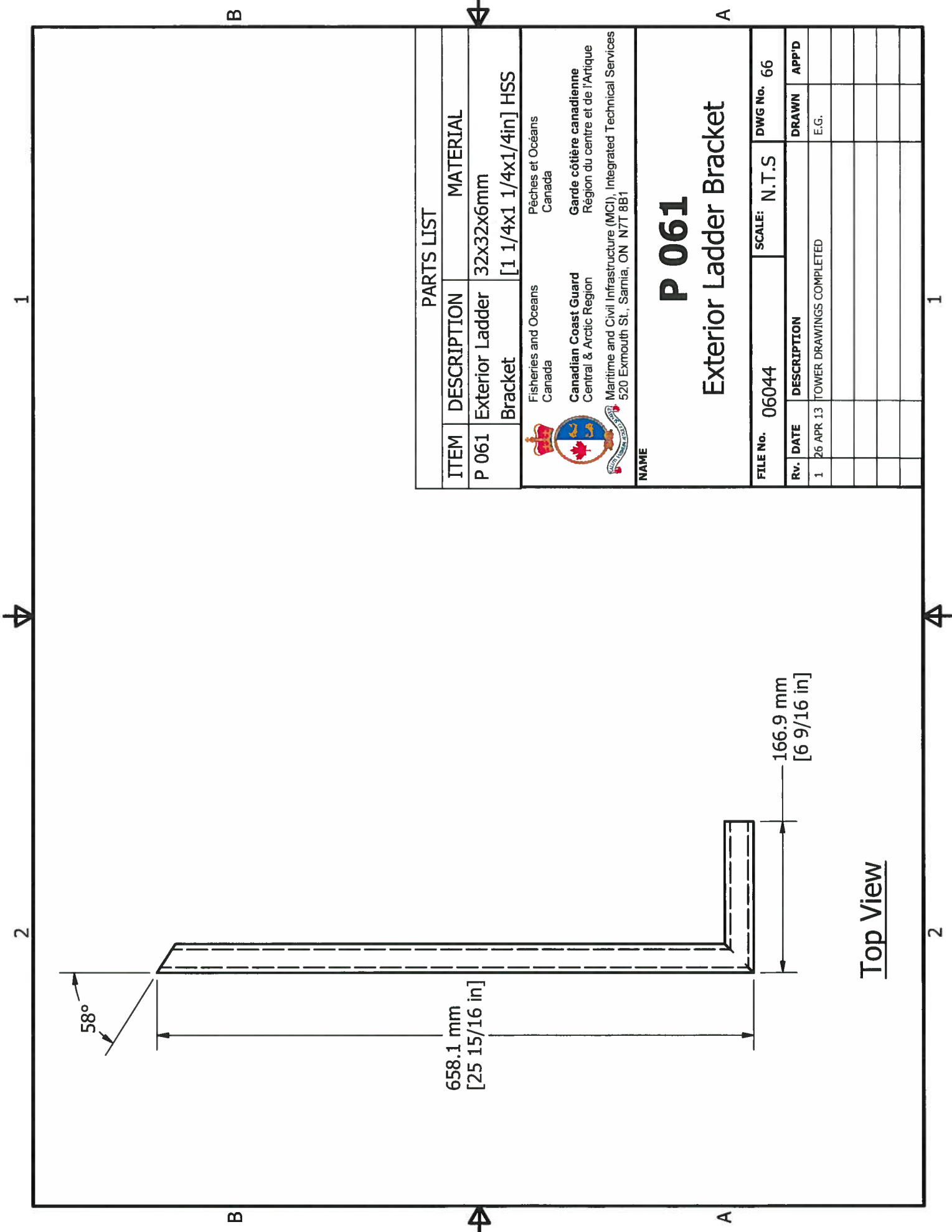
FILE No.	06044	SCALE:	N.T.S	DWG No.	64
Rv.	DATE	DESCRIPTION		DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED		E.G.	



3048.0 mm
[120 in]

Front View

PARTS LIST	
ITEM	DESCRIPTION MATERIAL
P 060	Exterior Side Rail 64x38x5mm [2 1/2x1 1/2x3/16in] HSS
 Fisheries and Oceans Canada Pêches et Océans Canada Canadian Coast Guard Central & Arctic Region Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1	
NAME	
<h1>P 060</h1> <h2>Exterior Side Rail</h2>	
FILE No. 06044	SCALE: N.T.S
FILE No. 06044	DWG No. 65
Rv. DATE	DESCRIPTION DRAWN APP'D
1 26 APR 13	TOWER DRAWINGS COMPLETED E.G.



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 061	Exterior Ladder Bracket	32x32x6mm [1 1/4x1 1/4x1/4in] HSS

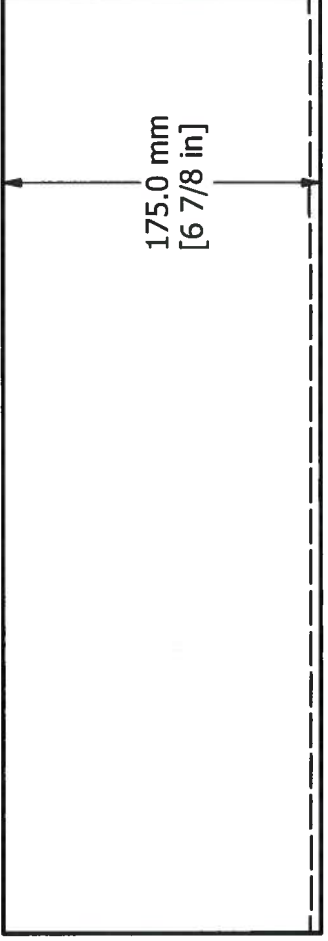


Fisheries and Oceans
 Canada
 Pêches et Océans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Garde côtière canadienne
 Région du centre et de l'Arctique
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

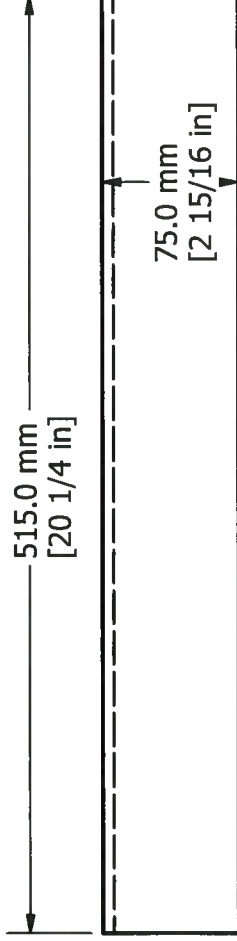
P 061
Exterior Ladder Bracket
 FILE No. 06044 SCALE: N.T.S. DWG No. 66
 Rv. DATE DESCRIPTION DRAWN APP'D
 1 26 APR 13 TOWER DRAWINGS COMPLETED E.G.

Top View

2 1



Top View




Front View

B



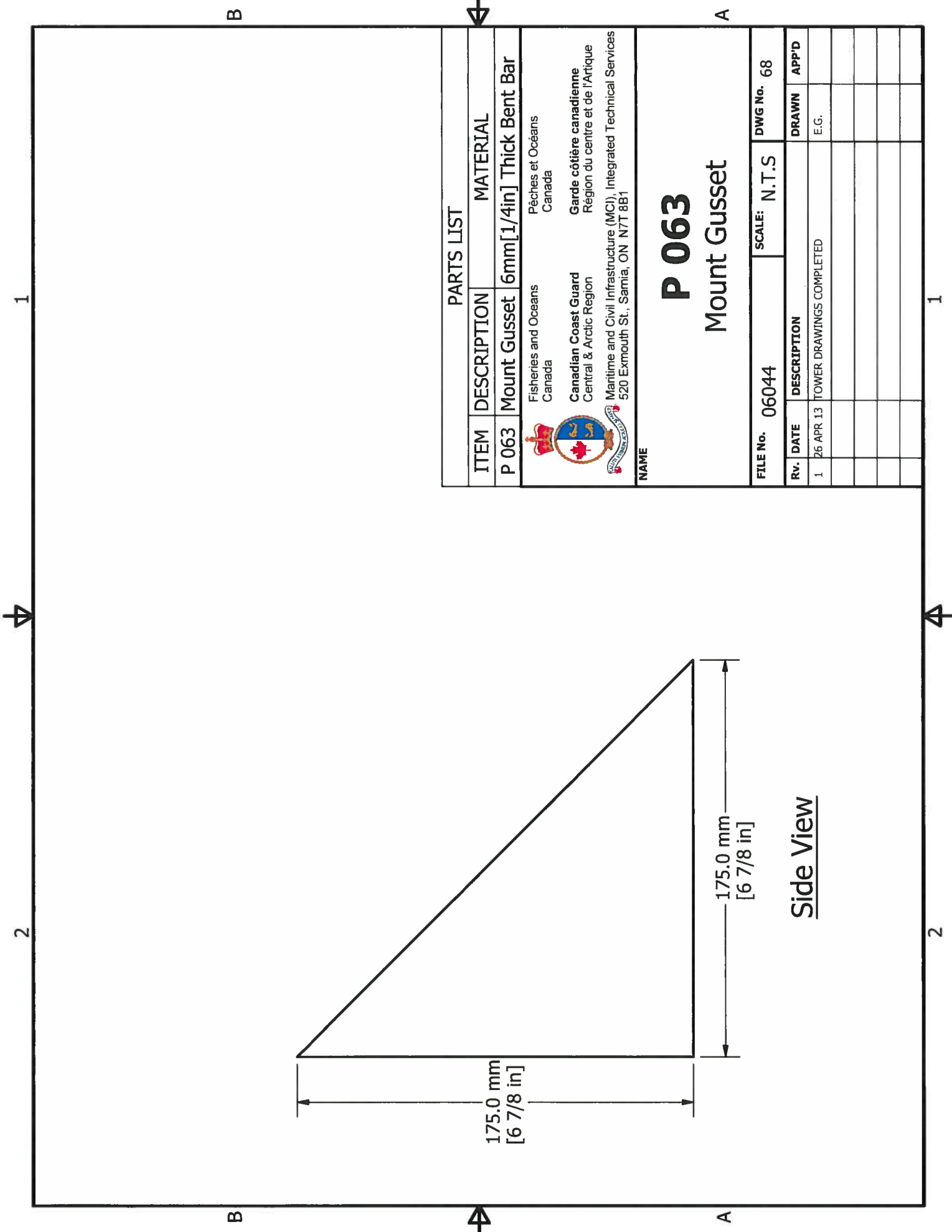
A


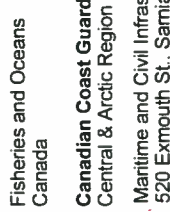
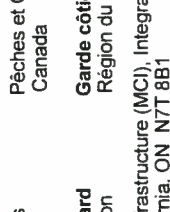
PARTS LIST				
ITEM	DESCRIPTION MATERIAL			
P 062	Mount Angle L175x75x5mm[7x3x3/16in]			
 Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
P 062 Mount Angle				
FILE No. 06044	SCALE: N.T.S			
DWG No. 67				
RV.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

2 1

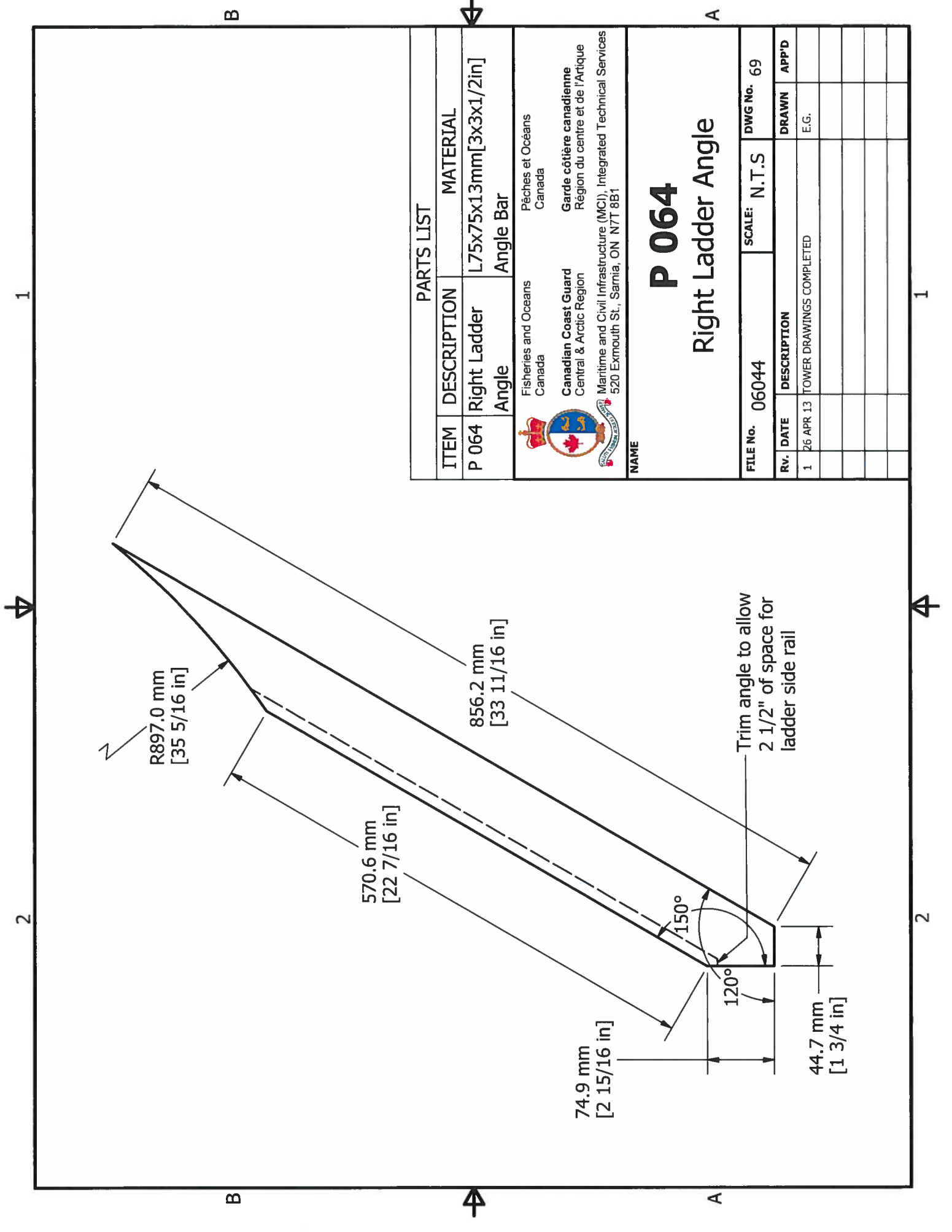



A

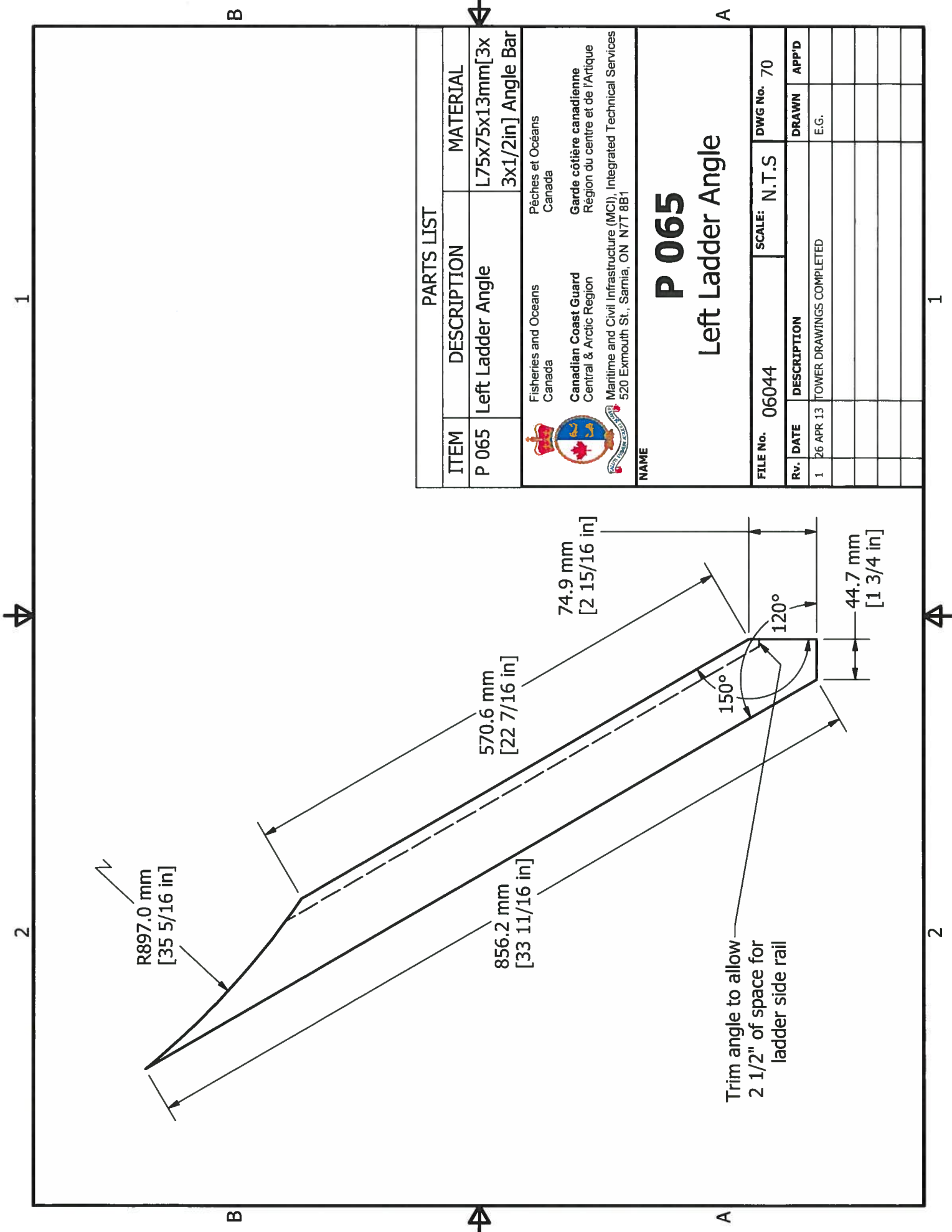


PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 063	Mount Gusset	6mm[1/4in] Thick Bent Bar		
 Fisheries and Oceans Canada		Pêches et Océans Canada		
 Canadian Coast Guard Central & Arctic Region		Garde côtière canadienne Région du centre et de l'Arctique		
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Samia, ON N7T 8B1				
NAME P 063 Mount Gusset				
FILE No.	06044	SCALE: N.T.S		
DWG No.	68			
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	


Side View



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 064	Right Ladder Angle	L75x75x13mm[3x3x1/2in] Angle Bar
 Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		
NAME <h1 style="text-align: center;">P 064</h1> <h2 style="text-align: center;">Right Ladder Angle</h2>		
FILE No.	06044	SCALE: N.T.S
DWG No.	69	
RV. DATE	DESCRIPTION	DRAWN APP'D
1 26 APR 13	TOWER DRAWINGS COMPLETED	E.G.

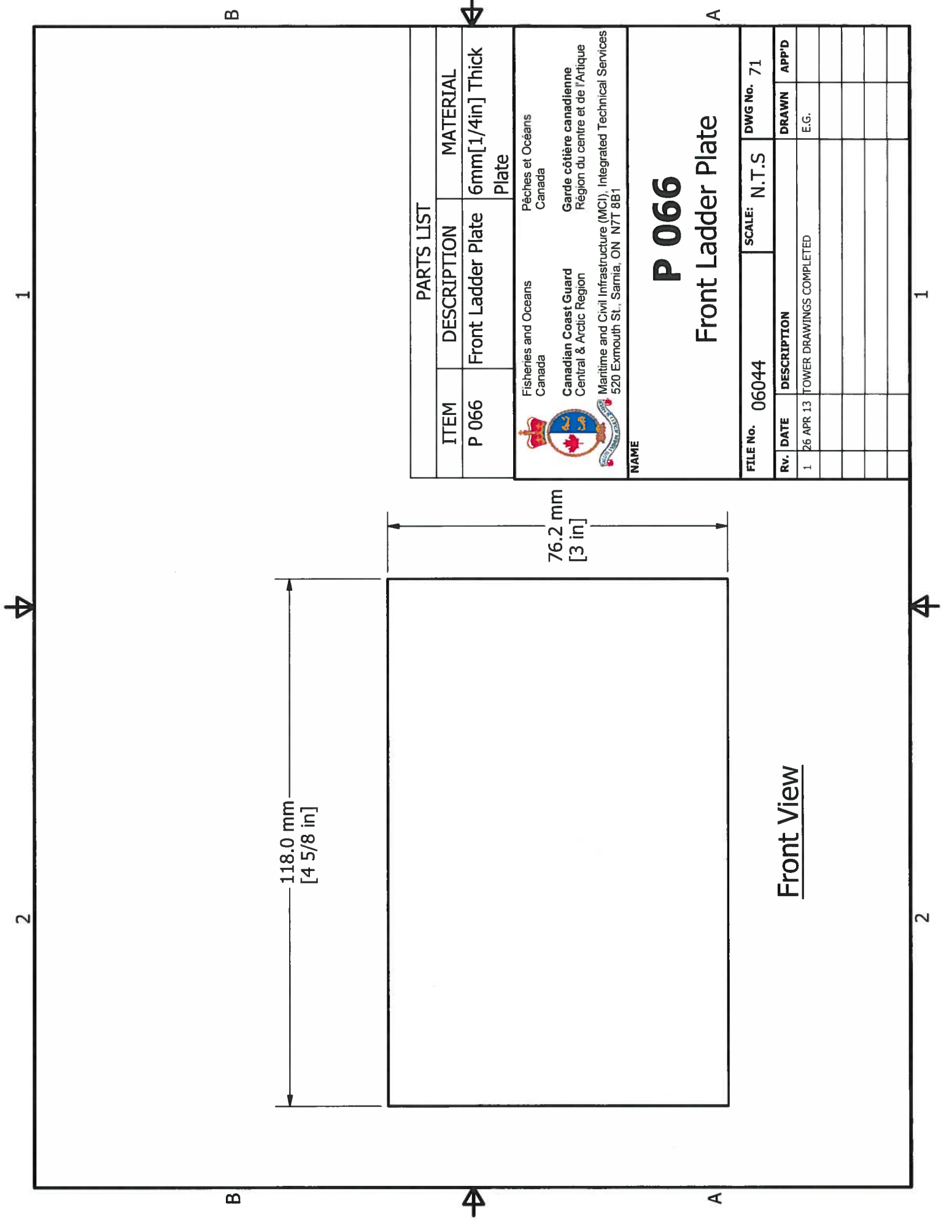



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 065	Left Ladder Angle	L75x75x13mm[3x 3x1/2in] Angle Bar


 Fisheries and Oceans
 Canada
 Canadian Coast Guard
 Central & Arctic Region
 Maritime and Civil Infrastructure (MC), Integrated Technical Services
 520 Exmouth St., Samia, ON N7T 8B1

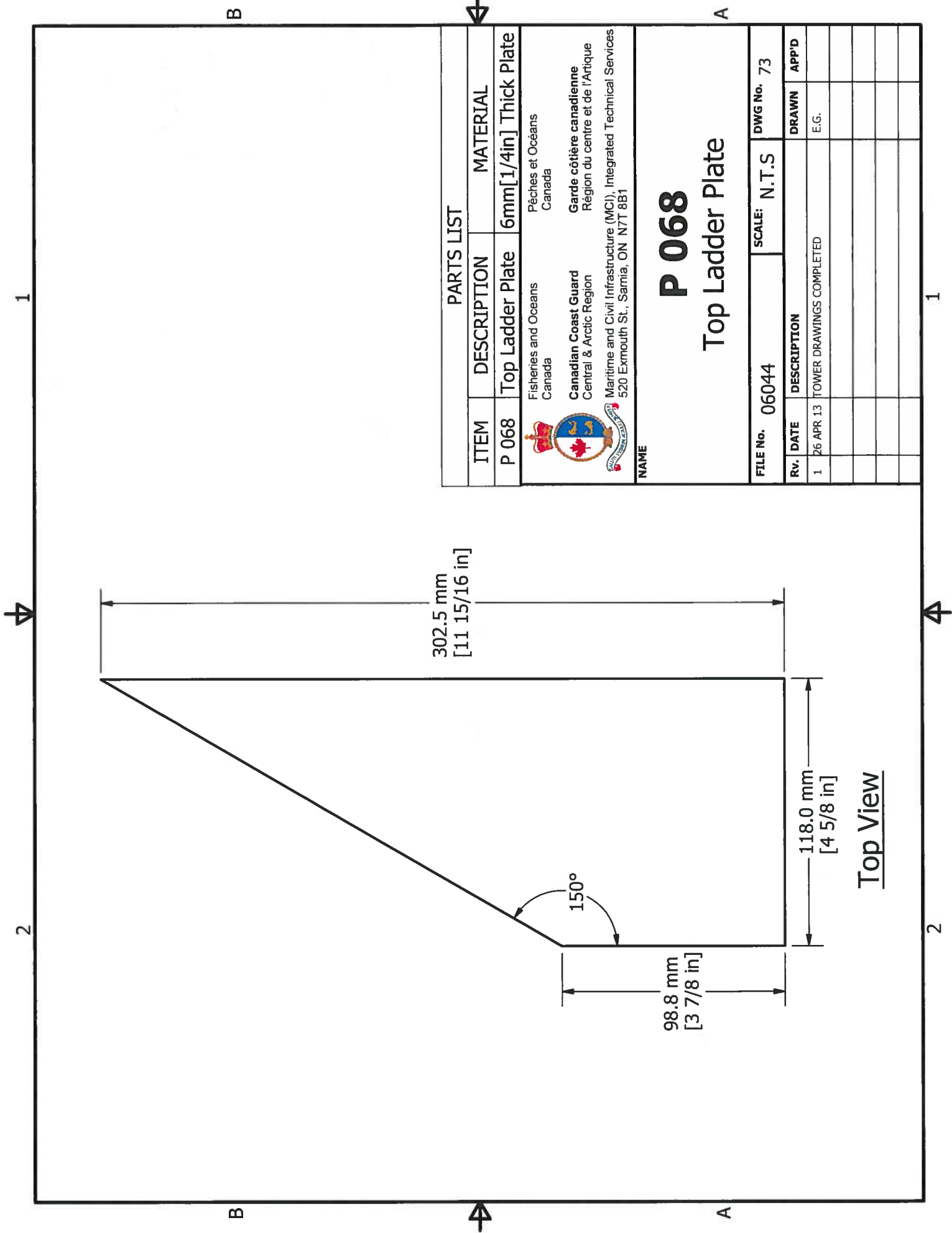
P 065
Left Ladder Angle


FILE No.	06044	SCALE:	N.T.S	DWG No.	70
Rv. DATE	DESCRIPTION	DRAWN	APP'D		
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		



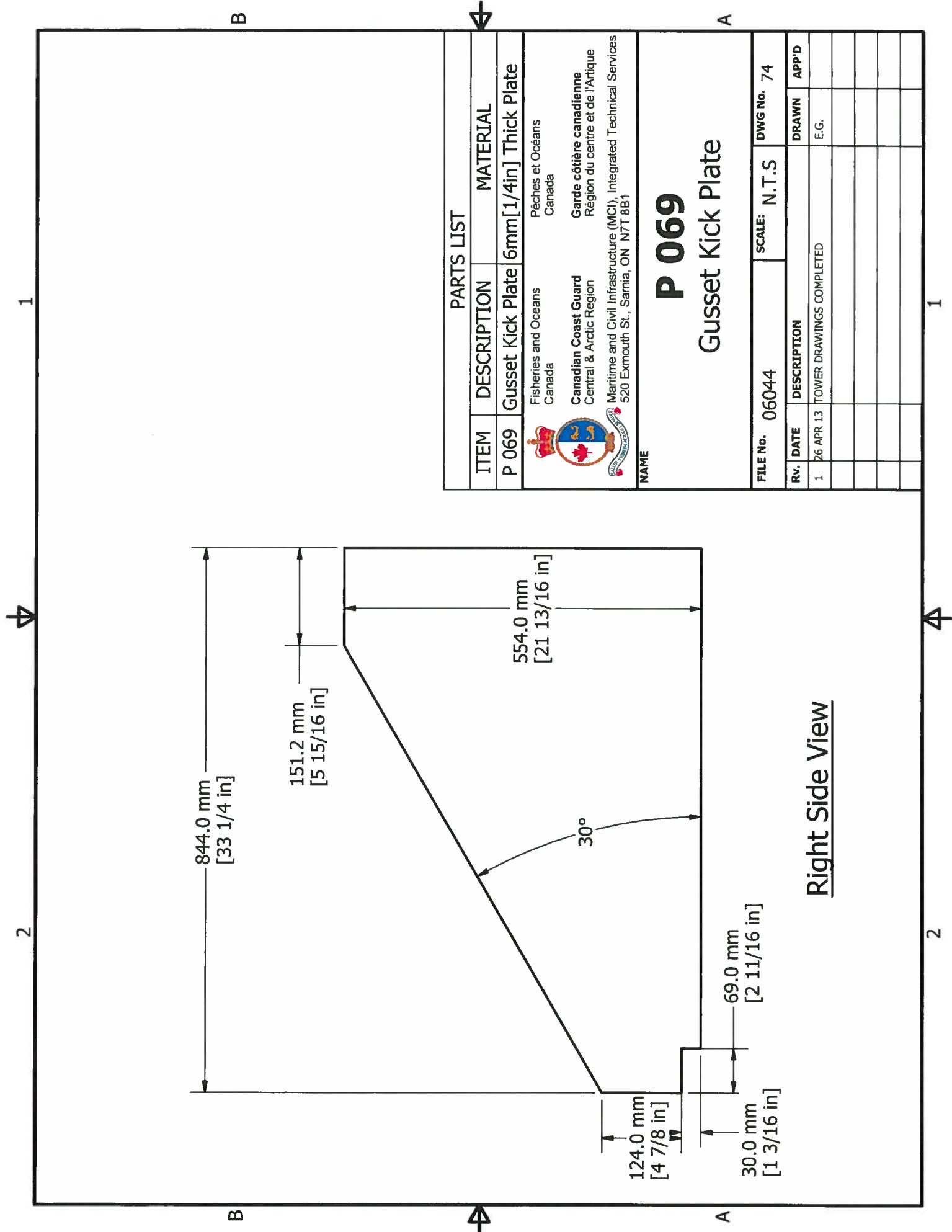
PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 066	Front Ladder Plate	6mm[1/4in] Thick Plate
 Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		
P 066 Front Ladder Plate		
FILE No. 06044	SCALE: N.T.S	DWG No. 71
RV. DATE	DESCRIPTION	DRAWN APP'D
1 26 APR 13	TOWER DRAWINGS COMPLETED	E.G.

Front View



PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 068	Top Ladder Plate	6mm[1/4in] Thick Plate		
 Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
P 068 Top Ladder Plate				
FILE No.	06044	SCALE: N.T.S		
DWG No.	73			
RV.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

Top View



PARTS LIST

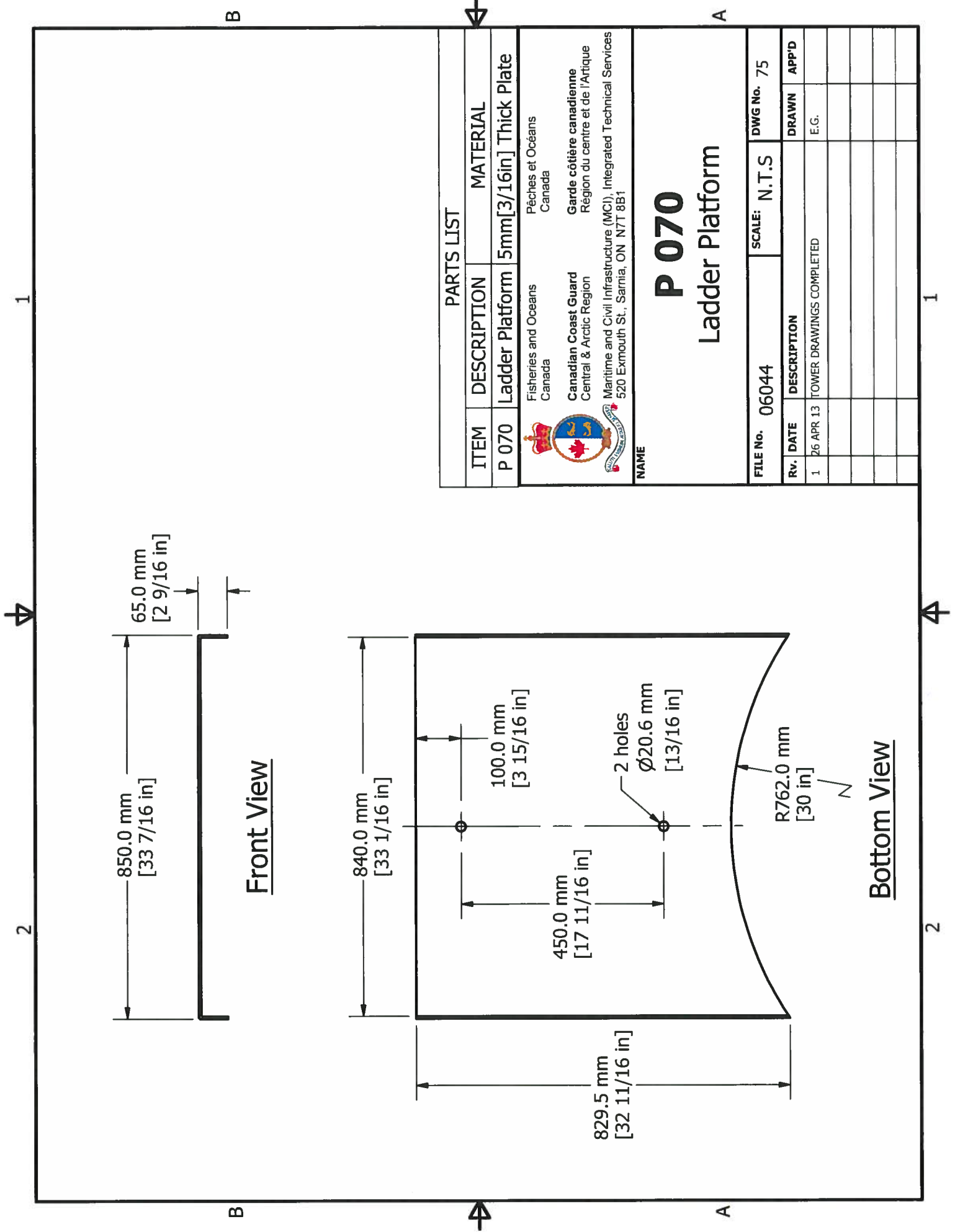
ITEM	DESCRIPTION	MATERIAL
P 069	Gusset Kick Plate	6mm[1/4in] Thick Plate
	Fisheries and Oceans Canada	Pêches et Océans Canada
	Canadian Coast Guard Central & Arctic Region	Garde côtière canadienne Région du centre et de l'Arctique
	Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1	


NAME

P 069

Gusset Kick Plate

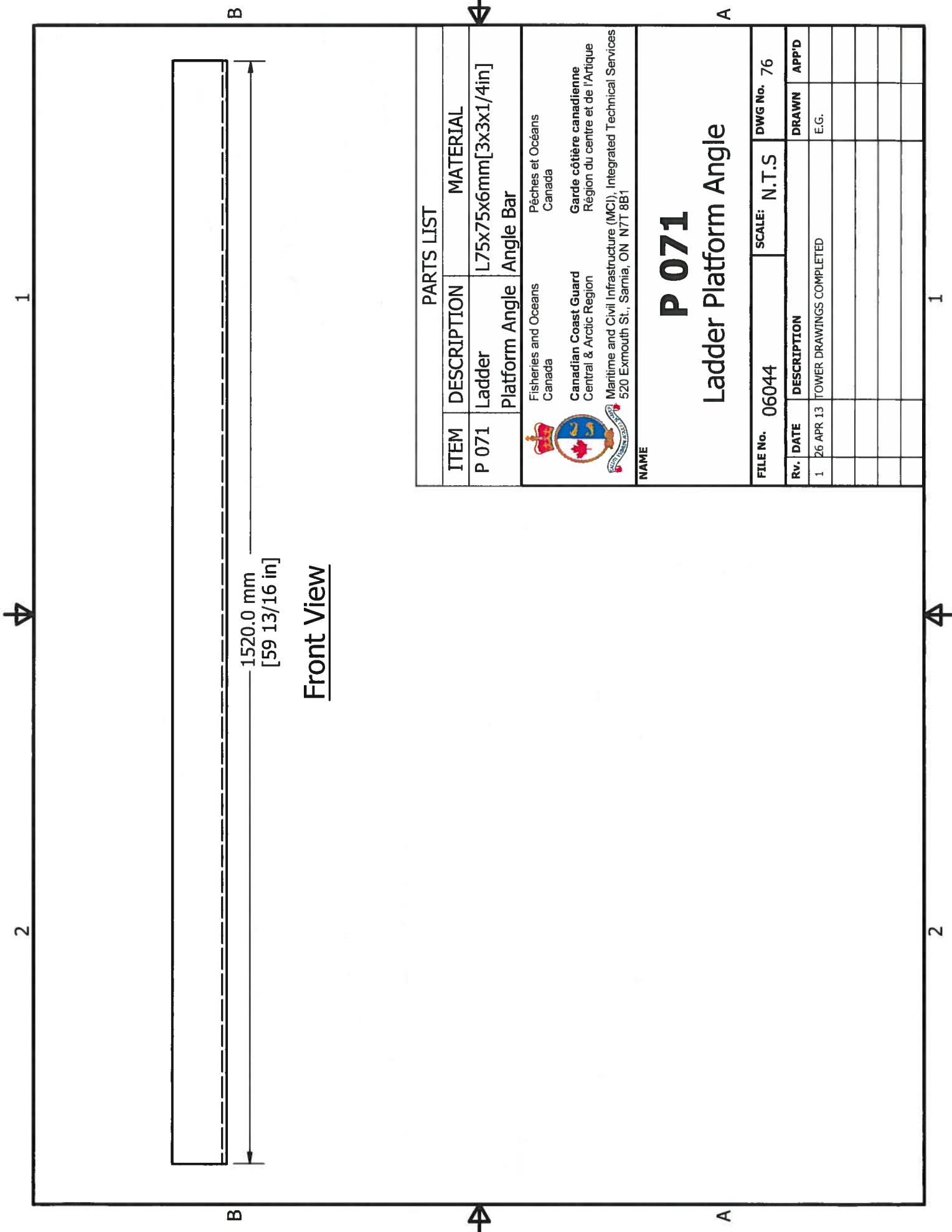
FILE No.	06044	SCALE:	N.T.S	DWG No.	74
Rv.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 070	Ladder Platform	5mm[3/16in] Thick Plate
 Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Pêches et Océans Canada Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		

P 070
Ladder Platform

FILE No. 06044		SCALE: N.T.S	DWG No. 75
RV. DATE	DESCRIPTION	DRAWN	APP'D
1 26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	



1520.0 mm
[59 13/16 in]

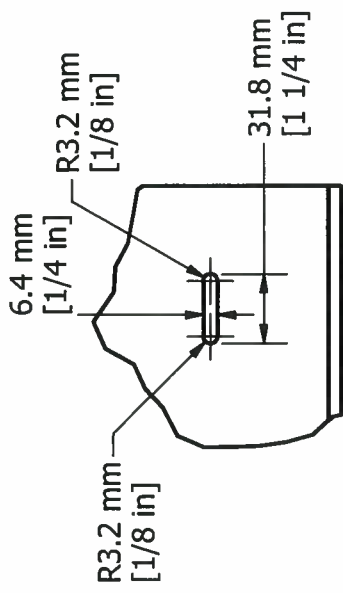
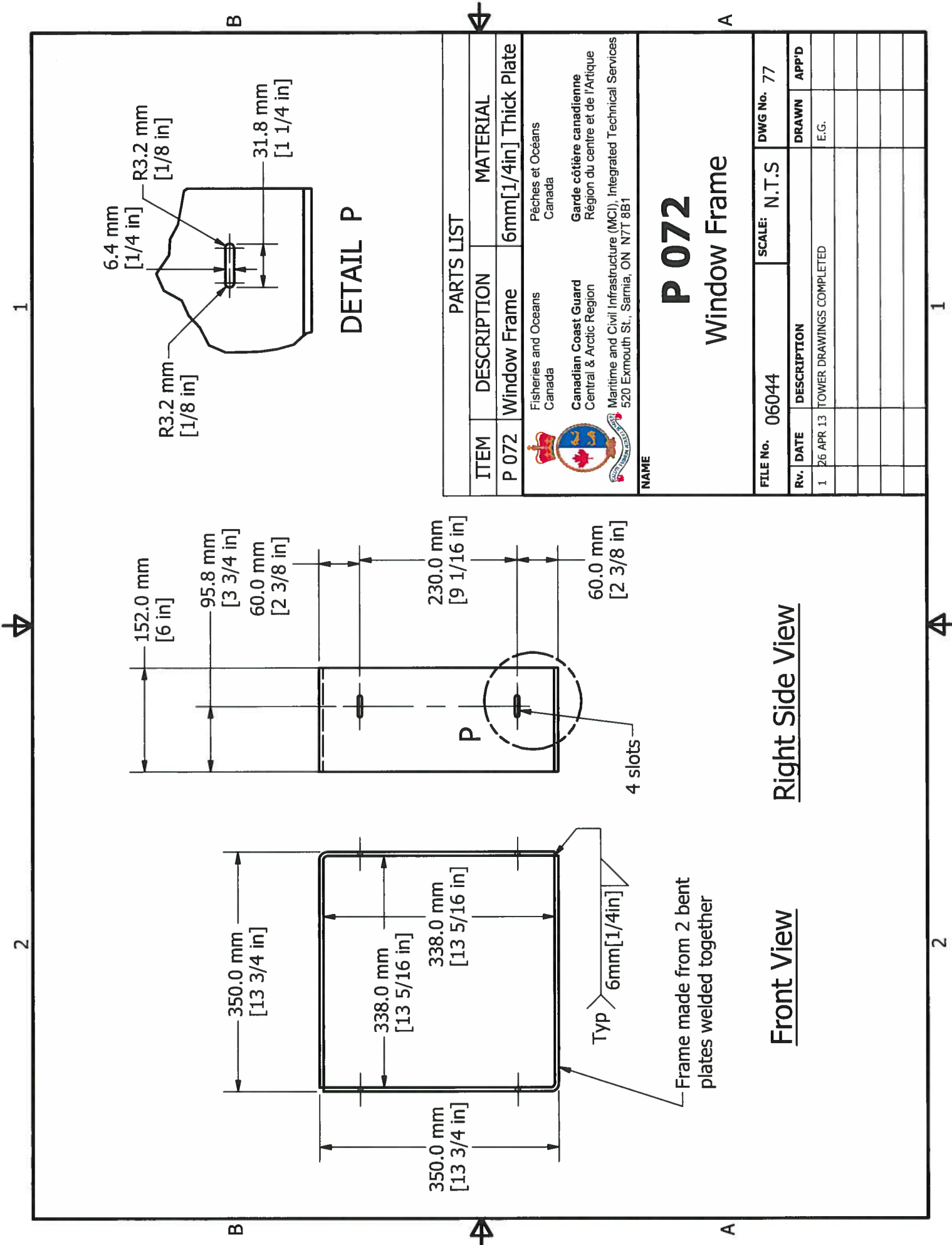
Front View

PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 071	Ladder Platform Angle	L75x75x6mm[3x3x1/4in] Angle Bar
Fisheries and Oceans Canada Pêches et Océans Canada Canadian Coast Guard Central & Arctic Region Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Samia, ON N7T 8B1		

P 071

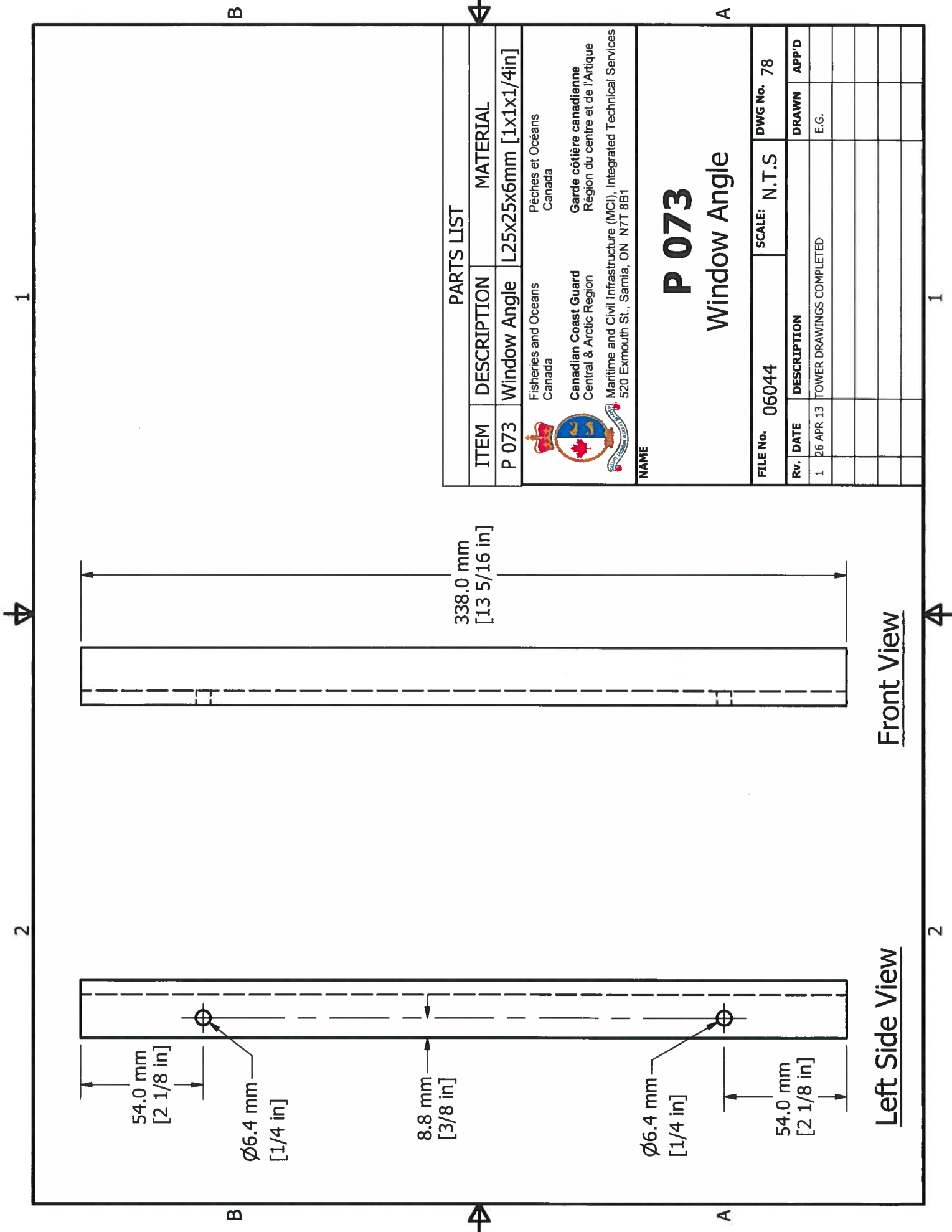
Ladder Platform Angle

FILE No.	06044	SCALE:	N.T.S	DWG No.	76
Rv.	DATE	DESCRIPTION		DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED		E.G.	



DETAIL P

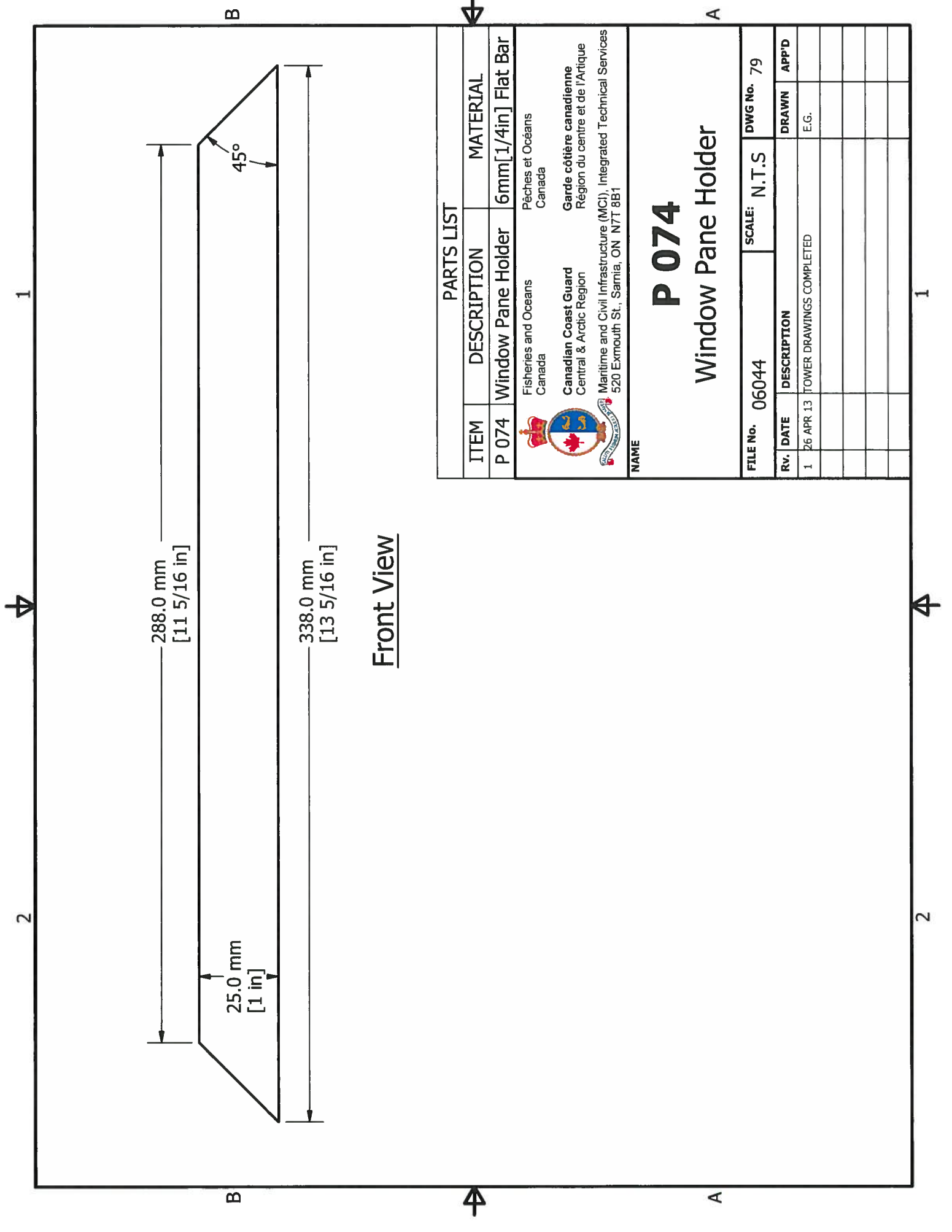
PARTS LIST				
ITEM	DESCRIPTION MATERIAL			
P 072	Window Frame 6mm[1/4in] Thick Plate			
Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1 Pêches et Océans Canada Garde côtière canadienne Région du centre et de l'Arctique				
NAME				
P 072				
Window Frame				
FILE No. 06044	SCALE: N.T.S			
FILE No. 06044	DWG No. 77			
Rv.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	




PARTS LIST				
ITEM	DESCRIPTION	MATERIAL		
P 073	Window Angle	L25x25x6mm [1x1x1/4in]		
Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Maritimes and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1				
NAME <h1 style="text-align: center;">P 073</h1> <h2 style="text-align: center;">Window Angle</h2>				
FILE NO.	06044	SCALE: N.T.S		
		DWG No. 78		
RV.	DATE	DESCRIPTION	DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.	

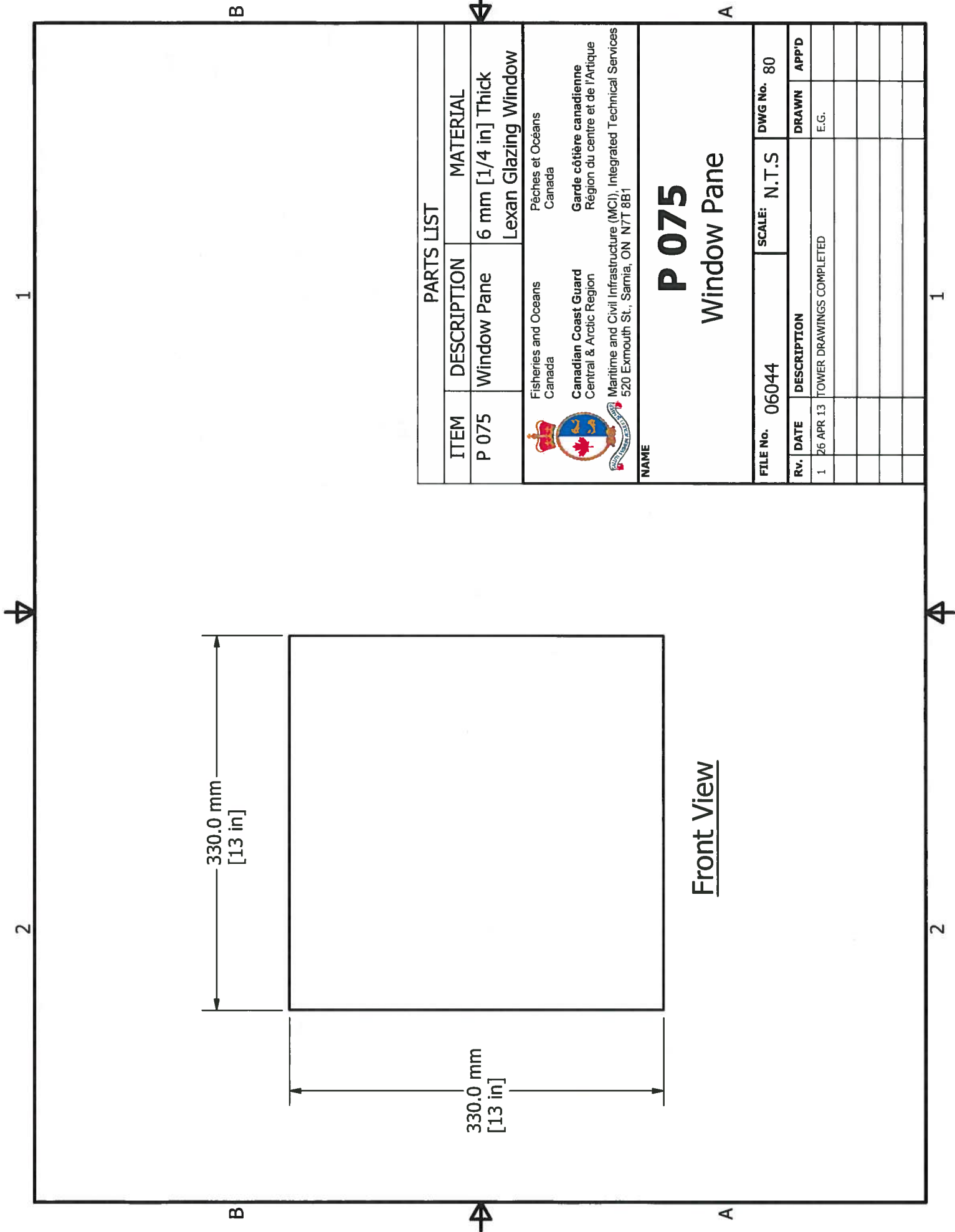
Front View


Left Side View



Front View

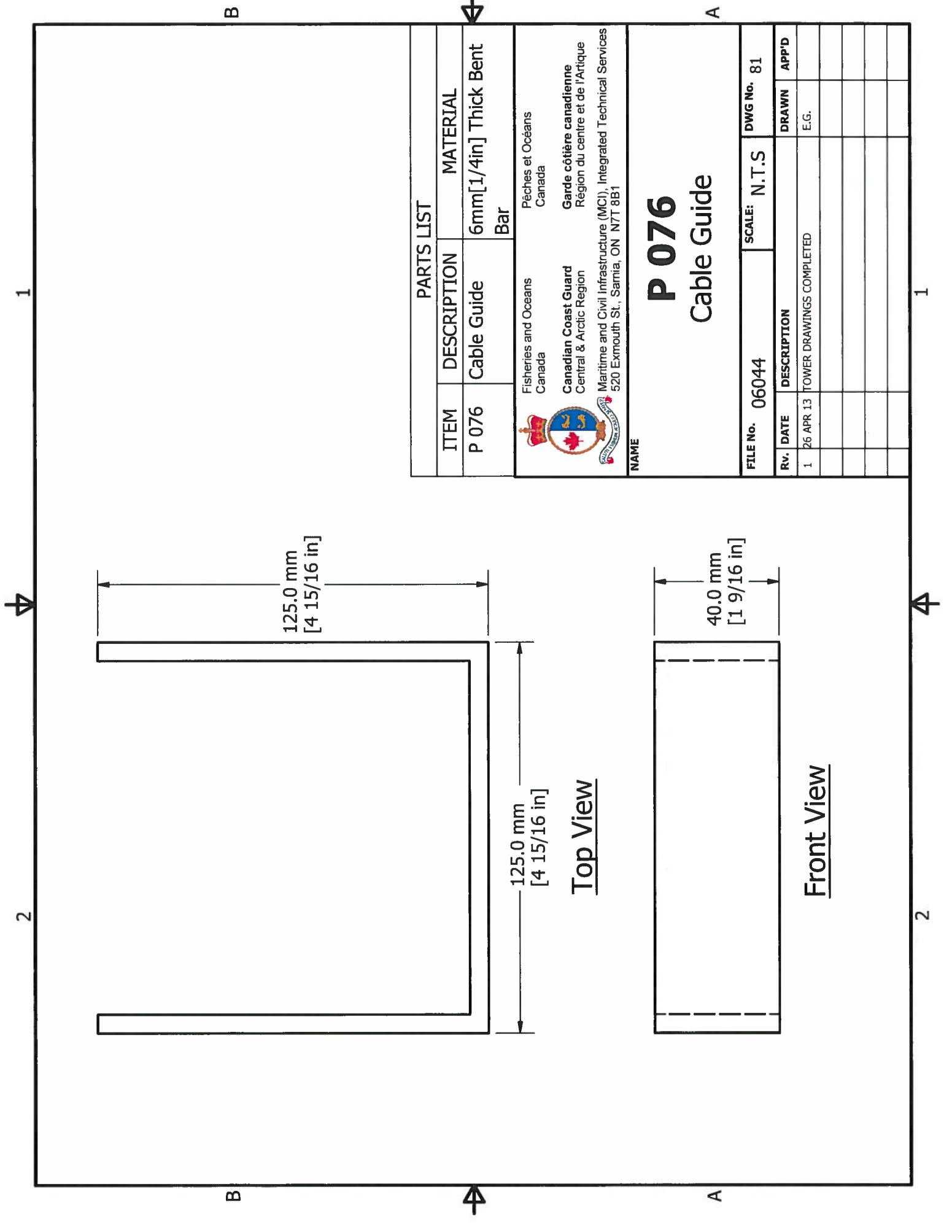
PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 074	Window Pane Holder	6mm [1/4in] Flat Bar
 Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Pêches et Océans Canada Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		
NAME <h1 style="text-align: center;">P 074</h1> <h2 style="text-align: center;">Window Pane Holder</h2>		
FILE No. 06044		SCALE: N.T.S
RV. DATE 26 APR 13		DWG No. 79
DESCRIPTION TOWER DRAWINGS COMPLETED		DRAWN E.G.
		APP'D



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 075	Window Pane	6 mm [1/4 in] Thick Lexan Glazing Window
		
Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Pêches et Océans Canada Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		

NAME
P 075
Window Pane

FILE No. 06044		SCALE: N.T.S		DWG No. 80	
RV.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 076	Cable Guide	6mm[1/4in] Thick Bent Bar

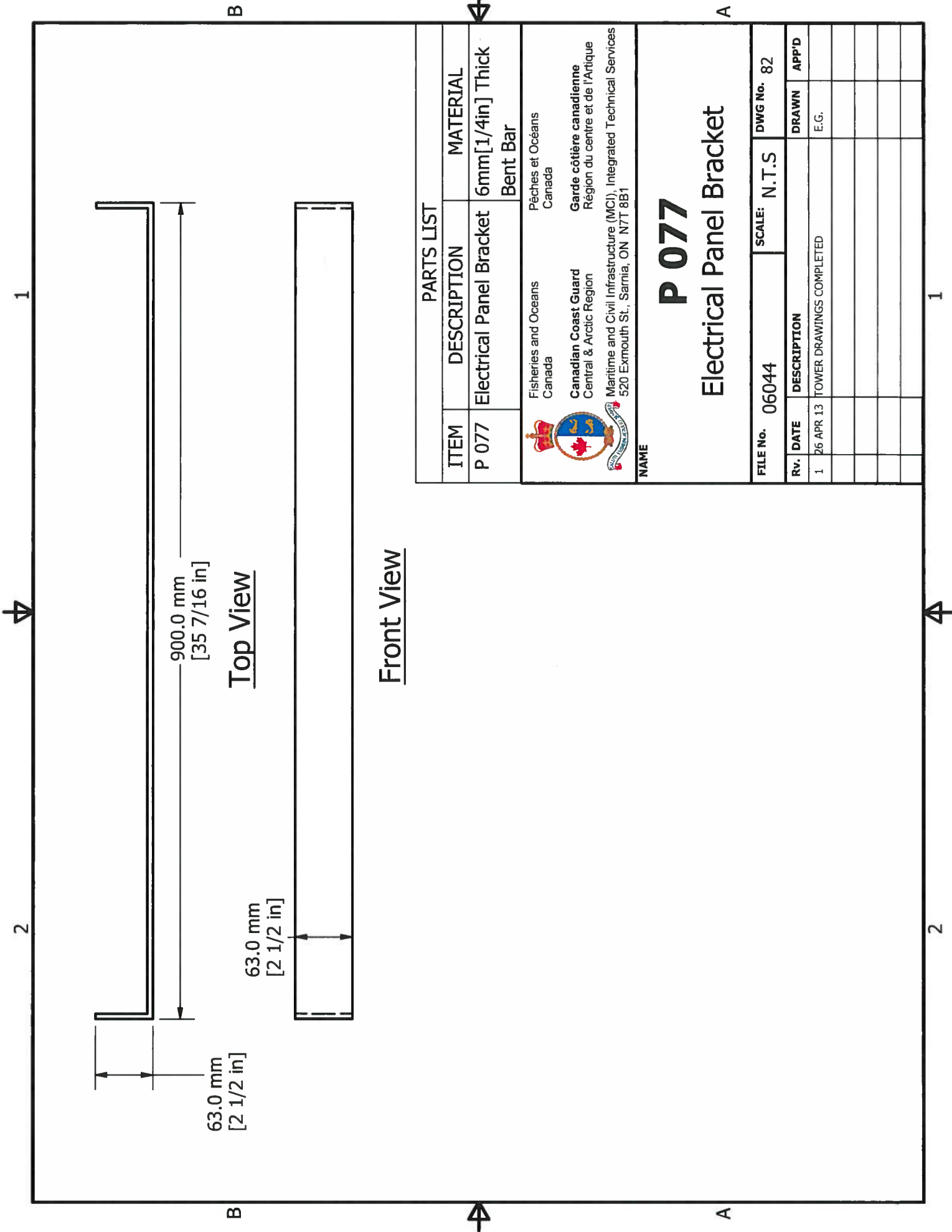
Fisheries and Oceans
 Canada
Canadian Coast Guard
 Central & Arctic Region
 Maritime and Civil Infrastructure (MC), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

P 076
 Cable Guide

FILE No.	06044	SCALE:	N.T.S	DWG No.	81
RV. DATE	26 APR 13	DESCRIPTION	TOWER DRAWINGS COMPLETED		
1		E.G.			

Top View

Front View



B

A

B


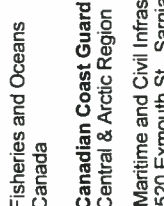
A

Top View

Front View

PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 077	Electrical Panel Bracket	6mm[1/4in] Thick Bent Bar

 <p>Fisheries and Oceans Canada</p>	<p>Pêches et Océans Canada</p>
 <p>Canadian Coast Guard Central & Arctic Region</p>	<p>Garde côtière canadienne Région du centre et de l'Arctique</p>
<p>Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1</p>	

NAME

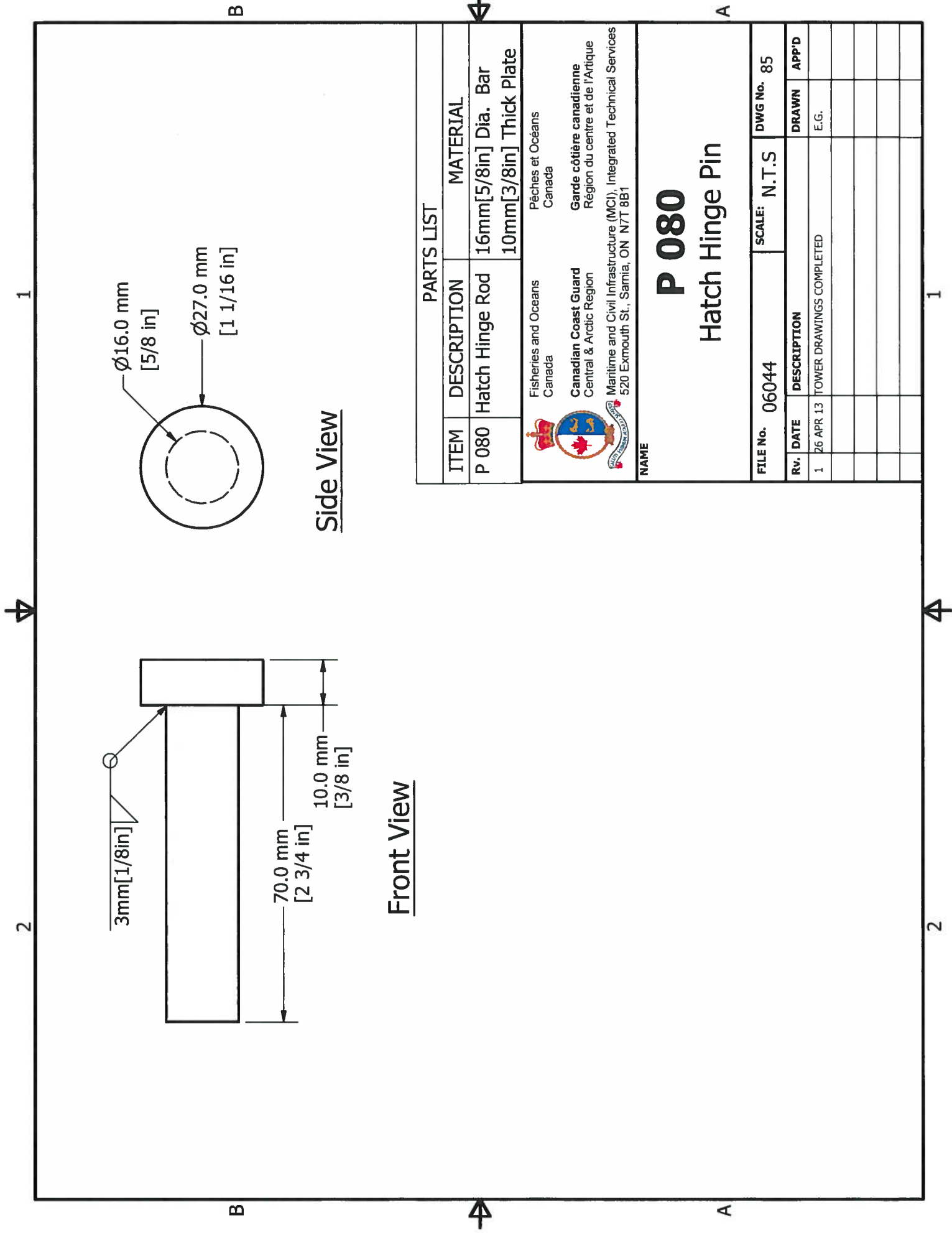
P 077

Electrical Panel Bracket

FILE No. 06044		SCALE: N.T.S		DWG No. 82	
RV.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		

1

2



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 080	Hatch Hinge Rod	16mm [5/8 in] Dia. Bar
		10mm [3/8 in] Thick Plate



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Central & Arctic Region

Maritime and Civil Infrastructure (MCI), Integrated Technical Services
520 Exmouth St., Sarnia, ON N7T 8B1

Pêches et Océans
Canada

Garde côtière canadienne
Région du centre et de l'Arctique

NAME

P 080

Hatch Hinge Pin

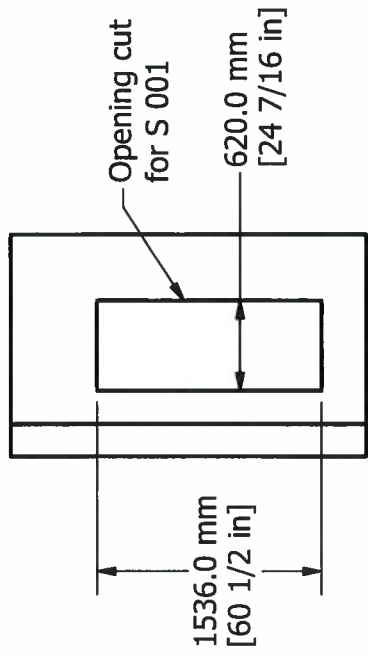
FILE No.	06044	SCALE:	N.T.S	DWG No.	85
Rv.	DATE	DESCRIPTION		DRAWN	APP'D
1	26 APR 13	TOWER DRAWINGS COMPLETED		E.G.	

1

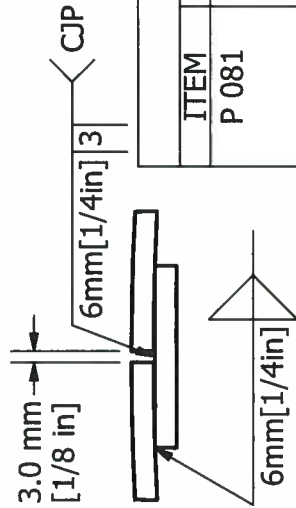
2

1

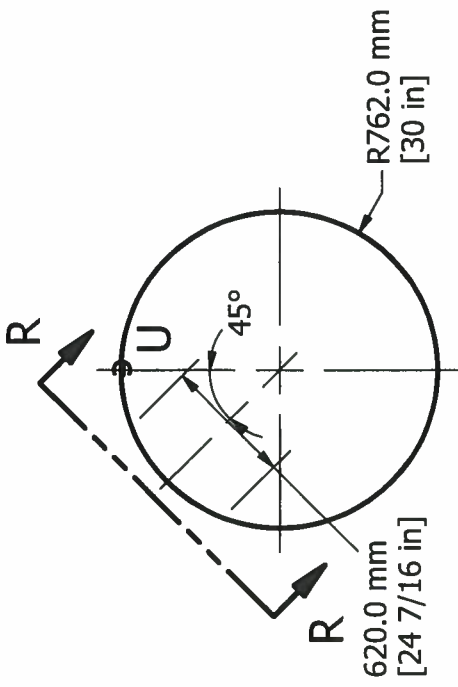
2



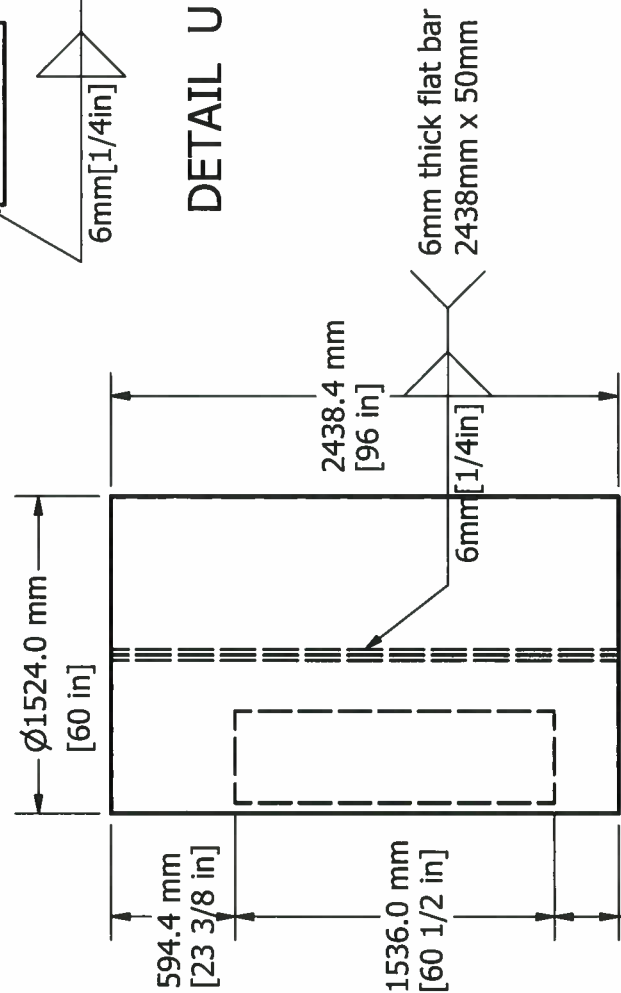
SECTION R-R



DETAIL U




Top View



Front View

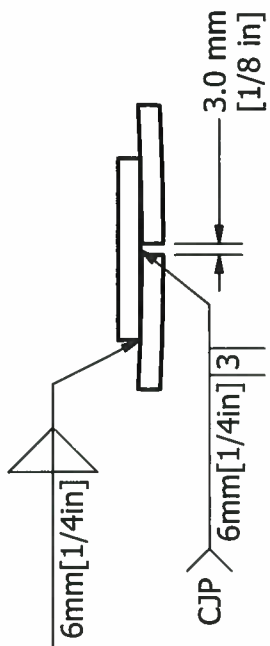
PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 081	Bottom Tower Shell	6mm[1/4in] Thick Rolled Sheet
		6mm[1/4in] Flat Bar

 Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1	P 081 Bottom Tower Shell
	Pêches et Océans Canada Garde côtière canadienne Région du centre et de l'Arctique Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1

FILE No. 06044 SCALE: N.T.S. DWG No. 86
Rv. DATE DESCRIPTION DRAWN APP'D 1 26 APR 13 TOWER DRAWINGS COMPLETED E.G.

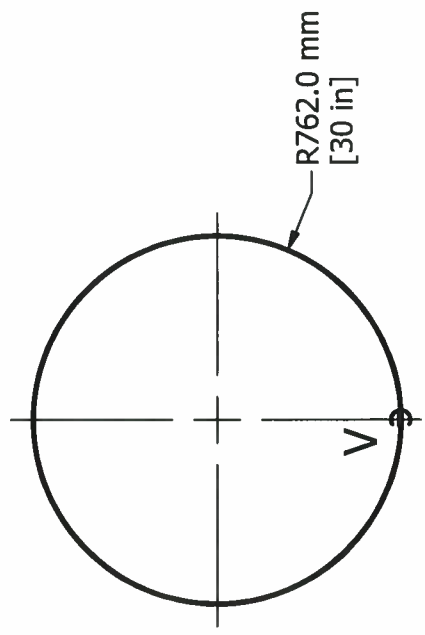
1

B



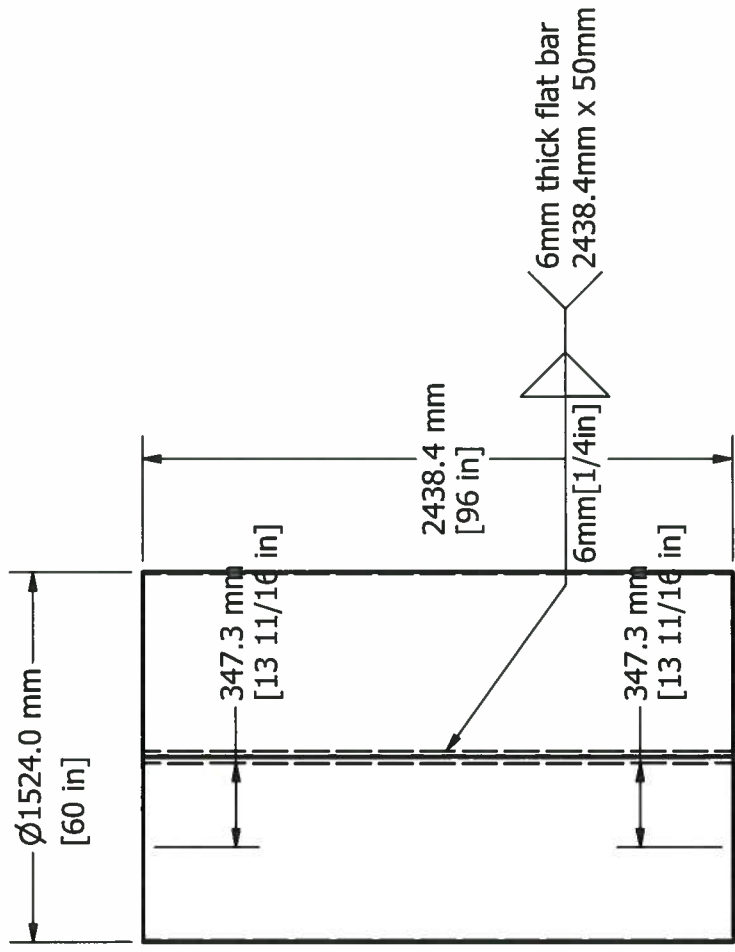
DETAIL V

2



Top View

B




Front View

2

PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 082	8' Middle Tower Shell	6mm [1/4in] Thick Rolled Sheet
		6mm [1/4in] Flat Bar


 Fisheries and Oceans Canada
 Canadian Coast Guard Central & Arctic Region
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

Pêches et Océans Canada
 Garde côtière canadienne Région du centre et de l'Arctique

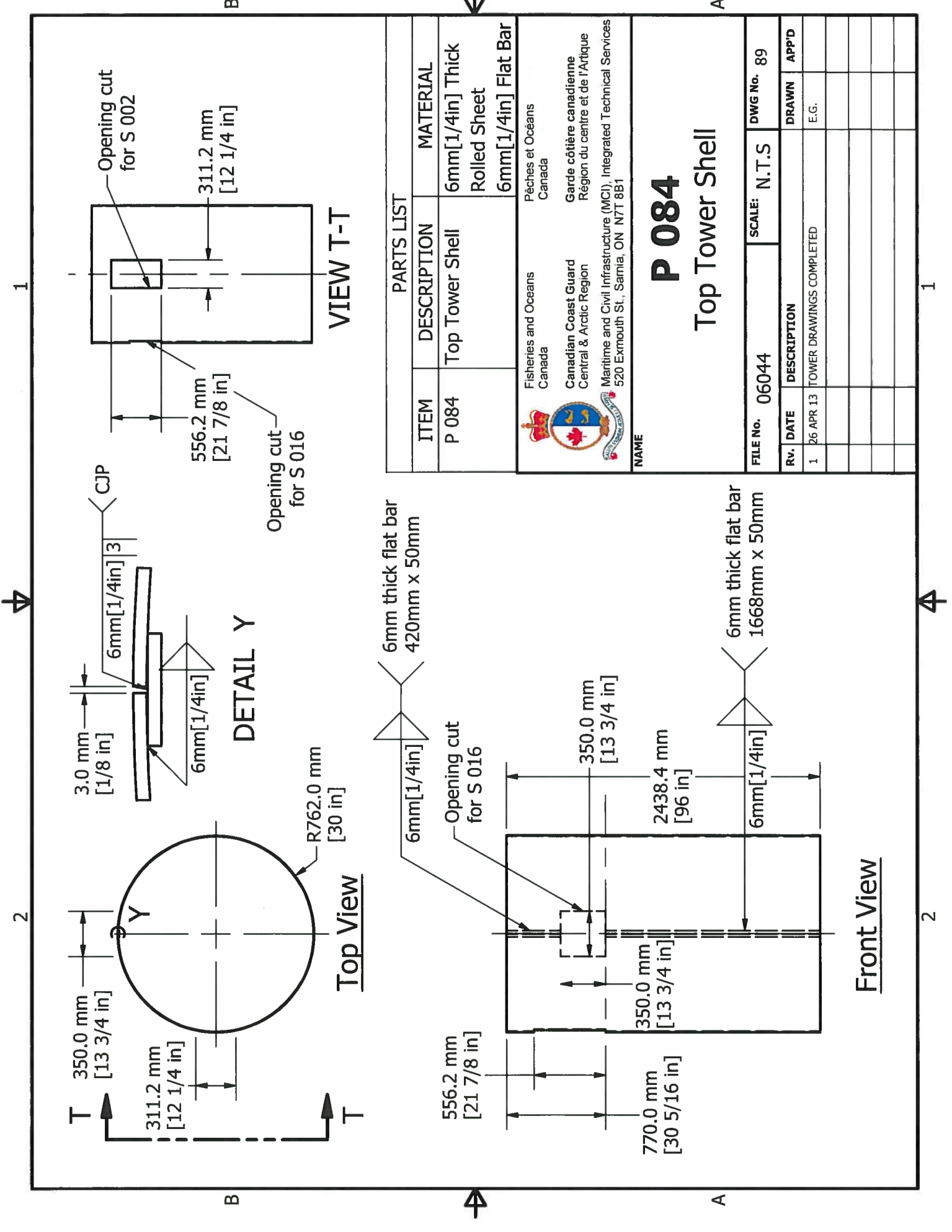
NAME

P 082


8' Middle Tower Shell

FILE No.	06044	SCALE:	N.T.S	DWG No.	87
RV.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		

1

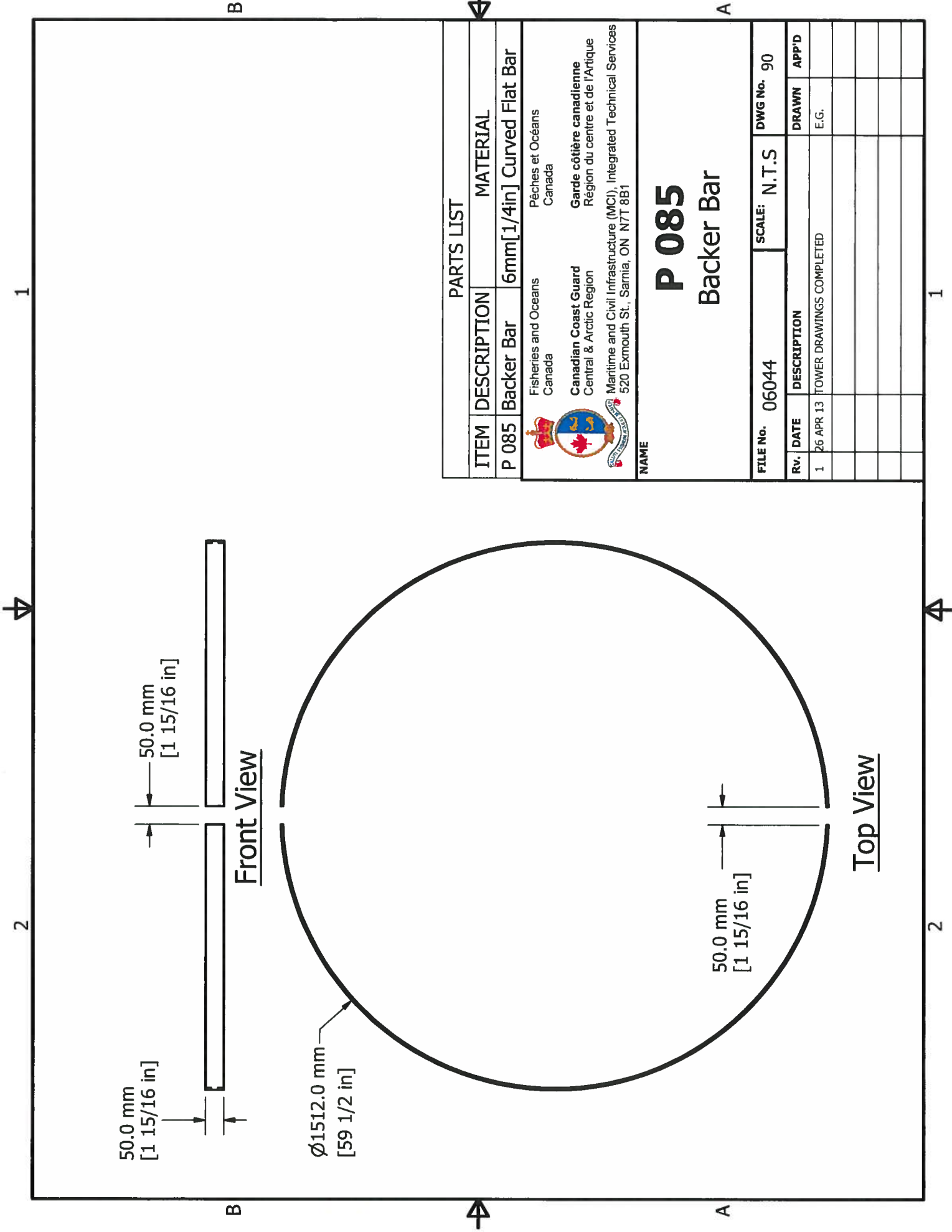


PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 084	Top Tower Shell	6mm [1/4in] Thick Rolled Sheet
		6mm [1/4in] Flat Bar


 Fisheries and Oceans Canada
 Garde côtière canadienne
 Région du centre et de l'Arctique
 Maritime and Civil Infrastructure (MCI), Integrated Technical Services
 520 Exmouth St., Sarnia, ON N7T 8B1

P 084
Top Tower Shell

FILE No.	06044	SCALE:	N.T.S	DWG No.	89
R.V.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		



PARTS LIST		
ITEM	DESCRIPTION	MATERIAL
P 085	Backer Bar	6mm[1/4in] Curved Flat Bar



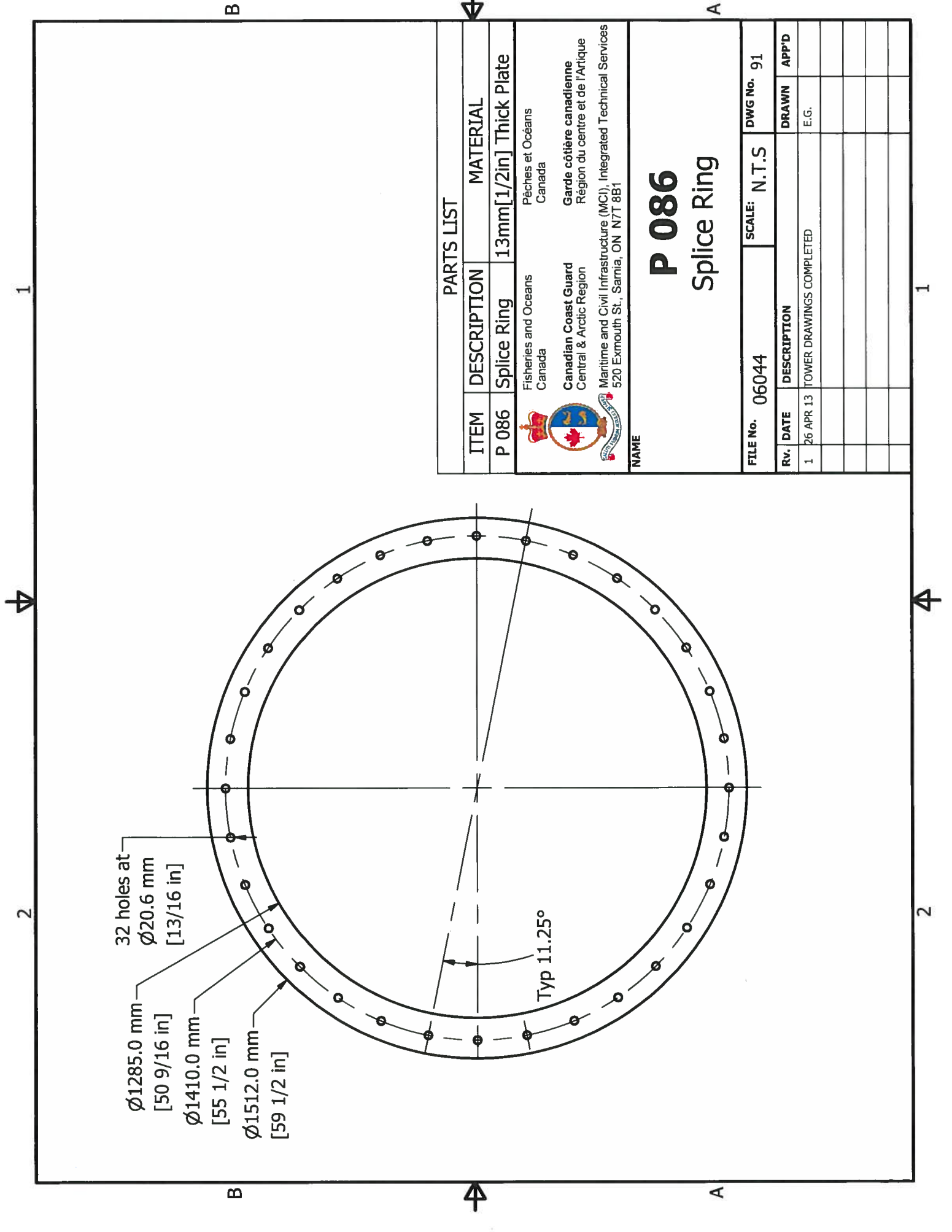
Fisheries and Oceans
Canada
Garde côtière canadienne
Région du centre et de l'Arctique
Maritime and Civil Infrastructure (MCI), Integrated Technical Services
520 Exmouth St., Sarnia, ON N7T 8B1

NAME


P 085

Backer Bar

FILE No.	06044	SCALE:	N.T.S	DWG No.	90
Rv.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		



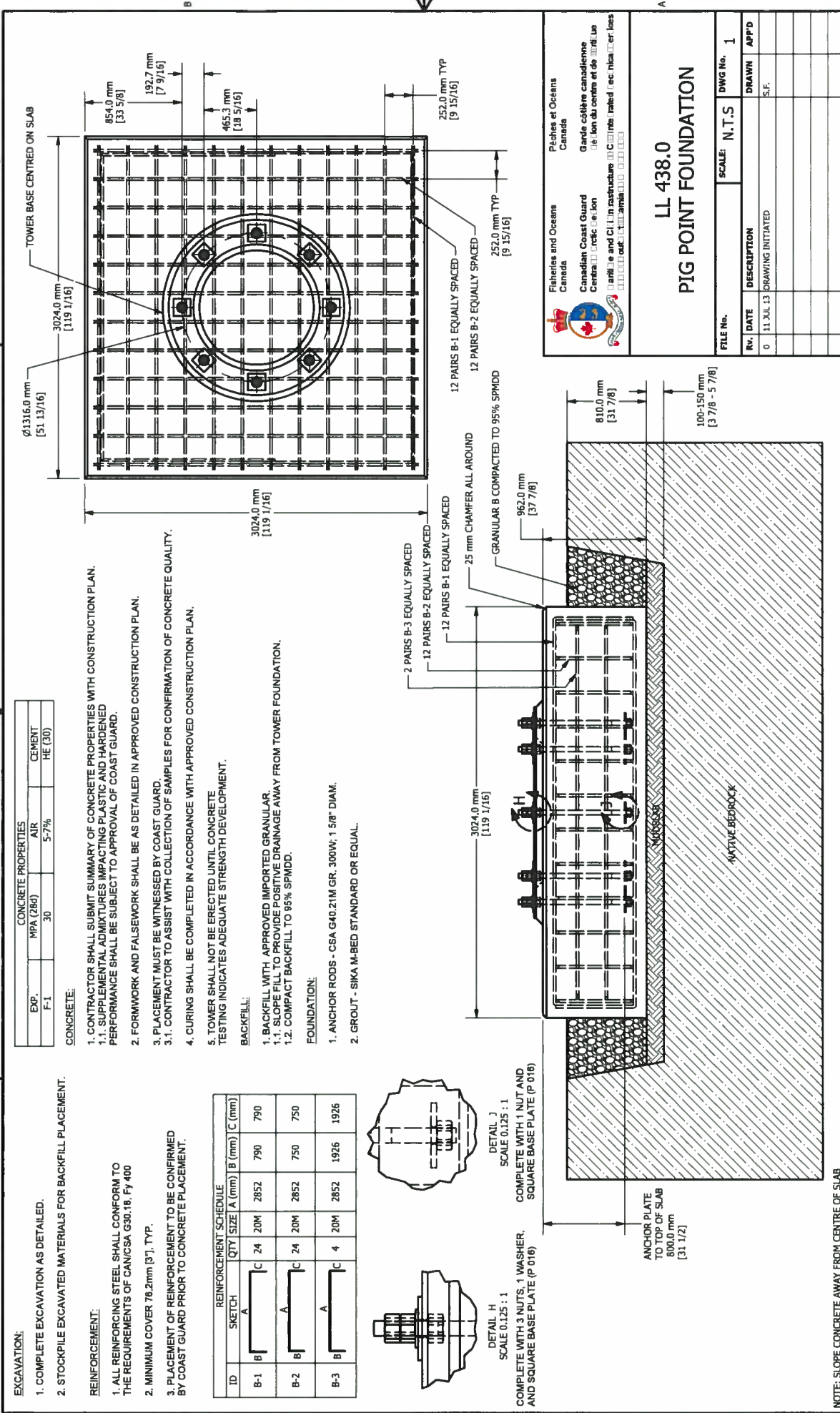
PARTS LIST

ITEM	DESCRIPTION	MATERIAL
P 086	Splice Ring	13mm[1/2in] Thick Plate
 Fisheries and Oceans Canada Canadian Coast Guard Central & Arctic Region Maritime and Civil Infrastructure (MCI), Integrated Technical Services 520 Exmouth St., Sarnia, ON N7T 8B1		

NAME

P 086
Splice Ring

FILE No. 06044		SCALE: N.T.S		DWG No. 91	
RV.	DATE	DESCRIPTION	DRAWN	APP'D	
1	26 APR 13	TOWER DRAWINGS COMPLETED	E.G.		



EXCAVATION:

- COMPLETE EXCAVATION AS DETAILED.
- STOCKPILE EXCAVATED MATERIALS FOR BACKFILL PLACEMENT.

CONCRETE PROPERTIES

EXP.	MPA (28d)	AIR	CEMENT
F-1	30	5-7%	HE (30)

CONCRETE:

- CONTRACTOR SHALL SUBMIT SUMMARY OF CONCRETE PROPERTIES WITH CONSTRUCTION PLAN.
 - SUPPLEMENTAL ADMIXTURES IMPACTING PLASTIC AND HARDENED PERFORMANCE SHALL BE SUBJECT TO APPROVAL OF COAST GUARD.
- FORMWORK AND FALSEWORK SHALL BE AS DETAILED IN APPROVED CONSTRUCTION PLAN.
- PLACEMENT MUST BE WITNESSED BY COAST GUARD.
 - CONTRACTOR TO ASSIST WITH COLLECTION OF SAMPLES FOR CONFIRMATION OF CONCRETE QUALITY.
- CURING SHALL BE COMPLETED IN ACCORDANCE WITH APPROVED CONSTRUCTION PLAN.
- CURING SHALL NOT BE ERCTED UNTIL CONCRETE TESTING INDICATES ADEQUATE STRENGTH DEVELOPMENT.

BACKFILL:

- BACKFILL WITH APPROVED IMPORTED GRANULAR.
 - SLOPE FILL TO PROVIDE POSITIVE DRAINAGE AWAY FROM TOWER FOUNDATION.
 - COMPACT BACKFILL TO 95% SPMD.

FOUNDATION:

- ANCHOR RODS - CSA G40.21M GR. 300W, 1 5/8" DIAM.
- GROUT - SIKKA M-BED STANDARD OR EQUAL.

REINFORCEMENT SCHEDULE

ID	SKETCH	QTY	SIZE A (mm)	B (mm)	C (mm)
B-1		24	20M	2852	790
B-2		24	20M	2852	750
B-3		4	20M	2852	1926

REINFORCEMENT:

- ALL REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF CAN/CSA G30.18, Fy 400
- MINIMUM COVER 76.2mm [3"], TYP.
- PLACEMENT OF REINFORCEMENT TO BE CONFIRMED BY COAST GUARD PRIOR TO CONCRETE PLACEMENT.

DETAIL H
SCALE 0.125 : 1
COMPLETE WITH 3 NUTS, 1 WASHER, AND SQUARE BASE PLATE (P 016)

DETAIL J
SCALE 0.125 : 1
COMPLETE WITH 1 NUT AND SQUARE BASE PLATE (P 016)

ANCHOR PLATE TO TOP OF SLAB 800.0 mm [31 1/2]

NOTE: SLOPE CONCRETE AWAY FROM CENTRE OF SLAB

FILE No. _____ SCALE: N.T.S. DWG No. 1

LL 438.0 PIG POINT FOUNDATION

Rv.	DATE	DESCRIPTION	DRAWN	APP'D
0	11 JUL 13	DRAWING INITIATED	S.F.	

Pêches et Océans Canada
Canadian Coast Guard
Garde côtière canadienne
Centre de Recherche et de Développement en Infrastructure Côtière



Fisheries and Oceans
Canada

Canadian
Coast Guard

Pêches et Océans
Canada

Garde côtière
canadienne



APPENDIX B4 – GEOTECHNICAL INFORMATION



**St. Lawrence Testing
& Inspection Co. Ltd.**

P.O. Box 997, Cornwall, ON, Canada K6H 5V1
814 Second Street W., Phone (613) 938-2521
E-mail: slf@ontarioeast.net Fax (613) 938-7395

June 27, 2013

Mr. Stan Fong
Coast Guard
Fisheries and Oceans Canada
520 Exmouth St.
Sarnia, ON
N7T 8B1

**RE: Pig's Point Navigation Aid
LL438, Amherst Island, ON
Geotechnical Subsurface Investigation
Report No. 13C103**

Dear Mr. Fong:

In accordance with your Purchase Order F2563-130009, this report is submitted, outlining the results of a geotechnical subsurface investigation carried out at the above location, West of Kingston, Ontario at the far West end of Amherst Island, Ontario.

A) DESCRIPTION OF FIELD WORK

Prior to starting work, you contacted the property owner, to inform him of the upcoming work.

Drilling, coring and sampling took place on June 06, 2013 using a portable drilling crew from OGS Inc. of Almonte, Ontario. Supervision was by the undersigned geotechnical engineer. You were on site full time during the work.

The borehole was advanced by split spoon sampling to 0.38 m. and by coring to 3.68 m. Standard Penetration tests were conducted along with the split spoon sampling. The recovered soil sample was placed in a plastic bag for later lab detailed classification.

The coring started at 0.38 m. and proceeded to 3.68 m. The recovered cores were placed in core boxes and were measured on site.

All samples were returned to our laboratory. The results of the stratigraphy is found attached in the borehole log.

The location of the borehole was 0.94 m. West of the West exterior base of the existing concrete foundation.

B) STRATIGRAPHY

The stratigraphy indicates that there 0.28 m. of topsoil at the surface underlain by 0.10 m. of brown, moist, loose silt and sand down to bedrock.

The bedrock has 100% core recovery below 0.97 m., and 82 to 86% core recovery above this. All recovered pieces were less than 100 mm. in length. Thus the RQD is 0. This is considered poor as far as bedrock is concerned.

For the specific stratigraphy, the borehole log should be referred to.

C) GEOTECHNICAL DISCUSSION

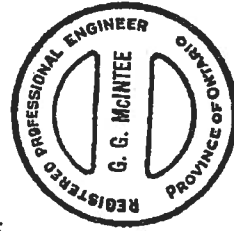
The new structure can be supported on a normal footing using a design bearing of 500 KPa S.L.S. and U.L.S. The site soils factor for seismic design is Site Class B. The design depth for frost protection is nil since bedrock in this area is not frost susceptible.

The soil density of the bedrock is 2400 kg./m³. The bedrock is not expansive. The ground water level is the river level. There is no sulphate issue in the soils in this area. Standard Type 10 cement can be used in the concrete.

D) CONSTRUCTION CONTROL

It is recommended that our firm be retained to conduct the footing inspection to ensure that the design bearing is present and that there is a clean surface on which to place the rebar and concrete. We are also able to carry out the rebar inspection and concrete testing if requested.

Respectfully submitted
ST. LAWRENCE TESTING & INSPECTION CO. LTD.



A handwritten signature in black ink, appearing to be 'G.G. McIntee', written over a horizontal line.

G.G. McIntee, P. Eng.
GGM:njw

Attachment



Fisheries and Oceans
Canada

Canadian
Coast Guard

Pêches et Océans
Canada

Garde côtière
canadienne



APPENDIX B5 – MARINE ACCESS REQUIREMENTS

.1 Marine Access

- .1 Vessel(s) employed in the performance of the contract shall be certified as required by the Canada Shipping Act 2001 and its applicable regulations including Marine Personnel Regulation.
- .1 The bidder shall ensure that the vessel(s) proposed for the work meets all requirements of the Canada Shipping Act 2001 and the applicable Regulations under the Canada Shipping Act.
- .2 Bidders shall provide copies of the following documentation to facilitate evaluation and award:
 - .1 Proof of vessel registration as a commercial vessel in accordance with the Canada Shipping Act 2001. Either one of two registrations will be accepted:
 - .1 Proof of commercial vessel registration in the Small Vessel Register (SVR) if less than 15 Gross Tons or;
 - .2 Proof of commercial vessel registration in the Canadian Register of Vessels (CRV) if more than 15 Gross Tons.
 - .3 NOTE: Pleasure Craft and Fishing Vessels are not acceptable for the performance of this work – it must be a commercially registered vessel.
- .2 Where the vessel is registered in the SVR the bidder shall also provide the following:
 - .1 Copy of vessel certification and any limitations the vessel is operating under. Where the vessel is restricted, the operator shall ensure that the vessel can be used to safely perform the work in this specification;
 - .2 Copy of inspection according to the Small Vessel Compliance Program; Bidder shall submit proof of enrolment in the compliance program and;
 - .3 Either a copy of the initial inspection report or the most recent copy of an annual inspection report and;
 - .4 Copy of the crew certification that will be operating the vessel. Crewing and certification of crew shall be in accordance with the Marine Personnel Regulations, latest edition.
- .3 Where the vessel is registered in the CRV the bidder shall also provide the following:
 - .1 Copy of the latest Annual Inspection Certificate endorsement and;

- .2 Copy of any restrictions that the vessel is operating under and the general sailing limitations of the vessel. Where the vessel is restricted, the operator shall ensure that the vessel can be used to safely perform the work in this specification;
- .3 Copies of the crew certification that will be operating the vessel. Crewing and certification of crew shall be in accordance with the Marine Personnel Regulations, latest edition.
- .2 Vessels and crew found to be in contravention of the act will not be permitted to be engaged in any elements of the works identified herein. In the event that a vessel or crew is found non compliant a suitable replacement vessel and/or crew will be retained by the Contractor at their sole expense.

