



STATEMENT OF WORK

November 2023

Table of Contents

1 -	Objectives.....	2
2 -	Background	2
3 -	Summary of Work.....	2
4 -	Detailed Scope of Work & Deliverables.....	3
5 -	Legislation, Codes, Standards, and Directives.....	10
6 -	Project Administration / Responsibilities.....	11
7 -	Environmental Impact.....	11
8 -	Location of Work and Travel.....	11
9 -	Schedule.....	11
10 -	Design Requirements & Considerations.....	12
11 -	Net Zero Ready Building & Sustainable Design.....	12
12 -	Additional Information	13



STATEMENT OF WORK

November 2023

1 - Objectives

Parks Canada Agency (*PCA*) is seeking the services of a modular company to design, construct, deliver, and install a Net Zero Ready modular duplex in Fort Chipewyan, AB.

This contract will include all associated work including, but not limited to, foundation, site, all sub-contracts, utilities, and finish work.

2 - Background

Additional staff housing options are required in Fort Chipewyan. An existing bungalow with a full basement was recently demolished on this site to be replaced with a duplex to provide additional space.

Fort Chipewyan is a remote community in northern Alberta without a permanent road. Access is by air, barge or winter road, which may be impacted by seasonal limitations and weather.

Due to the remote location and limitations for deliveries, Parks Canada has chosen a Design Build Modular Construction approach.

Site Location is 113B McDermot Road

3 - Summary of Work

The Design Build Contractor (*Contractor*) will:

- Gather and review available information, confirming existing conditions, constraints, and opportunities for this site.
- Review delivery route options (e.g., Winter Road or barge) and limitations including schedule, transport size and weight limits. Schedule design, construction, and delivery accordingly to ensure all stages are completed safely and on time. Confirm what permits may be required and apply and pay for those permits.
- Schedule and attend regular project meetings with the PCA team from Contract Award through completion of all construction work.
- Consult with PCA team regarding requirements for this duplex.
- Review requirements for the Work based on owner's requirements, current national standards and codes, and Parks Canada standards and directives.
- Review all relevant bylaws and other municipal requirements including zoning and required setbacks.
- Work with the Parks Canada team to design a duplex that meets the Owner's Requirements (see Appendix A).
- Complete Energy Modelling for the chosen design to confirm it will meet the energy and air tightness requirements.
- Provide a set of drawings including specifications for materials and finishes for review and approval. All engineered components must be designed and sealed by an Engineer licensed to practice in Alberta.



STATEMENT OF WORK

November 2023

- Submit information and drawings for development and building permits as required by the Regional Municipality of Wood Buffalo.
- Confirm which permits are required for the completion of this project such as electrical, plumbing, and gas, apply and pay for all required permits.
- Apply for a business license to work in the village of Fort Chipewyan and from Parks Canada.
- Develop a **moisture protection plan** for the modules during transportation, unloading, and installation to protect all components from damage.
- Construct the modular components as per the approved design.
- Complete an air tightness performance test on each module before transporting the modular components to Fort Chipewyan.
- Deliver modular components to site.
- Prepare the site for the new building, install the foundation, install the modular components, grade the site as required to provide drainage.
- Inspect and test construction and installations for conformity to the agreed upon design prior to transport, during construction, and after completion.
- PCA will also review the duplex during construction and once work is complete.
- Repair or replace any material, equipment, and/or other items that were damaged during transportation, construction, or installation and complete any deficiencies that have been noted.
- Complete an air tightness performance test once the building is completed on site.
- Maintain a secure and clean site throughout the project and provide a final clean at the end of the project. Final clean to include the interior and exterior of the duplex as well as the site.
- Provide a set of as-built drawings and an Operations & Maintenance Manual.
- Prior to the end of the Warranty Period, schedule an inspection with PCA to review the project. Note any items that need to be addressed and have them completed prior to the warranty period expiring.

4 - Detailed Scope of Work & Deliverables

Required Services:

RS-1 Design of Duplex: Review of Owner's Requirements, Engineering, and Design:

This Service includes the review of Owner's Requirements, meeting with Parks Canada team to understand the requirements and collaboratively design the duplex, as well as the design, and engineering of the duplex. Design to include appliances.

- Work with PCA to design a floor plan that best meets the owner's requirements (Appendix A) and meets all codes, zoning bylaws, and space limitations. The two sides of the duplex do not have to be identical.

STATEMENT OF WORK

November 2023

- Confirm what equipment that may be available within the community for offloading and installation of the modules, and what could be brought to site. Design the duplex based on what equipment is available.
- The floor plan may be one of the company's standard designs IF it meets the owner requirements.
- Complete energy modelling using an ASHRAE 140 certified software or equivalent software approved by Parks Canada.
- Based on available information including the Desktop Geotechnical report, design foundation to meet the requirements and support the structure.
- Design all systems for this duplex including electrical and mechanical.
- Provide a detailed design of the site and floor plans and systems for PCA records.

RS-2 Construction/Fabrication of Modular units:

- Once the design is approved by PCA, proceed with fabrication of the modular units.
- Provide progress photos and updates at regular, agreed upon intervals.
- Complete testing and inspections as required by standards and codes.
- Complete air tightness performance testing including a blower door test, and complete repairs to achieve targets before transport.
- Provide testing and inspection results and reports to Parks Canada.

RS-3 Transportation of Modular Units to site:

The contractor is responsible for the safe and timely delivery of the modules, as well as everything necessary for the offloading, installation, and final completion of the project including equipment, material, and labour.

Confirm what equipment may be available for rent and use within the community and what will need to be brought to site.

There is no permanent road to Fort Chipewyan, the only access is by water, air, or winter road. PCA expects that the winter road is the option that is most cost effective.

Contractor will review available options for delivery to Fort Chipewyan including weight and size limits, route opening/closing dates, and permits that may be required.

- It is the responsibility of the contractor to confirm availability of chosen delivery route, and to monitor for potential closures and changes to limits.
- Determine best dates, time, and route to deliver all materials and equipment that may be required to complete this project.



STATEMENT OF WORK

November 2023

- Gather all necessary information about the winter road to ensure safe and timely delivery of all required materials, modules, and equipment. Information may include winter road open/closing dates, winter road safety tips, max load requirements and load widths that may be allowed on the winter road, and the expected timeline of maximum load capability. Where possible, PCA may be able to supplement this information using local knowledge.
- Confirm if permits are required for the vehicles and equipment. Apply for all required permits and ensure that permits are approved and received before arriving at the relevant road section.
- Protect the components, materials, and equipment during delivery to prevent damage especially on the rough, curvy, winter road. Have a moisture protection plan in place for transportation, storage, and installation of the modules.

Due to the remoteness of this community, accommodations, equipment, and materials may not be readily available without pre-planning.

- Review options for offloading and installation of modular units in this community. Contractor is responsible for ensuring that all materials and equipment are available within the community or is brought to site & subsequently removed from site once work is complete.
- Confirm availability of accommodations in Fort Chipewyan which may be limited during community events and festivals. Book accommodations in advance.
- It is the contractor's responsibility to ensure all required materials, equipment, and labour are on site when required.

RS 4 Site Works & Utilities:

Contractor is responsible for preparing the site, modifying the site as required for construction including utilities and underground services, grading the site, and providing a final cleanup of the site upon completion.

- Maintain a clean and tidy site throughout construction. Safely and securely store all materials, and equipment to prevent damage.
- Contractor is responsible for the security of the construction site, materials, and equipment throughout the project.
- Confirm with PCA which trees in the compound must be kept and protected during construction. Some trees on site may need to be removed to accommodate the new duplex and the construction process. Do not remove trees without confirmation from PCA.
- Prepare site as required, which may include grading and excavation.



STATEMENT OF WORK

November 2023

- Communicate with local utility companies to confirm specific requirements for this community and the site and incorporate those requirements into the design. Apply and pay for any required permits.
- Connect all required utilities including water, sewer, electricity, and phone, cable, and internet.
- Coordinate with local utilities for final connections, inspections, and testing.
- General clean-up of site, final grading, and replacement of topsoil (if required) upon completion of duplex to allow for proper drainage.

RS-5 Foundation:

Includes all work related to the design, supply, and installation of a concrete foundation for the duplex.

- Based upon the duplex design and the geotechnical review, design a crawl space foundation, suitable to support the duplex as designed. Engineering must be provided by an Engineer licensed to practice in the province of Alberta.
- Supply all materials, labour, and equipment to install the foundation as per the design.
- Provide testing and inspection as required.

RS-6 On site Installation of modules & Finishing:

- Protect modules throughout installation from damage.
- Placement and connection of modules on the foundation on site.
- Installation of and/or finishing of remaining works including utility connections, interior finishes, and millwork.
- Review & correction of deficiencies.
- Complete final airtightness testing and make corrections to meet targets.
- Upon completion of each phase and as required, provide photos and any inspection reports, testing reports, and/or certifications that may be required.

RS-7 Sidewalks, Driveways, and Decks:

- Supply & install all materials to construct a wooden landing at the front doors of the duplex complete with wooden stairs to the sidewalk.
- supply & install a concrete sidewalk from the front door to the driveway.
- supply & install a gravel driveway for each duplex to allow for 1 vehicle per side.
- Provide electricity at or near the driveway for block heaters and EV charging.
- Supply & install all materials to construct a full length covered wooden deck at the back of the duplex with a dividing wall between each side. Wooden stairs are required for each side. No path is required at the back stairs.



STATEMENT OF WORK

November 2023

Optional Services:

OS 1 Solar Power Ready:

Include design, supply, and installation of all necessary requirements to make the duplexes ready for the installation of a grid tied solar power system. This includes ensuring structure is designed to support the load of photovoltaic cells on the roof of the duplex, space for equipment such as batteries, conduits, and an appropriate electrical panel.

OS 2 Solar Power System:

Include design, supply, and installation of a fully operational solar power system to provide electricity for the duplex. System to be grid tied and sized to match the modelled annual consumption of the duplex.

OS 3 Landscaping – Grass Seed:

Provide labour, equipment, and material to place topsoil and grass seed to the back yards. Use a grass seed mix approved by Parks Canada.

OS 4 Fencing:

Provide a durable, low maintenance fence around the back of the duplex and in between the two sides (See Appendix B sketch for approximate locations)

Prime Cost Sum

Include in the contract price a prime cost sum of **\$200,000**. The intent of the Prime Cost Sum is to cover costs associated with work items which are known, unknown, or cannot be fully quantified prior to start up.

The Prime Cost Sum included in the Bid Form is not a sum due to the Contractor. Payment to the Contractor shall be made from the Prime Cost Sum allowance for miscellaneous work or additional work not included in the Lump Sum prices that have been prior approved in writing by the Departmental Representative.

Prime Cost Sum items may include but are not limited to changes and/ or additional design, materials and equipment related to:

- appliances,
- heating and cooling equipment
- materials required for site works such as grading, decking, fencing, and landscaping.
- materials for interior and exterior finishes including millwork, finishes, cladding, and roofing.



STATEMENT OF WORK

November 2023

Any additional work must be approved in writing by the Departmental Representative prior to commencement. No payment for any additional work shall be made without prior review and written approval from the Departmental Representative.

Expenditures must be substantiated with verified invoices and/or approved daily extra work reports, if requested by the Departmental Representative.

General Requirements (costs to be included in **Required Services**)

a. **Permits**

- i. Review all bylaws for this community and ensure that the site plan design meets all requirements.
- ii. Apply for building and development permits in advance to avoid construction delays. PCA will be responsible for payment of these permits.
- iii. Apply and pay for any other permits that may be required (e.g., Electrical, gas)
- iv. Request any inspections that are needed to meet permit requirements.
- v. Correct any deficiencies as noted by inspection authorities, the Design Build team, and PCA.

b. **Testing & Inspections**

- i. The Contractor shall engage third party independent inspection/ testing agencies for purpose of inspecting and/or testing portions of Work as specified.
- ii. All testing and inspections will be paid for by the contractor.
- iii. All testing and inspections must follow relevant and current standards.
- iv. Allow PCA access to the Work. PCA reserves the right to perform inspections throughout the process and/or to hire additional inspection and testing agencies if Work is suspected to not be in accordance with the Contract documents. If upon examination work is not in accordance with the contract, the contractor is required to correct the work and pay for the cost of examination and correction.
- v. Any defects revealed through any testing and inspections shall be corrected at no expense to PCA. Contractor is responsible to pay for re-testing and re-inspection.
- vi. Air tightness test report showing modular units meet targets will be provided to PCA before transportation of units to site.
- vii. All test results and final reports to be submitted to PCA before substantial completion.

c. **Temporary Utilities & Sanitary**

- i. Contractor is responsible for ensuring access to power for construction, temporary heating, appropriate sanitary facilities, and potable water on-site for all workers involved in this project.

d. **Safety & Housekeeping**



STATEMENT OF WORK

November 2023

-
- i. Ensure project specific safe work procedures are developed, implemented, and followed through all stages of this work. A safety officer should be assigned to oversee this project from start to finish.
 - ii. Follow all requirements in Part 2 of the Canada Labour Code
 - iii. Follow all requirements of the Occupational Health and Safety Act, regulation, and code of Alberta.
 - iv. At least one certified First Aider is required to be on site during installation and construction.
 - v. At the end of each workday, the site must be tidied up and made secure. All garbage should be disposed of appropriately as per RM bylaws and requirements. Security of site, equipment, and material is the responsibility of the contractor until substantial completion.
 - vi. Cover all return and supply vents during construction to prevent ducts from being filled with construction dust.
 - vii. Remove all garbage, extra material, and equipment from site upon substantial completion, that is not required to complete any remaining deficiencies.
 - viii. Provide a final clean of the interior and exterior of the duplex including windows. Replace any equipment filters such as furnace filters.
 - ix. Provide a final site clean-up removing all remaining construction materials, equipment, and garbage.
- e. **Subcontractors and suppliers**
- i. Contractor is required to coordinate design and construction requirements for all sub-contractors and suppliers required to complete this project from initial concept design through to move-in ready homes.
- f. **Close out**
- i. Provide maintenance material for all finishes in the duplex including paint, flooring, and tiles. Provide 2 maintenance replacement consumables for each appliance or piece of equipment such as furnace filters.
 - ii. Duplexes must be clean and ready for move-in. This includes dusting, sweeping, mopping, cleaning mirrors, cupboards and drawers, windows, doors, and all fixtures.
 - iii. Provide an as-built drawing of the building including changes made during construction.
 - iv. Provide an operations and maintenance manual for all equipment and material included in this project.
- g. **Warranty Period**
- i. Respond to warranty issues throughout the warranty period, providing repairs and/or replacements in a timely manner to minimize impact to the duplex and tenants.
-



STATEMENT OF WORK

November 2023

- ii. Schedule a review of the project approximately 9-10 months after substantial completion to assess any warranty work that may be required. Work with PCA to schedule a time for warranty work to be completed.

h. Documentation

Where deliverables and submissions include summaries, reports, drawings, plans, specifications, and schedules, one (1) copy shall be provided to the PM in electronic PDF format; original format and hard copies might be required as requested. Provide one (1) hard copy of maintenance manuals for all equipment, one copy per side of the duplex.

Deliverable submissions should be in a format that is accessible to all team members such as PDF. Design work shall be completed in AutoCAD or Revit and all final drawings will be provided in both PDF and AutoCAD. All drawings and specifications will follow Government of Canada standards, including title blocks. This information will be provided.

5 - Legislation, Codes, Standards, and Directives

The Design Build Contractor must consider all applicable standards and codes including, but not limited to, the following technical documentation and associated codes. All documentation and codes must be the current federally approved edition:

- Canada National Parks Act and Regulations
- Applicable Parks Canada Directives, Policies, Guidelines, & Standards including:
 - Greening Government Strategy
 - Departmental Sustainable Development Strategy
- The Accessible Canada Act
- Canadian Standards Association's Accessible Design for the Built Environment (CAN/CSA-B651)
- The National Model Codes of Canada (2020) including Building, Fire, and Energy Codes
- Current and relevant standards and codes for modular design & construction including:
 - CSA A227: Procedure for certification of prefabricated buildings, modules, and panels
- Current and relevant standards and codes for testing & inspections which may include:
 - CAN/CGSB-149.10-2019, Determination of the Airtightness of Building Envelopes by the Fan Depressurization Method
- Canadian Environmental Assessment Act
- Canadian Environmental Protection Act
- Occupational Health and Safety Act, Regulation, and Code of Alberta
- Canada Labour Code, Part 2
- Local, Provincial and Municipal Bylaws, Codes, Standards and Regulations accepted as having jurisdiction on the federal land where work is being performed and for which the requirements are more stringent than those named above.



STATEMENT OF WORK

November 2023

- Metrification: Projects shall be in accordance with Metric Drawings Practice and S.I. units as issued by the Metric Commission of Canada.

6 - Project Administration / Responsibilities

The Design Build Contractor will:

- Act as the Prime Contractor, coordinating the work of the entire team including any required sub-consultants and sub-contractors.
- Provide rigorous quality assurance reviews during the planning and implementation phases, including the application of value engineering reviews during the design process.
- Prepare a detailed schedule and project execution plan. Provide regular updates on the progress of the work being conducted.
- Attend meetings as required in person or virtually.

7 - Environmental Impact

Parks Canada's mandate is to protect and present nationally significant examples of Canada's natural and cultural heritage, and foster public understanding, appreciation and enjoyment in ways that ensure the ecological and commemorative integrity of these places for present and future generations on behalf of the people of Canada.

This house is not located within Wood Buffalo National Park, and does not fall under those specific requirements, but care must be taken to minimize impact to the environment during delivery and construction.

Avoid the removal of trees where possible. Consult with PCA regarding which trees must be kept in the compound.

8 - Location of Work and Travel

It is anticipated that the design work can be completed primarily from the Design Build Company office. It is expected that there will be at least one site visit, but additional visits may be required to ensure the Design Builder has all of the information that will be required. It is expected that most meetings, such as kick-off meetings, progress update meetings, and any other required meetings can be held via video conference calls.

Delivery and construction work on-site will require pre-planning for lodging as availability may be limited.

9 - Schedule

All work must be completed by **March 31, 2025**.

Design Build Contractor to provide schedule upon award of contract.

STATEMENT OF WORK

November 2023

10 - Design Requirements & Considerations

- Appendix 'A' - Owners Requirements for detailed requirements.
- Appendix 'B' – suggested site layout

11 - Net Zero Ready Building & Sustainable Design

Parks Canada is committed to reducing our environmental impacts and has developed a Departmental Sustainable Development Strategy as well as following the Greening Government Strategy. The project intent is to achieve the most sustainable structure possible within the defined budget.

The strategies for this project, at a minimum, will include:

- a. Net Zero Ready Construction:
 - Building will be designed to be Net Zero Ready which includes improved building envelope, increased insulation, air tightness detailing, and blower door testing to confirm air tightness target has been achieved. Mandatory energy targets are included in the Owners' Requirements (Appendix A).
 - b. Diverting Waste from Landfills:
 - Contractor is required to find ways to divert non-hazardous waste from the landfill. Design considerations should include ways to reduce waste through strategies such as efficient use of construction materials, and packaging of materials that is reusable, recyclable, and/or minimal.
 - c. Low Carbon Building Materials:
 - Reduce Embodied Carbon in materials. Where possible, choose materials that contain less embodied carbon.
 - Reduce Carbon emissions related to this project by considering extraction and manufacturing processes as well as transportation requirements for each material used.
 - d. Reduce Water Usage during construction. Minimize water waste where possible.
 - e. Energy Efficiency:
 - design considerations should include as many practical solutions as possible to provide high energy efficiency. This may include high efficiency appliances, HRVs, increased insulation, continuous air barrier to reduce air leakage, and high efficiency windows and doors. This must be balanced with choosing equipment and
-



STATEMENT OF WORK

November 2023

appliances that can be maintained and repaired within the community or one nearby.

f. Minimize Ecosystem Impacts:

- plan work to minimize impact to the site. Keep equipment and materials to a small footprint and plan traffic routes to already established roads and routes where possible. Keep the site clean, avoid erosion and prevent tracking of dirt and mud off site. Clean all dirt and mud that is tracked off site including sidewalks and streets.

g. Choosing sustainable material:

- Wherever possible, consider materials that are: renewable, sustainably harvested, locally available, and/or durable, as well as materials that contain recycled material and/or are recyclable.

12 - Additional Information

The following information is included with this Statement of Work.

- Owner's Requirements – Appendix 'A'
- A proposed sketch of the site– Appendix 'B'

The following information is available and will be provided to the successful Design Builder.

- Completed Topographic & Orthographic Survey
- Desktop Geotechnical report