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ITT - TOWER REPLACEMENT

LL 551.61 PORT COLBORNE REAR RANGE

PORT COLBORNE, ON

MARITIME AND CIVIL INFRASTRUCTURE
Prepared by: BY
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TABLE OF CONTENTS

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] new steel aid to navigation tower;

.2 Transport one [1] AtoN (Aid to Navigation) tower to the site;

.3 Construct one [1] new tower foundation per the attached drawings;

.4 Erect the new AtoN tower, including mounting of a CCG supplied day-mark;

.5 Demolish and dispose the existing steel tower and foundations.

.2 The following work will be undertaken by others and is hereby excluded:

.1 Supply lantern, day-marks, solar panel, batteries;

.2 Installation of the lantern, solar panel, and batteries.

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:

.1 No later than ten (10) working days following award.

.2 Deliverables:

.1 The contractor shall furnish a high level schedule outlining the major construction milestones. Schedule shall clearly define the anticipated start and finish of the project.

.3 Construction Plan:

.1 Deadline:

.1 No less than 10 working days prior to mobilization.

.2 Deliverables:

.1 A Construction Plan 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, including:

.1 Bidder Qualifications (Section 011100 cl. 1.4), to include:

.1 Core Project member contact information (site foreman and project manager);

.2 Complete listing of all Subcontractors (especially tower fabricator);

.3 Proof of CWB certification for tower fabricator.

.2 Project specific safety program (Section 013530);

.3 Project environmental protection plan (Section 013543);

.4 Detailed demolition plan (Section 024116);

.5 Concrete construction plan (Section 033000);

.6 Tower erection plan (Section 133613);

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 purposes only.

.3 The Contractor shall designate the following key project members, including any subcontractors. The project members shall have completed projects of similar scope and complexity to the work described herein.

.1 Site Foreman: Contact information for the main point of contact at site shall be provided by the contractor.

.2 Project Manager: Contact information for the main point of contact for the project shall be provided by the contractor.

.3 Tower Manufacturer: The Tower Manufacturer shall be responsible for the fabrication of the tower. Manufacturer must be certified by CWB to CSA standard W47.1, division 1 or 2.

.1 Certification: provide Canadian Welding Bureau (CWB) Certification

.4 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.: 42°52'55.67"N - 79°14'46.77"W.

.2 The closest settlement is Port Colborne, Ontario.

.2 The site is located on mainland.

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.

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 accessible by municipal roadways. The project will be underway in the winter. Any clearing/plowing required to gain access to the works shall be the responsibility of the contractor.

.3 Access will be coordinated either from the north through St. Lawrence Sea Way property or from the south through Sneiders. This will be coordinated by CCG staff upon request by contractor.

1.8 Completion, Scheduling and Planning of the Works

.1 Work may commence as early as practical following coast guards acceptance and approval of mandatory submissions.

.2 Work shall be completed no later than March 20th, 2015, unless otherwise negotiated and approved in writing. This date is firm and coincides with the end of the fiscal year end for CCG. Funds will not be available beyond this point.

.3 Work shall be scheduled in such a manner that the demolition of the existing tower shall not commence until the new tower is fully commissioned. The contractor will be required to stand down for one [1] day once the new tower is complete so that CCG staff can transfer the light and associated equipment from the old tower to the new tower.

1.9 Coast Guard Staging Location

.1 Items itemized 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 location. Material drop 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 Queen St. W., Prescott, ON K0E 1T0.

.2 Advise Coast Guard at least three (3) working days prior to pick-up/delivery

.1 For Delivery or Pickup, contact Ted Nickel, (613) 925-2865 (X143), Ted.Nickel@dfo-mpo.gc.ca.

.2 Shipping/Receiving hours: Monday through Friday, 9:00AM to 3:00PM.

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 Due to the specific requirements of the project the Contractor is required to include the following as minimum mandatory requirements of their submitted safety program.

.1 All persons working within the tower footprint shall be "Qualified" as defined in CAN-CSA S37-01

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:

.1 With Construction Plan

.2 Deliverables:

.1 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.

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

1.3 Related Sections

.1 Not used.

1.4 Submittals

.1 Contractor shall submit and environmental protection plan

.1 Deadline:

.1 With Construction Plan

.2 Deliverables:

.1 Submit a plan addressing 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 (including concrete/grout);

.4 Waste disposal methods and sites;

.5 De-watering plan.

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. Tarps must be used to control dust and run-off.

.2 Stockpiled excavated materials shall be skirted using filter fabric to control run-off of fines during rain.

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.

.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 Only clear 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 discourage run-off.

.2 Water pumped from excavation shall be adequately treated to ensure that water returning to the watercourse contains minimal fines. Procedures anticipated for preventing the pumping of fines shall be identified in the environmental protection plan, and may include the following:

.1 The use of filter bags;

.2 Straw bale check dams or silt fence;

.3 Discharge through naturally occurring vegetation.

.3 The means for controlling silt run-off shall be dependent on the site and the quantity of water pumped, and shall be to the discretion of the CCG site staff.

.4 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.

.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.

.2 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.

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

3.7 Traffic

.1 Minimize soil compaction by driving, parking vehicles, and walking, etc. on existing paved roadways/laneways. If soil is impacted by compaction, compensate by restoring areas with new soil, as required.

.1 Avoid the use of heavy machinery in areas of sensitive slopes. Avoid using machinery on land during wet weather.

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 the work 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.

.3 The below list identifies key milestones where the Canadian Coast Guard will require an opportunity to take samples/inspect:

.1 Tower fabrication: The Coast guard will inspect the tower prior to being shipped for hot-dip galvanizing

.2 Subgrade verification: The Coast guard will inspect the subgrade upon completion of the excavation

.3 Concrete testing: The Coast guard will test concrete for air, slump and strength during the pour.

.4 Final completion: The Coast guard will conduct a final inspection upon completion. This will include the commissioning of the lantern equipment.

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 Provide necessary manpower and installations for obtaining and handling samples and material on site.

.3 Provide access to site if the site is of remote nature whereby the contractor is responsible for providing access to the 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.

.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 - 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, fence surrounding the tower, and all concrete foundations;

.2 Disposal of all waste at a licensed waste disposal facility.

.2 Work under this section excludes:

.1 Deactivation of existing lighting system, by CCG. The Canadian Coast guard will transfer the light equipment to the new tower upon completion of the new tower. At such time the new aid will be commissioned and the contractor can begin demolition.

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 Contractor to provide demolition plan.

.1 Deadline:

.1 With Construction Plan.

.2 Deliverables:

.1 Method of demolition including all associated tasks and schedule;

.2 Methods for protecting the site from demolition debris.

.3 The ultimate disposal location of all waste materials and debris.

.1 Include documentation detailing regulatory approval for waste disposal facility and transporter.

.2 Work under this section shall not proceed until written approval of the demolition plan has been received from the Coast Guard.

.3 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 insure the tower is dismantled and demolished in a safe manner.

.1 Photos of the existing tower are included in Appendix B1.

PART 2 - PART 2 - PRODUCTS

2.1 Not used.

PART 3 - 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.

.3 Demolition work shall not commence until the Canadian Coast Guard has transferred and commissioned the lantern and associated equipment. The contractor shall allow for a full day after tower erection for the light commissioning work.

3.2 Protection

.1 Prevent movement, settlement or damage of adjacent structures/vegetation.

.2 Implement effective controls to catch/collect all tower debris during demolition, specifically paint.

.3 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.

.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 fence that surrounds the tower.

.3 Demolish all existing concrete foundations.

.4 Ensure that demolition does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.

.5 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 per the drawing provided in appendix B3

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 (if relevant)

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:

.1 With Construction Plan.

.2 Deliverables:

.1 Provide high level summary of mix properties and admixtures to demonstrate compliance with Coast Guard Criteria.

.2 Provide MSDS, (pre-mixed products only).

.3 Concrete placement methods and curing procedures:

.1 Deadline:

.1 Furnish with Construction Plan (Section 011100)

.2 Deliverables:

.1 Source of concrete, including mixing plan;

.2 Placement methods and procedures to control consolidation/segregation;

.3 Finishing procedures;

.4 Curing methods and schedule;

.5 Clean-up procedures;

.6 Mitigation measures to account for hot or cold temperatures where reasonably anticipated during the construction period.

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 formwork and placement of 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.

.1 For clarity, concrete employed shall be locally available ready-mix concrete.

2.3 Water

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

2.4 Anchor Bolts

.1 The contractor is responsible for the supply and installation of all anchor rods as per the foundation drawings. This includes the levelling nuts, washers and double nuts.

.2 Shall be AISI 4140 HT 1" rod and shall be bent such that the vertical dimension is 730mm, including 140mm threats, and such that the horizontal dimension is 229mm. Bend radius shall be approximately 89mm.

.3 Bolts shall be heavy hex conforming to ASTM A325, and washers shall be ASTM F436.

.4 All hardware shall be hot dip galvanized to CSA G164.

.1 Each anchor bolt shall be long enough to allow for one [1] leveling nut under the baseplate and two [2] nuts and one [1] flat washer above the baseplate.

2.5 Reinforcement

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

.1 Grade 400W unless otherwise identified in the Contract Drawings.

.1 All bars shall be deformed, uncoated unless otherwise identified in the Contract Drawings.

.2 Bar supports must be as mandated in CAN CSA A23.1, 6.6.7.2

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 If the rebar cage as detailed is not strong enough to maintain the designed shape, the contractor is responsible for installing additional bars to keep the cage in shape during construction.

.1 The cage shall be adequately supported to carry the weight of a worker, if the contractor intends on walking on the rebar.

.6 All exposed 90° edges shall be chamfered.

.7 75mm clearance shall be maintained on the top face, bottom face and on all sides.

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 shall be avoided. Alternately, cold joints must be previously approved in writing by CCG.

.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.

.7 Concrete shall be finished so as to slope gently away from the center of the slab. No water shall pond on the finished surface.

3.4 Curing

.1 Shall 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.

.2 Cold weather concrete shall be placed and cured in strict conformance with ACI 306 referenced above. The following is intended to be used as a guideline and shall not by any means circumvent the requirements of ACI 306:

.1 For overnight temperatures expected to be between, 5°C and to -8°C cold weather measures shall be taken. These measures shall include covering the cast concrete in insulated tarps. Tarps shall fully cover the top of exposed concrete and shall drape over the forms to the ground. This shall be kept in place for at minimum 24hrs for high early concrete and for 48 hours for normal concrete.

.2 For overnight temperatures below-8°C and up to -18°C the contractor will be expected to provide a source of heat, and shall ensure the continuous operation of the heat source. Insulated tarps or hoarding shall be used to ensure an ambient temperature of between 5°C and 25°C is maintained. This shall be maintained for 48 hours for high early concrete and for 72 hours for normal concrete.

.3 Contractors shall avoid placing concrete when it is expected that the temperature will drop below -18°C in any of the first 3 nights of curing. If this causes significant problems with the project, please contact the project authority.

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 Fabrication of the tower as identified in appendix B3 – Drawings;

.2 Transportation of the tower and all associated hardware to site from the designated staging area;

.3 The installation of the tower detailed in the appended Contract Drawings;

.4 The transportation and installation of the navigational day-mark.

.2 Work of this section excludes:

.1 Supply of the navigational day-mark, by CCG.

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.

.5 CAN/CSA G164 - Hot Dip Galvanizing of Irregularly Shaped Articles.

1.3 Submittals

.1 Submittals shall be forwarded to Coast Guard in accordance with the provisions of section 013530.

.2 Erection Plan:

.1 Deadline:

.1 With construction plan.

.2 Deliverables:

.1 Plan must clearly demonstrate procedures and methods to be employed to:

.1 Erect the tower;

.2 Monitor that turn of nut has been completed;

.3 Prevent any and all damage to the existing light tower;

.4 Field remedies to address any damage to the coating system incurred during transportation and erection;

.5 Contractor shall submit a shop drawing of the anti-climb that they propose to supply;

.6 Coast Guard reserves the right to request additional documentation verifying the suitability of the proposed labour and equipment anticipated to be employed in the erection of the tower. Certification required may include:

.1 Crane certification/helicopter capacity.

.3 As-built Drawings:

.1 Deadline:

.1 Within 21 calendar days following final acceptance of the works by Coast Guard.

.2 Deliverables:

.1 A complete set of 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 or one [1] hard copy

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 tower fabrication and prior to hot dip galvanizing;

.2 During erection to confirm turn of nut procedures are being followed.

PART 2 - PRODUCTS

2.1 Materials

.1 Steel:

.1 As specified in Contract Drawings.

.2 Coatings:

.1 Galvanizing:

.1 All materials, structural steel, pipe and fittings, including bolts, nuts and washers shall be hot dip galvanized to the requirement of the National Building Code, CAN/CSA S16.1, and CSA-G164 and as otherwise specified therein.

.3 Bolts, Nuts, Washers:

.1 As specified in Contract Drawings.

.4 Miscellaneous Materials:

.1 Fall Restraint System.

.1 DBI SALA LAD-SAF flexible cable system.

.2 Cotterman Gate:

.1 Tower shall be supplied with a fully functioning, automatically closing Cotterman gate installed between the upper platform and the step-off platform.

.1 Model AG2440SS – 24” – 40” stainless steel

.3 Anti-Climb System:

.1 Tower shall be equipped with an anti-climb system.

.2 The contractor shall be responsible for developing a design and submitting drawings for the proposed anti-climb system for approval by the CCG.

.3 Requirements of the proposed design include:

.1 Shall prevent climbers from using the bottom 10’ of the ladder;

.2 A method of locking the anti-climb;

.3 A hinged operation for opening the anti-climb;

.4 All components shall be hot dip galvanized.

.4 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 Drawings 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 Special mounting arrangements must be incorporated into the tower sections for the secure mounting of:

.5 The Contractor shall ensure that electrical continuity exists between all tower sections.

3.2 Protective Coatings

.1 Galvanizing:

.1 The tower and all hardware are hot dip galvanized. The contractor shall be prepared to make repairs to the coating as needed.

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.

.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 The contractor will be asked to identify how he would like the tower packaged for shipping shortly after award. This will be coordinated by CCG.

3.4 Site preparation

.1 Complete installation of all foundation elements prior to tower erection.

.2 Extra concrete cylinders shall be cast and broken to determine foundation strength prior to erection. This will be coordinated by CCG staff upon the request from the contractor.

.3 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 **All bolted connections shall be made following the turn of nut procedure**.

SECTION: 310000 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 subgrade;

.2 The installation of four [4] driven piles;

.3 Backfilling of the excavation, including:

.1 Supply of all required materials;

.2 Placement and/or compaction of granular material.

.2 The restoration of all disturbed areas within the work site.

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 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 Submittals

.1 Submittals shall be forwarded to Coast Guard in accordance with the provisions of section 013530.

.1 No submittals required for this section.

1.4 Existing Conditions

.1 A geotechnical investigation has been completed at this site a copy of the report is included in Appendix B4.

.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.

1.5 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 backfill or formwork placement.

PART 2 - PRODUCTS

2.1 General

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

2.2 Water

.1 Shall be free of deleterious materials.

2.3 Driven Piles

.1 Shall be per appended drawings

.2 Shall be made of tube steel, and shall be 250mm in diameter and 9.5mm thick.

2.4 Backfill

.1 Subgrade:

.1 Subgrade shall be 20-0mm Type II Granular ‘B’ as per OPSS 1010.

.2 Fill for uses along the side of the foundation:

.1 Backfill must not be frozen

.2 Backfill can consist of stockpiled native (excavated) materials if suitable; or,

.3 20-0mm Type II Granular ‘B’ as per OPSS 1010.

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.

3.2 Excavation

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

.2 Excavate the area indicated in Appendix B3.

.1 Side slopes must be maintained around the perimeter of the excavation in accordance with provincial legislation.

.3 Take all reasonable precautions to minimize the disturbance of the existing vegetation.

3.3 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.

3.4 Driven Piles

.1 Piles shall be driven such that they conform to the requirements set out in the appended foundation drawings.

.2 Piles shall be driven to the depth of bedrock, estimated at 6.18m below ground surface, or to refusal.

.3 Piles shall remain vertical within 2% deviation.

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.

.2 Excavated materials shall not be removed from site, but shall be used given the following priority:

.1 Backfill around new foundation;

.2 Backfill any voids created during the demolition of existing tower;

.3 Spread remaining soils on site to the discretion of the CCG staff representative on-site.

APPENDIX B1: SITE LOCATION AND PHOTOGRAPHS

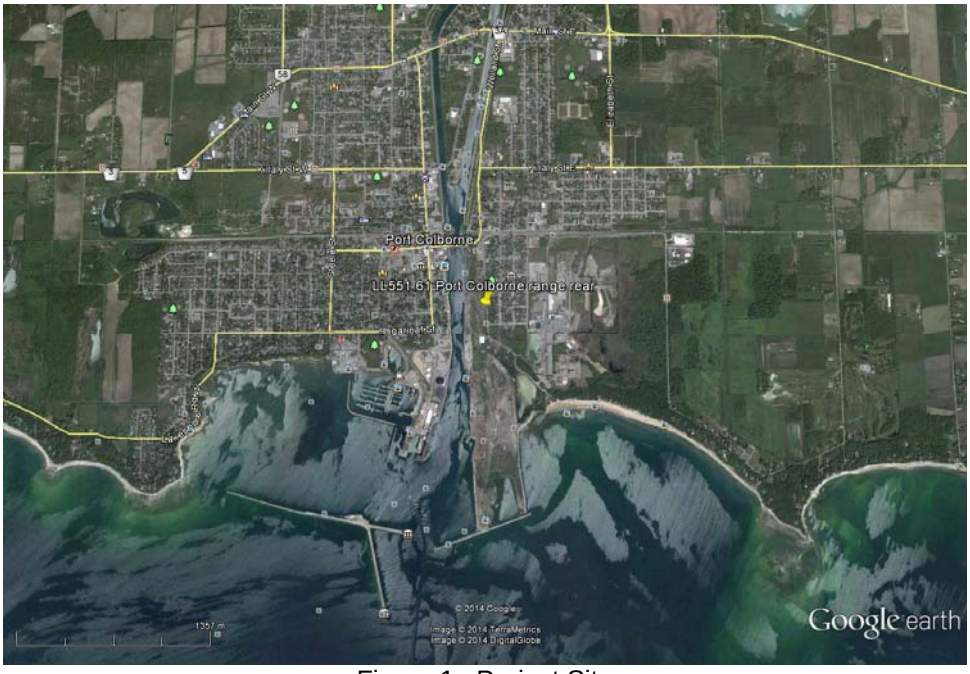

Figure 1: Project Site
LL 551.61 Port Colborne Rear Range
42°52'55.67"N - 79°14'46.77"W

Figure 2: Project Site

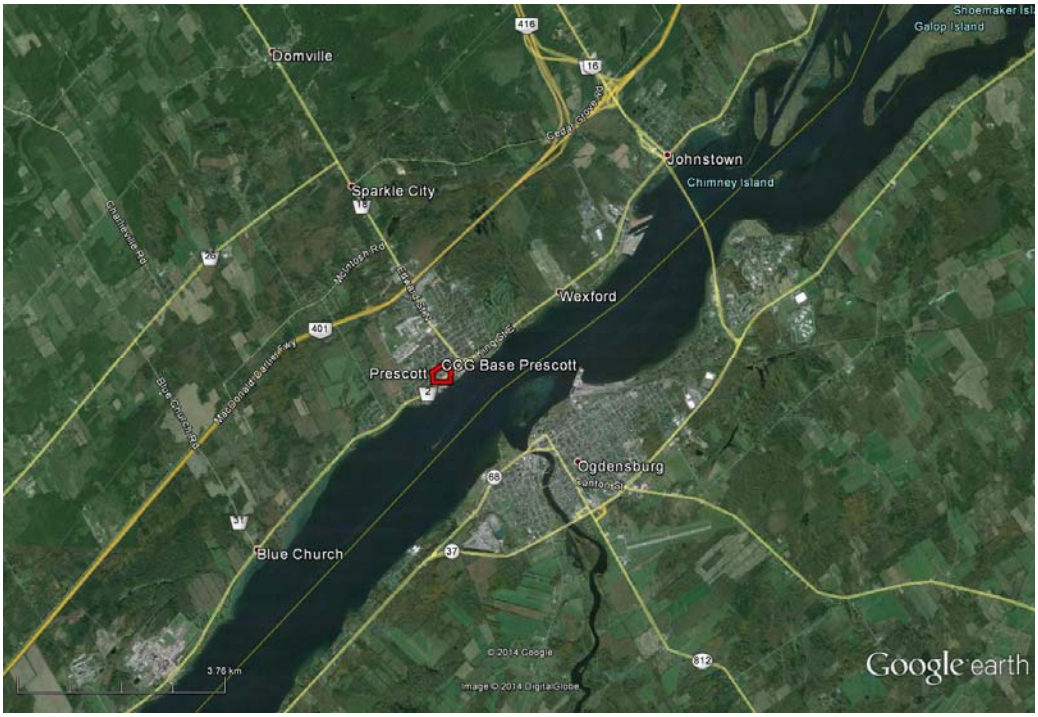

Figure 3: Coast Guard Staging Area
CCG Base Prescott
401 King Street West Prescott, ON K0E 1T0
44°42'23.16"N - 75°31'3.22"W

Figure 4: Coast Guard Staging Area

Figure 5 - Existing Tower Profile

Figure 6 – Inside of tower, showing attachement to concrete.

Figure 7 – Rear Range Site Looking South

Figure 8 – Rear Range Site Looking North

APPENDIX B2 – SUMMARY OF SUBMITTALS

Following Contract Award	
Submission Description	***Section(s)***
Deadline: 10 working days following award	
Detailed schedule:	*011100*
Deadline: 10 working days prior to mobilization	
Proof of registration with Ontario WSIB	
Construction Plan – Final Submission	
a) Complete listing of personnel (inc. subcontractors)	*011100*
b) Final project specific safety plan	*013530*
c) Project environmental protection program	*013543*
d) Detailed demolition plan	*024116*
e) Concrete construction plan (include Concrete Mix Parameters)	*033000*
f) Tower plan (including anti-climb shop drawings)	*133613*
Deadline: 21 calendar days following acceptance of the works	
Waste disposal receipts	*024116*
As-built drawings	*133613*

APPENDIX B3 – DRAWINGS

NOTES GÉNÉRALES

1. GÉNÉRALITÉS

1.1 NORMES

1.1.1 LES EXIGENCES DU CODE NATIONAL DU BÂTIMENT 2010, SES RÉVISIONS ET SES DOCUMENTS CONNEXES, LES RÈGLEMENTS MUNICIPAUX ET RÈGLEMENTS DU MINISTÈRE DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DES PARCS DU QUÉBEC (MDDEP) S'APPLIQUENT À CE PROJET. L'ENTREPRENEUR DOIT OBTENIR TOUS LES PERMIS ET AUTORISATIONS APPLICABLES AVANT DE DÉBUTER LES TRAVAUX (À MOINS D'AVIS CONTRAIRE).

1.1.2 L'ENTREPRENEUR DOIT SE CONFORMER AUX NORMES DE LA CSST AINSI QU'AUX NORMES DE SÉCURITÉ DU PROPRIÉTAIRE.

1.2 INTERPRÉTATION DES DOCUMENTS

1.2.1 EN CAS DE CONTRADICTION OU DE DIVERGENCE ENTRE LES VERSIONS FRANÇAISE ET ANGLAISE DES DOCUMENTS, LA VERSION FRANÇAISE A PRÉSÉANCE.

1.3 RESPONSABILITÉS DE L'ENTREPRENEUR

1.3.1 L'ENTREPRENEUR DOIT VISITER LES LIEUX DE L'OUVRAGE AFIN DE SE RENDRE COMPTE DE L'ÉTAT ET DES PARTICULARITÉS DE L'ENDROIT AVANT DE REMETTRE SA SOUMISSION. AUCUNE RÉCLAMATION EN RAISON DE L'IGNORANCE DES CONDITIONS LOCALES NE SERA RECONNUE PAR LE PROPRIÉTAIRE.

1.3.2 AVANT DE COMMENCER TOUT TRAVAIL, L'ENTREPRENEUR DOIT PRENDRE ET VÉRIFIER TOUTES LES MESURES ET TOUS LES NIVEAUX SUR LE CHANTIER ET INDIQUER À L'INGÉNIEUR TOUTE DIFFÉRENCE AVEC LES PLANS. L'ENTREPRENEUR EST TENU SEUL RESPONSABLE D'ERREURS DE NIVEAU ET DE DIMENSION RELEVÉES SUR LE SITE.

1.3.3 CHAQUE ENTREPRENEUR A LA RESPONSABILITÉ COMPLÈTE DE L'INGÉNIERIE DE DÉTAIL DE SA SPÉCIALITÉ. CELLE-CI COMPREND TOUS LES TRAVAUX NÉCESSAIRES À LA PRÉPARATION DES DESSINS D'ATELIER ET DES PLANS D'ÉRECTION POUR RÉALISER LES TRAVAUX DE CONSTRUCTION REQUIS. CES TRAVAUX COMPRENNENT, ENTRE AUTRES, LA PRISE DE TOUTES LES MESURES NÉCESSAIRES AU CHANTIER, LA CONCEPTION DE TOUS LES ASSEMBLAGES, LA PRÉPARATION DE TOUS LES DÉTAILS DE CONSTRUCTION ET LA COORDINATION AVEC TOUS LES INTERVENANTS POUR LA QUANTITÉ, LA DIMENSION ET LA POSITION DE TOUTES LES OUVERTURES, DE TOUS LES LINTEAUX, DE TOUS LES MANCHONS, DE TOUS LES ANCRAGES, DE TOUS LES ÉQUIPEMENTS DE MÉCANIQUE, ETC.

1.3.4 L'ENTREPRENEUR DOIT PRENDRE CONNAISSANCE DES PLANS EN ENTIER ET SE RENDRE COMPTE DES TRAVAUX CONCERNANT LES DIFFÉRENTS CORPS DE MÉTIER SE RATTACHANT AUX SIENS. IL DOIT PRÉVOIR ET EXÉCUTER, À SES FRAIS, TOUS LES MENUS OUVRAGES QUI NE SONT PAS NÉCESSAIREMENT DÉCRITS AU DEVIS, MAIS QUI SONT NÉANMOINS REQUIS OU NÉCESSAIRES POUR COMPLÉTER LES TRAVAUX SELON LES RÈGLES DE L'ART.

1.3.5 L'ENTREPRENEUR DOIT LAISSER LES LIEUX PROPRES ET SANS REBUS.

1.4 CHARGES PENDANT LA CONSTRUCTION

1.4.1 TOUS LES TRAVAUX DE PROTECTION ET DE SOUTIEN TEMPORAIRE SONT SOUS LA GOUVERNE ET LA RESPONSABILITÉ DE L'ENTREPRENEUR. CELUI-CI EST TENU DE PRENDRE TOUTES LES MESURES NÉCESSAIRES ET D'INSTALLER EN QUANTITÉ SUFFISANTE LES SUPPORTS ADÉQUATS AFIN D'ASSURER LA SÉCURITÉ DES OUVRIERS, DE LA NOUVELLE STRUCTURE ET DE LA STRUCTURE EXISTANTE ADJACENTE.

1.5 DESSINS

1.5.1 POUR LA CONSTRUCTION, L'ENTREPRENEUR NE DOIT SE SERVIR QUE DES DESSINS SPÉCIFIQUEMENT IDENTIFIÉS COMME ÉTANT « ÉMIS POUR CONSTRUCTION », SIGNÉS ET SCELLÉS PAR UN INGÉNIEUR.

1.5.2 LES DESSINS NE SONT QU'UNE REPRÉSENTATION VISUELLE DES CHARPENTES À CONSTRUIRE; AUCUNE COTE NE DOIT ÊTRE MESURÉE À L'ÉCHELLE SUR LES PLANS ET, LORSQUE REQUIS AUX PLANS ET DEVIS, DES DESSINS D'ATELIER DOIVENT ÊTRE PRÉPARÉS DE FAÇON INDÉPENDANTE, AUX FRAIS DE L'ENTREPRENEUR.

1.6 EXCAVATION, REMBLAYAGE ET FONDATION SUR PIEUX

1.6.1 GÉNÉRALITÉS

1.6.1.1 LES PLANS INDIQUENT LA CHARGE AXIALE ULTIME PONDÉRÉE QUI DOIT ÊTRE SUPPORTÉE PAR CHACUN DES PIEUX. L'ENTREPRENEUR DOIT RÉALISER SES PROPRES CALCULS DE PIEUX ET LES SOUMETTRE À L'INGÉNIEUR AU MOINS CINQ JOURS OUVRABLES AVANT LA RÉALISATION DES TRAVAUX. LE FONÇAGE NE POURRA PAS COMMENCER AVANT QUE L'ENTREPRENEUR AIT REÇU LA RÉVISION PAR L'INGÉNIEUR DES CALCULS ET DES DESSINS D'ATELIER. L'ENTREPRENEUR DOIT ÉGALEMENT FOURNIR LES FORMULES DE BATTAGE ET LES CRITÈRES DE REFUS ESTIMÉS.

1.6.1.2 LES PLANS D'ATELIER ET LES CALCULS DES PIEUX DOIVENT ÊTRE SIGNÉS ET SCELLÉS PAR UN INGÉNIEUR MEMBRE DE L'O.I.Q.

1.6.1.3 L'ENTREPRENEUR DOIT S'ASSURER QUE LE SOL, À L'ENDROIT DE LA MISE EN PLACE DES PIEUX, PEUT SUPPORTER LES OPÉRATIONS DE BATTAGE ET D'ESSAIS DE CHARGE. PRENDRE LES MESURES NÉCESSAIRES POUR FACILITER L'ACCÈS ET ASSURER LE SUPPORT DU MATÉRIEL DE BATTAGE AU COURS DE L'EXÉCUTION DES TRAVAUX. L'ÉNERGIE DE BATTAGE DOIT ÊTRE INFÉRIEURE OU ÉGALE À 6J PAR mm2 DE SECTION DU PIEU.

1.6.1.4 L'ENTREPRENEUR DOIT NOTAMMENT TENIR COMPTE DE L'ENVIRONNEMENT PHYSIQUE DES SECTEURS CONCERNÉS PAR L'IMPLANTATION DES PIEUX ET PRÉVOIR SES ÉQUIPEMENTS DE BATTAGE ET D'ESSAIS EN CONSÉQUENCE.

1.6.1.5 L'ENTREPRENEUR DOIT LOCALISER LES SERVICES EXISTANTS AVANT DE COMMENCER LE FONÇAGE DES PIEUX.

1.6.1.6 TOLÉRANCES :

- LA TÊTE DU PIEU NE DOIT PAS ÊTRE À PLUS DE 75 mm (3 PO) DE L'EMPLACEMENT INDIQUÉ.
- LE DÉSALIGNEMENT D'UN PIEU NE DOIT PAS DÉPASSER 2 % DE SA LONGUEUR.

1.6.1.7 FAIRE RÉALISER PAR UNE FIRME SPÉCIALISÉE EN GÉOTECHNIQUE LES ESSAIS DYNAMIQUES SUR UN DES PIEUX, PRÉALABLEMENT CHOISI PAR L'INGÉNIEUR. CES ESSAIS SONT AUX FRAIS DE L'ENTREPRENEUR ET INCLUS AU MONTANT FORFAITAIRE DU CONTRAT.

1.6.1.8 TYPE DE PIEUX : LES PIEUX UTILISÉS SONT EN ACIER TUBÉ D'UN DIAMÈTRE MINIMAL DE 254 mm (10 PO), DONT L'ÉPAISSEUR DE LA PAROI EST D'AU MOINS 9.0 mm (3/8 PO). ILS DEVRONT ÊTRE MUNIS DE POINTE, TEL QUE DÉTAILLÉ SUR LES PLANS.

1.6.1.9 LA CAPACITÉ DES PIEUX EST ATTEINTE PAR REFUS.

1.6.1.10 LES CONTRAINTES PERMISES SERVANT À DÉTERMINER LA CAPACITÉ PORTANTE DES PIEUX SONT CELLES ÉNUMÉRÉES DANS LA NORME CAN/CSA S16.1, DERNIÈRE ÉDITION.

1.6.1.11 LA LONGUEUR HORS SOL DES PIEUX UTILISÉE POUR LES ESSAIS DOIT ÊTRE D'AU MOINS 1800 mm.

1.6.1.12 LES ESSAIS DYNAMIQUES DOIVENT ÊTRE EFFECTUÉS SELON LES EXIGENCES DE LA NORME ASTM D4945 "STANDARD TEST METHOD FOR HIGH-STRAIN DYNAMIC TESTING OF PILES".

1.6.1.13 LES PIEUX N'ONT PAS BESOIN D'ÊTRE REMPLIS DE BÉTON.

1.6.1.14 L'ARASEMENT DES PIEUX DOIT ÊTRE EFFECTUÉ AU NIVEAU PRÉVU ET HORIZONTALEMENT, LORSQUE TOUS LES PIEUX DU GROUPE SONT ENFONCÉS ET QUE LA RÉSISTANCE GÉOTECHNIQUE EST JUGÉE CONFORME PAR LE PROPRIÉTAIRE. TOUTE PARTIE BRISÉE À LA TÊTE DU PIEU DOIT ÊTRE ENLEVÉE.

1.6.1.15 UNE PLAQUE MÉTALLIQUE D'UNE ÉPAISSEUR D'AU MOINS 20 mm DOIT ÊTRE SOUDÉE À LA TÊTE DU PIEU. LES ANCRAGES DEVRONT ÊTRE FIXÉS À CETTE PLAQUE. LA CONCEPTION DES ANCRAGES EST LA RESPONSABILITÉ DE L'ENTREPRENEUR ET À SES FRAIS.

1.6.1.16 POUR TENIR COMPTE DE LA CORROSION DES PIEUX EN ACIER, LA SECTION UTILE EST OBTENUE EN RÉDUISANT L'ÉPAISSEUR DE LA PAROI DE 0,75 mm SUR LE PÉRIMÈTRE INTÉRIEUR ET EXTÉRIEUR DES PIEUX TUBULAIRES.

1.6.2 FABRICATION DES PIEUX

1.6.2.1 ON PEUT FABRIQUER DES PIEUX DE PLEINE LONGUEUR EN ASSEMBLANT LES DIVERSES SECTIONS PAR SOUDURES CHANFREINÉES À PÉNÉTRATION ENTIÈRE.

1.6.2.2 L'ENTREPRENEUR DOIT SOUMETTRE À L'APPROBATION DE L'INGÉNIEUR LES DÉTAILS RELATIFS À L'USAGE PRÉVU POUR LES PIEUX AVANT DE COMMENCER LEUR FABRICATION.

1.6.2.3 TOLÉRANCES :

- MESURÉ À LA RÈGLE DE 3 m, L'ÉCART ADMISSIBLE PAR RAPPORT À L'ALIGNEMENT AXIAL EST DE 0,25 %.
- L'ÉCART ADMISSIBLE PAR RAPPORT À LA LIGNE DROITE SUR LA LONGUEUR TOTALE DU PIEU FABRIQUÉ EST DE 25 mm (1 PO).

1.6.2.4 L'ENTREPRENEUR DOIT RÉPARER LES SOUDURES DÉFECTUEUSES DÉSIGNÉES PAR L'INGÉNIEUR. FAIRE LES RÉPARATIONS CONFORMÉMENT AUX NORMES CSA W59 ET CSA W59S1. LES SOUDURES RÉPARÉES SANS AUTORISATION PEUVENT ÊTRE REFUSÉES.

1.6.3 AVANT DE PROCÉDER À L'EXCAVATION, AU REMBLAYAGE ET PLANTAGE DE PIEUX, L'ENTREPRENEUR DOIT PRENDRE CONNAISSANCE DE L'ÉTUDE GÉOTECHNIQUE DISPONIBLE DE LA FIRME INSPEC-SOL (EN ANGLAIS), QUI TRAITE NOTAMMENT DES PENTES D'EXCAVATION :

GEOTECHNICAL INVESTIGATION

TOWER REPLACEMENT

POWERHOUSE REAR RANGE LL 37.1

BEAUHARNOIS, QUEBEC

REFERENCE NO. M027927-A1

JUNE 13, 2011

1.6.3.1 LES PENTES D'EXCAVATION DEVRONT ÊTRE DE 2,5H : 1,0V. LORS DE L'EXCAVATION, AUCUN MATÉRIAU EXCAVÉ, NI AUCUNE MACHINERIE OU ÉQUIPEMENT NE DOIT ÊTRE POSITIONNÉ À L'INTÉRIEUR D'UNE DISTANCE ÉQUIVALENTE À LA PROFONDEUR DE L'EXCAVATION. AUCUNE EXCAVATION VERTICALE NON RETENUE N'EST PERMISE. LE SOL NATUREL EXPOSÉ DOIT ÊTRE PROTÉGÉ DES INTEMPÉRIES ET DU RUISSELLEMENT. LES PENTES D'EXCAVATION DOIVENT ÊTRE VÉRIFIÉES PAR UN EXPERT EN GÉOTECHNIQUE AVANT QUE LES OUVRIERS PUISSENT ACCÉDER AU FOND DE L'EXCAVATION. L'ENTREPRENEUR EST RESPONSABLE DE LA STABILITÉ DES PENTES D'EXCAVATION.

1.6.4 LES SONDAGES ET FORAGES SONT DONNÉS À TITRE INDICATIF SEULEMENT. L'ENTREPRENEUR DOIT RÉALISER, À SES FRAIS, TOUS LES SONDAGES ET FORAGES QU'IL JUGE NÉCESSAIRES.

1.6.5 LA FONDATION DE LA TOUR DOIT REPOSER SUR UN COUSSIN DE PROPRETÉ D'UNE ÉPAISSEUR MINIMALE DE 300 mm EN PIERRE NETTE OU EN GRAVIER CONCASSÉ NET D'UN DIAMÈTRE DE 20 mm.

1.6.6 L'ENTREPRENEUR DOIT RÉALISER TOUTES LES EXCAVATIONS JUSQU'AUX NIVEAUX REQUIS EN ÉVITANT DE REMANIER LE FOND DES EXCAVATIONS. TOUTES LES DIMENSIONS ET NIVEAUX DOIVENT ÊTRE VÉRIFIÉS AVEC LES PLANS GÉNÉRAUX ET ADAPTÉS AUX NIVEAUX DU TERRAIN, TOUT EN GARDANT UNE PROTECTION MINIMALE DE 2000 mm CONTRE LE GEL POUR LE DESSOUS DE LA FONDATION.

1.6.7 LE FOND DES EXCAVATIONS DOIT ÊTRE MAINTENU À SEC TOUT AU LONG DES TRAVAUX.

1.7 MATÉRIAUX DE REMBLAI

1.7.1 TOUS LES MATÉRIAUX CONSTITUANT LES REMBLAIS DOIVENT ÊTRE DÉPOSÉS ET ÉPANDUS PAR COUCHES UNIFORMES D'UNE ÉPAISSEUR MAXIMALE DE 300 mm.

1.7.2 LES MATÉRIAUX EXCAVÉS NE PEUVENT, EN AUCUN CAS, ÊTRE RÉUTILISÉS.

1.7.3 REMBLAI DE TYPE 1

1.7.3.1 PIERRE OU GRAVIER CONCASSÉ, DE CALIBRE MG 20, PROPRE, DUR AVEC UNE GRANULOMÉTRIE CONFORME À LA NORME CAN/BNQ 2560-114: TRAVAUX DE GENIE CIVIL - GRANULATS. LE REMBLAI DOIT ÊTRE COMPACTÉ À 95% CONFORMÉMENT À LA NORME CAN/BNQ 2501-255 « SOLS - DÉTERMINATION DE LA RELATION TENEUR EN EAU-MASSE VOLUMIQUE - ESSAI AVEC ÉNERGIE DE COMPACTAGE MODIFIÉE (2700 kN m/m3) ».

1.7.4 REMBLAI DE TYPE 2

1.7.4.1 SABLE OU GRAVIER DE CALIBRE MG 112, AVEC UNE GRANULOMÉTRIE CONFORME À LA NORME CAN/BNQ 2560-114: TRAVAUX DE GENIE CIVIL - GRANULATS. LE REMBLAI DOIT ÊTRE COMPACTÉ À 95% CONFORMÉMENT À LA NORME CAN/BNQ 2501-255 « SOLS - DÉTERMINATION DE LA RELATION TENEUR EN EAU-MASSE VOLUMIQUE - ESSAI AVEC ÉNERGIE DE COMPACTAGE MODIFIÉE (2700 kN m/m3) ».

1.8 ACIER D'ARMATURE

1.8.1 TOUTE L'ARMATURE DOIT ÊTRE DE NUANCE 400 W ET DE FABRICATION CANADIENNE SUIVANT LA NORME CSA G30.18.

1.8.2 SAUF SI INDIQUÉ AUTREMENT SUR LES PLANS, LES LONGUEURS DE CHEVAUCHEMENT ET LES DIAGRAMMES DE PLIAGE DOIVENT ÊTRE CONFORMES AUX EXIGENCES CONTENUES DANS LE « MANUEL DE NORMES RECOMMANDÉES » PUBLIÉ PAR L'INSTITUT D'ACIER D'ARMATURE DU CANADA.

1.8.3 AVANT LA FABRICATION DES ARMATURES, L'ENTREPRENEUR DOIT OBTENIR TOUTES LES DIMENSIONS ET TOUS LES NIVEAUX RÉELS DES FONDATIONS.

1.8.4 LA POSE DE L'ACIER D'ARMATURE DOIT ÊTRE CONFORME À LA NORME CSA A23.1-09.

1.8.5 L'ARMATURE DE LA FONDATION DOIT ÊTRE SUPPORTÉE PAR DES BLOCS DE BÉTON CONÇUS À CET EFFET.

1.9 BÉTON COULÉ EN PLACE

1.9.1 LE MÉLANGE, LE MÛRISSEMENT ET LES TRAVAUX DE BÉTON DOIVENT ÊTRE EXÉCUTÉS SELON LES NORMES CAN/CSA A23.1-09 ET A23.2-09.

1.9.2 LA RÉSISTANCE MINIMALE DU BÉTON À 28 JOURS DOIT ÊTRE DE 30 MPa.

1.9.3 TOUT LE BÉTON DEVRA AVOIR 5 À 8 % D'AIR OCCLUS.

1.9.4 LE BÉTON DOIT AVOIR UN RAPPORT EAU/CIMENT MAXIMAL DE 0,45, ÊTRE FAIT DE SABLE ET DE PIERRE CONCASSÉE À 20 mm (¾ PO) MAXIMUM ET AVOIR UN AFFAISSEMENT CONFORME AU TABLEAU 6 DE LA NORME CAN/CSA A23.1-M. AUCUN AJOUT D'EAU N'EST PERMIS AU MOMENT DE LA COULÉE.

1.9.5 POUR TOUT L'OUVRAGE, ON DOIT UTILISER UN VIBRATEUR POUR LA MISE EN PLACE DU BÉTON.

1.9.6 SI L'OUVRAGE DOIT S'EFFECTUER À UNE TEMPÉRATURE INFÉRIEURE À 5 °C, L'ENTREPRENEUR DOIT PROTÉGER LES ÉLÉMENTS FRAÎCHEMENT COULÉS CONFORMÉMENT AUX ARTICLES PERTINENTS DE LA NORME CAN/CSA A23.1-M.

1.9.7 LE MÛRISSEMENT DU BÉTON DOIT ÊTRE RÉALISÉ CONFORMÉMENT AUX NORMES CAN3 A23.1-M ET CAN3 A23.2-M.

1.9.8 LE BÉTON DOIT RECEVOIR UNE CURE À L'EAU DURANT AU MOINS SEPT JOURS CONSÉCUTIFS. SI LE MÛRISSEMENT HUMIDE EST IMPOSSIBLE ET APRÈS AVOIR OBTENU L'APPROBATION DE L'INGÉNIEUR, ON DOIT APPLIQUER DEUX COUCHES CROISÉES DE SCELLANT (SIKAGARD CURE/HARD OU ÉQUIVALENT APPROUVÉ; LA QUANTITÉ ET LA POSE DEVRONT ÊTRE FAITES SELON LES RECOMMANDATIONS DU FABRICANT).

1.9.9 L'UTILISATION DE CHLORURE DE CALCIUM EST INTERDITE.

1.10 ANCRAGES

1.10.1 MATÉRIAUX

1.10.1.1 LES BOULONS D'ANCRAGE DOIVENT ÊTRE CONFORMES À LA NORME ASTM A307.

1.10.1.2 UTILISER UN COULIS SANS RETRAIT SOUS LES PLAQUES D'ASSISE : 35 MPa À SEPT JOURS.

1.11 PIEUX

1.11.1 MATÉRIAUX

1.11.1.1 L'ACIER DES POINTES DE PIEUX TUBULAIRES DOIT ÊTRE CONFORME AUX EXIGENCES STIPULÉES DE LA NORME CSA G40.21 "ACIERS DE CONSTRUCTION".

1.11.1.2 L'ACIER DES TUBES DE PIEUX TUBULAIRES DOIT ÊTRE CONFORME AUX EXIGENCES DE LA NORME CSA G40.21 "ACIERS DE CONSTRUCTION" OU AU GRADE C DE LA NORME ASTM A500 "STANDARD SPECIFICATION FOR COLD-FORMED WELDED AND SEAMLESS CARBON STEEL STRUCTURAL TUBING IN ROUNDS AND SHAPES" OU AU GRADE 50 OU 55 DE LA NORME ASTM A572 "STANDARD SPECIFICATION FOR HIGH-STRENGHT LOW-ALLOY COLUMBIUM-VANADIUM STRUCTURAL STEEL". DANS LE CAS D'ACIER ASTM A572, LES PIEUX DOIVENT ÊTRE FABRIQUÉS CONFORMÉMENT AUX EXIGENCES DE LA NORME ASTM A252 "STANDARD SPECIFICATION FOR WELDED AND SEAMLESS PIPE PILES".

GENERAL NOTES

1. STANDARDS

1.1 STANDARDS

1.1.1 REQUIREMENTS FROM THE NATIONAL BUILDING CODE OF CANADA [2010], ITS REVISIONS AND RELATED DOCUMENTS, MUNICIPAL REGULATIONS AND THOSE FROM THE QUÉBEC MINISTRY OF SUSTAINABLE DEVELOPMENT, ENVIRONMENT AND PARKS (MSDEP) APPLY TO THIS PROJECT. CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS AND AUTHORIZATIONS BEFORE STARTING WORKS (UNLESS INDICATED OTHERWISE).

1.1.2 CONTRACTOR SHALL CONFORM TO CSST AND OWNER'S SAFETY STANDARDS.

1.2 INTERPRETATION OF DOCUMENTS

1.2.1 IN CASE OF CONTRADICTION OR DISCREPANCY BETWEEN THE FRENCH AND THE ENGLIGH VERSIONS OF THE DOCUMENTS, THE FRENCH VERSION TAKES PRECEDENCE.

1.3 CONTRACTOR'S RESPONSIBILITIES

1.3.1 CONTRACTOR SHALL VISIT PREMISES IN ORDER TO BE AWARE OF SITE CONDITIONS AND PARTICULARITIES BEFORE PREPARING HIS TENDER DOCUMENTS. NO CLAIMS DUE TO THE IGNORANCE OF SITE SPECIFICS SHALL BE TAKEN INTO CONSIDERATION BY OWNER.

1.3.2 BEFORE STARTING WORKS, CONTRACTOR SHALL TAKE AND VERIFY ALL DIMENSIONS AND ELEVATIONS ON-SITE AND INDICATE ANY DIFFERENCES WITH DRAWINGS TO THE ENGINEER. CONTRACTOR IS THE ONLY PERSON LIABLE FOR RRORS IN ELEVATION AND DIMENSION TAKEN ON-SITE.

1.3.3 EACH CONTRACTOR HAS THE ENTIRE RESPONSIBILITY FOR HIS SPECIALTY'S DETAILED ENGINEERING. THIS INCLUDES ALL WORKS NECESSARY TO THE PREPARATION OF SHOP DRAWINGS AND ERECTION PLANS SO AS TO EXECUTE REQUIRED CONSTRUCTION WORKS. THESE WORKS INCLUDE, AMONG OTHERS, THE TAKING OF ALL NECESSARY DIMENSIONS ON-SITE, DESIGN OF ALL ASSEMBLIES, PREPARATION OF ALL CONSTRUCTION DETAILS AND COORDINATION WITH ALL COLLABORATORS PERTAINING TO QUANTITY, DIMENSION AND LOCATION OF ALL OPENINGS, LINTELS, SLEEVES, ANCHORS, MECHANICAL EQUIPMENT, ETC.

1.3.4 CONTRACTOR SHALL BE ACQUAINTED WITH ALL THE DRAWINGS AND TAKE INTO CONSIDERATION WORKS PERTAINING TO DIFFERENT TRADES IN RELATION TO HIS OWN. HE SHALL PLAN AND PERFORM, AT HIS EXPENSES, ALL MINOR WORKS WHICH ARE NOT NECESSARILY DESCRIBED IN THE SPECIFICATIONS, BUT ARE NEVERTHELESS REQUIRED OR NEEDED TO COMPLETE WORKS ACCORDING TO TRADE PRACTICES.

1.3.5 CONTRACTOR SHALL LEAVE PREMISES CLEAN AND FREE FROM LITTER.

1.4 CONSTRUCTION LOADS

1.4.1 ALL PROTECTION AND TEMPORARY SUPPORT WORKS SHALL BE UNDER THE CONTRACTOR'S CONTROL AND RESPONSIBILITY. HE SHALL TAKE ALL NECESSARY MEASURES AND INSTALL ADEQUATE SUPPORTS IN SUFFICIENT QUANTITY TO ENSURE THE SAFETY OF WORKERS, THE NEW STRUCTURE AS WELL AS THE ADJACENT EXISTING ONE.

1.5 DRAWINGS

1.5.1 FOR THE CONSTRUCTION, CONTRACTOR SHALL ONLY USE DRAWINGS SPECIFICALLY IDENTIFIED AS BEING "ISSUED FOR CONSTRUCTION", SIGNED AND SEALED BY AN ENGINEER.

1.5.2 DRAWINGS ARE ONLY A VISUAL REPRESENTATION OF FRAMES TO BE BUILT; NO ELEVATION SHALL BE MEASURED TO SCALE ON DRAWINGS AND, WHEN REQUIRED ON DRAWINGS AND IN SPECIFICATIONS, SHOP DRAWINGS SHALL BE PREPARED INDEPENDENTLY, AT CONTRACTOR'S EXPENSES.

1.6 EXCAVATION, BACKFILLING AND PILE FOUNDATIONS

1.6.1 GENERALITIES

1.6.1.1 DRAWINGS INDICATE THE FACTORED ULTIMATE AXIAL LOAD TO BE SUPPORTED BY EACH PILE. CONTRACTOR SHALL MAKE HIS OWN PILE CALCULATIONS AND SUBMIT THEM TO ENGINEER AT LEAST FIVE BUSINESS DAYS BEFORE THE EXECUTION OF WORKS. NO PILE DRIVING WORK CAN START BEFORE CONTRACTOR HAS RECEIVED THE ENGINEER'S VERIFICATION OF HIS CALCULATIONS AND SHOP DRAWINGS. CONTRACTOR SHALL ALSO SUBMIT PILE FORMULAS AND ESTIMATED REFUSAL CRITERIA.

1.6.1.2 SHOP DRAWINGS AND PILE CALCULATIONS SHALL BE SIGNED AND SEALED BY AN ENGINEER MEMBER OF THE OIQ.

1.6.1.3 CONTRACTOR SHALL MAKE SURE THAT THE GROUND, AT THE LOCATION OF PILE DRIVING, CAN SUPPORT PILE DRIVING AND LOAD TEST OPERATIONS. CONTRACTOR SHALL TAKE NECESSARY MEASURES TO FACILITATE ACCESS AND SUPPORT OF PILE DRIVING EQUIPMENT DURING THE EXECUTION OF WORKS. STRIKING ENERGY SHALL BE LESS THAN OR EQUAL TO 6J PER mm2 OF SECTION OF A PILE.

1.6.1.4 CONTRACTOR SHALL NOTABLY TAKE INTO CONSIDERATION THE PHYSICAL ENVIRONMENT OF SECTORS AFFECTED BY THE INSTALLATION OF PILES AND PLAN PILE DRIVING AND TESTING EQUIPMENT ACCORDINGLY.

1.6.1.5 CONTRACTOR SHALL LOCATE EXISTING SERVICES BEFORE STARTING PILE DRIVING OPERATIONS.

1.6.1.6 TOLERANCES:

- THE PILE HEAD SHALL BE WITHIN 75 mm (3 IN.) OF INDICATED LOCATION.
- PILE MISALIGNMENT SHALL NOT EXCEED 2% OF ITS LENGTH.

1.6.1.7 HAVE A SPECIALIZED FIRM CONDUCT DYNAMIC TESTS ON 10% OF PILES CHOSEN BY ENGINEER BEFOREHAND. THESE TESTS ARE AT THE CONTRACTOR'S EXPENSES AND INCLUDED IN THE CONTRACT'S LUMP SUM AMOUNT.

1.6.1.8 TYPE OF PILE: PILES USED SHALL BE MADE OF TUBE STEEL AND HAVE A MINIMUM DIAMETER OF 254 mm (10 IN.), WITH A WALL THICKNESS OF AT LEAST 9.0 mm (3/8 IN.). THEY SHALL HAVE A POINT REINFORCEMENT THAT CONFORMS TO THE DETAIL INDICATED ON THE DRAWINGS.

1.6.1.9 PILE CAPACITY SHALL BE OBTAINED BY REFUSAL.

1.6.1.10 ALLOWABLE STRESSES USED TO DETERMINE PILE BEARING CAPACITIES ARE THOSE INDICATED IN THE CAN/CSA S16.1 STANDARD, LAST EDITION.

1.6.1.11 THE LENGTH OUT-OF-GROUND OF THE PILES USED FOR TESTING SHALL BE AT LEAST 1800 mm.

1.6.1.12 THE DYNAMIC TESTING SHALL BE EXECUTED USING THE SPECIFICATION STIPULATED IN ASTM D4945 "STANDARD TEST METHOD FOR HIGH-STRAIN DYNAMIC TESTING OF PILES".

1.6.1.13 THE PILES DO NOT NEED TO BE FILLED WITH CONCRETE.

1.6.1.14 THE PILE CUT-OFF SHALL BE EXECUTED AT THE DESIRED ELEVATION AND HORIZONTALLY WHEN ALL THE PILES IN THE GROUP ARE DRIVEN AND THE GEOTECHNICAL RESISTANCE REGARDED AS ADEQUATE BY THE OWNER. ALL DAMAGE PARTS TO THE PILE HEAD SHALL BE REMOVED.

1.6.1.15 A STEEL PLATE OF AT LEAST 20 mm THICKNESS SHALL BE WELDED TO THE PILE HEADS. THE ANCHORAGE SHALL BE FIXED TO THESE PLATES. THE DESIGN AND DESIGN COST OF THE ANCHORAGE SHALL BE THE CONTRACTORS RESPONSABILITY.

1.6.1.16 TO TAKE INTO ACCOUNT CORROSION OF THE STEEL PILES, THE USEFUL SECTION OF THE PILE SHALL BE CALCULATED REDUCING THE THICKNESS OF THE STEEL ON BOTH THE INNER AND OUTER PERIMETERS OF THE PILES BY 0,75 mm.

1.6.2 MANUFACTURING OF PILES

1.6.2.1 MANUFACTURE FULL LENGTH PILES BY ASSEMBLING VARIOUS SECTIONS USING COMPLETE PENETRATION GROOVE WELDS.

1.6.2.2 PRIOR TO MANUFACTURING, SUBMIT DETAILS RELATING TO PLANNED PILE USE FOR ENGINEER'S APPROVAL.

1.6.2.3 TOLERANCES:

- MEASURED WITH THE 3-M RULER, ALLOWABLE DEVIATION ON AXIAL ALIGNMENT IS 0.25%.
- BASED ON A STRAIGHT LINE, THE ALLOWABLE DEVIATION ON THE TOTAL MANUFACTURED PILE LENGTH IS 25 mm (1 IN.).

1.6.2.4 THE CONTRACTOR SHALL REPAIR FAULTY WELDS INDICATED BY THE ENGINEER. REPAIRS SHALLE BE MADE IN COMPLIANCE WITH CSA W59 AND CSA W59S1. WELDS REPAIRED WITHOUT AUTHORIZATION MIGHT BE REFUSED.

1.6.3 PRIOR TO PROCEEDING WITH EXCAVATION, BACKFILLING AND PILE DRIVING, CONTRACTOR SHALL REFER TO THE AVAILABLE GEOTECHNICAL STUDY PERFORMED BY INSPEC-SOL (IN ENGLISH), WHERE EXCAVATION SLOPES IS DISCUSSED, NOTABLY:

GEOTECHNICAL INVESTIGATION

TOWER REPLACEMENT

POWERHOUSE REAR RANGE LL 37.1

BEAUHARNOIS, QUEBEC

REFERENCE NO. M027927-A1

JUNE 13, 2011

1.6.3.1 EXCAVATION SLOPES SHALL BE 2.5 HORIZONTAL TO 1.0 VERTICAL. DURING THE EXCAVATION, NO EXCAVATED MATERIALS SHALL BE PILED, NOR MACHINERY OR EQUIPMENT PLACED, CLOSER THAN THE DISTANCE EQUIVALENT TO THE DEPTH OF THE EXCAVATIONS. FURTHERMORE, NO VERTICAL UN-BRACED EXCAVATIONS SHALL BE PERFORMED IN THE SOIL. IN ADDITION, THE EXPOSED SUBSOILS SHALL BE PROTECTED AGAINST EROSION FROM WATER RUN-OFF OR RAIN. AN EXAMINATION OF THE SLOPES SHOULD BE CARRIED OUT BY QUALIFIED SOILS PERSONNEL BEFORE ANY WORKER ENTERS THE EXCAVATION. THE STABILITY OF THE SLOPES REMAINS THE CONTRACTORS RESPONSIBILITY AT ALL TIMES.

1.6.4 BOREHOLES AND BORINGS ARE GIVEN FOR INFORMATION PURPOSES ONLY. CONTRACTOR SHALL EXECUTE, AT HIS EXPENSES, ALL BOREHOLES AND BORINGS HE DESIRES.

1.6.5 THE TOWER FOUNDATION SHALL REST ON A PAD (WORK PLATFORM) OF A MINIMUM THICKNESS OF 300 mm, CONTITUTED OF CLEAN CRUSHED STONE OR GRAVEL WITH A DIAMETER OF 20 mm.

1.6.6 CONTRACTOR SHALL PERFORM ALL EXCAVATIONS UP TO REQUIRED ELEVATIONS AND TRY TO NOT DISTURB THE BOTTOM OF EXCAVATIONS. ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED WITH GENERAL DRAWINGS AND ADAPTED TO SITE ELEVATIONS, WHILE KEEPING A MINIMUM FROST PROTECTION OF 2000 mm UNDERNEATH THE FOOTING.

1.6.7 THE BOTTOM OF EXCAVATIONS SHALL BE MAINTAINED DRY TROUGHOUT THE DURATION OF THE WORKS.

1.7 BACKFILL MATERIALS

1.7.1 THE BACKFILL SHALL BE PLACED IN LAYERS (LIFTS) NOT EXCEEDING 300 mm.

1.7.2 EXCAVATED SOILS SHALL NOT BE REUSED IN ANY CASE.

1.7.3 TYPE 1 BACKFILL

1.7.3.1 CRUSHED STONE OR GRAVEL, SIZE MG 20, CLEAN, HARD WITH PARTICLE SIZE CONFORM TO CAN/BNQ 2560-114: TRAVAUX DE GÉNIE CIVIL - GRANULATS. BACKFILL SHALL BE COMPACTED TO 95% AS DETERMINED BY CAN/BNQ 2501-255 « SOLS - DÉTERMINATION DE LA RELATION TENEUR EN EAU-MASSE VOLUMIQUE - ESSAI AVEC ÉNERGIE DE COMPACTAGE MODIFIÉE (2700 kN m/m3) ».

1.7.4 TYPE 2 BACKFILL

1.7.4.1 SAND OR GRAVEL, SIZE MG 112, WITH PARTICLE SIZE CONFORM TO CAN/BNQ 2560-114: TRAVAUX DE GÉNIE CIVIL - GRANULATS. BACKFILL SHALL BE COMPACTED TO 95% AS DETERMINED BY CAN/BNQ 2501-255 « SOLS - DÉTERMINATION DE LA RELATION TENEUR EN EAU-MASSE VOLUMIQUE - ESSAI AVEC ÉNERGIE DE COMPACTAGE MODIFIÉE (2700 kN m/m3)».

1.8 REINFORCING STEEL

1.8.1 ALL REINFORCEMENT BARS SHALL BE OF GRADE 400 W AND OF CANADIAN MANUFACTURING, IN COMPLIANCE WITH CSA G30.18.

1.8.2 UNLESS INDICATED OTHERWISE ON DRAWINGS, OVERLAPPING LENGTHS AND BENDING DIAGRAMS SHALL CONFORM TO REQUIREMENTS FOUND IN THE MANUAL OF STANDARD PRACTICE PUBLISHED BY THE REINFORCING STEEL INSTITUTE OF CANADA.

1.8.3 BEFORE MANUFACTURING REINFORCEMENT BARS, CONTRACTOR SHALL OBTAIN REAL FOUNDATION DIMENSIONS AND ELEVATIONS.

1.8.4 INSTALLATION OF STEEL REINFORCEMENTS SHALL CONFORM TO CSA A23.1-09.

1.8.5 SUPPORT SLAB ON GRADE AND FOOTING REINFORCEMENTS WITH CONCRETE BLOCKS DESIGNED FOR THIS USE.

1.9 CAST-IN-PLACE CONCRETE

1.9.1 PERFORM CONCRETE MIX, CURING AND WORKS IN COMPLIANCE WITH CAN/CSA A23.1-09 AND A23.2-09.

1.9.2 MINIMUM CONCRETE STRENGTH AT 28 DAYS SHALL BE OF 30 MPa.

1.9.3 ANY CONCRETE SHALL CONTAIN 5 TO 8% OF ENTRAINED AIR.

1.9.4 CONCRETE SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.45 AND BE MADE OF SAND AND STONE CRUSHED TO 20 mm (¾ IN.) MAXIMUM AND HAVE A SLUMP CONFORM TO TABLE NO. 6 OF THE CAN/CSA A23.1-M STANDARD. NO ADDITION OF WATER IS ALLOWED AT THE TIME OF CASTING.

1.9.5 USE A VIBRATOR FOR THE PLACEMENT OF CONCRETE THROUGHOUT ENTIRE WORKS.

1.9.6 IF WORK HAS TO BE EXECUTED AT TEMPERATURES BELOW 5 °C, CONTRACTOR SHALL PROTECT FRESHLY CAST ELEMENTS, IN ACCORDANCE WITH RELEVANT ARTICLES OF CAN/CSA A23.1-M.

1.9.7 EXECUTE CONCRETE CURING IN COMPLIANCE WITH CAN3 A23.1-M AND CAN3 A23.2-M.

1.9.8 SUBMIT CONCRETE TO A WATER CURE DURING A MINIMUM OF SEVEN CONSECUTIVE DAYS. IF WET CURING IS IMPOSSIBLE AND AFTER HAVING OBTAINED THE ENGINEER'S APPROVAL, APPLY TWO CROSSED COATS OF SEALANT (SIKAGARD CURE/HARD OR APPROVED EQUIVALENT; THE QUANTITY AND APPLICATION SHALL BE PERFORMED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS).

1.9.9 THE USE OF CALCIUM CHLORIDE IS PROHIBITED.

1.10 ANCHORS

1.10.1 MATERIALS

1.10.1.1 ANCHOR BOLTS SHALL CONFORM TO ASTM A307.

1.10.1.2 USE SHRINKLESS GROUT UNDERNEATH BASE PLATES: 35 MPa AT SEVEN DAYS.

1.11 PILES

1.11.1 MATERIALS

1.11.1.1 THE STEEL USED IN THE CONSTRUCTION OF THE PILES SHOES SHALL CONFORM TO THE SPECIFICATIONS STIPULATED IN G40.20-04/G40.21-04 (R2009) "GENERAL REQUIREMENTS FOR ROLLED OR WELDED STRUCTURAL QUALITY STEEL".

1.11.1.2 THE STEEL USED IN THE CONSTRUCTION OF THE PILES SHALL CONFORM TO THE SPECIFICATIONS STIPULATED IN G40.20-04/G40.21-04 (R2009) "GENERAL REQUIREMENTS FOR ROLLED OR WELDED STRUCTURAL QUALITY STEEL" OR GRADE C OF THE ASTM A500 SPECIFICATION "STANDARD SPECIFICATION FOR COLD-FORMED WELDED AND SEAMLESS CARBON STEEL STRUCTURAL TUBING IN ROUNDS AND SHAPES" OR GRADE 50 OR 55 OF THE ASTM A572 SPECIFICATION "STANDARD SPECIFICATION FOR HIGH-STRENGHT LOW-ALLOY COLUMBIUM-VANADIUM STRUCTURAL STEEL". IF ASTM A572 STEEL IS USED, THE PILES SHALL BE FABRICATED TO THE SPECIFICATIONS STIPULATED IN ASTM A252 "STANDARD SPECIFICATION FOR WELDED AND SEAMLESS PIPE PILES".

No	Date (a-m-j)	Description	Par/By
0	2012-01-10	POUR SOUMISSION / FOR TENDER	V.L.
A	2011-12-06	POUR COMMENTAIRES / FOR COMMENTS	D.G.

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Projet / Project :

FONDATIONS DE L'ALIGNEMENT POSTÉRIEUR DE POWERHOUSE LL37.1 / POWERHOUSE REAR RANGE LL37.1 FOUNDATIONS

Titre / Title :

NOTES GÉNÉRALES / GENERAL NOTES

Approuvé par/Approved by : VINCENT LATENDRESSE
Date : 2011-11-21
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Préparé par/Prepared by : VINCENT LATENDRESSE, DOMINIC GAGNON, EDITH BOLDUC
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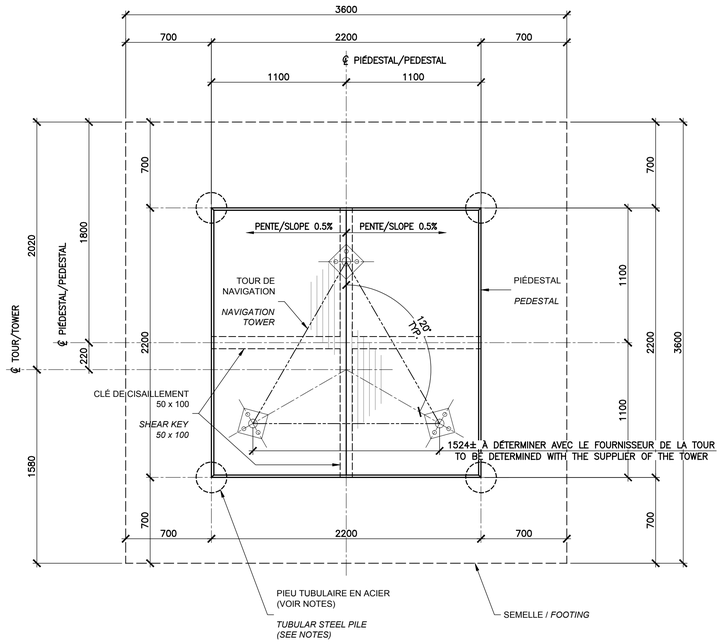
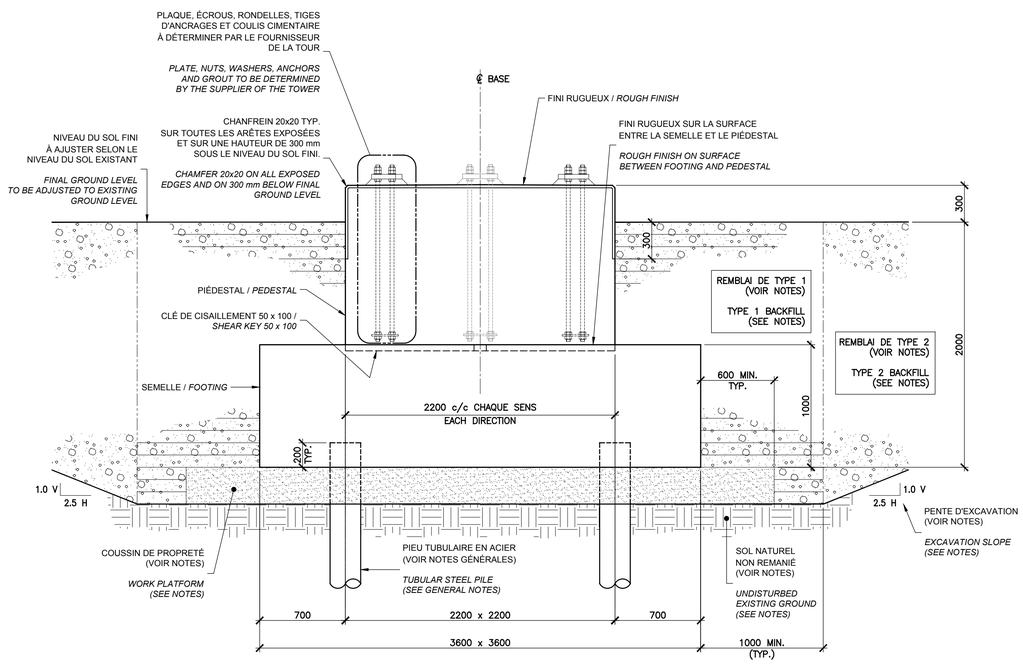
Format A1 – AutoCAD MAP 3D 2011



BASE DE BÉTON SUR FONDATION PROFONDE POUR TOUR DE NAVIGATION DE 18.29 m (60') DE HAUT /
CONCRETE BASE ON DEEP FOUNDATIONS FOR 18.29 m (60') NAVIGATION TOWER

VUE EN PLAN / PLAN VIEW

1:25



ÉLÉVATION / ELEVATION

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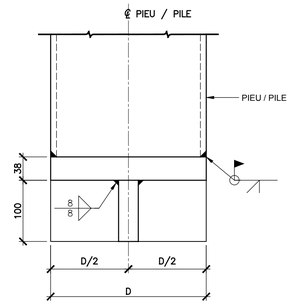

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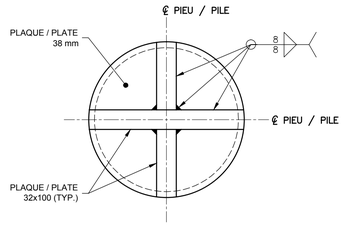
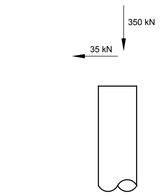


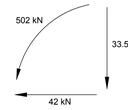
VUE DU DESSOUS / BOTTOM VIEW

DÉTAIL DE POINTE CONVENTIONNELLE POUR PIEU TUBULAIRE EN ACIER /

DETAIL OF CONVENTIONNAL POINT FOR TUBULAR STEEL PILE



CHARGES PAR PIEU (CHARGES PONDÉRÉES) /
PILE LOADS (FACTORED LOADS)



CHARGES SUR LA FONDATION (CHARGES PONDÉRÉES) /
GLOBAL FOUNDATION LOADS (FACTORED LOADS)

DIAGRAMMES DE CHARGES / LOAD CHARTS

NOTES

- LES DIMENSIONS SONT EN mm.
- VOIR NOTES GÉNÉRALES EN PAGE 2.
- DIMENSIONS ARE IN mm.
- SEE GENERAL NOTES ON PAGE 2.

No	Date (a-m-j)	Description	Par/By
0	2012-01-10	POUR SOUMISSION / FOR TENDER	V.L.
A	2011-12-06	POUR COMMENTAIRES / FOR COMMENTS	D.G.

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Projet / Project :

FONDATIONS DE L'ALIGNEMENT POSTÉRIEUR DE POWERHOUSE LL37.1 / POWERHOUSE REAR RANGE LL37.1 FOUNDATIONS

Titre / Title :

BASE DE BÉTON - DIMENSIONS
CONCRETE BASE - DIMENSIONS

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0 0.63m 1.25m

Format A1 – AutoCAD MAP 3D 2011

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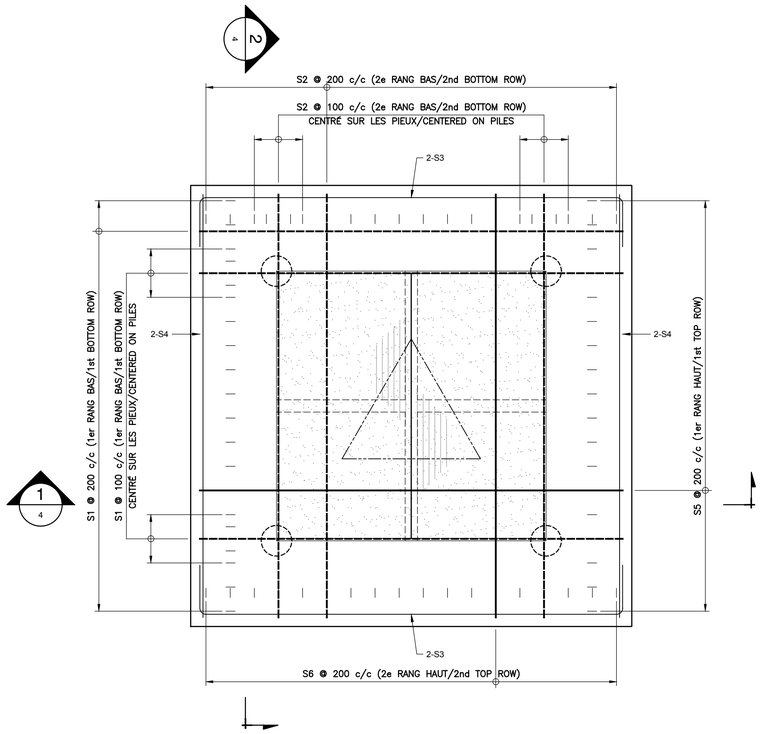
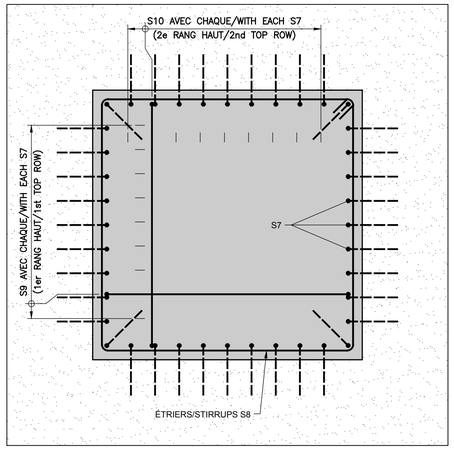


VUE EN PLAN - ARMATURE / PLAN VIEW - REINFORCEMENT
1:25



COUPE / SECTION 3/4
1:25

BORDEREAU D'ARMATURE / REINFORCING SCHEDULE

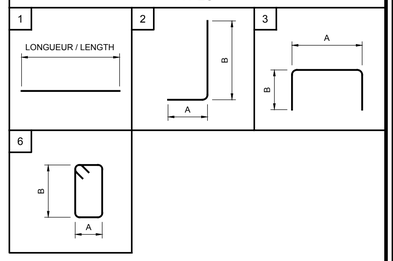
IDENTIF.	TYPE	A	B	C	LONGUEUR / LENGTH (mm)	NO	NOMBRE / NUMBERS	MASSE / MASS (kg)
S1	3	3450	575	-	4600	25	22	397
S2	3	3450	575	-	4600	25	22	397
S3	3	3450	400	-	4250	20	4	40
S4	1	-	-	-	3450	20	4	32
S5	3	3450	575	-	4600	20	18	195
S6	3	3450	575	-	4600	20	18	195
S7	2	400	1925	-	2325	25	40	365
S8	6	2050	2050	-	8500	15	9	120
S9	3	2000	250	-	2500	15	9	35
S10	3	2000	250	-	2500	15	9	35

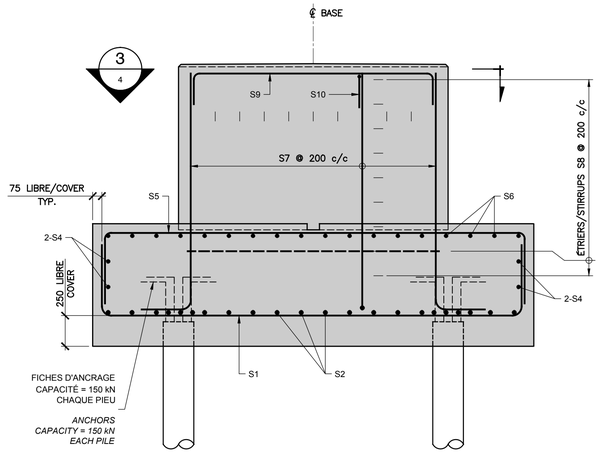
BARRES SUPPORTS POUR LES RANGS SUPÉRIEURS QTÉ APPROX. / : SUPPORTS FOR UPPER BARS APPROX. QTY 46

ARMATURE SANS PROTECTION / UNCOATED REINFORCEMENT TOTAL = 1857 kg

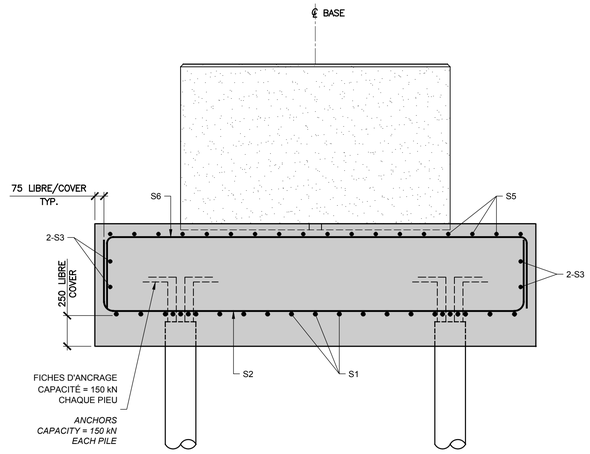
ACIER D'ARMATURE NUANCE 400W / GRADE 400W REINFORCING STEEL

TYPES





COUPE / SECTION 1/4
1:25



COUPE / SECTION 2/4
1:25

NOTES

- LES DIMENSIONS SONT EN mm.
- VOIR NOTES GÉNÉRALES EN PAGE 2.
- DIMENSIONS ARE IN mm.
- SEE GENERAL NOTES ON PAGE 2.

No	Date (a-m-j)	Description	Par/By
0	2012-01-10	POUR SOUMISSION / FOR TENDER	V.L.
A	2011-12-06	POUR COMMENTAIRES / FOR COMMENTS	D.G.

Les Services exp inc. / exp Services Inc.
t : +1.819.562.3871 | f : +1.819.565.2726
150, rue de Vimy
Sherbrooke, QC J1J 3M7
CANADA
www.exp.com

La nouvelle identité de Teknika HBA inc.
The new identity of Teknika HBA Inc.

• BÂTIMENT / BUILDINGS • DÉVELOPPEMENT DURABLE / EARTH & ENVIRONMENT • ÉNERGIE / ENERGY • INDUSTRIEL / INDUSTRIAL • INFRASTRUCTURES / INFRASTRUCTURE • • SOLS, MATÉRIAUX ET ENVIRONNEMENT / SUSTAINABILITY •

Projet / Project :

FONDATIONS DE L'ALIGNEMENT POSTÉRIEUR DE POWERHOUSE LL37.1 / POWERHOUSE REAR RANGE LL37.1 FOUNDATIONS

Titre / Title :

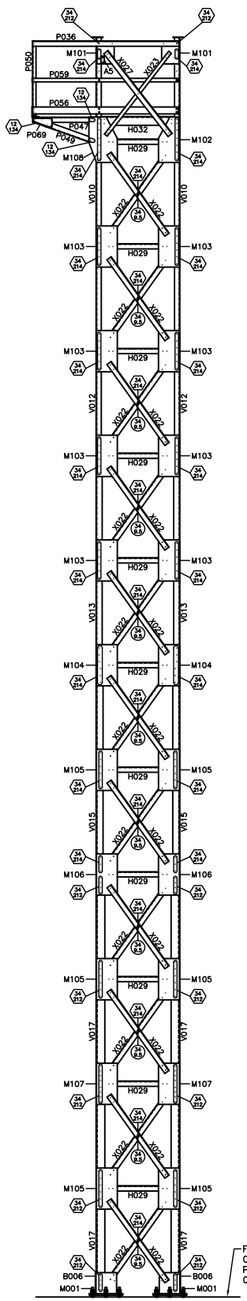
BASE DE BÉTON - ARMATURE
CONCRETE BASE - REINFORCEMENT

Approuvé par/Approved by : VINCENT LATENDRESSE	Date : 2011-11-21	Feuille no/Sheet no : 4
Préparé par/Prepared by : VINCENT LATENDRESSE, DOMINIC GAGNON, EDITH BOLDUC	Échelle/Scale : INDIQUÉE/AS SHOWN	de/of : 4
	Dossier no/File no : POCG-4-00051090	Révision/Revision : 0
Dessiné par/Drawn by : EDITH BOLDUC	Fichier électronique/Electronic file : POCG-4-00051090	

0 0.63m 1.25m

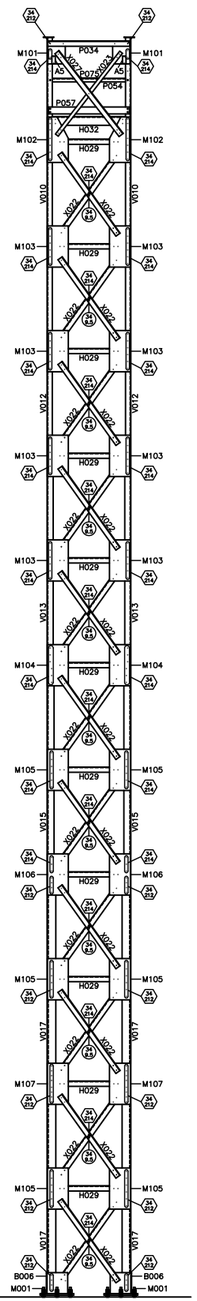
Format A1 – AutoCAD MAP 3D 2011

10 janvier 2012 13:21:45, edbol, X:\Projets\POCG\4-00051090\DESSINS\QART\POCG-4-00051090.dwg



FOUNDATION DRAWINGS
08990-SF
PLANS DE FONDATION
08990-SF

FACE "A"



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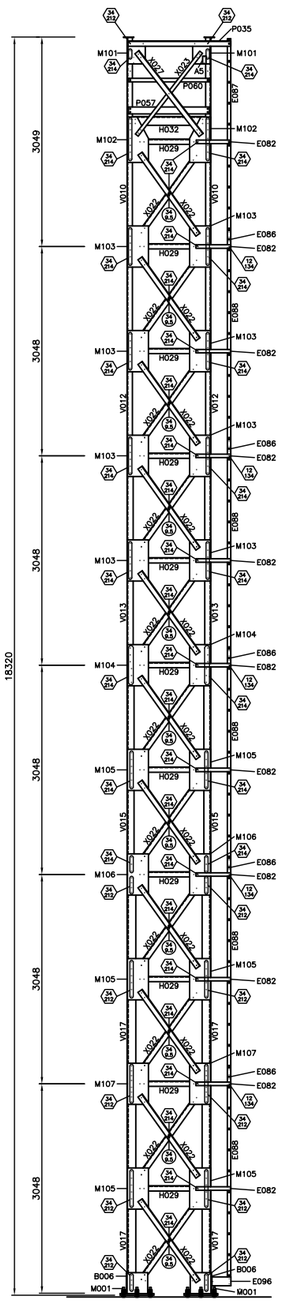

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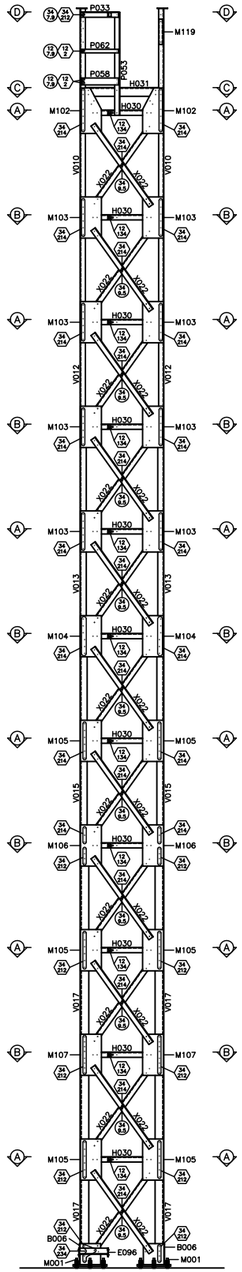
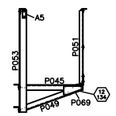
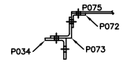


FACE "D"

ELEVATION "F"

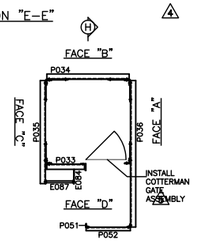


SECTION "E-E"



SECTION "H"
ENLARGED/AGRANDIE

4



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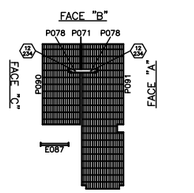
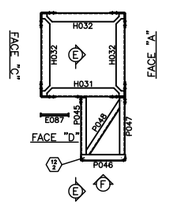


FACE "D"
GRATING / CAILLEBOTIS



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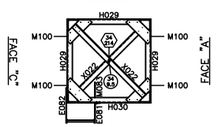

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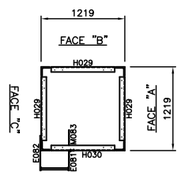

SECTION "A-A"

BILL OF MATERIAL / LISTE DE MATÉRIEL			
MRK MQE	QTY QTÉ	DESCRIPTION DESCRIPTION	WEIGHT MASSE
M001	18	ANCHORS/ANCRAGES 25ø	105.6
B006	4	BASE ASS./ASS. BASE	215.2
V010	4	L-76x76x9.5x3038	139.2
V012	4	L-76x76x9.5x3038	134.4
V013	4	L-89x89x9.5x3038	158.4
V015	4	L-102x102x12.7x3038	240.0
V017	8	L-127x127x15.9x3038	749.6
X022	98	L-76x76x7.9x1450	1244.6
X023	3	FB-6.4x51x1525	12.0
X027	3	L-76x76x7.9x1525	40.2
H029	33	L-76x76x7.9x925	267.3
H030	11	L-76x76x7.9x925	89.1
H031	1	L-127x127x7.9x1049	16.6
H032	3	L-127x127x7.9x1049	49.8
P033	1	L-76x76x7.9x549	5.2
P034	1	L-76x76x7.9x1199	11.3
P035	1	L-76x76x7.9x1500	14.1
P036	1	L-76x76x7.9x2132	20.1
P045	1	L-76x76x7.9x909	8.6
P046	1	L-152x89x7.9x644	9.7
P047	1	L-76x76x7.9x909	8.6
P048	1	L-76x76x7.9x1033	9.7
P049	2	L-76x76x7.9x755	14.2
P050	1	L-51x51x6.4x1082	5.3
P051	1	L-51x51x6.4x1082	5.3
P052	1	L-51x51x6.4x644	3.2
P053	1	L-102x76x7.9x1499	16.6
P054	1	L-51x51x6.4x1179	5.8
P056	1	FB-6.4x102x2122	11.1
P057	2	FB-6.4x102x1179	12.4
P058	1	FB-6.4x102x539	2.8
P059	1	FB-6.4x51x2122	5.6
P060	1	FB-6.4x51x1179	3.1
P061	1	FB-6.4x51x644	1.7
P062	1	FB-6.4x51x539	1.4
P069	2	FB-9.5x127x270	4.2
E081	11	FB-6.4x51x259	9.9
E082	11	FB-6.4x51x508	14.3
M083	11	FB-6.4x51x377	11.0
E084	1	FB-6.4x51x315	0.8
E086	10	FB-6.4x51x259	7.0
E087	1	LADDER/ÉCHELLEx2915	31.7
E088	5	LADDER/ÉCHELLEx3035	161.5
P090	1	GRATING/CAIL. 548x1173	28.8
P091	1	GRATING/CAIL. 608x2110	57.5
E096	1	L-127x89x7.9x414	10.9
M100	20	FB-9.5x152x446	90.0
M101	6	FB-9.5x254x335	39.6
M102	7	FB-9.5x305x662	95.2
M103	32	FB-9.5x305x600	454.4
M104	8	FB-9.5x305x600	113.6
M105	24	FB-9.5x305x600	340.8
M106	8	FB-9.5x305x600	113.6
M107	8	FB-9.5x305x600	113.6
M108	1	PL-9.5x415x662	18.0
A5	5	D-RING "SALA" #2101630	2.5
	725	BOLTS/BOULONS 3/4"ø X 2"	197.3
(24 214)	462	BOLTS/BOULONS 3/4"ø X 2 1/4"	133.6
(24 215)	243	BOLTS/BOULONS 3/4"ø X 2 1/2"	73.8
(24 216)	2	BOLTS/BOULONS 3/4"ø X 2 3/4"	0.6
	1432	LOCK W./R. DE BLOCAGE 3/4"ø	42.5
(24 218)	51	R. FILLS/ESPACEURS 3/4"ø X 9.5	4.8
(24 231)	2	R. FILLS/ESPACEURS 3/4"ø X 7.9	0.2
	154	BOLTS/BOULONS 1/2"ø X 1 1/2"	13.9
(12 124)	37	BOLTS/BOULONS 1/2"ø X 1 3/4"	3.6
(12 125)	5	BOLTS/BOULONS 1/2"ø X 2"	0.5
(12 126)	3	BOLTS/BOULONS 1/2"ø X 2 3/4"	0.4
	199	LOCK W./R. DE BLOCAGE 1/2"ø	1.9
(12 128)	4	R. FILLS/ESPACEURS 1/2"ø X 7.9	0.2
	20	CLIPS/ATTACHES TYPE "D-19"	0.5
	20	BOLTS/BOULONS 5/16"ø X 2 1/2"	0.5
TOTAL WEIGHT / MASSE TOTALE :			5991.0 kg

08990-SM-11

Pêches et Océans Canada / Fisheries and Oceans Canada
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Services techniques
Systèmes électroniques et informatiques
Informations techniques et graphiques

101 Blvd. Champlain (stage 10)
Québec (québec) G1K 7Y7

NOTES

-CAPACITÉ DE LA STRUCTURE AUX POINTS D'ANCRAGE =18 kN

-ANNEAUX DE SÉCURITÉ "D-RING".
-CAPACITÉ MAXIMALE = 140 kg.
-HAUTEUR DE CHUTE LIBRE MAXIMALE = 1.8m.
-JAMAIS PLUS D'UN SYSTÈME DE PROTECTION PERSONNEL À LA FOIS

-NUANCE D'ACIER:
TOUS LES ÉLÉMENTS 300 Mpa SAUF LES ÉLÉMENTS SUIVANTS:
LES CORNIÈRES: 350 Mpa
LES PROFILÉS W: 350 Mpa

-TOUS LES BOULONS SELON ASTM A-325, TYPE 1.
-TOUTES LES RONDELLES DE BLOCAGE SELON ASME B18.21.1
-TOUS LES ESPACEURS ANNULAIRES SELON ANSI B18.22.1

-LONGUEUR DES BOULONS:
2" LG POUR BOULON 3/4"ø, S.I.C.
1 1/2" LG POUR BOULON 1/2"ø, S.I.C.

-TOUTES LES QUANTITÉS DE BOULON INCLUENT UN SURPLUS DE 5 %.

-CAPACITY OF THE STRUCTURE AT ANCHOR POINTS =18 kN

-SECURITY RINGS "D-RING".
-MAXIMUM CAPACITY = 140 kg.
-MAXIMUM FALLING HEIGHT = 1.8m.
-NEVER MORE THAN ONE PERSONNAL SECURITY SYSTEM AT THE SAME TIME

-STEEL GRADE:
ALL MEMBERS 300 Mpa EXCEPT FOR:
ANGLES: 350 Mpa
W SHAPE: 350 Mpa

-ALL BOLTS ACCORDING TO ASTM A-325, TYPE 1.
-ALL LOCK WASHERS ACCORDING TO ASME B18.21.1
-ALL RING FILLS ACCORDING TO ANSI B18.22.1

-BOLT LENGTH:
2" LG FOR 3/4"ø BOLT, U.N.
1 1/2" LG FOR 1/2"ø BOLT, U.N.

-ALL BOLT QUANTITIES INCLUDE 5 % EXTRA.

9	PARTS REMOVED/PIÈCES ENLEVÉES	DJ	2014.02.12
8	MISE À JOUR	SLI	2014.02.12
7	PIÈCES AJOUTÉES / ADDED MATERIAL	GCC	2010.11.30
6	NOTES CHANGED / NOTES CHANGÉES	M.V.	2006.03.23
5	M122 ADDED/M122 AJOUTÉ	M.V.	2006.03.13
4	SECTION H ADDED/SECTION H AJOUTÉE	M.V.	2006.02.08
3	ENLARGED VIEW AD./VUE AGRANDIE AJ.	M.V.	2006.02.05
2	SELON COMMENTAIRES DE LA GCC	M.V.	2006.01.23
1	SELON APPROBATION	M.V.	2006.01.19
Révision	Description	Par/By	Date

A: Numéro de détail
Detail no.
B: Feuille sur laquelle le détail est utilisé
Location drawing no.
C: Feuille sur laquelle le détail est dessiné
Drawing no.

Toute modification doit être rapportée à:
All modifications must be reported to:

GARDE CÔTIÈRE, RÉGION LAURENTIENNE
SERVICES TECHNIQUES
Systèmes électroniques et Informatiques
Informations Techniques et Graphiques

Dossier:
File:

TOUR D'ACIER À CLAIRE-VOIE

TOUR DE 3,05m (10pi) @ 24,42m (80pi)

Dessin:
Drawing:

TOUR DE 18,32m (60pi)
PLAN DE MONTAGE

Conçu par: Designed by:	P-C.GAGNON, Ing. — Date: 2003/05/30
Dessiné par: Drawn by:	MICHEL VACHON — Date: 2006/01/04
Vérifié par: Checked by:	MICHEL VACHON — Date: 2006/01/06
Approuvé par: Approved by:	Date:

No. dossier: File no.:	Échelle: Scale: 1 = 40
No. dessin: Drawing no.: 08990	No. feuille: Sht. no.: SM-11

AutoCAD A1 Dec 09, 2014
08990-SM-11

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B003	2	2006/02/09
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B005	2	2006/02/09
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B007	2	2006/02/09
B008	2	2006/02/09
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M119	1	2011/01/06
M120	3	2006/03/22
M121	0	2005/12/17
M122	0	2006/01/11
E123	0	2010/09/14
E124	0	2010/09/14
E125	0	2010/09/14

No	REVISION	DATE
4	M119 REVISÉ E123,E124,E125 AJOUTÉ	2011/01/06
3	@ P073, E094 @ E099 & M120 REV. X022,X024,X025,X027 @ P055,P070	2006/03/22
2	B003 @ B009 REVISED/REVISÉS	2006/02/09
1	B002 @ B009 REVISED/REVISÉS	2006/01/25

Pêches et Océans Fisheries □nd Oce□ns
C□n□d□ C□n□d□

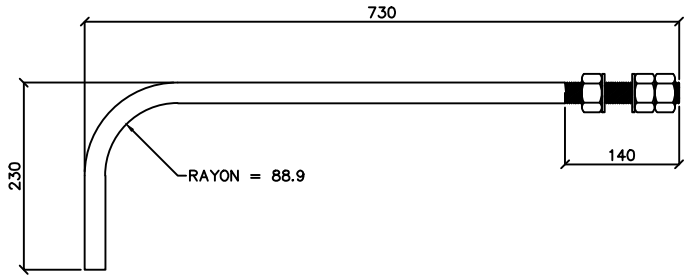
Garde côtière Co□st Gu□rd

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 626-5266
TÉLÉCOPIEUR: (418) 626-7868

STEEL TOWERS / TOURS D'ACIER

DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2006/01/23
SCALE: ÉCHELLE:	1 = 1	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	00A 4

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	8	8	8	8	8	16	16	16	24	24	24	24	32	32	32
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
–	–	–

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

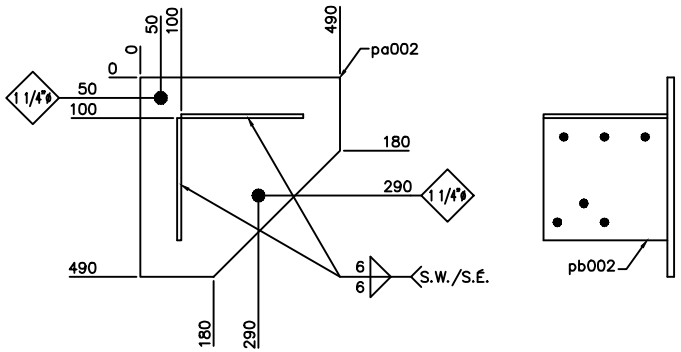
WEIGHT / MASSE: 4.4 Kg

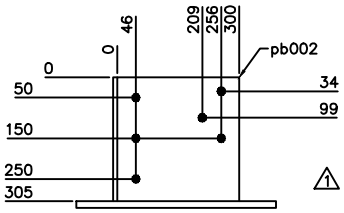
QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
–	M001	● 25.4 ø X	890	A-325	BEND / PLIÉE	3.7							
					C/W / C/A								
					3 NUTS/ÉCROUS	0.6							
					2 WASH./ROND.	0.1							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	ASTM	HOLES: TROUS:	– U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/11/29
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	M001 / 0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15





WEIGHT / MASSE: 39.0 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	pa002	PL	15.9	X	490	490	300W	ASS. #B002	24.8										
2	pb002	FB	9.53	X	305	300	300W		14.2										

No	REVISION	DATE
1	SOUDURE VERTICALE ENLEVÉE	2006/01/13

Pêches et Océans Canada / Fisheries and Oceans Canada

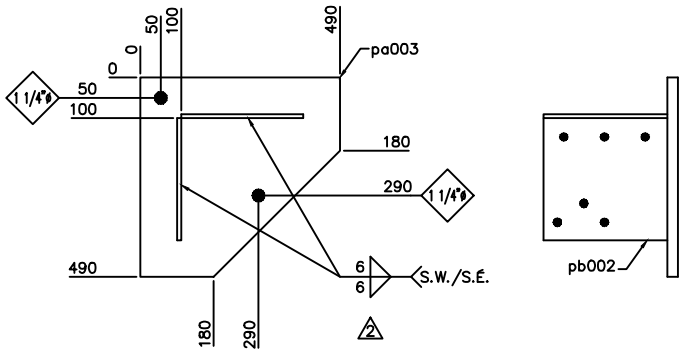
Garde côtière / Coast Guard

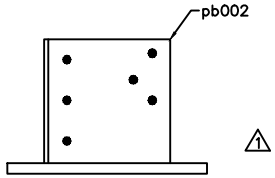
DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8286
TÉLÉCOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/11/30
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	B002 1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15





No	REVISION	DATE
2	SOUDURE REVISÉE	2006/02/09
1	SOUDURE VERTICALE ENLEVÉE	2006/01/13

Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

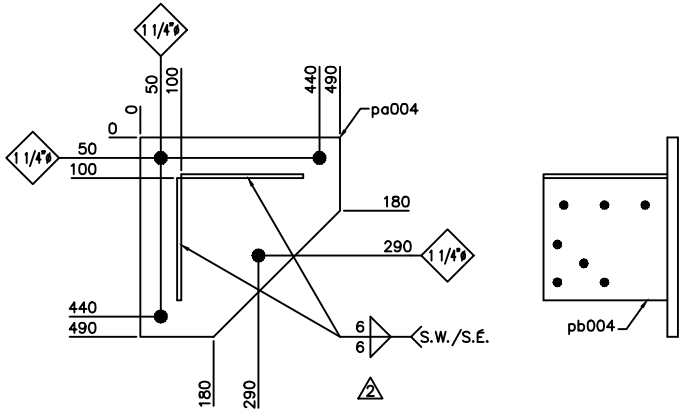
WEIGHT / MASSE: 53.8 Kg

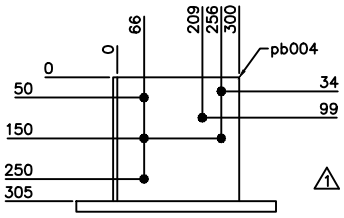
QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	pa003	PL	25.4	X	490	490	300W	ASS. #B003	39.6										
2	pb002	FB	9.53	X	305	300	300W		14.2										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/11/30
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	B003 2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15





No	REVISION	DATE
2	SOUDURE REVISÉE	2006/02/09
1	SOUDURE VERTICALE ENLEVÉE	2006/01/13

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

WEIGHT / MASSE: 53.8 Kg

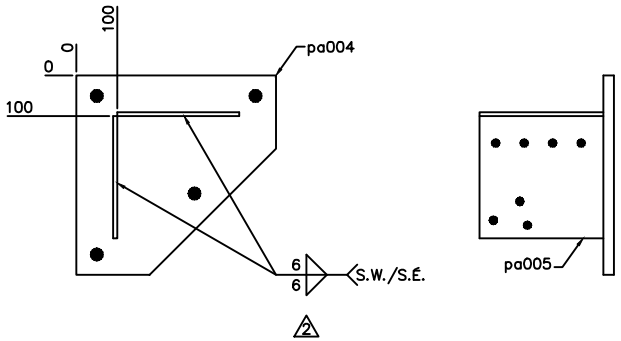
QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	pa004	PL	25.4	X	490		490	300W	ASS. #B004	39.6											
2	pb004	FB	9.53	X	305		300	300W		14.2											

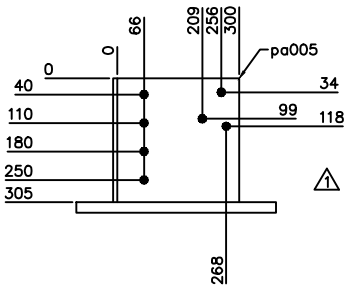
DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE: 2005/11/30
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: B004 2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15





WEIGHT / MASSE: 53.8 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	pa004	PL	25.4	X	490	490	300W	ASS. #B005	39.6										
2	pa005	FB	9.53	X	305	300	300W		14.2										

No	REVISION	DATE
2	SOUDURE REVISÉE	2006/02/09
1	SOUDURE VERTICALE ENLEVÉE	2006/01/13

Pêches et Océans Canada / Fisheries and Oceans Canada

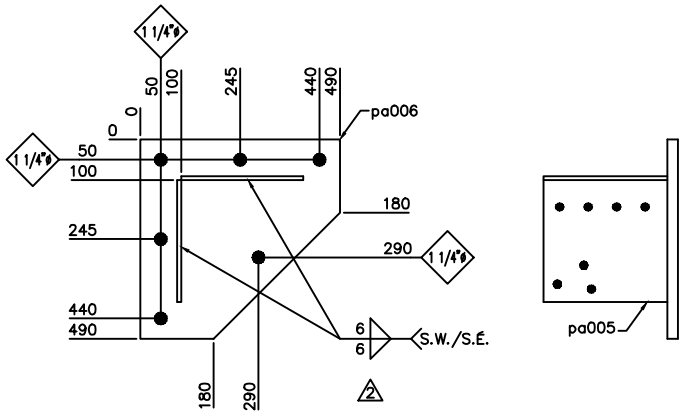
Garde côtière / Coast Guard

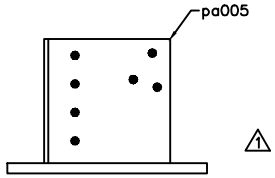
DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8386
TÉLÉCOPIEUR: (418) 628-7089

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE: 2005/11/30
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: B005 2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	4	4	4	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15





WEIGHT / MASSE: 53.8 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	pa006	PL	25.4	X	490	490	300W	ASS. #B006	39.6
2	pa005	FB	9.53	X	305	300	300W		14.2

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE

No	REVISION	DATE
2	SOUDURE REVISÉE	2006/02/09
1	SOUDURE VERTICALE ENLEVÉE	2006/01/13

Pêches et Océans Canada / Fisheries and Oceans Canada

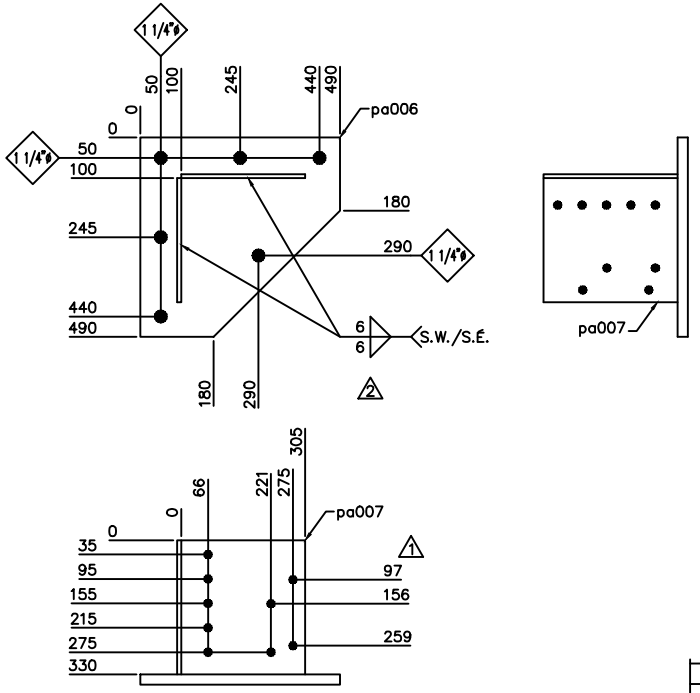
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8386
TÉLÉCOPIEUR: (418) 628-7609

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI:	GALV.	
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE:	2005/11/30	
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	B006	2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 55.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	pa006	PL	25.4	X	490	490	300W	ASS. #B007	39.6										
2	pa007	FB	9.53	X	305	330	300W		15.6										

No	REVISION	DATE
2	SOUDURE REVISÉE	2006/02/09
1	SOUDURE VERTICALE ENLEVÉE	2006/01/13

Pêches et Océans Canada / Fisheries and Oceans Canada

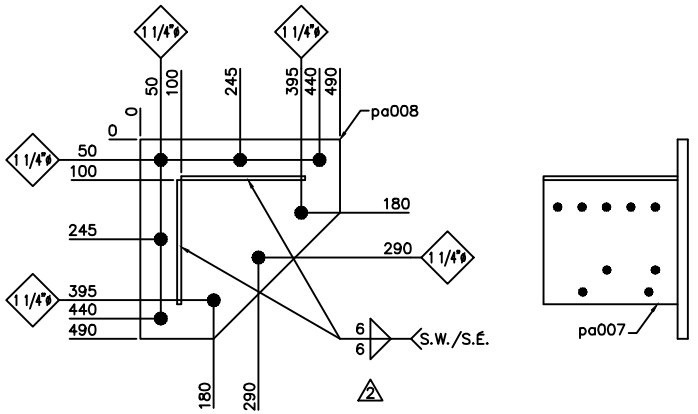
Garde côtière / Coast Guard

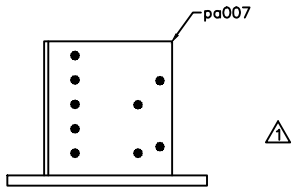
DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE: 2005/11/30
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: B007 6

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15





No	REVISION	DATE
2	SOUDURE REVISÉE	2006/02/09
1	SOUDURE VERTICALE ENLEVÉE	2006/01/13

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

WEIGHT / MASSE: 55.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	pa008	PL	25.4	X	490	490	300W	ASS. #B008	39.6
2	pa007	FB	9.53	X	305	330	300W		15.6

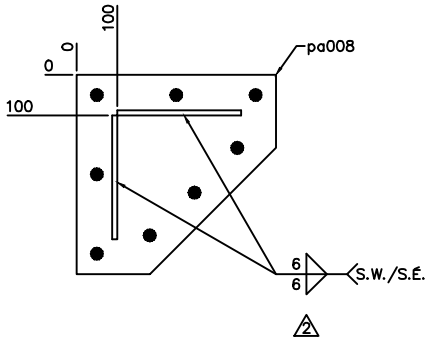
QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE

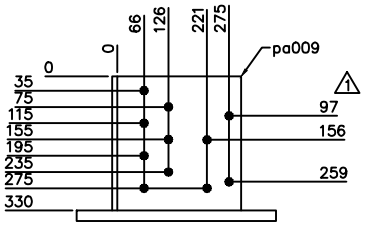
DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8286
TÉLÉCOPIEUR: (418) 628-7089

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE: 2005/11/30
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: B008 2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15





2	SOUDURE REVISÉE	2006/02/09
1	SOUDURE VERTICALE ENLEVÉE	2006/01/13
No	REVISION	DATE

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8388
TÉLÉCOPIEUR: (418) 628-7009

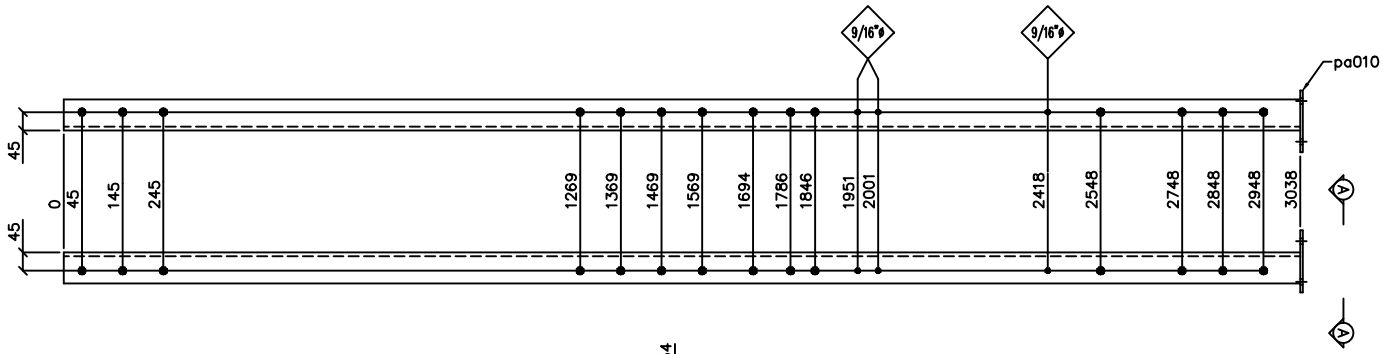
WEIGHT / MASSE: 60.4 Kg

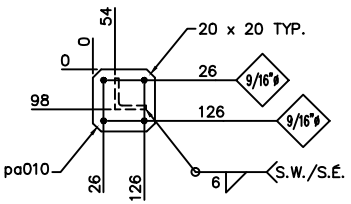
QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	pa008	PL	25.4	X	490	490	300W	ASS. #B009	39.6										
2	pa009	FB	12.7	X	305	330	300W		20.8										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE:	2005/11/30
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	B009 2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15





VIEW A–A / VUE A–A

WEIGHT / MASSE: 34.8 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	010	L	76	76	9.53	3038	350W	ASS. #V010	33.6										
1	pa010	FB	6.35	X	152	152	300W		1.2										

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

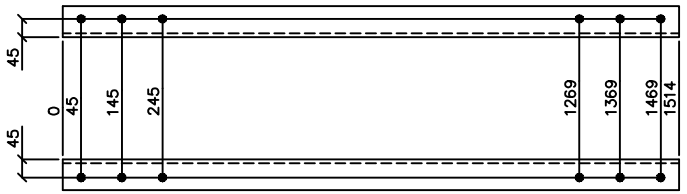
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7909

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE: 2005/12/01
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: V010 0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

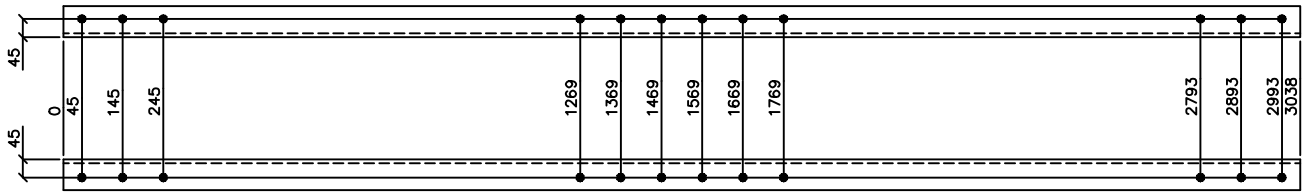
WEIGHT / MASSE: 16.8 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	V011	L	76	76	9.53	1514	350W		16.8										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	V011 0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	4	4	8	4	4	4	4	4	4	8	8	8	8
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 33.6 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	V012	L	76	76	9.53	3038	350W		33.6										

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

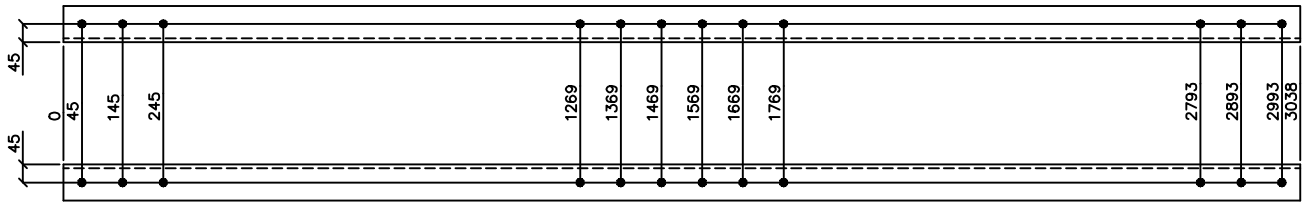
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	V012 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	4	4	4	4	4	4	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 39.6 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	V013	L	89	89	9.53	3038	350W		39.6										

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

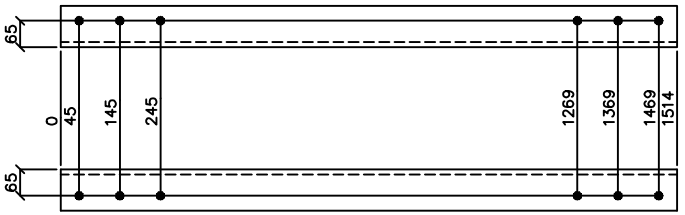
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	V013 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 29.9 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	V014	L	102	102	12.7	1514	350W		29.9										

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

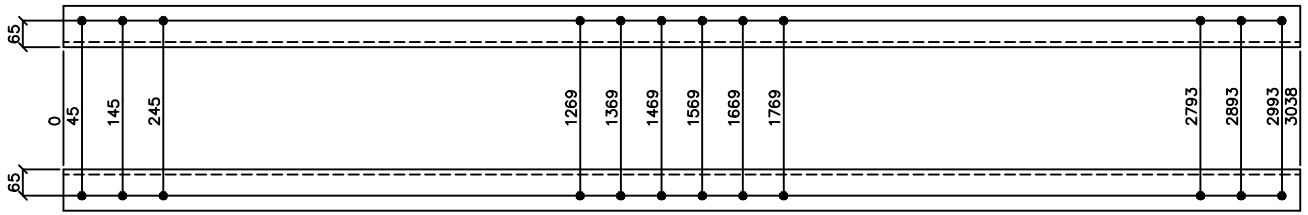
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	V014 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	4	4	4	4	4	8	8	4	4
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 60.0 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	V015	L	102	102	12.7	3038	350W		60.0										

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

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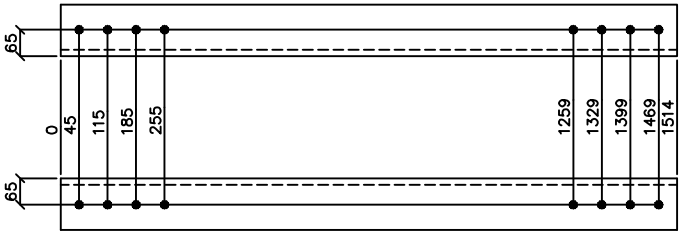
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	V015 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 46.7 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	V016	L	127	127	15.9	1514	350W		46.7										

No	REVISION	DATE
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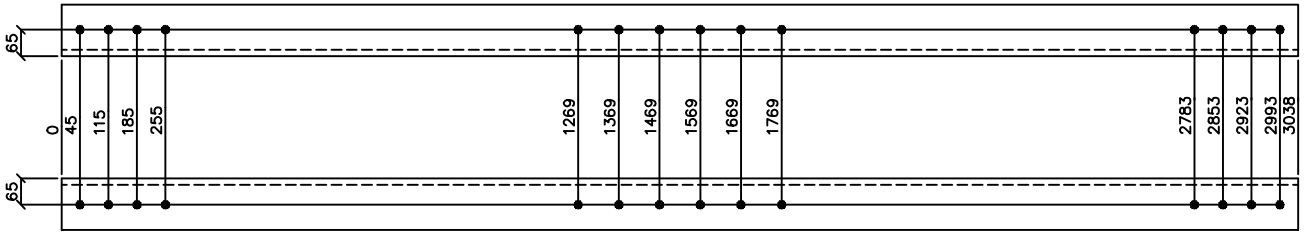
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	V016 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	4	4	8	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

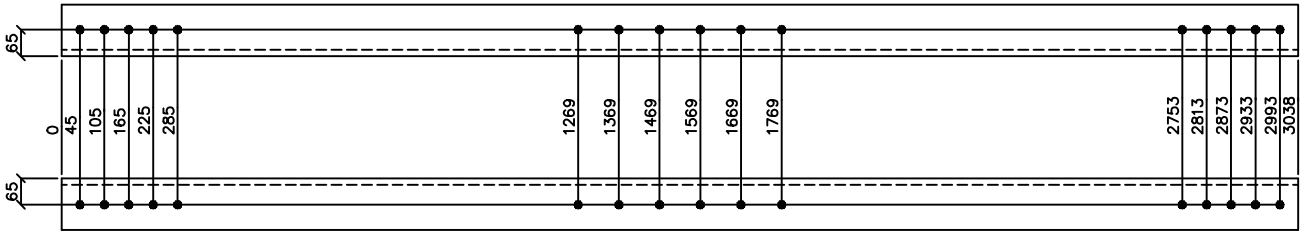
WEIGHT / MASSE: 93.7 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	V017	L	127	127	15.9	3038	350W		93.7										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINE:	M.VACHON	CHECKED: VERIFIE:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	V017 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	4	8	8	8
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 93.7 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	V018	L	127	127	15.9	3038	350W		93.7										

No	REVISION	DATE
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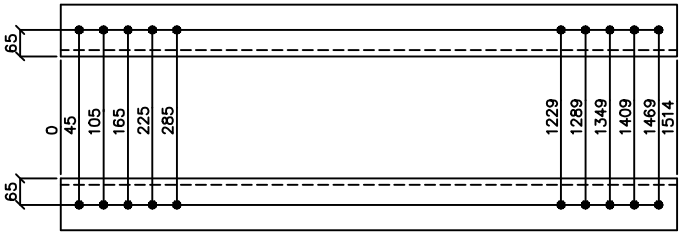
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	V018 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 46.7 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	V019	L	127	127	15.9	1514	350W		46.7										

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

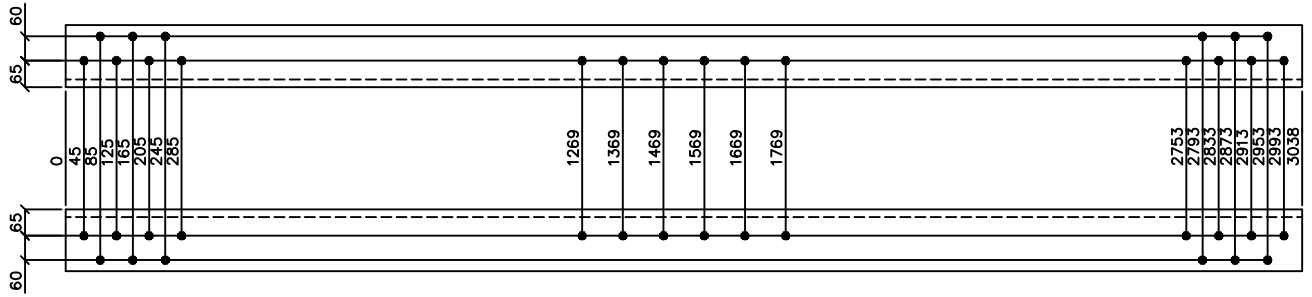
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7909

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINE:	M.VACHON	CHECKED: VERIFIE:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	V019 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	0	0	4	8
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 134.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	V020	L	152	152	19	3038	350W		134.3										

No	REVISION	DATE
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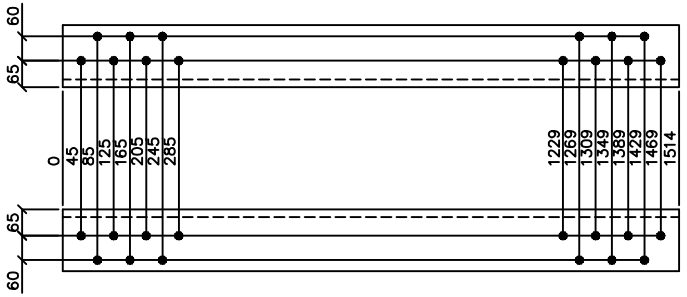
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	V020 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

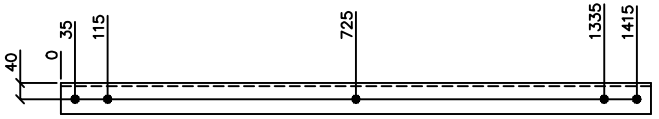
WEIGHT / MASSE: 66.9 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	V021	L	152	152	19	1514	350W		66.9										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	V021 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	8	18	26	36	44	54	62	72	80	90	98	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 12.7 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	X022	L	76	76	7.94	1450	350W		12.7										

No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

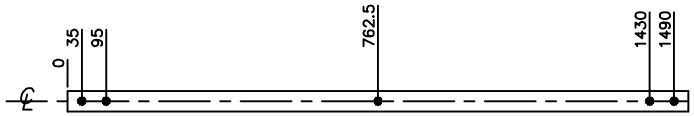
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	X022 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 4.0 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	X023	FL	6.35	X	51	1525	300W		4.0										

No	REVISION	DATE
–	–	–

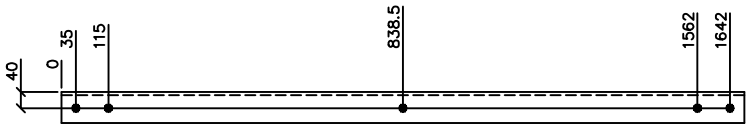
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	X023 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	96	104	112	120
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 14.7 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	X024	L	76	76	7.94	1677	350W		14.7										

No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

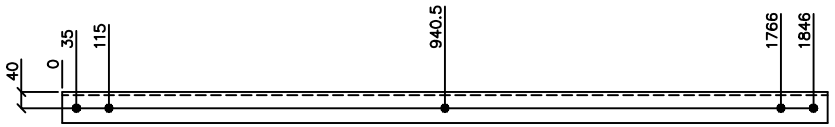
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	X024 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	12	12	14	14
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

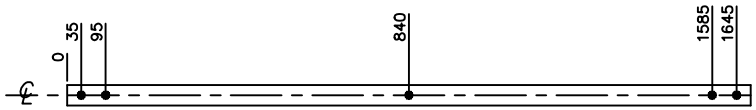
WEIGHT / MASSE: 16.5 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	X025	L	76	76	7.94	1881	350W		16.5										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	X025 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
–	–	–

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

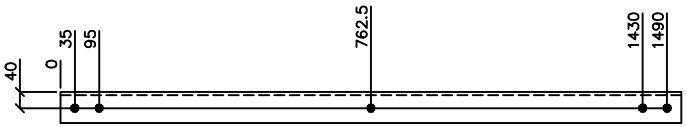
WEIGHT / MASSE: 4.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	X026	FL 6.35 X 51	1680	300W		4.4							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	X026 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 13.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	X027	L	76	76	7.94	1525	350W		13.4										

No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

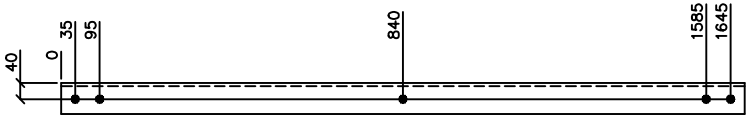
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	X027 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 14.8 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	X028	L	76	76	7.94	1680	350W		14.8										

No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

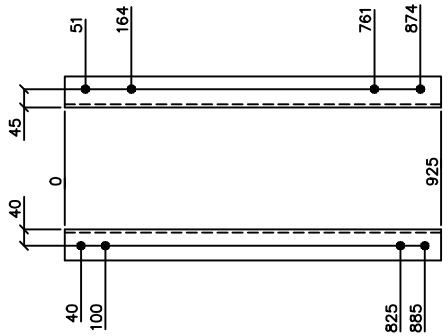
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/05
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	X028 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	3	6	9	12	15	18	21	24	27	30	33	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7909

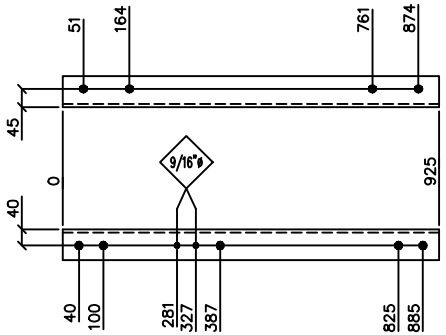
WEIGHT / MASSE: 8.1 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	H029	L	76	76	7.94	925	350W		8.1										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINE:	M.VACHON	CHECKED: VERIFIE:	M.VACHON		DATE: DATE:	2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	H029 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	2	3	4	5	6	7	8	9	10	11	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 8.1 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	H030	L	76	76	7.94	925	350W		8.1										

No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

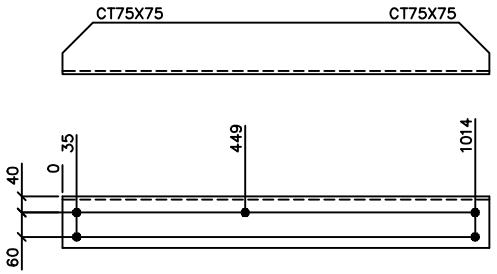
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE: 2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: H030 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

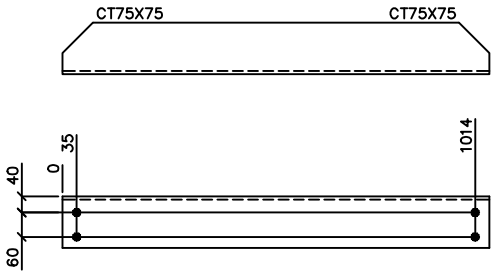
WEIGHT / MASSE: 16.6 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	H031	L	127	127	7.94	1049	350W		16.6										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE: 2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: H031 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

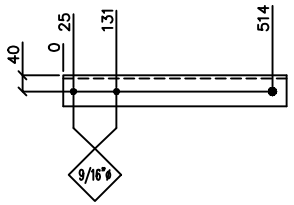
WEIGHT / MASSE: 16.6 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	H032	L	127	127	7.94	1049	350W		16.6										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	H032 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 5.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P033	L	76	76	7.94	549	350W		5.2										

No	REVISION	DATE
2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	NOUVELLE DÉSIGNATION	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

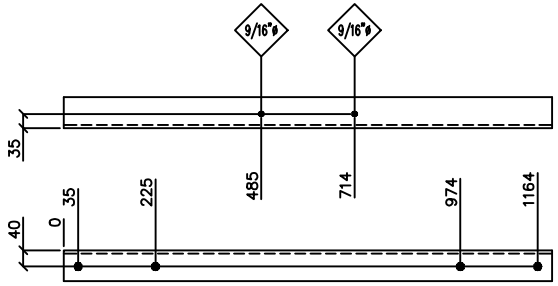
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P033 /2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 11.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P034	L	76	76	7.94	1199	350W		11.3										

No	REVISION	DATE
2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	NOUVELLE DÉSIGNATION	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

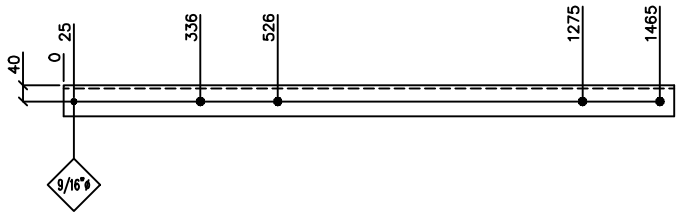
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P034 2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 14.1 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P035	L	76	76	7.94	1500	350W		14.1										

No	REVISION	DATE
2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	NOUVELLE DÉSIGNATION	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

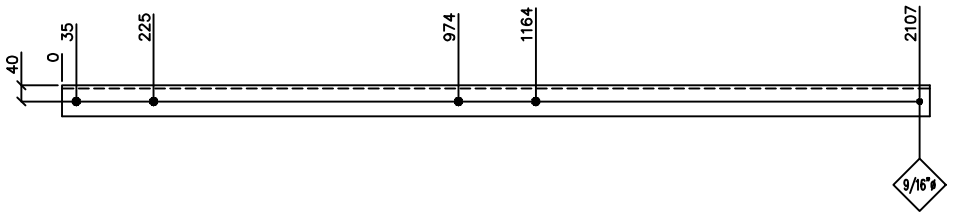
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P035 /2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	NOUVELLE DÉSIGNATION	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

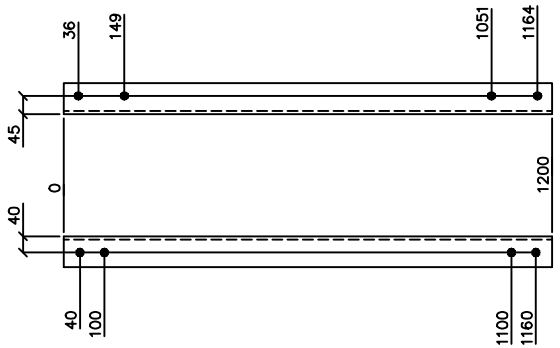
WEIGHT / MASSE: 20.1 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P036	L	76	76	7.94	2132	350W		20.1										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P036 2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	36	39	42	45
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 11.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	H037	L	76	76	7.94	1200	350W		11.3										

No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

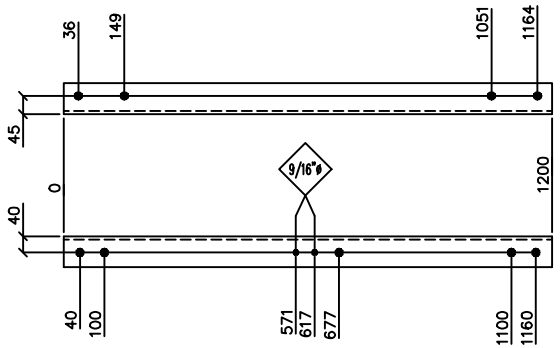
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE: 2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: H037 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	12	13	14	15
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 11.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	H038	L	76	76	7.94	1200	350W		11.3										

No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

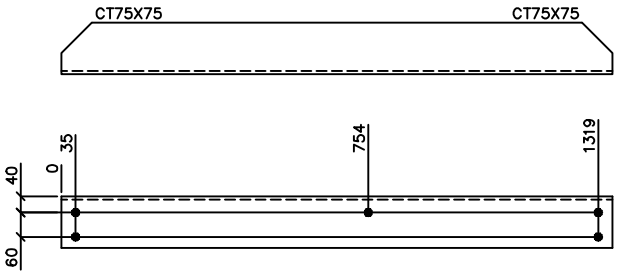
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	H038 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

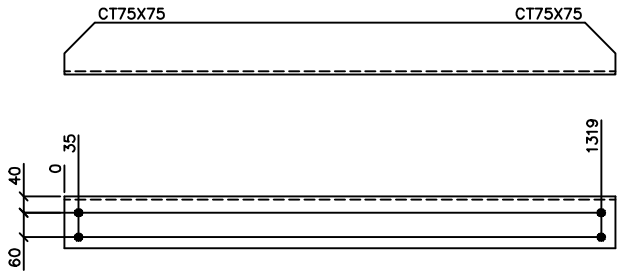
WEIGHT / MASSE: 21.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	H039	L	127	127	7.94	1354	350W		21.4										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE: 2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: H039 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7909

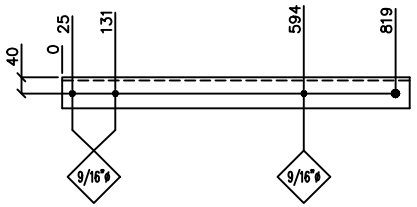
WEIGHT / MASSE: 21.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	H040	L	127	127	7.94	1354	350W		21.4										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINE:	M.VACHON	CHECKED: VERIFIE:	M.VACHON		DATE: DATE:	2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	H040 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	NOUVELLE DÉSIGNATION	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

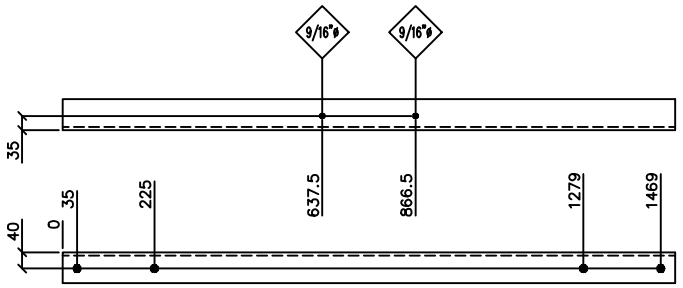
WEIGHT / MASSE: 8.0 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P041	L	76	76	7.94	854	350W		8.0										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P041 /2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	NOUVELLE DÉSIGNATION	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

WEIGHT / MASSE: 14.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P042	L	76	76	7.94	1504	350W		14.2										

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8286
TÉLÉCOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P042 /2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15

No	REVISION	DATE
2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	NOUVELLE DÉSIGNATION	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

WEIGHT / MASSE: 14.2 Kg

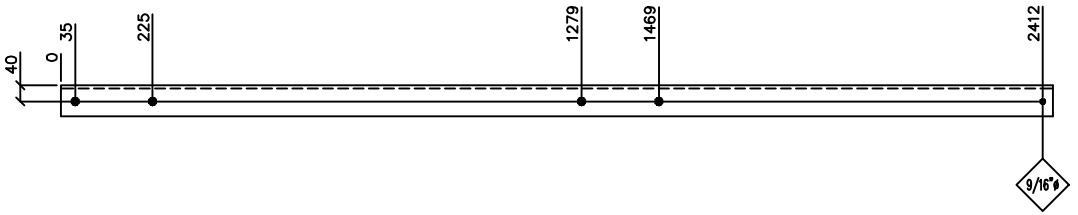
QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P043	L	76	76	7.94	1504	350W		14.2										

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P043 /2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	NOUVELLE DÉSIGNATION	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

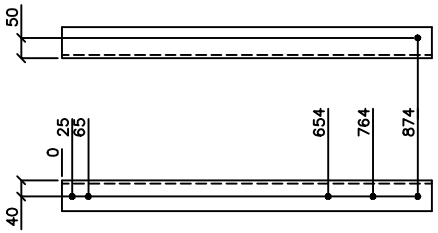
WEIGHT / MASSE: 23.0 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P044	L	76	76	7.94	2437	350W		23.0										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE: 2005/12/06
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: P044 2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

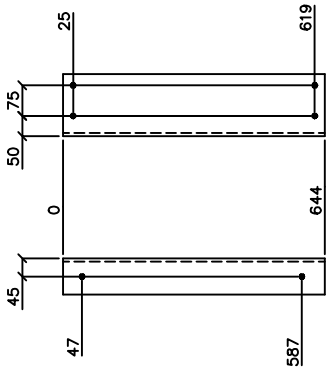
WEIGHT / MASSE: 8.6 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P045	L	76	76	7.94	909	350W		8.6										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P045 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

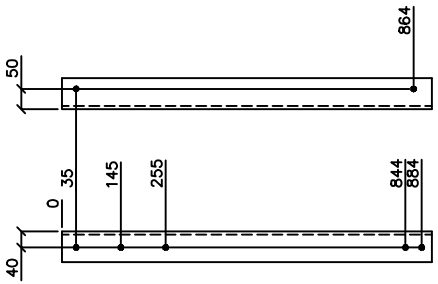
WEIGHT / MASSE: 9.7 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P046	L	152	89	7.94	644	350W		9.7										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	P046 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

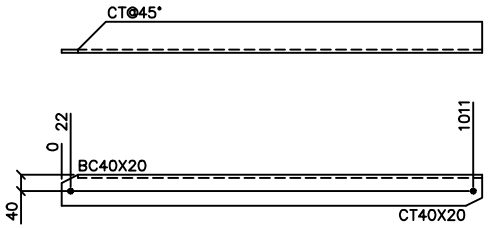
WEIGHT / MASSE: 8.6 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P047	L	76	76	7.94	909	350W		8.6										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P047 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 9.7 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P048	L	76	76	7.94	1033	350W	CLIP/CIS.	9.7										

No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

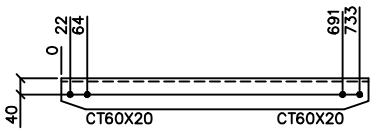
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8386
TELECOPIEUR: (418) 628-7809

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P048 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

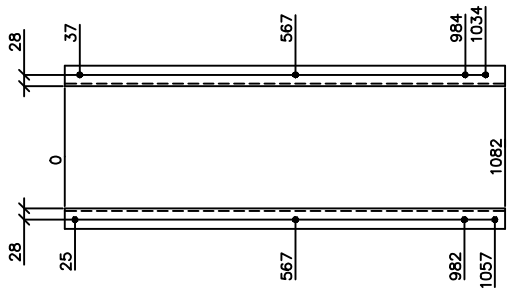
WEIGHT / MASSE: 7.1 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P049	L	76	76	7.94	755	350W	CLIP/CIS.	7.1										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P049 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

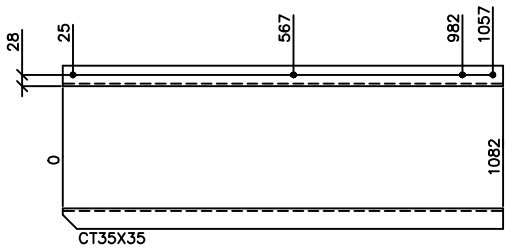
WEIGHT / MASSE: 5.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P050	L	51	51	6.35	1082	350W		5.3										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	P050 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 5.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P051	L	51	51	6.35	1082	350W	CLIP/CIS.	5.3										

No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P051 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15

No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

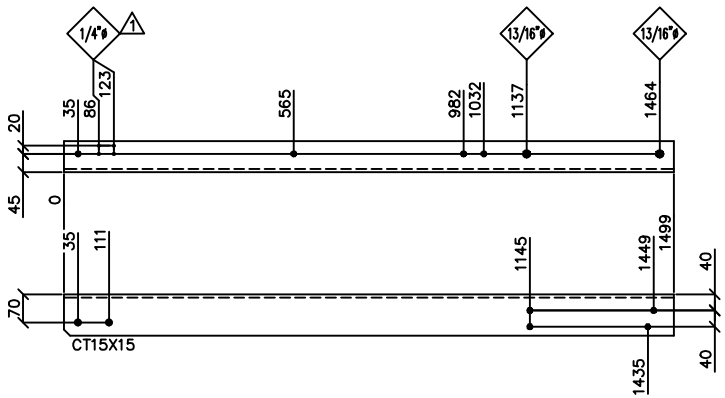
WEIGHT / MASSE: 3.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P052	L 51 51 6.35	644	350W		3.2							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI:	GALV.	
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE:	2005/12/08	
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	P052	1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	HOLES ADDED/TROUS AJOUTÉS	2006/01/23

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

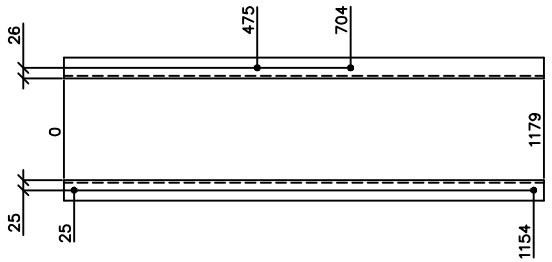
WEIGHT / MASSE: 16.6 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P053	L	102	76	7.94	1499	350W	CLIP/CIS.	16.6										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINE:	M.VACHON	CHECKED: VERIFIE:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P053 /2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

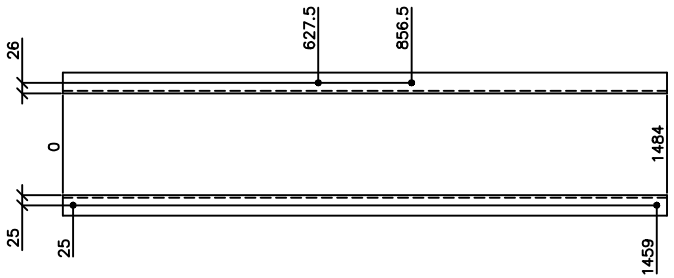
WEIGHT / MASSE: 5.8 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P054	L	51	51	6.35	1179	350W		5.8										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P054 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 7.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P055	L	51	51	6.35	1484	350W		7.3										

No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

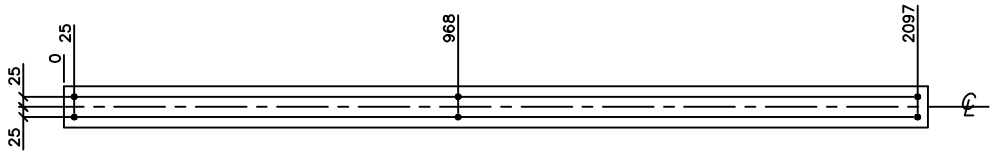
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P055 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 11.1 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P056	FB	6.35	X	102	2122	300W		11.1										

No	REVISION	DATE
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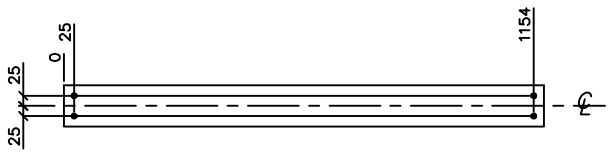
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P056 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

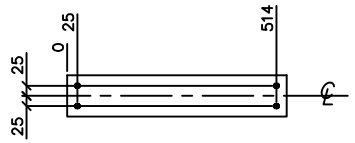
WEIGHT / MASSE: 6.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P057	FB 6.35 X 102	1179	300W		6.2							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P057 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

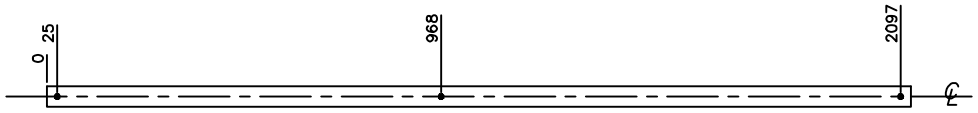
WEIGHT / MASSE: 2.8 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P058	FB 6.35 X 102	539	300W		2.8							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P058 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 5.6 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P059	FB	6.35	X	51	2122	300W		5.6										

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P059 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15

WEIGHT / MASSE: 3.1 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P060	FB	6.35	X	51	1179	300W		3.1							

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P060 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15

WEIGHT / MASSE: 1.7 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P061	FB	6.35	X	51		644	300W		1.7											

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P061 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15

WEIGHT / MASSE: 1.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P062	FB	6.35	X	51	539	300W		1.4										

No	REVISION	DATE
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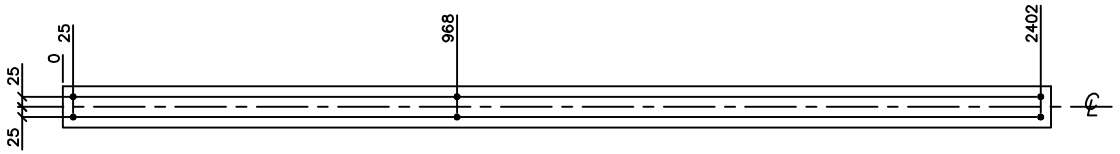
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P062 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

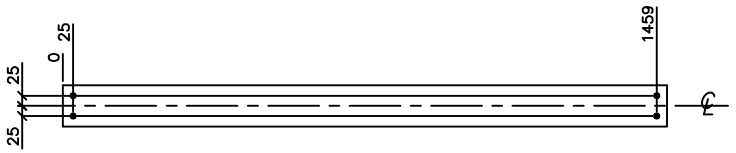
WEIGHT / MASSE: 12.7 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P063	FB 6.35 X 102	2427	300W		12.7							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P063 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 7.8 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P064	FB	6.35	X	102		1484	300W		7.8											

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

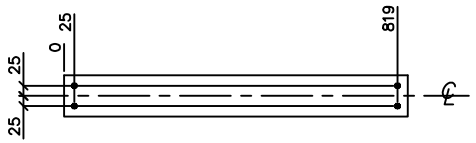
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE: 2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: P064 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

WEIGHT / MASSE: 4.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P065	FB 6.35 X 102	844	300W		4.4							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P065 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

WEIGHT / MASSE: 6.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P066	FB 6.35 X 51	2427	300W		6.3							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P066 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15

WEIGHT / MASSE: 3.9 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P067	FB	6.35	X	51	1484	300W		3.9										

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P067 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15

WEIGHT / MASSE: 2.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P068	FB	6.35	X	51		844	300W		2.2											

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

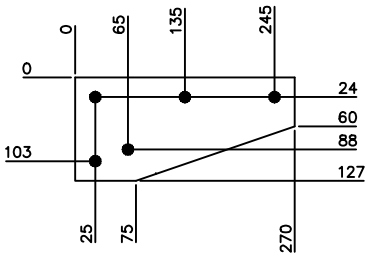
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P068 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 2.1 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P069	FB	9.53	X	127	270	300W		2.1										

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

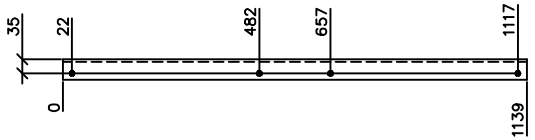
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/08
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P069 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

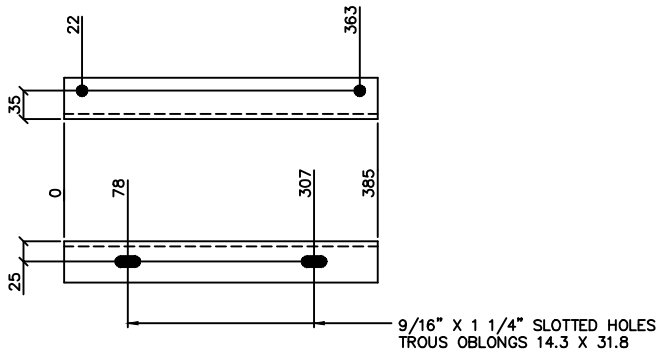
WEIGHT / MASSE: 5.6 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P070	L	51	51	6.35	1139	350W		5.6										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/12
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P070 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

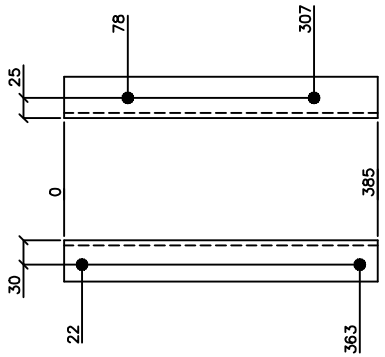
WEIGHT / MASSE: 1.9 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P071	L	51	51	6.35	385	350W		1.9										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE: 2005/12/12
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: P071 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

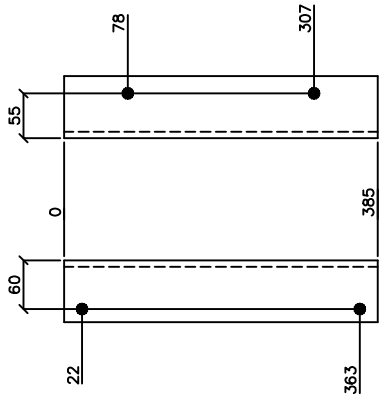
WEIGHT / MASSE: 1.9 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P072	L	51	51	6.35	385	350W		1.9										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/12
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P072 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

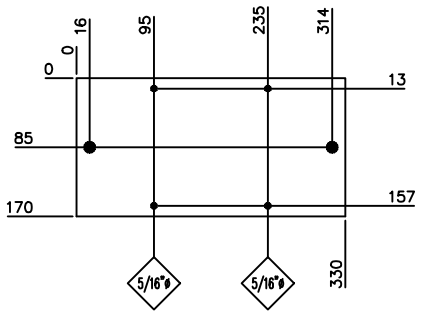
WEIGHT / MASSE: 3.6 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P073	L	76	76	7.94	385	350W		3.6										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE:	2005/12/13
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	P073 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 1.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P074	PL	3.18	X	170	330	300W		1.4										

No	REVISION	DATE
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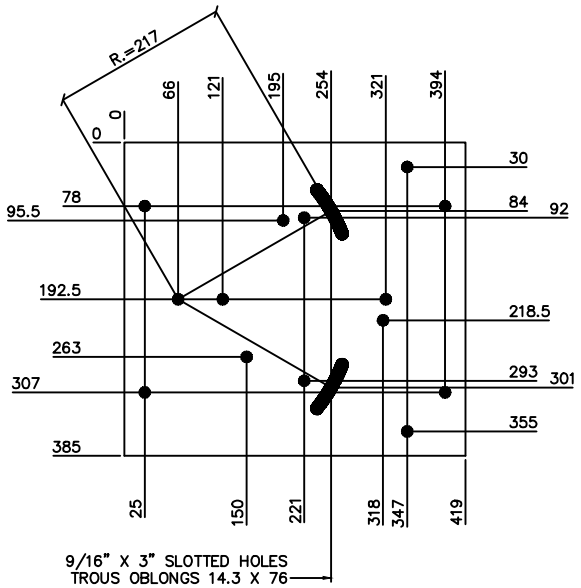
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI:	GALV.	
DRAWN: DESSINE:	M.VACHON	CHECKED: VERIFIE:	M.VACHON		DATE: DATE:	2005/12/13	
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	P074	0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

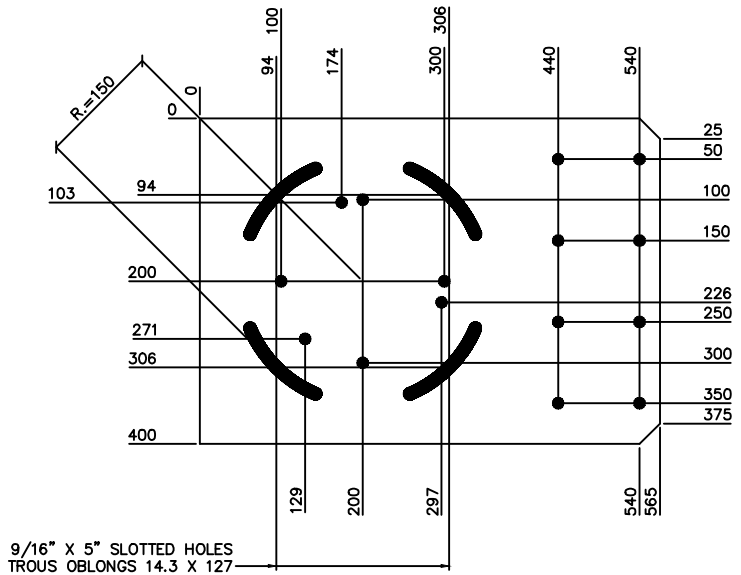
WEIGHT / MASSE: 8.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P075	PL	6.35	X	385	419	300W		8.3										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE:	2005/12/13
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	P075 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

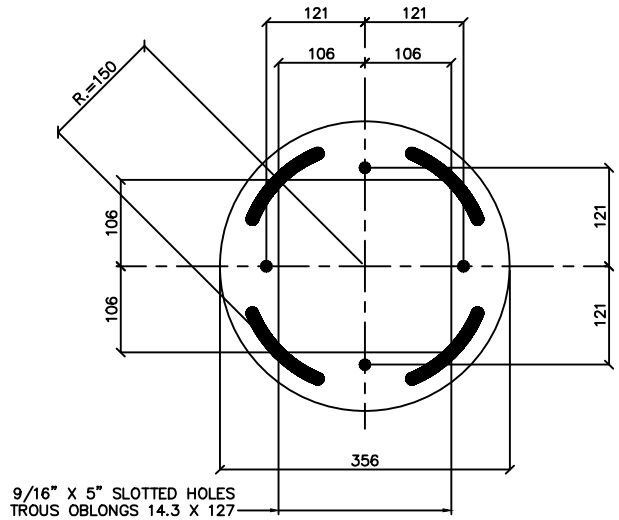
WEIGHT / MASSE: 11.7 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P076	PL 6.35 X 400	565	300W		11.7							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: / MATERIEL:	G40.21M	HOLES: / TROUS:	9/16"ø	U.N. S.N.	FINISH: / FINI: GALV.
DRAWN: / DESSINÉ:	M.VACHON	CHECKED: / VÉRIFIÉ:	M.VACHON		DATE: / DATE: 2005/12/14
SCALE: / ÉCHELLE:	1 = 5	FILE: / DOSSIER:	08990-SA		DRAWING: / DESSIN: P076 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	DIAMÈTRE ET ÉPAISSEUR REVISÉS	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

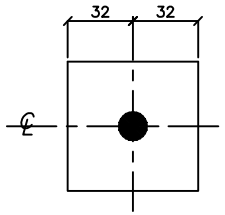
WEIGHT / MASSE: 3.9 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P077	PL	4.76	X		356ø	300W		3.9										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE:	2005/12/14
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	P077 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 0.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P078	FB 6.35 X 64	64	300W		0.2							

No	REVISION	DATE
–	–	–

Pêches et Océans Canada / Fisheries and Oceans Canada

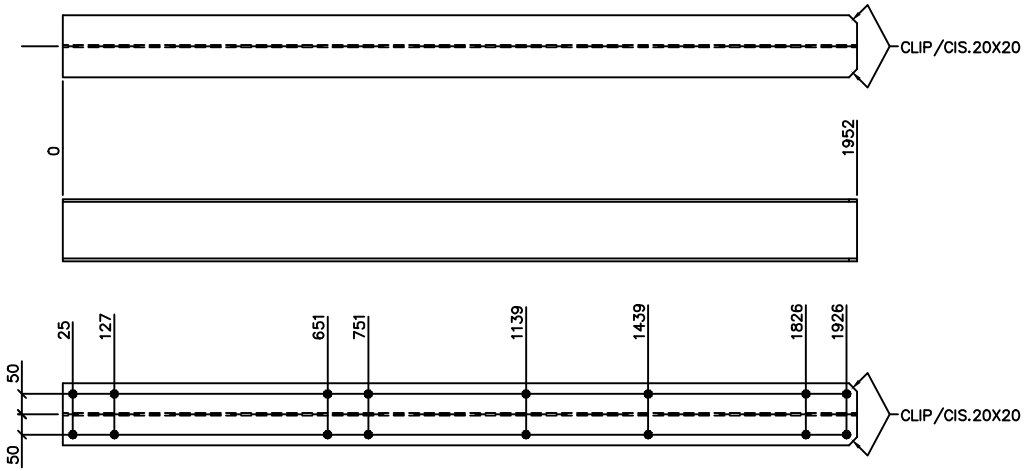
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/14
SCALE: ÉCHELLE:	1 = 2	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P078 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 45.0 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	R079	W	150	X	22	1952	350W	CLIP / CIS.	45.0										

No	REVISION	DATE
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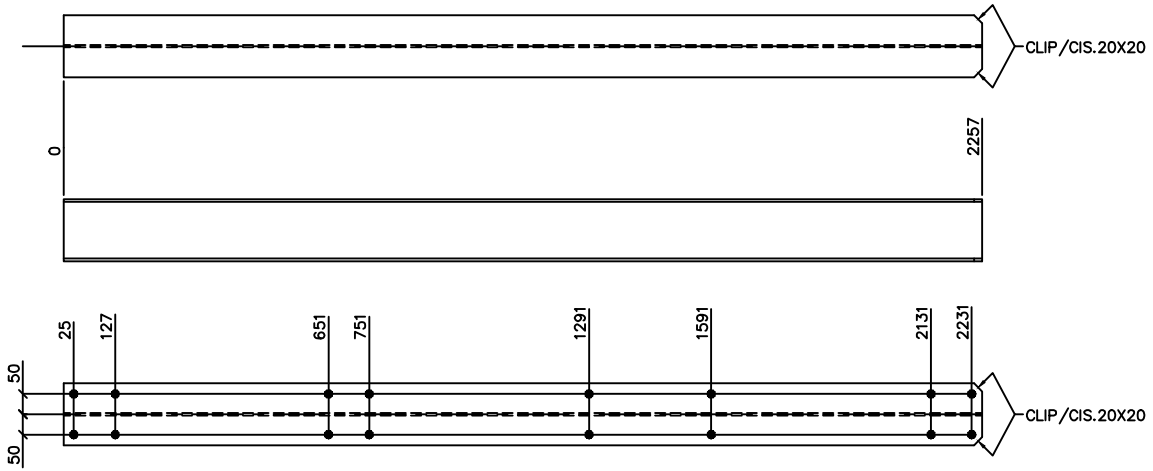
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINE:	M.VACHON	CHECKED: VERIFIE:	M.VACHON	DATE: DATE:	2005/12/14
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	R079 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

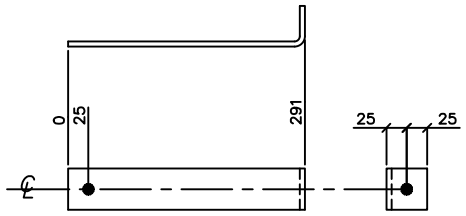
WEIGHT / MASSE: 52.1 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	R080	W 150 X 22	2257	350W	CLIP / CIS.	52.1							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/14
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	R080 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 0.9 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	E081	FB	6.35	X	51		331	300W		0.9											

No	REVISION	DATE
1	NOUVELLE DÉSIGNATION	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

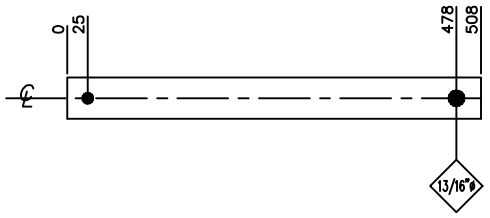
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE: 2005/12/14
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: E081 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	2	3	4	5	6	7	8	9	10	11	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 1.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	E082	FB	6.35	X	51	508	300W		1.3										

No	REVISION	DATE
1	NOUVELLE DÉSIGNATION	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

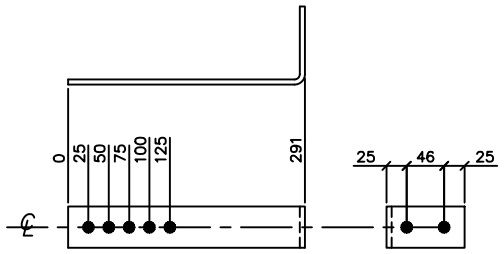
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/14
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	E082 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 1.0 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M083	FB	6.35	X	51	377	300W		1.0										

No	REVISION	DATE
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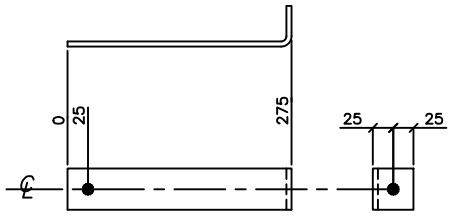
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/14
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	M083 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	NOUVELLE DÉSIGNATION	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

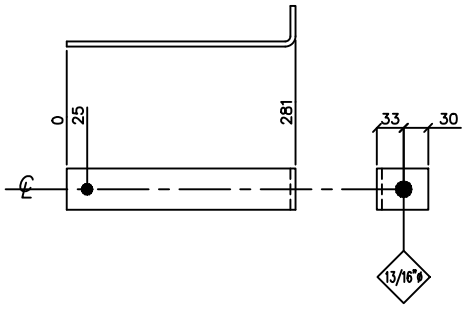
WEIGHT / MASSE: 0.8 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	E084	FB 6.35 X 51	315	300W		0.8							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI:	GALV.	
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE:	2005/12/14	
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	E084	1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	12	13	14	15
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	NOUVELLE DÉSIGNATION	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

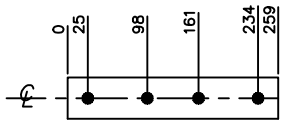
WEIGHT / MASSE: 0.9 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	E085	FB 6.35 X 51	334	300W		0.9							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI:	GALV.	
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE:	2005/12/14	
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	E085	/1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	2	2	4	4	6	6	8	8	10	10	12	12	14	14
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
1	NOUVELLE DÉSIGNATION	2006/01/19

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

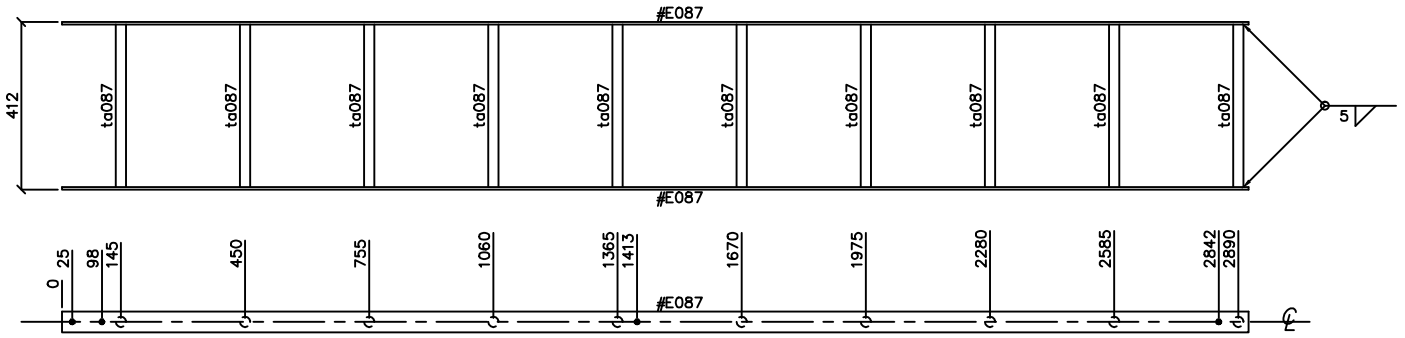
WEIGHT / MASSE: 0.7 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	E086	FB 6.35 X 51	259	300W		0.7							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/14
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	E086 /1

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 31.7 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
2	E087	FB	6.35	X	51		2915	300W	ASS. #E087	15.3											
10	ta087	●	25.4	ø	X		399	300W		16.4											

No	REVISION	DATE
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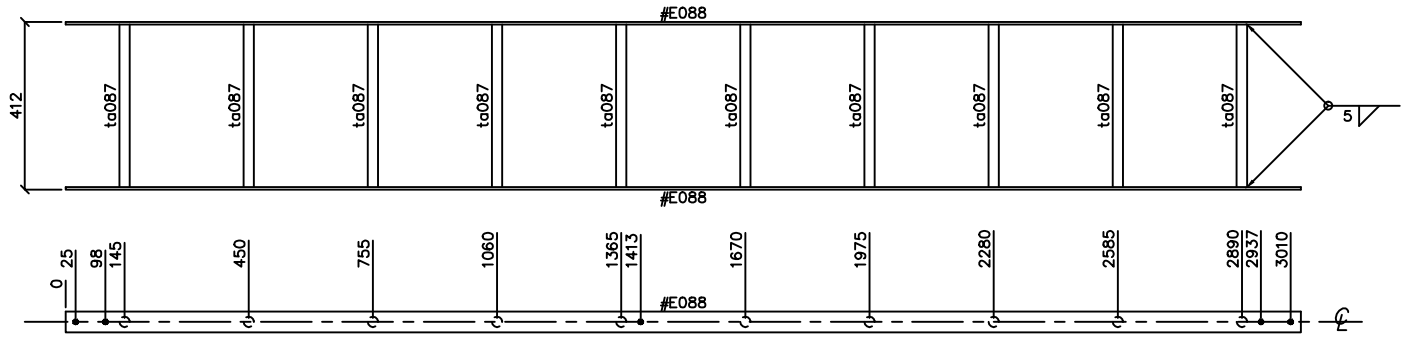
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINE:	M.VACHON	CHECKED: VERIFIE:	M.VACHON	DATE: DATE:	2005/12/15
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	E087 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 32.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
2	E088	FB	6.35	X	51		3035	300W	ASS. #E088	15.9											
10	ta087	●	25.4	ø	X		399	300W		16.4											

No	REVISION	DATE
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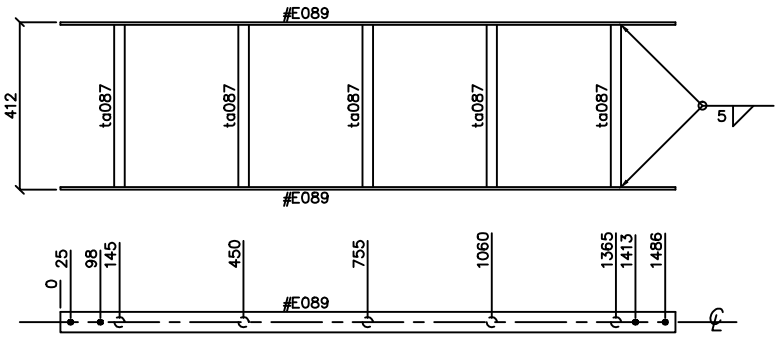
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINE:	M.VACHON	CHECKED: VERIFIE:	M.VACHON	DATE: DATE:	2005/12/15
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	E088 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7909

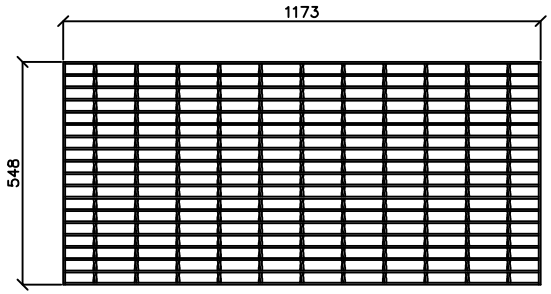
WEIGHT / MASSE: 16.1 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
2	E089	FB	6.35	X	51		1511	300W	ASS. #E089	7.9											
5	ta087	●	25.4	ø	X		399	300W		8.2											

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINE:	M.VACHON	CHECKED: VERIFIE:	M.VACHON	DATE: DATE:	2005/12/15
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	E089 0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 28.8 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P090	GRA.	4.76	31.8	548	1173	30-102	SERRATED/DENTELÉ	28.8										

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

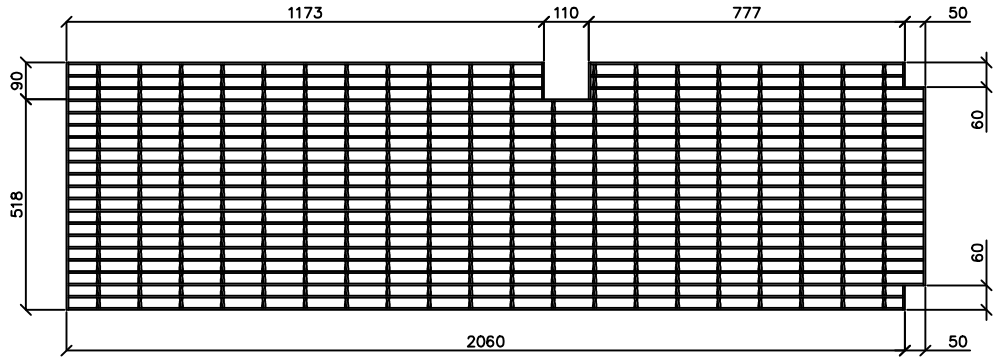
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	– U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/15
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P090 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 57.5 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P091	GRA. 4.76 31.8 608	2110	30-102	SERRATED/DENTELÉ	57.5							

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

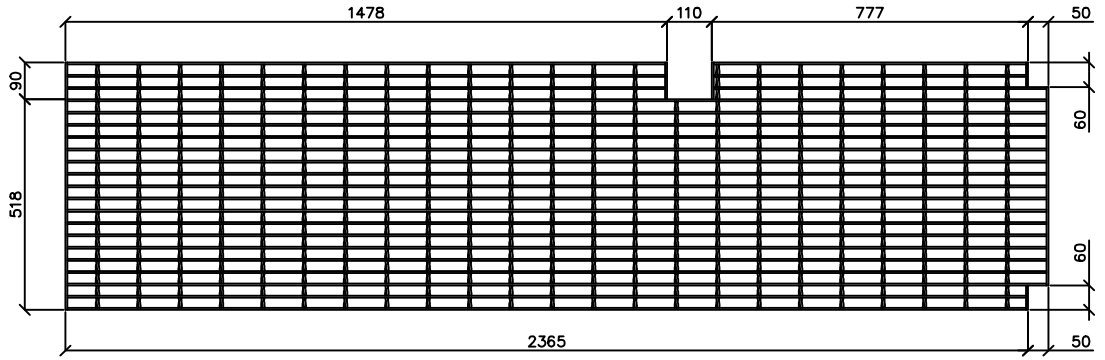
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	– U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/15
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P091 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 65.8 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P092	GRA. 4.76 31.8 608	2415	30-102	SERRATED/DENTELÉ	65.8							

No	REVISION	DATE
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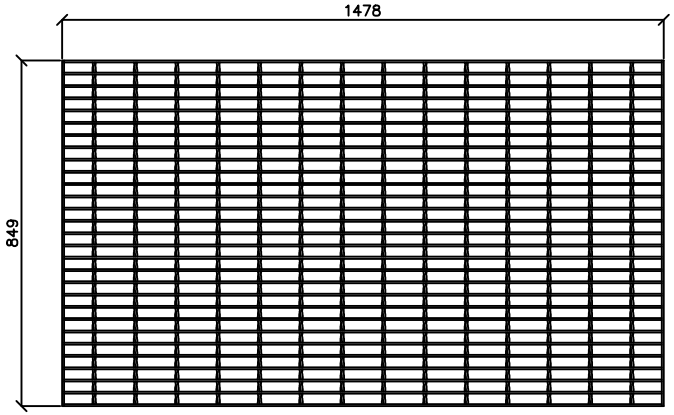
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	– U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/15
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P092 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 56.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	P093	GRA. 4.76 31.8 849	1478	30-102	SERRATED/DENTELÉ	56.2							

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

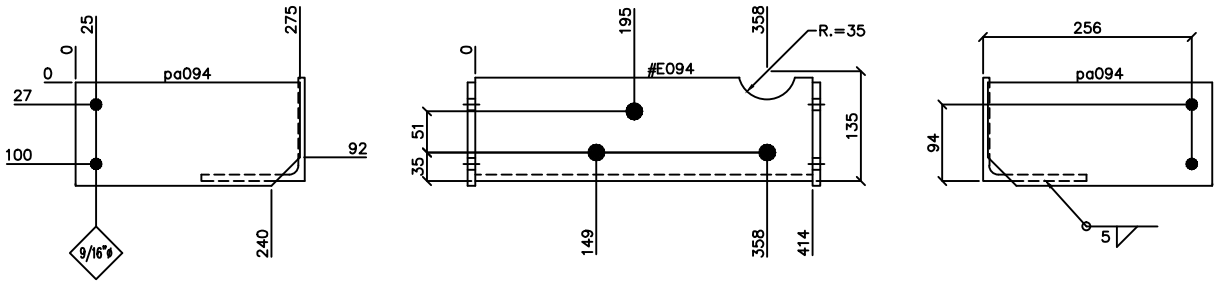
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	– U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/15
SCALE: ÉCHELLE:	1 = 10	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	P093 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	NEW MARK/NOUVELLE MARQUE	2006/01/23

Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

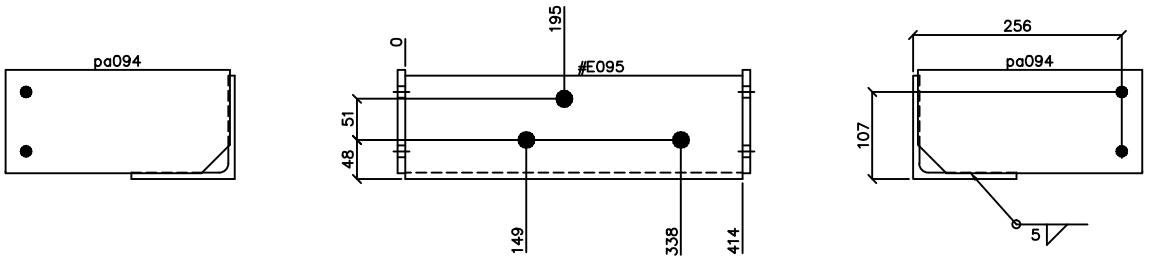
WEIGHT / MASSE: 12.0 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	E094	L	127	127	7.94	414	350W	ASS. #E094	6.6										
2	pa094	FB	9.53	X	127	275	300W		5.4										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE: 2005/12/15
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: E094 2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	NEW MARK/NOUVELLE MARQUE	2006/01/23

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

WEIGHT / MASSE: 12.0 Kg

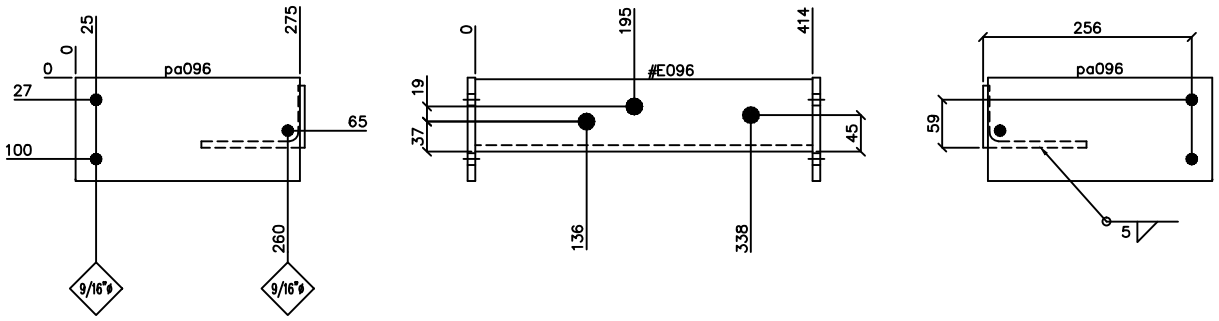
QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	E095	L	127	127	7.94	414	350W	ASS. #E095	6.6										
2	pa094	FB	9.53	X	127	275	300W		5.4										

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TELEPHONE: (418) 628-8286
TÉLÉCOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE:	2005/12/16
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	E095 /2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	NEW MARK/NOUVELLE MARQUE	2006/01/23

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7989

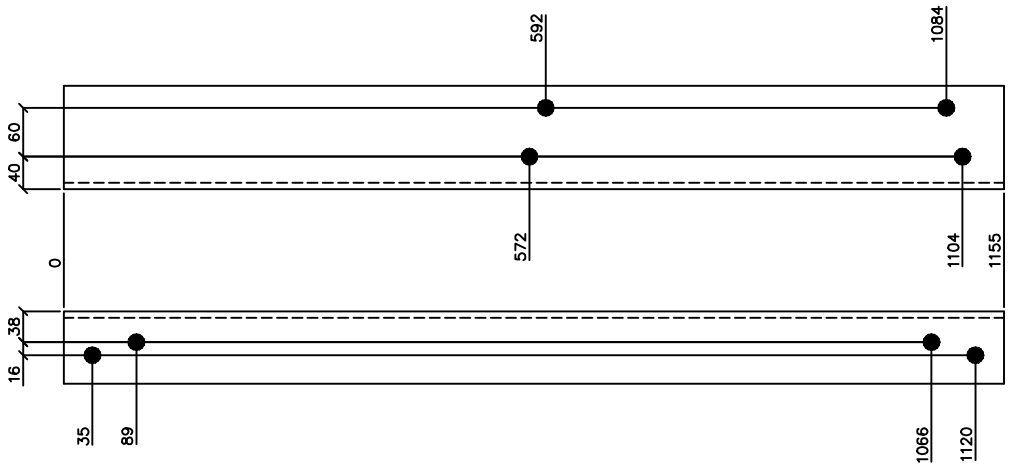
WEIGHT / MASSE: 10.9 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	E096	L	127	89	7.94	414	350W	ASS. #E096	5.5										
2	pa096	FB	9.53	X	127	275	300W		5.4										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE: 2005/12/16
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: E096 2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	NEW MARK/NOUVELLE MARQUE	2006/01/23

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8266
TÉLÉCOPIEUR: (418) 628-7009

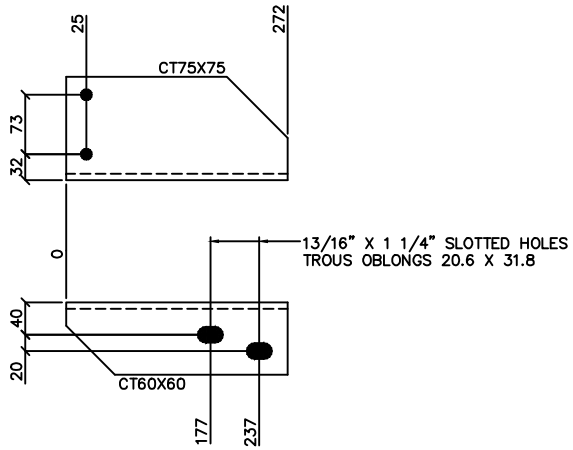
WEIGHT / MASSE: 15.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	E097	L	127	89	7.94	1155	350W		15.4										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/16
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	E097 2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



2	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
1	NEW MARK/NOUVELLE MARQUE	2006/01/23
No	REVISION	DATE

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

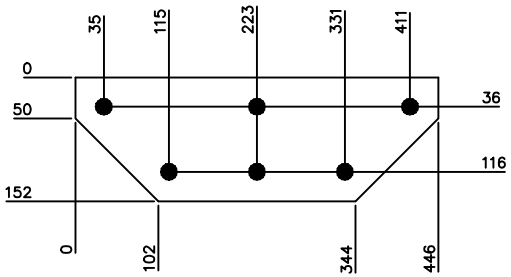
WEIGHT / MASSE: 3.6 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	E098	L	127	89	7.94	272	350W	CLIP / CIS.	3.6										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE:	2005/12/16
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	E098 2

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	4	4	8	8	12	12	16	16	20	20	24	24	28	28
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 4.5 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M100	FB	9.53	X	152	446	300W		4.5										

No	REVISION	DATE
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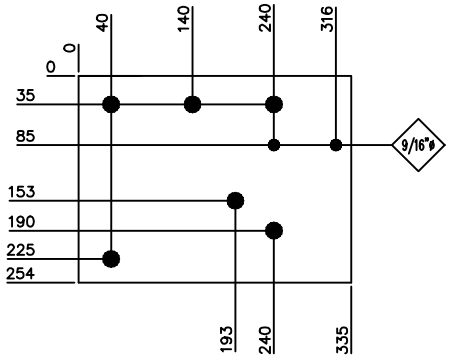
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE: 2005/12/16
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: M100 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	6	6	6	6	6	6	6	6	6	6	6	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

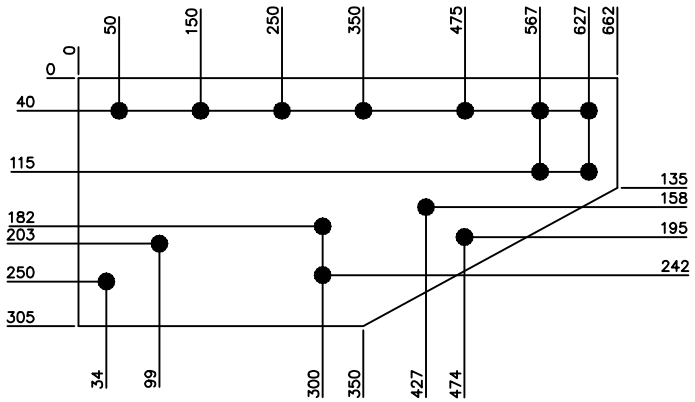
WEIGHT / MASSE: 6.6 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M101	FB 9.53 X 254	335	300W		6.6							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI:	GALV.	
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE:	2005/12/16	
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	M101	0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	7	7	7	7	7	7	7	7	7	7	7	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 13.6 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M102	FB	9.53	X	305		662	300W		13.6											

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

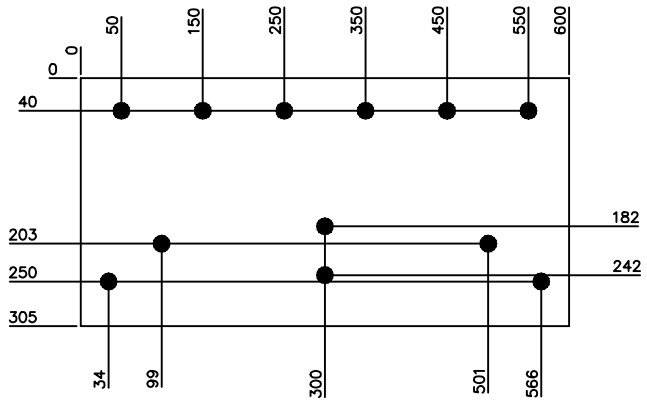
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE: 2005/12/16
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: M102

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	8	16	24	32	32	32	32	32	32	32	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7009

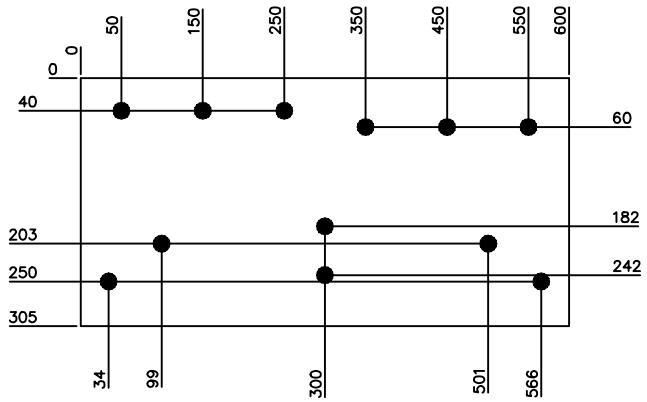
WEIGHT / MASSE: 14.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M103	FB	9.53	X	305	600	300W		14.2										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE: 2005/12/16
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: M103

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	8	8	8	8	8	8	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 14.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M104	FB	9.53	X	305	600	300W		14.2										

No	REVISION	DATE
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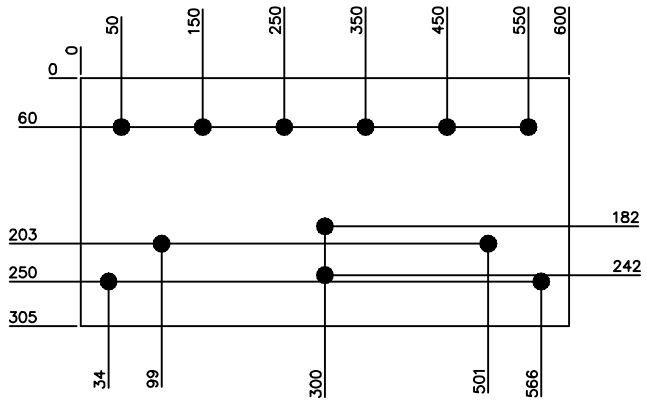
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE: 2005/12/16
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: M104

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	8	8	16	16	24	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 14.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M105	FB	9.53	X	305	600	300W		14.2										

No	REVISION	DATE
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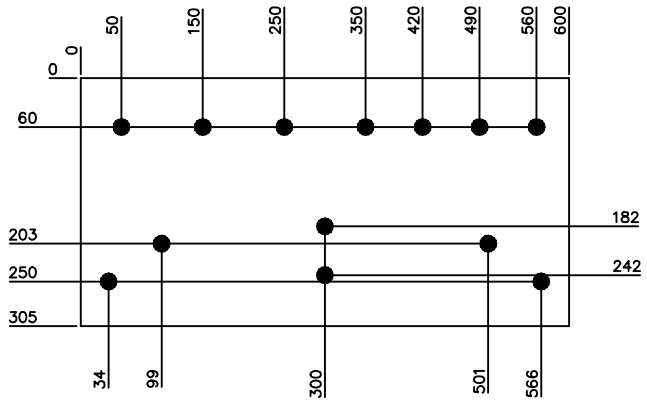
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON		DATE: DATE: 2005/12/16
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: M105

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	8	8	8	8	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 14.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M106	FB	9.53	X	305	600	300W		14.2							

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

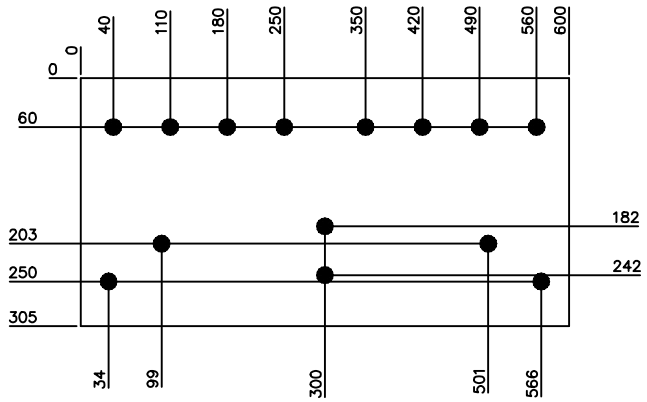
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE: 2005/12/16
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: M106

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	8	8	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 14.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M107	FB	9.53	X	305	600	300W		14.2										

No	REVISION	DATE
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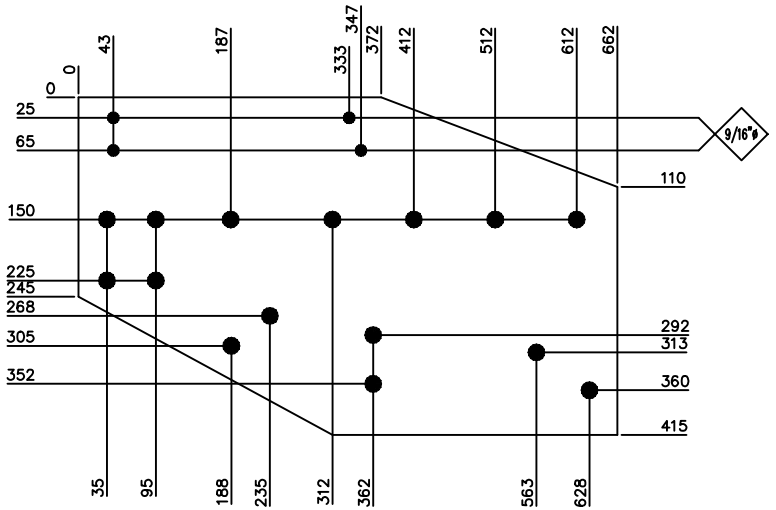
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE: 2005/12/16
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: M107

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 18.0 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M108	PL	9.53	X	415	662	300W		18.0										

No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

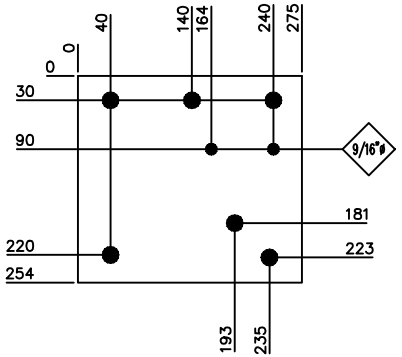
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI:	GALV.	
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE:	2005/12/16	
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	M108	0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	6	6	6	6
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

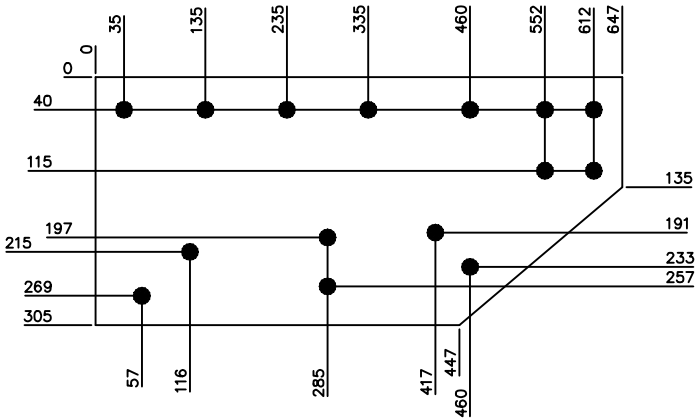
WEIGHT / MASSE: 5.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M109	FB 9.53 X 254	275	300W		5.4							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/16
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	M109 0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	7	7	7	7
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 628-8386
TÉLÉCOPIEUR: (418) 628-7689

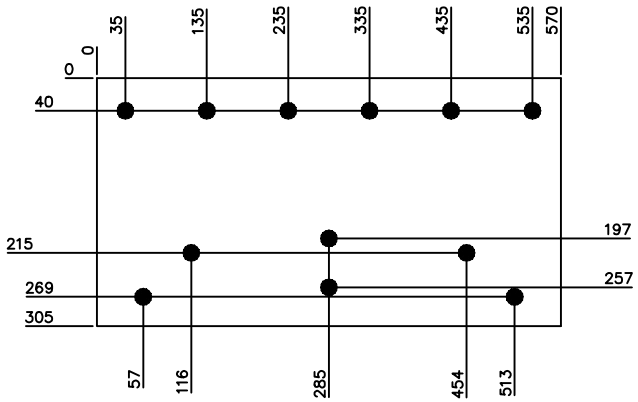
WEIGHT / MASSE: 13.9 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M110	FB	9.53	X	305	647	300W		13.9										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/16
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	M110

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	32	32	32	32
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

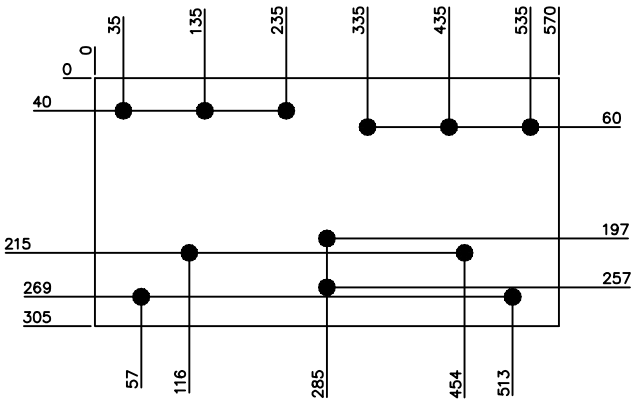
WEIGHT / MASSE: 13.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M111	FB 9.53 X 305	570	300W		13.4							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/17
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	M111 / 0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	8	8	8	8
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 13.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M112	FB	9.53	X	305	570	300W		13.4										

No	REVISION	DATE
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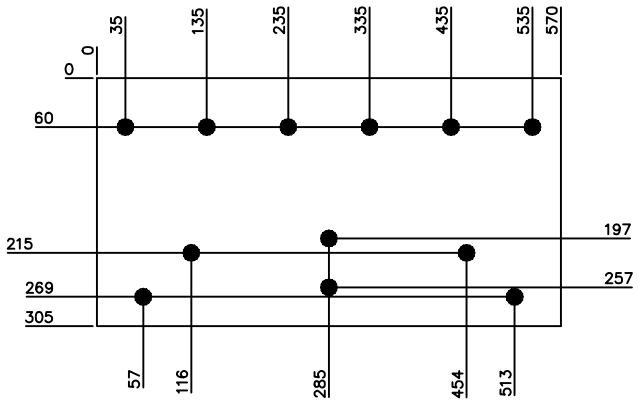
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE: 2005/12/17
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: M112

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	32	40	32	40
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

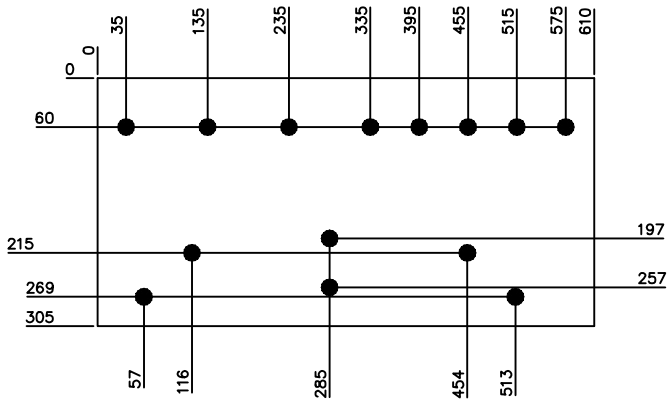
WEIGHT / MASSE: 13.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M113	FB 9.53 X 305	570	300W		13.4							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/17
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	M113

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	8	8	8	8
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 14.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M114	FB	9.53	X	305	610	300W		14.4										

No	REVISION	DATE
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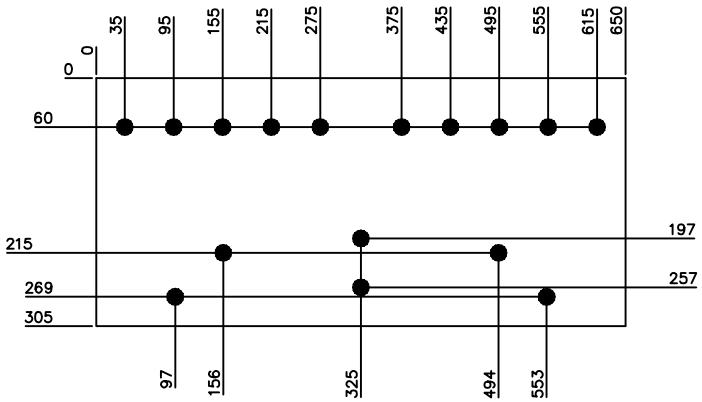
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI:	GALV.	
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE:	2005/12/17	
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	M114	0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	8	8	8	8
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7009

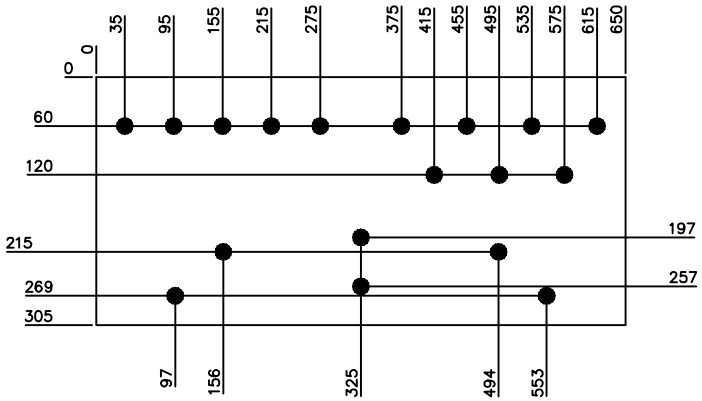
WEIGHT / MASSE: 15.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M115	FB 9.53 X 305	650	300W		15.3							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI:	GALV.	
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE:	2005/12/17	
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN:	M115	0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 20.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M116	FB	12.7	X	305	650	300W		20.4										

No	REVISION	DATE
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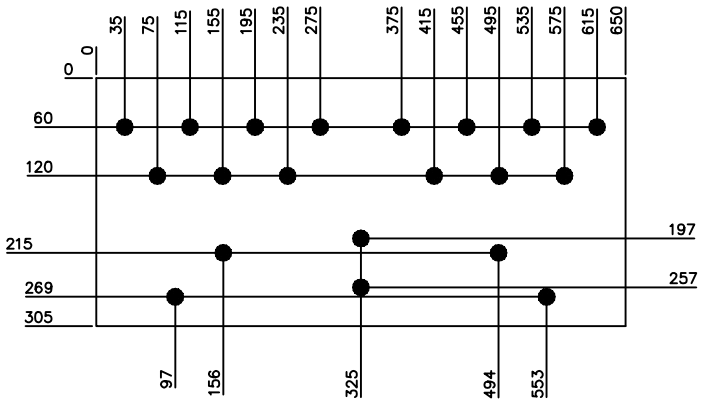
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE: 2005/12/17
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: M116

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

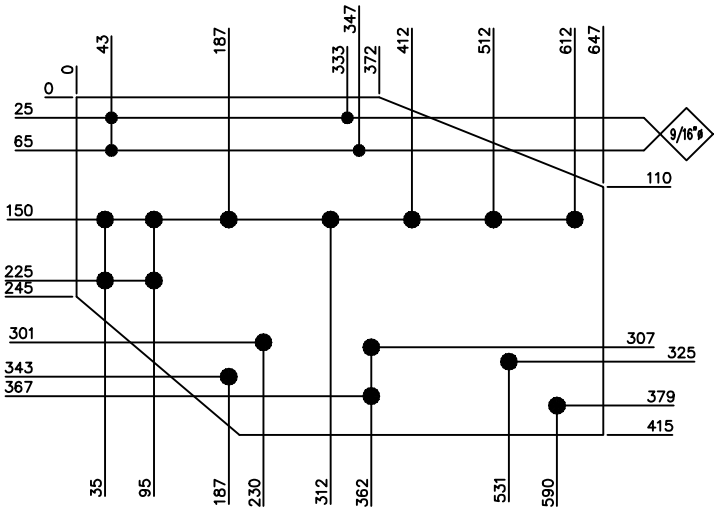
WEIGHT / MASSE: 20.4 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M117	FB 12.7 X 305	650	300W		20.4							

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON	DATE: DATE:	2005/12/17
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	M117 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

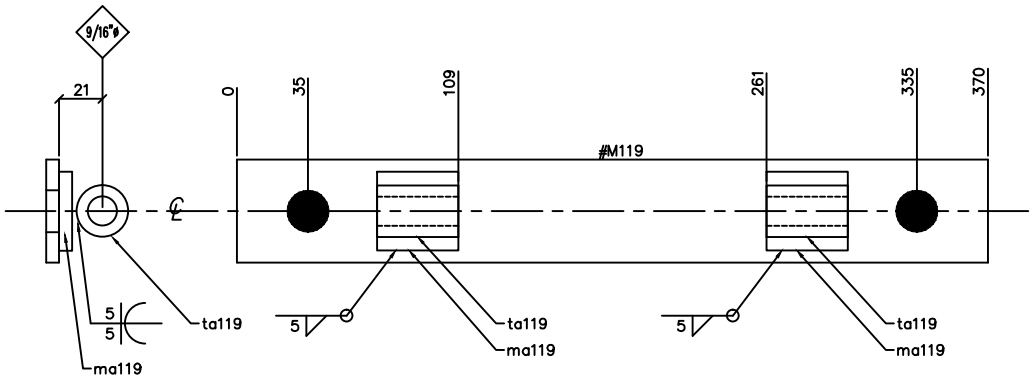
WEIGHT / MASSE: 18.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M118	PL	9.53	X	415	647	300W		18.3										

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	13/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINE:	M.VACHON	CHECKED: VERIFIE:	M.VACHON		DATE: DATE: 2005/12/17
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: M118 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 1.3 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M119	FB	6.35	X	51	370	300W	ASS. #M119	1.0										
2	ta119	●	25.4	ø	X	40	300W		0.3										
2	ma119	FB	6.35	X	39	40	300W		0.1										

No	REVISION		DATE
1	ADD ma119 AJOUTÉ	A.L.	2011/01/06

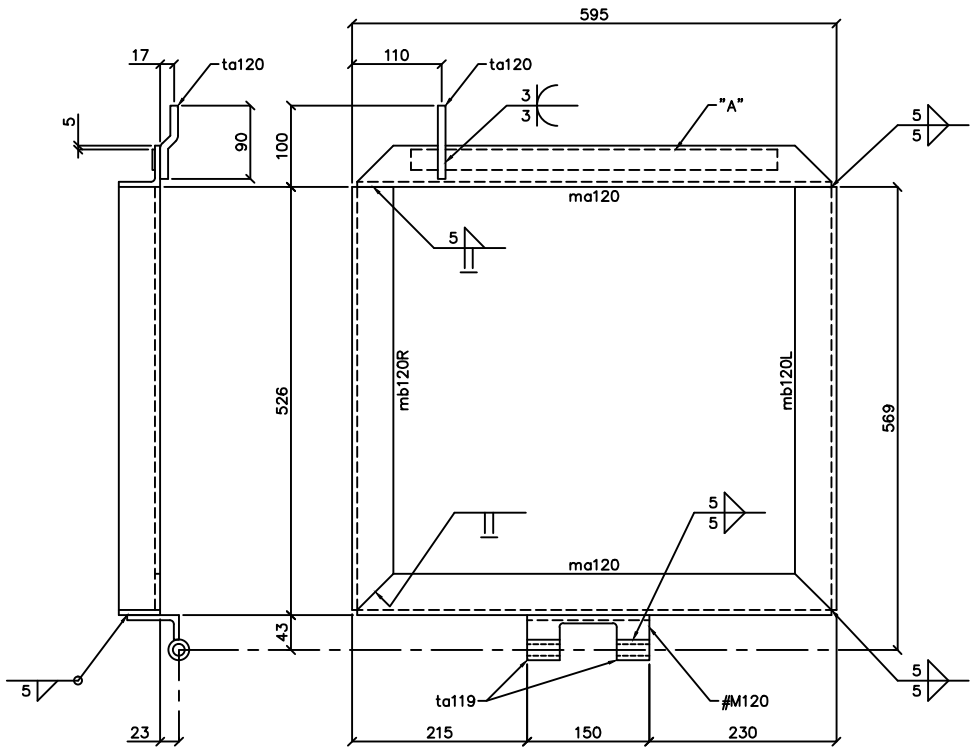
Pêches et Océans Canada / Fisheries and Oceans Canada
Garde côtière / Coast Guard

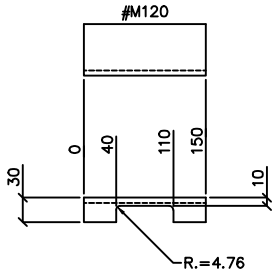
DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES MÉTALLIQUES
TÉLÉPHONE: (418) 626-8386
TÉLÉCOPIEUR: (418) 626-7699

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	13/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/17
SCALE: ÉCHELLE:	1 = 2	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	M119 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15





No	REVISION	DATE
3	GRADE CHANGED/NUANCE CHANGÉE	2006/03/22
2	ta120 ADDED/AJOUTÉE	2006/01/23
1	ta119 REDIFINED/REDÉFINIE	2006/01/19

Pêches et Océans Fisheries □nd Oce□ns C□n□d□
Garde côtière Co□st Gu□rd

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

WEIGHT / MASSE: 11.8 Kg

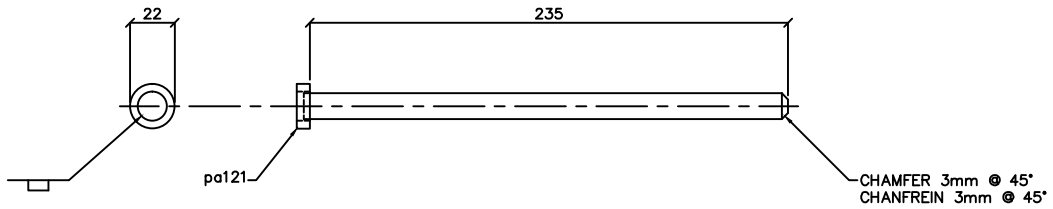
QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M120	L	64	30	6.35	150	350W		0.7
2	ma120	L	51	51	6.35	582	350W		5.6
1	mb120R	L	51	51	6.35	520	350W	ASS. #M120	2.6
1	mb120L	L	51	51	6.35	520	350W		2.6
1	ta120	●	9.53	ø	X	95	300W	2	0.0

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION						LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
2	ta119	●	25.4	ø	X	40	300W	1			0.3
1	"A"	PL	3.18	X	25	450	NEOP.	GLUED/COLLÉ			–

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VERIFIÉ:	M.VACHON		DATE: DATE: 2005/12/17
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: M120 3

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITÉ REQUISE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



WEIGHT / MASSE: 0.2 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
1	M121	●	12.7	ø	X	238	300W	ASS. #M121	0.2
1	pa121	PL	6.35	X		22ø	300W		0.0

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE

No	REVISION	DATE
–	–	–

Pêches et Océans Canada / Fisheries and Oceans Canada

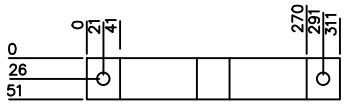
Garde côtière / Coast Guard

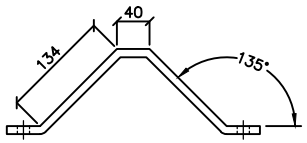
DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8266
TELECOPIEUR: (418) 628-7009

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATÉRIEL:	G40.21M	HOLES: TROUS:	9/16"ø U.N. S.N.	FINISH: FINI:	GALV.
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2005/12/17
SCALE: ÉCHELLE:	1 = 2	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	M121 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITE REQUISE	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15





No	REVISION	DATE
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Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
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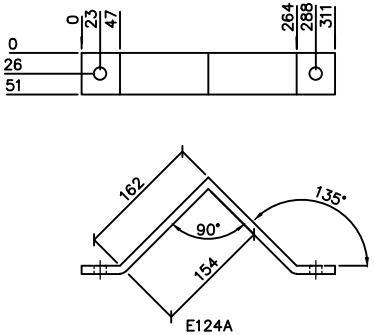
STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	I.T.G.	CHECKED: VÉRIFIÉ:			DATE: DATE: 2010/05/12
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: E123 /0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
QUANTITY REQUIRED / QUANTITE REQUISE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
ERECTION DRAWING / DESSIN DE MONTAGE	08990-SM-01	08990-SM-02	08990-SM-03	08990-SM-04	08990-SM-05	08990-SM-06	08990-SM-07	08990-SM-08	08990-SM-09	08990-SM-10	08990-SM-11	08990-SM-12	08990-SM-13	08990-SM-14	08990-SM-15



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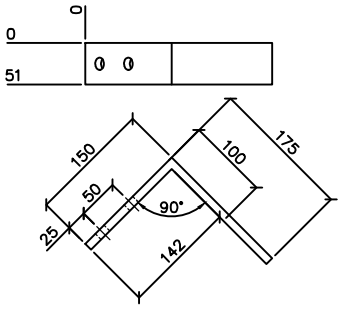

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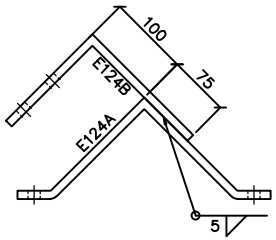

E124A + E124B

0	POUR FABRICATION	2010/06/04
No	REVISION	DATE

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION				LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
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STEEL TOWERS / TOURS D'ACIER

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DRAWN: DESSINÉ:	I.T.G.	CHECKED: VÉRIFIÉ:		DATE: DATE:	2010/05/12
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA	DRAWING: DESSIN:	E124 0

HEIGHT OF TOWER / HAUTEUR DE LA TOUR	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'	65'	70'	75'	80'
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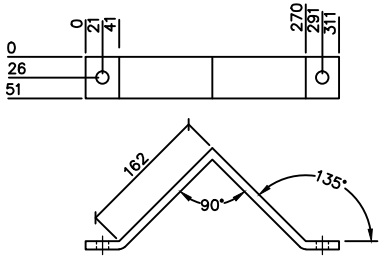

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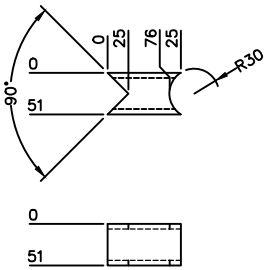

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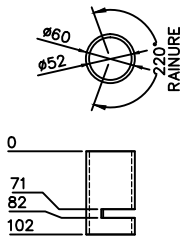

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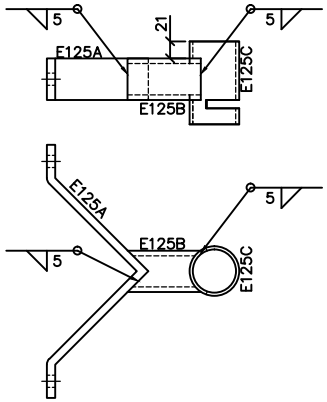

E125A + E125B + E125C

No	REVISION	DATE
–	–	–

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION					LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
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1	E125B	HSS	51X51	X	6.4		90	300W													
1	E125C	HSS	60ø	X	4		102	300W													

STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	G40.21M	HOLES: TROUS:	9/16"ø	U.N. S.N.	FINISH: FINI: GALV.
DRAWN: DESSINÉ:	I.T.G.	CHECKED: VÉRIFIÉ:			DATE: DATE: 2010/05/12
SCALE: ÉCHELLE:	1 = 5	FILE: DOSSIER:	08990-SA		DRAWING: DESSIN: E125 /0

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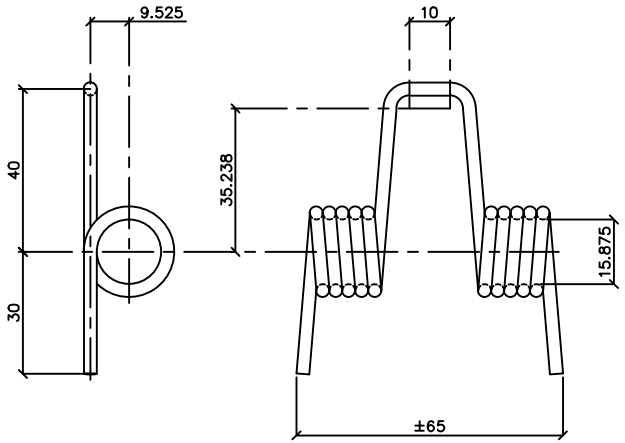

No	REVISION	DATE
–	–	–

Pêches et Océans Canada / Fisheries and Oceans Canada

Garde côtière / Coast Guard

DESSIN MICHEL VACHON INC.
DESSIN DE STRUCTURES METALLIQUES
TELEPHONE: (418) 628-8286
TELECOPIEUR: (418) 628-7089

WEIGHT / MASSE: 0.05 Kg

QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE	QTY QTÉ	MRK MQE	DESCRIPTION DESCRIPTION	LENGTH LONG.	GRADE NUANCE	REMARK REMARQUE	WEIGHT MASSE
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STEEL TOWERS / TOURS D'ACIER

MATERIAL: MATERIEL:	ANSI	HOLES: TROUS:	–	U.N. S.N.	FINISH: FINI: –
DRAWN: DESSINÉ:	M.VACHON	CHECKED: VÉRIFIÉ:	M.VACHON	DATE: DATE:	2006/01/11
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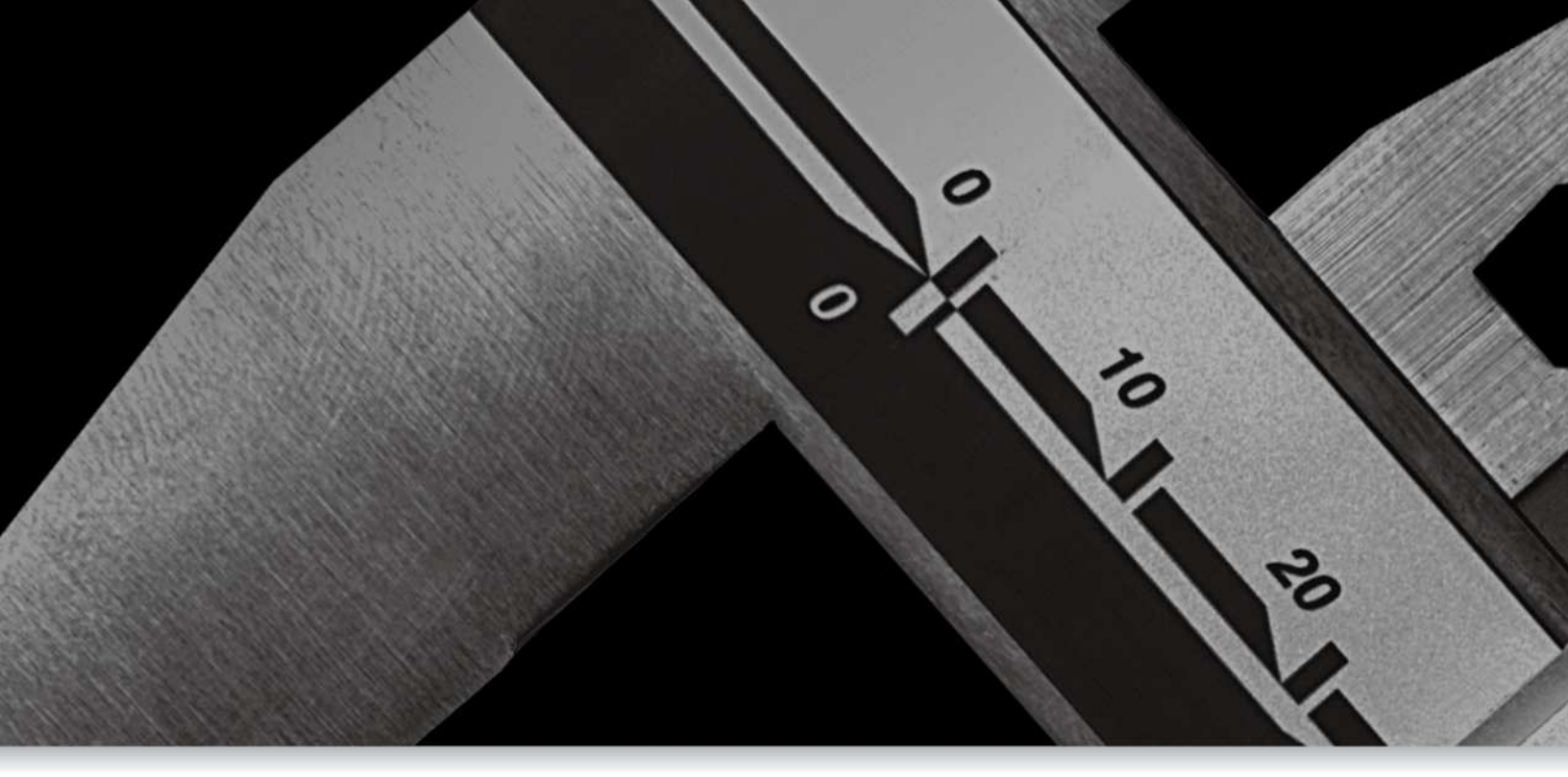
APPENDIX B4 – GEOTECHNICAL INFORMATION



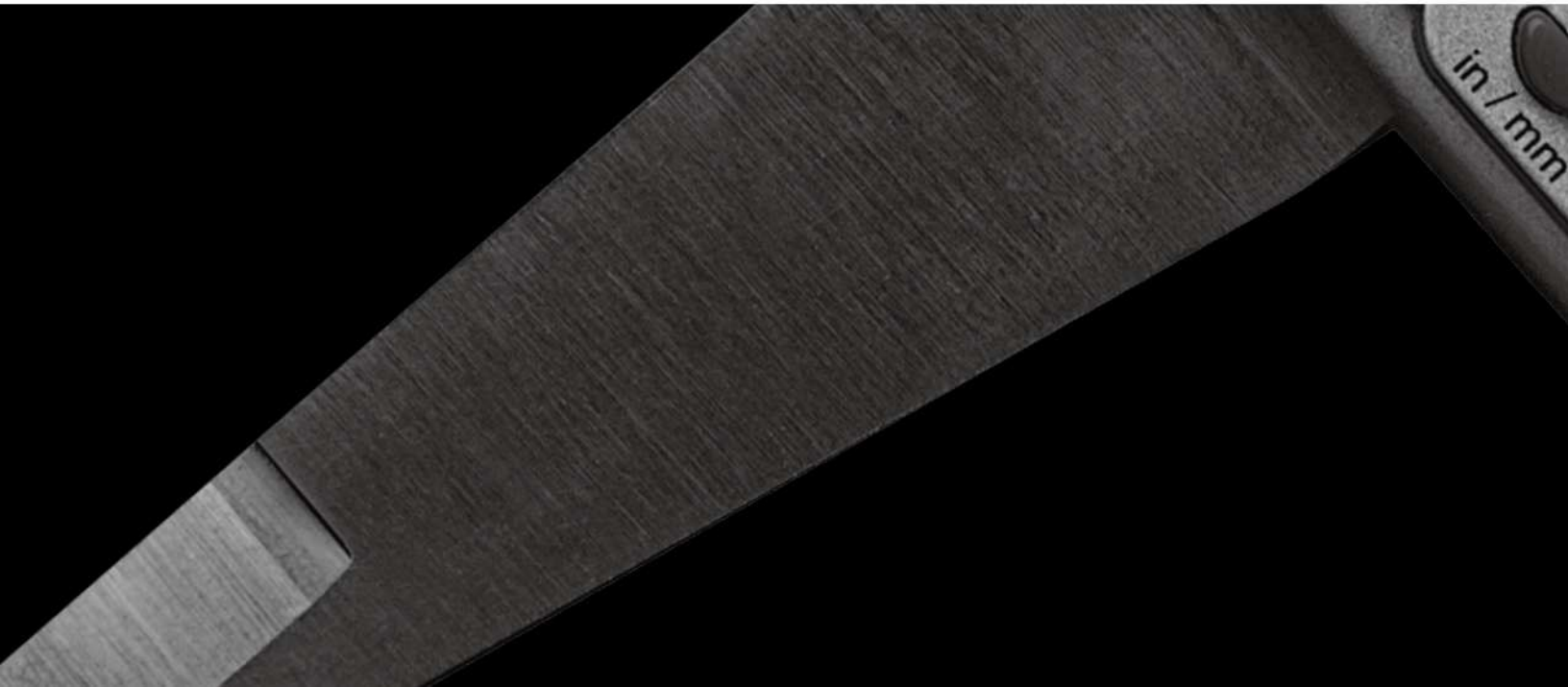
INSPEC-SOL
ENGINEERING SOLUTIONS

REPORT: T060153-A1

CANADIAN COAST GUARD CENTRAL & ARCTIC REGION
INTEGRATED TECHNICAL SERVICES
MARITIME AND CIVIL INFRASTRUCTURE
FISHERIES AND OCEANS CANADA
Geotechnical Investigation Report
Proposed Aid to Navigation (ATON) Structure/ Tower
LL551.61 – Port Colborne Rear Range Tower
Welland Canal, Lake Erie, Port Colborne, Ontario
Reference Project No.: EWA 8010-20-0359

December 9, 2014

DRAFT



INSPEC-SOL
ENGINEERING SOLUTIONS

St. Catharines, December 9, 2014

Canadian Coast Guard
Central & Arctic Region
Integrated Technical Services
Maritime and Civil Infrastructure
Fisheries and Oceans Canada
520 Exmouth Street
Sarnia, Ontario N7T 8B1

Attention: Mr. Blair Young, Project Engineer

Subject: Geotechnical Investigation Report
T060153A1
Proposed Aid to Navigation (ATON) Structure/ Tower
LL551.61 – Port Colborne Rear Range Tower
Welland Canal, Lake Erie, Port Colborne, Ontario

Dear Mr. Young:

It is with pleasure that we provide you with our Geotechnical Investigation Report T060153-A1 regarding your project 'Geotechnical Investigation Report Proposed Aid to Navigation (ATON) Structure/ Tower, located near the Port Colborne Rear Range Tower Welland Canal, Lake Erie, Port Colborne, Ontario.

We thank you for having retained Inspec-Sol for technical and professional services and we hope to have the privilege of serving you again in the future.

The Inspec-Sol team is committed to exceeding the expectations of its clients.

We trust that this information meets your approval. Please do not hesitate to contact us, should any questions arise.

Best Regards.

INSPEC-SOL INC.

Mohamed Valji, P. Eng.
Branch Manager, St. Catharines

DA/

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CANADIAN COAST GUARD CENTRAL & ARCTIC REGION
INTEGRATED TECHNICAL SERVICES
MARITIME AND CIVIL INFRASTRUCTURE
FISHERIES AND OCEANS CANADA
520 Exmouth Street
Sarnia, Ontario N7T 8B1

Proposed Aid to Navigation (ATON) Structure/ Tower
LL551.61 – Port Colborne Rear Range Tower
Welland Canal, Lake Erie, Port Colborne, Ontario

Date : **December 9, 2014**	Our Ref. : **T060153-A1**

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CANADIAN COAST GUARD CENTRAL & ARCTIC REGION
INTEGRATED TECHNICAL SERVICES
MARITIME AND CIVIL INFRASTRUCTURE
FISHERIES AND OCEANS CANADA
520 Exmouth Street Sarnia,
Ontario N7T 8B1

Geotechnical Investigation Report
Proposed Aid to Navigation (ATON) Structure/ Tower
LL551.61 – Port Colborne Rear Range Tower
Welland Canal, Lake Erie, Port Colborne, Ontario

Ref.: T060153-A1
December 9, 2014

Prepared by :

Dayo Adeyemo P. Eng.

Approved by :

Hassan Gilani, M.Sc., P. Eng.

Distribution: **The St. Lawrence Seaway – Mr. Blair Young, P.Eng.**
(Copy by e-mail: Blair.Young@dfo-mpo.gc.ca)

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TABLE OF CONTENTS

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TABLE OF CONTENTS (CONT'D)

1.0 INTRODUCTION

Inspec-Sol Inc. (Inspec-Sol) has been retained by The Department of Fisheries and Oceans Canada (DFO) to conduct a geotechnical investigation for the Aid to Navigation (ATON) 'LL551.61 Port Colborne Rear Range Tower' structure proposed to be installed on the east bank of Welland Canal in Port Colborne, Ontario. The Site Location Plan is shown on **Figure 1** following the text of this report.

In response to the Request for Quotation (RFQ) number EWA 8010-20-0359 issued by The Canadian Coast Guard dated October 17, 2014, Inspec-Sol submitted a proposal referenced PS-434 and dated October 31, 2014 (Inspec-Sol Proposal). Authorization to proceed with the geotechnical investigation was received from Mr. Adam Wettges, P. Eng. of the DFO via email dated November 3, 2014.

It is our understanding that the DFO plans to construct an Aid to Navigation (ATON) structure. The purpose of the geotechnical investigation was to determine subsurface soil and groundwater conditions at the Site in order to provide DFO with foundation design criteria for the proposed tower structure.

The comments given in this report are intended only for the guidance of the design engineers. The number of boreholes required to determine all of the localized underground conditions that might affect construction cost, methodology, sequencing, equipment, scheduling, etc. would be greater than has been carried out for design purposes. Contractors bidding on or undertaking the works should, in this light, decide on their own investigation and their own interpretation of the factual borehole results, so that they may draw their own conclusions on how the sub-surface conditions may affect the construction operation.

2.0 FIELD AND LABORATORY WORK PROGRAM

The field scope of work (SOW) outlined in the Inspec-Sol Proposal comprised of advancing one (1) borehole (BH1-14) at the Site to a depth of 6 to 8 m below ground surface (bgs) or auger refusal, whichever is encountered earlier, at the location of the proposed Tower Aid to Navigation (ATON) structure proposed to be installed at LL551.61 Port Colborne Rear Range Tower Site. The borehole was advanced within the security fence enclosing the Saint Lawrence Seaway Management Corporation (SLSMC) owned Welland Canal property.

All buried private and public utilities located within the above referenced security fence were identified from the borehole location prior to commencement of the field drilling program. The clearance of public underground utilities at the Site was obtained through Ontario1Call and other utility owners. The clearance of private underground utilities at the Site was obtained from SLSMC. In addition to the SLSMC locates a private locate specialist firm (Niagara Locates) was retained by Inspec-Sol on behalf of the Client to scan and clear the borehole location for the presence of any underground utilities.

The field drilling program was executed by a drilling subcontractor on November 24, 2014 using a truck mounted drilling rig equipped with continuous solid stem augers, under full-time supervision by Inspec-Sol. The detailed Borehole Log is provided in **Appendix 1**. Ground elevations at the borehole location was surveyed by Inspec-Sol and is shown on the borehole log with reference to a temporary benchmark established on the top nut of a fire hydrant on 123 Welland Street, located 6 m north of the Nickel and Welland Street intersection. The elevation at the top nut of the fire hydrant was assumed to be 100.0 m.

Representative samples of the strata penetrated were obtained during drilling, utilizing a 50 mm outer diameter split-barrel sampler, advanced by dropping a 63.5 kg hammer 760 mm, in accordance with the standard penetration test method (ASTM 1586). The results of the Standard Penetration Tests (SPT) are reported as 'N' values on the borehole log at the corresponding depths.

Groundwater observations were made in the borehole during drilling and upon completion, and are shown on the borehole log.

Soil samples obtained from the borehole were observed in the field for type, texture, colour and moisture, and were sealed in clean plastic containers. All samples were transferred to Inspec-Sol's laboratory in St. Catharines where they were re-examined by a senior geotechnical engineer to verify the accuracy of the initial soil descriptions and selection for geotechnical laboratory testing.

The geotechnical laboratory testing comprised of the following:

- Moisture content determination of all split spoon samples collected;

One sample was analyzed for corrosivity potential. The analytical laboratory test results are provided in **Appendix 2** following the text of this report.

3.0 REGIONAL GEOLOGY

The Site is located in the physiographic region of Haldimand Clay Plain[1]. A review of the regional geology map[2] shows that the banks of the Welland Canal are covered with the fill deposits, which based on the anecdotal evidence are the excavated materials obtained during the excavation of the canal. The Canal itself has been excavated through the an area covered by the glacial Lake Warren deposits consisting predominantly of deep water glaciolacustrine clay and silt deposits containing traces of sand and gravel.

A review of the bedrock drift thickness map[3] shows that the bedrock is expected to be at a depth of approximately 6 to 8 m below the existing grades in the borehole location area.

According to the Paleozoic geology map[4] the bedrock in the general Site area is comprised of Edgecliff Member of Onondaga Formation that comprises medium bedded, variable cherty, very fossiliferous, bioclastic, or argillaceous limestone; massive, biohermal and reefal limestone containing minor shale.

4.0 SUBSURFACE CONDITIONS

The subsurface soil and groundwater conditions encountered at the borehole location are consistent with the regional geology and have been detailed on the attached Borehole Log presented in Appendix 1 of this report. It should be noted that the subsurface conditions were determined at the borehole location only and may vary at other locations. The boundaries between the various strata as shown on the log are based on non-continuous sampling at the borehole location. These boundaries represent an inferred transition between the various strata, rather than a precise plane of geological change.

---

[1] Chapman, L. J., and Putnam, D. F., (1984): The physiography of Southern Ontario; Ontario Geological Survey, Special Volume 2, 270p, accompanied by Map P/2715 (coloured), scale 1:600 000.

[2] Freenstra, B. H., (1972): Quaternary Geology of the Welland Area; Southern Ontario; Ontario Div. Mines, Prelim. Map. P.796, Geol. Ser., Scale 1:50,000, Geology 1972.

[3] Freenstra, B. H., and Troper, M. (1982): Drift Thickness of the Welland Fort Erie Area, Southern Ontario, Ontario Geological Survey, Map P.2486, Drift Thickness Series, Scale 1:50,000.

[4] Telford, P.G., and Tarrant, G.A. (197): Paleozoic Geology of the Welland-Fort Erie area, Southern Ontario; Ontario Div. Mines, Prelim. Map P.989, Geol. Ser., Scale 1:50,000. Geology 1974

A brief description of the soil stratigraphy encountered at the borehole location is summarized, in order of depth, in the following sections.

4.1 Fill Deposits

4.1.1 Gravel and Concrete Rubble

A 300 mm thick layer of Gravel and concrete was encountered at the surface of the borehole location (BH1-14), drilled northwest of the existing tower foundation at the Site.

4.1.2 Sand and Gravel

Underlying the gravel and concrete layer in the borehole (BH1-14) is the sand and gravel deposit, extending to 2.29 m bgs. The SPT 'N' values recorded within the layer ranged from 50 plus, indicating a very dense state of relative density.

The moisture content of the sample classified as silty clay was measured to range between 15 to 22 percent indicating moist conditions.

4.2 Organic Peat

Organic Peat, approximately 0.7 m thick, was encountered beneath the sand and gravel fill layer at the borehole location, extending to a depth between 2.23 to 3.0 m bgs. The SPT 'N' values of 4 was recorded in the peak layer. The moisture content of the sample classified as organic peat was measured to be 258 percent indicating the high organic content of the sample.

4.3 Native Soil Deposits

4.3.1 Native Silty Clay

Underlying the organic peat layer in the borehole BH1-14 is the native silty clay deposit, extending to 6.18 m bgs. The SPT 'N' values recorded within the layer ranged from 16 to 12, indicating very stiff to stiff consistency.

The moisture content of the sample classified as silty clay was measured to range between 11 to 29 percent indicating moist conditions.

4.3.2 Probable Bedrock

Borehole was terminated upon split spoon and auger penetration refusal on a hard stratum at a depth of 6.18 m bgs, which falls within the range of published depth of the bedrock in the area. The presence of bedrock was not confirmed through extraction of core samples, as it was not part of the scope of work.

4.4 Groundwater

Groundwater observations were made during drilling and upon completion of the borehole. Groundwater was recorded during drilling or upon completion of drilling of the borehole at a depth of 1.5 m bgs. Long term groundwater monitoring through the installation of a monitoring well did not form part of the scope of work.

Groundwater conditions should be expected to vary in response to the Lake Erie and Welland Canal levels, seasonal conditions and weather events.

5.0 DISCUSSION AND RECOMMENDATIONS

The purpose of the geotechnical investigation at Site is to provide DFO with the development of a foundation design for a new aid to navigation (ATON) structure at the Site.

Based on the above understanding, and observed subsurface soil and groundwater conditions at the borehole location, the following comments and recommendations are provided.

5.1 Suitable Foundation Type

A review of the drawings provided with the RFQ shows that the proposed 18.3 m (60 ft.) tall lattice tower is typically supported on a block type concrete footing tied to the bedrock using rock anchors passing through the soil overburden if present.

A block type of foundation is not considered suitable for the subsurface conditions encountered at the Site, with or without rock anchors as the presence of peat of deposits is likely to result excessive total and rotational type settlement of the foundation.

Due to relatively shallow groundwater table, relatively close proximity of the canal, and relatively deeper depth of the of the 0.71 m (2.3 ft.) thick peat layer, replacement of peat and existing fill with engineered fill may also not be a feasible option.

In view of the Site constraints, it is recommended that the proposed tower structure should be supported on a block type concrete foundation constructed as a pile cap supported on either cast-in-place concrete piles or driven steel piles. Both types of piles should be bearing into the bedrock at a minimum depth of 8.3 m bgs, and must be installed under geotechnical supervision to ensure that the piles are constructed in accordance with the recommendations provided in the following sections.

5.2 Pile foundation design parameters

The support for the new aid to navigation (ATON) structure can be provided by driven steel or cast-in-place concrete piles. Due to the relatively deep fill deposit underlain by peat deposits and then by relatively low shear strength 3 m thick clay deposits extending to a depth of 6.18 m bgs, the piles should conservatively be designed to develop the load bearing capacity through toe resistance when supported on the bedrock. Based on the geological description the bedrock the limestone bedrock may not be very strong having been described as biohermal and reefal limestone, which is a limestone consisting of the remains of active reef-building organisms, such as corals, sponges and of sediment-binding organic constituents, such as calcareous algae. However in its lithified state it should be strong enough to support the proposed lattice tower.

5.2.1 Driven Steel Piles

Steel pipe and H-sections are commercially available in various sizes, and can be used as pile foundations. Based on our experience, and the results of geotechnical investigation at the Site, the load carrying capacity of a steel pile can be determined using an end bearing resistance of 1,800 kN for factored (Φ = 0.4) Ultimate Limit State (ULS) design. As the load required to cause the typical allowable settlement of 25 mm would exceed the ULS capacity for the pile bearing into the bedrock, the axial capacity of 1,800 kN can also be used for the Serviceability Limit State (SLS) design.

The SLS Design will also be a function of the allowable yield strength of pile material, therefore if the capacity corresponding to allowable yield strength exceed yield strength is less than the factored ULS geotechnical resistance, the capacity corresponding to the allowable yield strength must be used as the SLS design.

For driven piles, a preliminary refusal criterion of **8 to 12** blows per 25 mm penetration can be used when using a Delmag Hammer D22-23.

5.2.2 Cast-in-Place Concrete Piles

For the installation of cast-in-place drilled piles/caissons, use of a temporary steel liner will be required in order to prevent caving in and neck formation of the drilled hole in the sand and gravel fill, and to cut off groundwater ingress.

The cast-in-place concrete pile can be designed for a SLS and ULS geotechnical design bearing resistance 1,000 kPa. Similar to the driven piles, if the allowable material strength of the pile is less than that of the aforementioned geotechnical resistances, the capacity related to the material strength should be used as the SLS design capacity of the pile.

5.2.3 Adfreeze Forces

Uplift forces due to soils freezing against concrete can exceed 100 kPa. It is therefore recommended that the top 1.2 m of the piles should be isolated from the surrounding soils by suitable means.

Pile caps should be totally supported on the pile and must not be in contact with the ground surface so that it is not subjected to uplift pressures due to frost-induced ground heave.

5.2.4 Lateral Pile Capacity

The top 2.3 m of the soil deposits are comprised of sand and gravel fill of unknown placement history and thus unknown spatial engineering characteristics, and are underlain by 0.7 m thick peat deposits, therefore the Site soils should not be relied upon to contribute to lateral pile capacities. It is recommended that batter piles be used if tower foundation is required to resist significant lateral forces.

5.2.5 Pile Uplift Capacity

The pile uplift resistance is provided by the shaft resistance only. Piles founded at 6.18 m bgs at the Site can be designed for SLS and ULS ($\phi = 0.3$) uplift resistance of 40 kPa and 50 kPa, respectively for the 3.2 m deep portion embedded in native silty clay deposits only. For

cast-in-place piles augered into bedrock with a socket length to socket diameter ratio of at least 4, a shaft resistance of 700 kPa for SLS design corresponding to 25 mm settlement and factored (Φ = 0.3) ULS resistance of 875 kPa can be used.

5.2.6 General Pile Recommendations

The actual pile capacities can vary over a large range due to many factors including but not limited to actual bearing stratum and construction practices used. The design parameters provided in this report should therefore be considered preliminary. It is recommended that a specialist piling-contractor should review the borehole logs and verify piling suitability and capacity based on piling experience under similar conditions.

The actual design pile capacities should be confirmed by dynamic pile analysis and testing carried out in accordance with ASTM D4945 for driven piles. For the cast-in-place concrete piles static load tests (ASTM D 1143) should be carried out. It is recommended that 100 percent of the cast-in-place piles be tested for structural integrity using low-strain methods (ASTM D 5882).

The group efficiency factor for the axial pile capacities can be taken as 1 for a pile group bearing into the bedrock.

The piles must be installed under geotechnical supervision to ensure that the piles are constructed in accordance with the above recommendations.

5.3 Seismic site class

The 2012 Ontario Building Code (2012 OBC) requires the assignment of a Seismic Site Class for calculations of earthquake design forces and the structural design based on a two percent probability of exceedance in 50 years. According to the 2006 OBC, the Seismic Site Class is a function of soil profile, and is based on the average properties of the subsoil strata to a depth of 30 m below the ground surface. The 2012 OBC provides the following three methods to obtain the average properties for the top 30 m of the subsoil strata:

- Average shear wave velocity;
- Average Standard Penetration Test (SPT) values (uncorrected for overburden); or
- Average undrained shear strength.

The depth of the borehole (BH1) for the present geotechnical investigation extends to a maximum depth of 6.2 m bgs only and the subsurface profile below this depth is not well known. For preliminary design purposes, based on the criteria listed in Table 4.1.8.4.A of the 2012 OBC and our knowledge of the regional geology, a Seismic Site Class 'D' can be used.

6.0 CHEMICAL/ENVIRONMENTAL TESTING

Analytical chemical laboratory testing was carried out to determine the soil corrosivity and potential for sulphate attack on buried concrete structures.

Analytical testing was carried out by AGAT Laboratories accredited by the Canadian Association for Laboratory Accreditation (CALA). The sample was placed into laboratory-supplied containers, labelled and submitted under chain-of-custody protocol to AGAT. The chain-of-custody forms document the condition and handling of the sample throughout the collection, transportation and final analysis of the sample. AGAT laboratory analytical reports are provided in **Appendix 2**. The analytical laboratory testing is detailed in the sections below.

6.1 Soil Corrosivity

Corrosion potential analyses comprising of Sulphide and Chloride content, pH, Resistivity, and Redox Potential tests were carried out on composite samples taken from boreholes BH1-14 (SS-06). The chemical analysis was carried out by AGAT Laboratories (AGAT), a specialist chemical testing laboratory. The test results are provided in **Appendix 2.**

The analysis for soil corrosivity was conducted on a system of assigning points based on the results of the aforementioned chemical tests, as described in Table A.1 of the American Water Works Association (AWWA) publication ANSI/AWWA C105/A21.5-10, presented as Table 1 following the text of this report. Based on the AWWA publication points system, a soil that has a total score of 10 or greater is considered to be potentially corrosive to ductile iron pipe. However soils with resistivity value of less than 3000 ohm-cm are also considered potentially corrosive.

The sulphide and chloride concentrations of the samples tested were measured using a chromatograph, the pH using a pH meter, resistivity using an electrical conductivity test and redox using a redox potential electrode. These test procedures vary from AWWA; however, some interpretation of the data was required in order to assess corrosion potential.

It is noted that sulphide analysis presented in AWWA is a qualitative test where a positive, trace, or negative determination is based on the presence of bubbles as a result of a chemical reaction. The results obtained by AGAT present a concentration that is unrelated to the scale provided by AWWA. It was assumed that samples with a laboratory result less than the reported detection limit (RDL) for sulphide would be considered to be a trace condition (score of 2) and results greater than the RDL would be considered to be positive and a maximum score of 3.5 was selected. Also, for moisture content determination, the observations at the time of drilling were used for this analysis and the determination of wet, moist or dry were obtained from the description presented on the borehole logs.

Based on the test results and using the guidelines provided in the AWWA publication ANSI/AWWA C105/A21.5-10, the sample tested was assigned a score of 3.0 points. The Site soils are therefore considered to have negligible potential for corrosion to buried metallic components.

Note that there may be other overriding factors in the assessment of soil corrosion potential, such as application of de-icing salts on the roadway and subsequent leaching into the subsurface soils, stray currents, the nature of effluent conveyed by underground pipes, etc.

6.2 Sulphate Attack on Concrete

The potential for sulphate attack on concrete (class of exposure) is determined using Table 3 provided in CSA A23.1-09. Table 3 of the Canadian Standards Association (CSA) document A23.1 04/A23.2 09 'Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete' divides the degree of exposure into the following three classes:

Degree (Class) of Exposure	Water Soluble Sulphate (SO_4) in Soil Sample (%)
Very Severe (S-1)	> 2.0
Severe (S-2)	0.20 – 2.0
Moderate (S-3)	0.10 – 0.20

Laboratory testing for soluble sulphate content was carried out on a sample taken from a depth of 4.6 m. A review of the analytical test results provided in **Appendix 2** shows that the soluble sulphate content in the tested soil sample was measured to be less 0.04 percent. The sulphate content is indicative of a below 'Moderate' degree of exposure of buried concrete to sulphate attack. Therefore, Normal Type 10 Portland cement could be used in construction concrete mixes for below grade structures in contact with soil.

7.0 CONSTRUCTION MONITORING

Qualified Geotechnical personnel should inspect and test all stages of construction for the proposed upgrades at the Site. Specifically, they should ensure that the materials and conditions comply with this geotechnical assessment report. In addition, qualified geotechnical personnel should provide material testing services prior to and during foundation preparation and construction. Should soil conditions be encountered that vary from those described in this report, our office should be informed immediately such that the proper measures are undertaken.

The conditions will vary across the site depending on the final design grades and therefore, the preparation of the sub-grade and the compaction of all materials should be monitored at the time of construction to confirm material quality and thickness and to ensure adequate compaction.

8.0 LIMITATIONS OF THE REPORT

This report is intended solely for The Department of Fisheries and Oceans Canada (DFO) (Client) and other parties explicitly identified in the report and are prohibited for use by others without Inspec-Sol's prior written consent. This report is considered Inspec-Sol's professional work product and shall remain the sole property of Inspec-Sol. Any

unauthorized reuse, redistribution of or reliance on the report shall be at the Client and recipient's sole risk, without liability to Inspec-Sol. Client shall defend, indemnify and hold Inspec-Sol harmless from any liability arising from or related to Client's unauthorized distribution of the report. No portion of this report may be used as a separate entity; it is to be read in its entirety and shall include all supporting drawings and appendices.

The recommendations made in this report are in accordance with our present understanding of the project, the current site use, ground surface elevations and conditions, and are based on the work scope approved by the Client and described in the report. The services were performed in a manner consistent with that level of care and skill ordinarily exercised by members of geotechnical engineering professions currently practicing under similar conditions in the same locality. No other representations, and no warranties or representations of any kind, either expressed or implied, are made. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties.

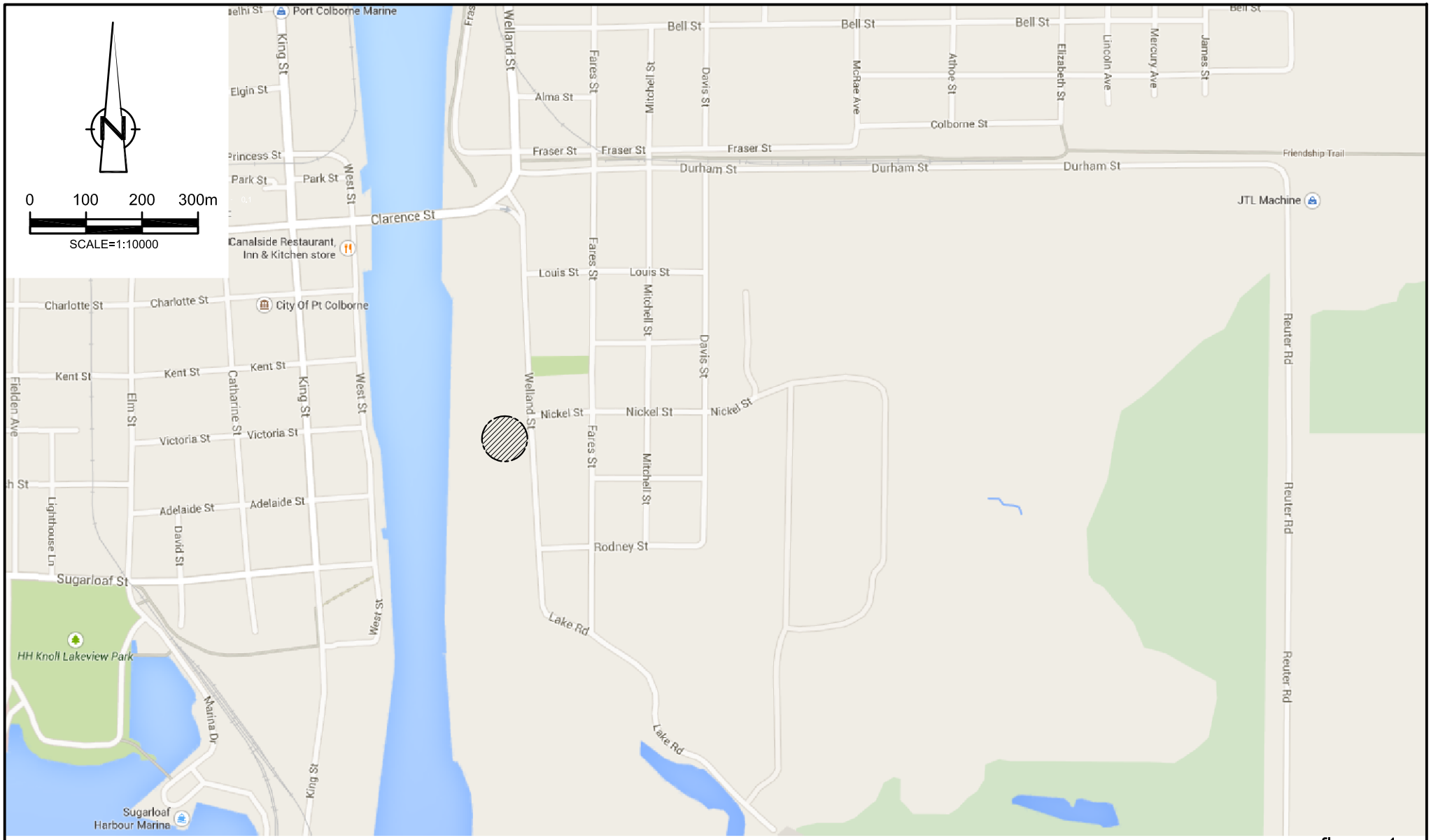
All details of design and construction are rarely known at the time of completion of a geotechnical study. The recommendations and comments made in the study report are based on our subsurface investigation and resulting understanding of the project, as defined at the time of the study. We should be retained to review our recommendations when the drawings and specifications are complete. Without this review, Inspec-Sol will not be liable for any misunderstanding of our recommendations or their application and adaptation into the final design.

By issuing this report, Inspec-Sol is the geotechnical engineer of record. It is recommended that Inspec-Sol be retained during construction of all foundations and during earthwork operations to confirm the conditions of the subsoil are actually similar to those observed during our study. The intent of this requirement is to verify that conditions encountered during construction are consistent with the findings in the report and that inherent knowledge developed as part of our study is correctly carried forward to the construction phases.

It is important to emphasize that a soil investigation is, in fact, a random sampling of a site and the comments included in this report are based on the results obtained at the borehole location (BH1-14) only. The subsurface conditions confirmed at the test location may vary at other locations. The subsurface conditions can also be significantly modified by the construction activities on site (ex. excavation, dewatering and drainage, blasting, pile driving, etc.). These conditions can also be modified by exposure of soils or bedrock to humidity, dry

periods or frost. Soil and groundwater conditions beyond the test location may differ both horizontally and vertically from those encountered at the test location and conditions may become apparent during construction which could not be detected or anticipated at the time of our investigation. Should any conditions at the site be encountered which differ from those found at the test location, we request that we be notified immediately in order to permit a reassessment of our recommendations. If changed conditions are identified during construction, no matter how minor, the recommendations in this report shall be considered invalid until sufficient review and written assessment of said conditions by Inspec-Sol is completed.

Figures



Source :
Google Earth

Legend :
Approximate Site Area

figure 1

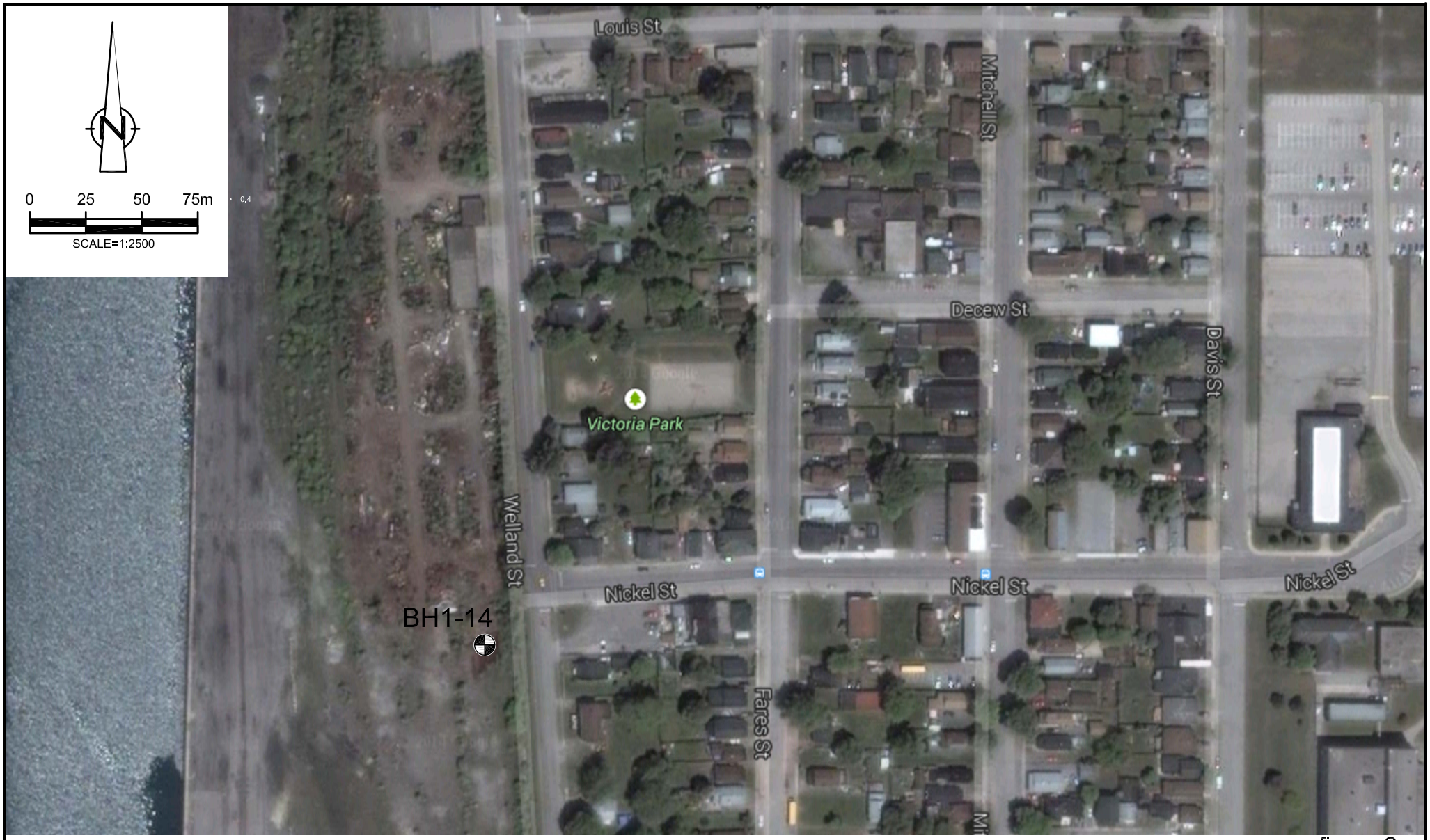
SITE LOCATION PLAN

Geotechnical Investigation - Port Colborne Rear Range Tower, Welland Canal, Lake Erie Site
Port Colborne, Ontario.

Canadian Coast Guard, Central & Artic Region Fisheries and Oceans Canada

INSPEC-SOL

T060153-A1(001)GN-TO001



Source :
Google Earth

Legend :
Borehole Location BH

figure 2

BOREHOLE LOCATION PLAN
Geotechnical Investigation - Port Colborne Rear Range Tower, Welland Canal, Lake Erie Site
Port Colborne, Ontario.
Canadian Coast Guard, Central & Artic Region Fisheries and Oceans Canada

iNSPEC•SOL

T060153-A1(001)GN-TO002

Tables

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ENGINEERING SOLUTIONS

TABLE 1
CORROSIVITY POTENTIAL OF DUCTILE IRON PIPES

Borehole	Sample No.	Parameters										Total Points	Corrosive Potential (1) (If total points more than 10)
		Resistivity ohm.cm	Points	pH	Points	Redox Potential mV	Points	Moisture (2) %	Points	Sulphides (3) %	Points		
BHMW1-14	SS-06	5100	0	8.46	0	292	0	29	1	<0.01	2	**3**	**No**

Notes:

(1) Soil test evaluation carried out using AWWA C105/A21.5-05. A score of ten points or more indicates the soil is corrosive to ductile iron pipes; protection needed
(2) Moisture content and level of soil dampness, i.e. dry, moist, or wet, determined based on review of borehole logs

(3) Sulphide test is a qualitative assessment, I.e. positive, negative, or trace. It is unknown what category the measured concentrations of sulphide will meet. For design purposes a positive result is assumed (highest score) and result less than RDL is assumed as trace detection.

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TABLE 2
POTENTIAL FOR SULPHATE ATTACK - CONCRETE STRUCTURES

Borehole	*Sample No.*	*Sulphate (%)*	*Class of Exposure (Ref. Table 3 of CSA A23.1-09)*	*Potential for Sulphate Attack (Ref. Table 3 of CSA A23.1-09)*	*Cementing Materials to be used (Ref. Table 3 of CSA A23.1-09)*
BHMW1-14	SS06	<20	below S-3	Negligible	Not Specified

Notes:

(1) Requirements for concrete subjected to sulphate attack as per CSA A23-1-09 Clause 4.1.1 and Table 3. The class and degree of exposure provided in Table 3 is summarized below for

Water-soluble sulphate in soil sample, %	Class of Exposure	Degree of exposure
> 2.0	S-1	Very severe
0.20 - 2.0	S-2	Severe
0.10 - 0.20	S-3	Moderate

(2) Samples having low water soluble sulphate content (i.e. <0.1%) is considered to have

Soil resistivity (ohm cm)	Corrosivity Rating
>20,000	Essentially non-corrosive
10,000 to 20,000	Mildly corrosive
5,000 to 10,000	Moderately corrosive
3,000 to 5,000	Corrosive
1,000 to 3,000	Highly corrosive
<1,000	Extremely corrosive

The American Water Works Association (AWWA) developed a numerical soil corrosivity scale, applicable to cast iron alloys. The severity ranking by assigning points for different variables. When the points total of a soil in the AWWA scale equals ten (or higher), corrosion protective measures (such as cathodic protection) have been recommended for cast iron alloys. The point system for predicting soil corrosivity according the AWWA C-105 Standard.

Soil Parameter	Assigned Points
Resistivity (ohm cm)	
<700	10
700 - 1000	8
1000 - 1200	5
1200 - 1500	2
1500 - 2000	1
> 2000	0
pH	
0-2	5
2-4	3
4-6.5	0
6.5-7.5	0
7.5-8.5	0
>8.5	3
Redox Potential (mV)	
>100	0
50-100	3.5
0-50	4
<0	5
Sulfides	
Positive	3.5
Trace	2
Negative	0
Moisture	
Poor drainage continuously wet	2
Fair drainage generally moist	1
Good drainage generally dry	0

Appendix 1

- Borehole Log
- Soil Descriptive Terminology

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NOTES ON BOREHOLE AND TEST PIT REPORTS

SOIL DESCRIPTION :

Each subsurface stratum is described using the following terminology. The relative density of granular soils is determined by the Standard Penetration Index ("N" value), while the consistency of clayey sols is measured by the value of undrained shear strength (Cu).

CLASSIFICATION (Unified system)

Clay	< 0.002 mm		
Silt	0.002 to 0.075 mm		
Sand	0.075 to 4.75 mm	fine	0.075 to 4.25 mm
		medium	0.425 to 2.0 mm
		coarse	2.0 to 4.75 mm
Gravel	4.75 to 75 mm	fine	4.75 to 19 mm
		coarse	19 to 75 mm
Cobbles	75 to 300 mm		
Boulders	>300 mm		

TERMINOLOGY

"trace"	1-10%
"some"	10-20%
adjective (silty, sandy)	20-35%
"and"	35-50%

RELATIVE DENSITY OF GRANULAR SOILS

	STANDARD PENETRATION INDEX "N" VALUE (BLOWS/ft – 300 mm)
Very loose	0-4
Loose	4-10
Compact	10-30
Dense	30-50
Very dense	>50

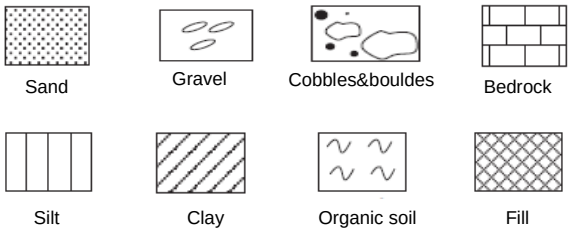
CONSISTENCY OF COHESIVE SOILS

	UNDRAINED SHEAR STRENGTH (Cu) (P.S.F)	(kPa)
Very soft	<250	<12
Soft	250-500	12-25
Firm	500-1000	25-50
Stiff	1000-2000	50-100
Very stiff	2000-4000	100-200
Hard	>4000	>200

ROCK QUALITY DESIGNATION

"RQD" (%) VALUE	QUALITY
<25	Very poor
25-50	Poor
50-75	Fair
75-90	Good
>90	Excellent

STRATIGRAPHIC LEGEND



SAMPLES:

TYPE AND NUMBER

The type of sample recovered is shown on the log by the abbreviation listed hereafter. The numbering of samples is sequential for each type of sample.

SS: Split spoon
SSE, GSE, AGE: Environmental sampling
ST: Shelby tube
PS: Piston sample (Osterberg)
AG: Auger
RC: Rock core
GS: Grab sample

RECOVERY

The recovery, shown as a percentage, is the ratio of length of the sample obtained to the distance the sampler was driven/pushed into the soil

RQD

The "Rock Quality Designation" or "RQD" value, expressed as percentage, is the ratio of the total length of all core fragments of 4 inches (10 cm) or more to the total length of the run.

IN-SITU TESTS:

N: Standard penetration index
R: Refusal to penetration
N_c: Dynamic cone penetration index
Cu: Undrained shear strength
Pr: Pressuremeter
k: Permeability
ABS: Absorption (Packer test)

LABORATORY TESTS:

I_p: Plasticity index
W_l: Liquid limit
Wp: Plastic limit
H: Hydrometer analysis
GSA: Grain size analysis
A: Atterberg limits
w: Water content
γ: Unit weight
C: Consolidation
CS: Swedish fall cone
CHEM: Chemical analysis
O.V.: Organic vapor

REFERENCE No.: T060153a1 ENCLOSURE No.: 1

INSPEC·SOL

BOREHOLE No.: BH1-14

ELEVATION: m

BOREHOLE REPORT

Page: 1 of 1

CLIENT: Canadian Coast Guard, Central & Artic Region Fisheries and Oceans Canada

PROJECT: Geotechnical Investigation - Port Colborne Rear Range Tower, Welland Canal, Lake Erie Site

LOCATION: Port Colborne, Ontario.

DESCRIBED BY: C. Jeaurond CHECKED BY: D. Adeyemo

DATE (START): 24 November 2014 DATE (FINISH): 24 November 2014

LEGEND

- SS - SPLIT SPOON
- ST - SHELBY TUBE
- AU - AUGER PROBE
- ▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm	Penetraion Index N
				GROUND SURFACE						
				GRAVEL with CONCRETE : 300 mm						
1	0.30			FILL : SAND and GRAVEL, very dense		SS-1	17	11	30-20-10-6	30
2										
3	1.0					SS-2	100	15	50/ 100mm	R
4										
5				cobble fragments		SS-3	100	22	50/ 125mm	R
6										
7	2.0									
8	2.29			Organic PEAT, blackish brown, moist, soft		SS-4	100	259	2-2-2-4	4
9										
10	3.0 3.05			NATIVE : SILTY CLAY, trace sand, grey, moist, very stiff		SS-5	58	29	3-6-10-13	16
11										
12										
13	4.0									
14										
15				stiff		SS-6	87	29	4-6-6-8	12
16										
17	5.0									
18										
19										
20	6.0 6.18			assumed Bedrock		SS-7	100	11	50/ 75mm	R
21										
22										
23	7.0									
24										

Shear test (Cu) △ Field
Sensitivity (S) □ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

WL1.5 24/11/2014

258.9

END OF BORE HOLE:

NOTE :
End of Borehole at 6.18 m bgs due to inferred bedrock (assumed) layer
Groundwater level measured at 1.52 m depth upon completion
Borehole caved to 5.79 m depth
bgs denotes 'below ground surface'

SOIL LOG WITH GRAPH+WELL T060153A1.GPJ INSPEC_SOL.GDT 3/12/14

Appendix 2

- Analytical Laboratory Test Results

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: INSPEC-SOL INC
261 MARTINDALE ROAD, UNIT 3
ST CATHARINES, ON L2W1A2
(905) 682-0510

ATTENTION TO: Dayo Adeyemo

PROJECT: T060153-A1

AGAT WORK ORDER: 14T920720

SOIL ANALYSIS REVIEWED BY: Inesa Alizarchyk, Inorganic Lab Supervisor

DATE REPORTED: Dec 05, 2014

PAGES (INCLUDING COVER): 4

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 14T920720

PROJECT: T060153-A1

CLIENT NAME: INSPEC-SOL INC

ATTENTION TO: Dayo Adeyemo

SAMPLING SITE:

SAMPLED BY:

Corrosivity Package

DATE RECEIVED: 2014-11-25

DATE REPORTED: 2014-12-05

		SAMPLE DESCRIPTION:		BH#1 SS-06 (15)
		SAMPLE TYPE:		Other
		DATE SAMPLED:		11/24/2014
Parameter	Unit	G / S	RDL	6122674
Sulphide*	%		0.01	0.04
Chloride (2:1)	µg/g		2	4
Sulphate (25:1)	µg/g		20	<20
pH (2:1)	pH Units		N/A	8.46
Electrical Conductivity (2:1)	mS/cm		0.005	0.196
Resistivity (2:1)	ohm.cm		1	5100
Redox Potential (2:1)	mV		5	292

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

6122674 * Analysis was performed at AGAT's Mining Division.

EC,pH,Chloride and Redox Potential were determined on the extract obtained from the 2:1 extraction procedure (2 parts DI water: 1 part soil). Sulphate was determined on the extract obtained from the 25:1 extraction procedure (25 parts DI water: 1 part soil).

Certified By:

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: INSPEC-SOL INC

AGAT WORK ORDER: 14T920720

PROJECT: T060153-A1

ATTENTION TO: Dayo Adeyemo

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Dec 05, 2014			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Corrosivity Package															
Chloride (2:1)	6122674	6122674	<2	<2	0.0%	< 2	95%	80%	120%	100%	80%	120%	94%	70%	130%
Sulphate (25:1)	6122674	6122674	<20	<20	0.0%	< 20	105%	80%	120%	97%	80%	120%	99%	70%	130%
pH (2:1)	6130653		8.36	8.33	0.4%	N/A	99%	90%	110%	NA			NA		
Electrical Conductivity (2:1)	6125188		1.15	1.16	0.9%	< 0.005	108%	90%	110%	NA			NA		
Redox Potential (2:1)	6125188		195	198	1.5%	< 5	96%	70%	130%	NA	70%	130%	NA	70%	130%

Comments: NA signifies Not Applicable.

Certified By:

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: INSPEC-SOL INC

AGAT WORK ORDER: 14T920720

PROJECT: T060153-A1

ATTENTION TO: Dayo Adeyemo

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Sulphide*	MIN-200-12000	ASTM E1915-07a	LECO C_S
Chloride (2:1)	INOR-93-6004	McKeague 4.12 & SM 4110 B	ION CHROMATOGRAPH
Sulphate (25:1)	INOR-93-6004	McKeague 4.12 & SM 4110 B	ION CHROMATOGRAPH
pH (2:1)	INOR 93-6031	MSA part 3 & SM 4500-H+ B	PH METER
Electrical Conductivity (2:1)	INOR 1036	McKeague 4.12, SM 2510 B	EC METER
Resistivity (2:1)	INOR 1036		CALCULATION
Redox Potential (2:1)		SM 2510 B	REDOX POTENTIAL ELECTRODE

AGAT Laboratories

SR3

5835 Coopers Avenue
Mississauga, ON
L4Z 1Y2
www.agatlabs.com · webearth.agatlabs.com
P: 905.712.5100 · F: 905.712.5122

Chain of Custody Record

Laboratory Use Only
Arrival Temperature: 4.4
AGAT WO #: 3.3
Lab Temperature: 14T920720
Notes:

Client Information
Company: INSPECSOL INC.
Contact: DAYO ADEYEMO
Address: 26 MARTINDALE RD - 03
ST CATHARINES ON
Phone: 905-682-0510 Fax: 905-682-8818
Project: 7060153-A1 PO:
AGAT Quotation #:
Please note, if quotation number is not provided, client will be billed full price for analysis.

Regulatory Requirements
- [x] Regulation 153/04 (reg. 511 Amend.)
  - Table: 1.C.C(1-3) (Indicate one)
  - [x] Ind/Com
  - [ ] Res/Park
  - [ ] Agriculture
  - Soil Texture (check one): [ ] Coarse [x] Fine
- [ ] Sewer Use
  - Region (Indicate one)
  - [ ] Sanitary
  - [ ] Storm
- [ ] Regulation 558
- [ ] CCME
- [ ] Other (specify)
- [ ] Prov. Water Quality Objectives (PWQO)
- [ ] None

Turnaround Time Required (TAT) Required*
Regular TAT
- [x] 5 to 7 Working Days

Rush TAT (please provide prior notification)
Rush Surcharges Apply
- [ ] 3 Working Days
- [ ] 2 Working Days
- [ ] 1 Working Day

OR
Date Required (Rush surcharges may apply):
*TAT is exclusive of weekends and statutory holidays

Invoice To
Same: Yes [ ] No [x]
Company: INSPECSOL INC.
Contact: SHELLY ADMIRAL
Address: 111 BRUNEL MISSISSAUGA

Is this a drinking water sample? (potable water intended for human consumption) [ ] Yes [ ] No
If "Yes", please use the *Drinking Water Chain of Custody Form*

Is this submission for a **Record of Site Condition?** [ ] Yes [ ] No

Legend Matrix
GW Ground Water | O Oil
SW Surface Water | P Paint
SD Sediment | S Soil

Report Information – reports to be sent to:
1. Name: DAYO ADEYEMO
   Email:
2. Name: MOHAMED YALJI
   Email:

Sample Identification	Date Sampled	Time Sampled	Sample Matrix	# of Containers	Comments Site/Sample Information	Metals and Inorganics	Metal Scan	Hydride Forming Metals	Client Custom Metals	ORPs: ☐ B-HWS ☐ Cl- ☐ CN- ☐ EC ☐ FOC ☐ Cr+6- ☐ SAR ☐ Hg ☐ pH ☐ NO_3/NO_2 ☐ N-Total	Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3/NO_2	VOC: ☐ VOC ☐ THM ☐ BTEX	CCME Fractions 1 to 4	ABNs	PAHs	Chlorophenols	PCBs	Organochlorine Pesticides	TCLP Metals/Inorganics	Sewer Use	CORROSIVITY PKG ✓
BH #1 SS-06 (15')	NOV 24	—	SOIL	1	PORT COLBORNE															✓
* NOTE: CORROSIVITY PKG TO INCLUDE SULPHATE																				

Samples Relinquished By (Print Name and Sign): CHRIS JEAUROND — Date/Time: NOV 25/14
Samples Relinquished By (Print Name and Sign): Chris Jeaurond — Date/Time:
Samples Received By (Print Name and Sign): — Date/Time: NOV 25/14 0945
Samples Received By (Print Name and Sign): — Date/Time: 3 34

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

Page ____ of ____
N°: 20387

Document ID: DIV 78-1011.005
Date Issued: May 31, 2013