

January 10, 2022

ADDENDUM NO. 2 R1

Project Number: R.100644.001

This Addendum shall be attached to and form an integral part of the Contract Documents. The Contents of this Addendum shall be brought to the attention of and read by all concerned. Receipt of this Addendum shall be acknowledged on the Bid Form. The following changes in the bid documents are effective immediately.

The Contract Documents issued by Taylor Hazell Architects Ltd and their consultants are hereby amended as follows:

1. Specifications- Document Set 2

1. Section 11 82 01 Dairy Equipment List
 1. Section 11 82 01 is revised and re-issued with this addendum. Text revisions have been bubbled and highlighted.
2. Section 28 31 00_01 - Multiplex Fire Alarm System
 1. Remove Art 1.2.3.1. Remove "Submit drawings stamped and signed by professional engineer registered or licensed in Province of Ontario, Canada."
 2. Replace Art 2.3.1.8.1 "Communication between nodes in networked system to be supervised, DCLA. Should communications fail between any 2 nodes, other nodes on loop to continue to communicate with each other and programmed functions on communicating nodes to continue operating," with **"Contractor is to provide wiring and connections at building PP64 and a system capable of wireless communications."**
 3. Remove Art 2.3.1.12. Remove "On-board, 20-column, DC strip printer, thermal head with automatic paper take-up, and silent operation; operational while system is operating on standby power. Expanded font available for selected printing conditions."
 4. Replace Art 2.7.5 "Fans: stagger-started upon system reset; timing circuit to separate starting of each fan or set of fans connected to auxiliary contact on system," with **"There are fans requiring shutdown and start-up upon system reset, but do not require staggered start upon system reset."**
 5. Remove Art 2.7.5.1. Remove "Timing circuit: controlled by CCU."
 6. Replace Art 2.13.1 "Bells: vibrating motorized type, gongs of special alloy steel, 24 V dc, 150 mm, 95 db.," with **"Horns: 95 db, standard mounting, 24 V dc."**
 7. Remove Art 2.19. Remove "Remote Terminal. 1. CRT screen: 120 V, 60 Hz, to incorporate 100% solid state circuitry, with 30 cm screen and front mounted controls for brightness, contrast, vertical and horizontal hold and power ON/OFF switch."
 8. Remove Art 3.7.1. Remove "Provide PROM re-burns annually for period

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3. of five (5) years following acceptance.”
Section 27 05 14 – Communication Cables Inside Buildings
 1. Revise Art 2.3.2 “Terminate in a wall mount cabinet lockable with strands terminated in LC connectors at both ends,” to read “Terminate in a wall mount cabinet lockable with strands terminated in **SC** connectors at both ends. **Wall mount lockable cabinet to be provided per specification section 26 27 16 – Electrical Cabinets and Enclosures, item 2.1.11.**”
 4. Section 27 11 19 – Structured Cabling for Communications Systems
 1. Add Art 2.3.5, “**25 pair copper feeder cable is to be terminated to a BIX/110 punch down strips.**”
 2. Add Art 2.6.2, “**Contractor is to terminate all internal building data cables directly into the lockable cabinet.**”
- 2. Drawings- Document Set 2**
1. DRAWING E-C-1.1 SITE PLAN-ELECTRICAL LAYOUTS AND LEGEND
 1. Clarification: The design intent was that Reference Drawing Set 01 sheet E-1.1, with a 600A-347/600V-3PH-4W distribution panel DP#1 connect to spare 600A breaker in existing switchboard would have work proceed prior to work indicated in Drawing Set 02 sheet E-C-1.1 with said distribution panel DP#1 in turn providing power to the Cow Barn with a 200A breaker.

Attach

11 82 01 - Dairy Equipment List-r1-2022-01-06-Add-2.pdf

END OF ADDENDUM NO. 2

DAIRY EQUIPMENT LIST

| No. | Equipment Category | Equipment Supplied by Dairy Contractor | Generic Specs (Not in specific order) | Value add-ons (part of tender evaluation) |
|---------|--------------------|--|--|---|
| | | | The systems and equipment to be provided as outlined in the following section(s) are to be products of established commercially available Dairy Equipment manufacturers. | |
| | | | All equipment to be supplied and installed are to be purpose built, installed, connected and operated as an integrated dairy operation(s). Including but not limited to: Milking, milk storage, animal housing/handling, ventilation, and manure transfer equipment. | |
| | | | All equipment to be supplied and installed is to be supported by an established equipment dealer with a permanent base of operations (within 2 hours of the installation site), maintaining an inventory of supplies and replacement components, and capable of providing technical service and support | |
| | | | All systems must meet all applicable regulatory and animal welfare standards: Including but limited to DFO (Dairy Farmers of Ontario) Pro Action, OMAFRA | |
| | | | All animal equipment in regular contact with livestock, including but not limited to: milking parlour(s), penning, stabling, gating to be galvanized unless otherwise specified | |
| | | | Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage. | |
| | | | All electrical systems to meet CSA standards | |
| | | | For each item of equipment and each integrated system: include description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts. Include manufacturer's printed operation and maintenance instructions. | |
| | | | Provide operating procedures: include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions. | |
| General | | | Any equipment specified in the following section(s), overrides the standard specified equipment in the general/mechanical/structural design. Including but not limited to Galvanized versus Stainless Steel, enclosure ratings etc. | |

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|--|---|--|--|---|
| D1.2 | Shop Drawings | | Shop drawings to include: Detailed Milking equipment installation drawings (plan view) to illustrate implementation of concept approach, utilizing the equipment to be supplied and installed. | |
| | | | Shop drawings to include: Overall system schematics, including key sizing and capacity requirements for key components | |
| | | | Shop drawings to include: Detailed layout and cross-sections for the milking parlour(s) including dimensions and elevations. | |
| | | | Shop drawings to include: Detailed Animal Equipment installation drawings (including plan view and elevations), utilizing the equipment to be supplied and installed. | |
| | | | Shop drawings to indicate: Materials, thickness, finish, connections, joints, anchorage, supports, details and accessories | |
| | | | A mock-up or at minimum a tour of an existing operational dairy facility utilizing the equipment to be supplied to be provided by supplier for inspection by client | |
| C.01 | Double 8 Parrallel Rapid Exit Parlour Stall | Double 8 Parrallel Milking Parlour | Galvanized parlour frame | |
| | | Parlour cabinets, lower cabinets, CIP manifold | Stainless steel (SS) butt pans, Continuous SS upper cabinets, Continuous SS lower cabinets, SS curbing in parlour area, SS Clean in Place (CIP) trays | |
| | | | To include milking hose support offset from center of stall, remote start of milk claw | |
| | | | Operator controlled entrance/exit gates | |
| C.02 | Crowd Gate | Crowd Gate | To be fabricated of black mild steel, hot dip galvanized post fabrication, on site fabrication as required, all metal surfaces are to be free of sharp edges and corners, weld splatter, burrs and blemishes | |
| | | Master & remote control box | Control boxes located at back of holding pen & milking parlour | |
| | | | Min. 2.1m (7Ft) clearance measured from holding pen floor to structure | |
| C.03 | Holding Pen Fencing | Vertical penning posts with horizontal rails | Components (Posts, railing, gating, one way gates as required by layout) to be galvanized | |
| | | | Horizontal railing to match holding pen floor slope | |
| | | | Vertical penning posts at 1.5m (5Ft) center on center | |
| <u>Dairy Contractor Supplied Mechanical Equipment</u> | | | | |
| | | Industrial Air Compressor | Provide three phase industrial air compressor, capable of supplying compressed air demand as required by integrated system | |

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|------|--------------------|---|---|---|
| C0.4 | Air Compressor | Variable speed control (VSD) | Provide automatic draining & dryer as required | |
| | | Air dryer & automatic tank drain | Air dryer, capable of supplying compressed air demand as required by system | |
| | | Misc. parts, fittings and piping to complete system integration | | |
| C.05 | Vacuum Equipment | Vacuum pump with silencer, stand | The system is to include all pump(s), motor(s), pipe fittings, reservoirs, controls, regulators, hardware and outlets to complete a fully functional system capable of sustaining all associated milking units. | |
| | | Variable speed control (VSD) | Provide lobe type, oil-less vacuum pump capable of supplying the required amount of vacuum as required by the intergrated system | |
| | | VRM/VRS Regulator | Provide variable speed transmission/control of the pump | |
| | | Digital vacuum gauge | Performance verification on vacuum pumps to satisfy the following conditions; Flow: +/- 10%, Pressure: +20%, -5%. The maximum allowable system leakage is 10% at specified pressure/vacuum. | |
| | | Misc. parts, fittings and piping to complete system integration | All vacuum system components to comply with DFO (Dairy Farmers of Ontario) requirements | |
| | | Vertical penning posts with horizontal rails as required for layout | Include all penning, gates as shown on plans and schedule complete with mounting and installation hardware and brackets | |
| | | Self locking head rail | Cattle facility to incorporate 'self locking headgates' as indicated on the plans and schedule. Headgate lock design to maximize operator safety, through specific design considerations or auxilary release mechanism | |
| | | Water bowls | All penning, gates are to conform to standard industry practise to ensure functionality and longevity of installation. Including but not limited to; All Penning to incorporate below grade anchorage, fastening to suitable footing. | |
| | | Swinging Cow Brush(s) | Include all waterers as shown on plans and schedule and coordinate with mechanical contractor as required | |
| | | Misc. parts, fittings to complete system integration | Penning system to statisfy all applicable quality standards; CSA International, ASTM | |

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|------|--------------------|--|--|---|
| CO.6 | Penning Equipment | | Include all swinging cow brushes as shown on plans and schedule. Coordinate with mechanical contractor as required | |
| | | | All penning, gates are to be fabricated of black mild steel, hot dip galvanized post fabrication | |
| | | | All metal surfaces are to be free of sharp edges and corners, weld splatter, burrs and blemishes | |
| CO.7 | Animal Equipment | | The animal comfort/traffic mats to be provided are to be products of established commercially available manufacturers, designed to suit the intended installation application as outlined on the plans and schedule. Alley Mats: Animal friendly slip resistant mats. Mats are designed specifically for floor covering applications in the agricultural industry. | |
| | | Cow Comfort/Traffic Mats | All animal comfort/traffic mats to be a minimum of 19mm thick. | |
| | | | Include all cow comfort/traffic mats as indicated on plans and schedule | |
| CO.8 | Manure Equipment | Manure Transfer Pump with Agitation | System to be sized by supplier to suit site conditions and operating parameters. Spec'd motor must be three phase. | |
| | | Manure Scrapers with drive unit, electronic control | Include all components to complete an integrated manure handling system as shown on plans and schedule. Including, alley scrapers, cross gutter, manure transfer pump(s), agitation pump(s). | |
| | | Cross Gutter Cleaner with drive unit, electronic control | Provide all floor inserts, accessories and fastening components necessary to complete a fully functioning integrated system. Coordinate with concrete, mechanical, electrical contractor as required | |
| | | | Include all required exterior manure transfer pipe as necessary to transfer manure to concrete storage pit. Coordinate with concrete, civil contractor as required | |
| | | Basket Fans (Parlour) | Controller(s) to be capable for ventilation requirements for all animal housing areas as outline on the plans and schedule | |
| | | Insulated Curtains (Assembly) | Controller to be purpose built, microprocessor based controls capable of required functions | |
| | | Curtain Blowers | Controller to be field programmable, complete with all necessary hardware to complete a fully functional system. | |
| | | VHV (Mechanical Ventilation) | Controller to support remote login/system monitoring | |
| | | Air Inlet Transmission Kit (Chimneys) | Controller to incorporate transient protection, permanent memory, remote control and to be enclosed in a non-corrosive PVC enclosure | |

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|------|-----------------------|--|---|---|
| C0.9 | Ventilation Equipment | Ventilation Controller | VHV fans as shown on plans and schedule to incorporate variable speed functionality through ventilation controller and manual remote control | |
| | | Exhaust Fans | Controller to allow for variable speed operation and manual remote control of VHV fans | |
| | | | Insulated sidewall curtains as shown on plans and schedule | |
| | | | Insulated sidewall curtains to provide a minimum of R3.0 rating | |
| | | | Exhaust chimneys as shown on plans and schedule. To be constructed of non-corrosive materials | |
| | | | Exhaust chimneys actuation to be incorporated into automatic ventilation controller. Through the use of inlet damper or guillotine shut-off panel | |
| | | | Exhaust chimney shaft to be insulated to prevent condensation and freezing | |

Dairy Supplied Milking & Cooling Systems

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|--|--|--|--|--|
| | | Milking claws (QTY: 16) | System in the corresponding section must be installed, connected and operated as an integrated milking system. The system must meet all CQM requirements. Milk meters to be ICAR & DHIA approved | |
| | | Identification system; controller, stall antennas (Qty: 16), identification tags (QTY: 100), software, computer. | Stainless Steel receiving jar, low line sized to handle milk flow from 16 units | |
| | | Milk Meters, displays, take-offs, power supplies (QTY:16) | The system is to include all pump(s), motor(s), pipe fittings, valving, filter(s), pre-cooling to complete a fully functional system | |
| | | SS receiving jar complete with milk pump | The system is to include all components and controls necessary to automate the Clean in Place (CIP) process including an air purge | |
| | | VSD liquid level control | Milker units displays to be complete with milk flow indicator, pulsation off switch and stimulation pulsation sequence. | |
| | | SS Cabinet for clean filters | Pulsation to utilize fresh air from a clean source | |
| | | SS low lines, milk & wash | Provide precision electronic milk flow metering devices. +/- 2% accuracy or better, along with automated take-off integrated into a single per stall controller. | |
| | | Automatic wash control | Milk data to be transferred automatically to office PC. System to record milk production and milk time | |

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| No. | Equipment Category | Equipment Supplied by Dairy Contractor | Generic Specs (Not in specific order) | Value add-ons (part of tender evaluation) |
|------|--------------------|---|---|---|
| C1.0 | Milking Equipment | Wash System, 250L Wash Vat | Corresponding cow identification system with leg or neck transponders. | |
| | | Misc. parts, fittings and piping to complete system integration | Milking equipment system to include all associated brackets, hardware, controls, control panels, safeties, pneumatic connections to complete a fully functional system consistent with current commercial practises | |
| | | Parlour Mats: | Operator (Human) friendly slip resistant cushioning mats. Mats are designed specifically to offer seamless transitions such to not trap dirt & debris during cleaning. | |
| C1.1 | Cooling Equipment | Condensing Unit | Supply and install all equipment, materials to provide milk pre-cooling and refrigerated holding system as outlined on the plans and schedule. | |
| | | Motorized Shutter | Provide an automatic control panel with display. Panel to control compressor cycling, agitation, wash and chemical dispensers | |
| | | Rheostat, Single Speed Temp Controller for Shutters | Provide an automatic data logger capable of multiple recording points with one central controller, as required by DFO (Dairy Farmers of Ontario). Data logger to allow for remote login/monitoring of system | |
| | | Plate cooler, 51 Plate dual pass | Milk cooling system to include all associated brackets, hardware, controls, control panels, safeties to complete a fully functional system consistent with current commercial practises | |
| | | Freheater | | |