NRC·CNRC

Addendum/Addenda

No./N°
2

Project Description / Description de projet		
Design-build a semi-detached research house for the Candian Centre for Housing Technology		
Solicitation No./ N° de sollicitation 15-22186	Project No./N° de projet 5034	W.O. No./N° d'ordre de travail
Departmental Representative / représentant ministériel Maurice Richard	Date 2016 March 16	

Notice:	**Nota**:
This addendum shall form part of the tender documents and all conditions shall apply and be read in conjunction with the original plans and specifications.	Cet addenda fait partie intégrale des dossiers d'appel d'offres; toutes les conditions énoncées doivent être lues et appliquées en conjonction avec les plans et les devis originaux.

1. A civil engineering firm has been contracted by NRC to provide a site services plan and a site grading plan. These will be provided to the builder.

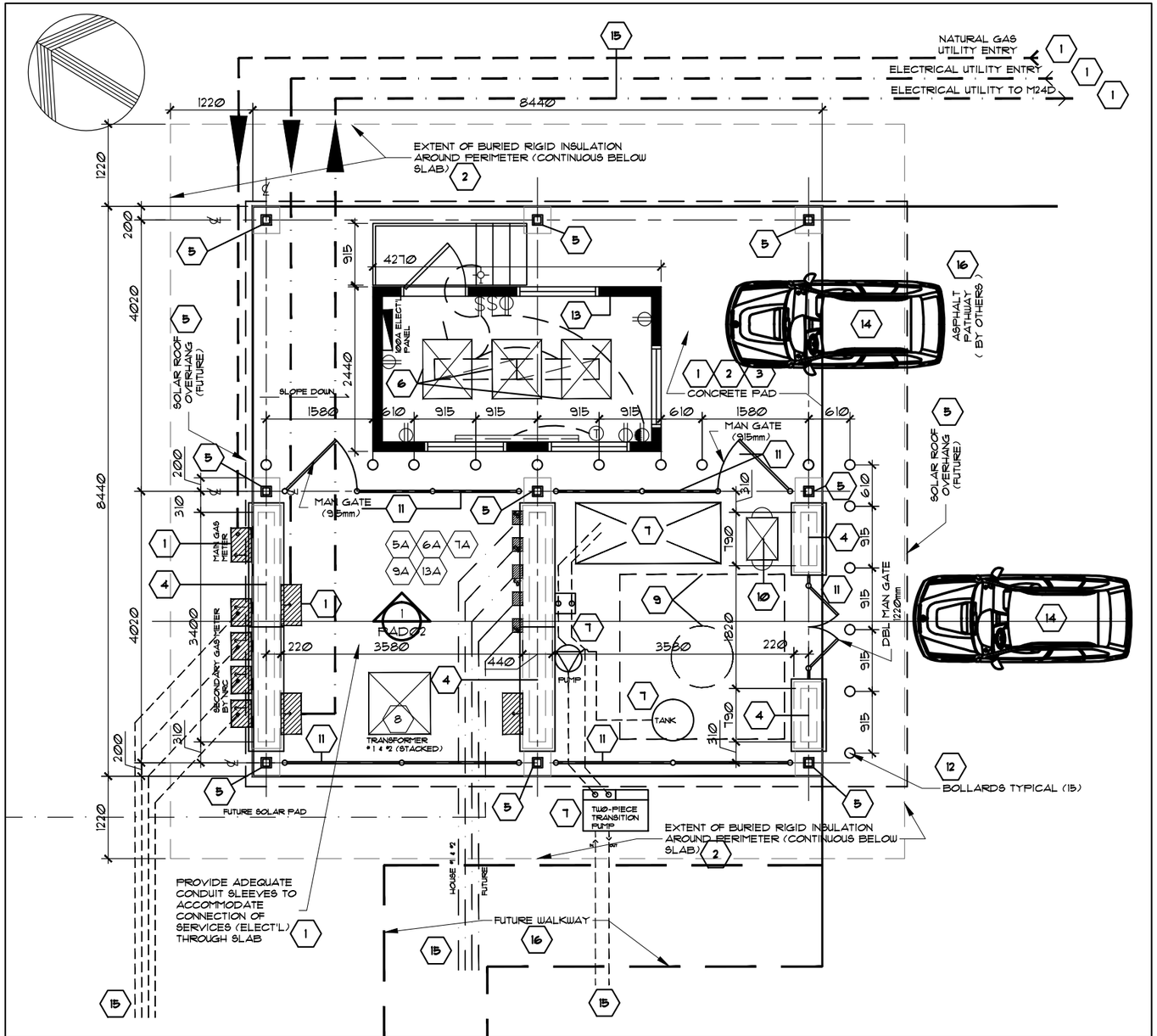
2. Concept design drawings for the Power Pad are attached to this addendum. Verification that the concept design meets the objective of the project will be the responsibility of the proponant. Any alterations suggested by the successful proponant will be considered. The proponant shall use the concept design as the basis for preparing the Power Pad construction drawings, which shall include the appropriate structural specifications and details. The RFP technical scoring criteria is modified to suite, according to the revised scoring table attached to this addendum.

3. The proponant shall carry a cost allowance of $158,000 for the Power Pad and site services including landscaping. Invoicing for this work shall be based on the the proponants documented costs plus 10% overhead and 10% profit.

4. The following commercial general contractors with DOS security clearance have expressed an interest in this project, and may be willing to partner with a residential builder:
   Michanie Construction Inc, Yves Saumier, Tel / Tél 613-737-7717 ext / poste 23
   Canada Paving & Construction Ltd, Sam Sayed, 613-723-7849 x 207

5. Attached to this addendum is a list of bidder's questions and answers for general information.

End of Addendum No. 2



1 A01 PROPOSED UTILITY CONCRETE SLAB & CURB 8440mm X8440mm (27'8.25" X 27'8.25")
SCALE = 1:50

SPECIFIC DRAWING NOTES:

5 -SOLAR ROOF DESIGN, STEEL STRUCTURE, POST SUPPORT, PLATE & BOLT ANCHORAGE BY OTHERS.

5A -ELECTRICAL POWER DISTRIBUTION - CONVERSION TO AND FROM THE ROOF SOLAR SYSTEM BY OTHERS,.

6 -135KVA SIMULATOR CONSISTS OF THREE STAND-ALONE UNITS CONNECTED BY POWER CABLES. (1270mm H, 731mm W, 876mm D, WEIGHT: 522KG (EACH). THE SIMULATORS IS DESIGNED FOR INDOOR USE ONLY . (BY OTHERS)

6A -ELECTRICAL POWER DISTRIBUTION TO THE SIMULATOR INCLUDED IN THE CONTRACT.

7 -GENERATOR CCHT MICROCHP (9CP25WE) : 25Kw OUTPUT (2150mm wd X 900mm dp x2010mm hgX1320Kg). AND PUMP, 2-PIECE TRANSITION, HOLDING TANK (BY OTHERS)

7A -ELECTRICAL POWER DISTRIBUTION TO THE GENERATOR INCLUDED IN THE CONTRACT.

8 -TRANSFORMER No.1 & No.2 (STACKED) (SEE 1)

9 -SOLAR TRACKER - 5KW (2440mm X 2440mm X 1830mm dp). SEE ALTERNATE LOCATION. (BY OTHERS)COORDINATE SEPARATE PRICING AT TENDER TO ACCOMODATE SPECIAL PAD FOOTING CONSTRUCTION AS PART OF PAD).

9A -ELECTRICAL POWER DISTRIBUTION FOR THE FUTURE SOLAR TRACKER INCLUDED IN THE CONTRACT.

10 -SMART DC OR RQUIVALENT MULTI-STANDARD DC FAST CHARGING STATION. TWO OUTLETS (BY OTHERS)

11 -1830mm HIGH COMMERCIAL CHAIN LINK FENCE. pROVIDE SINGLE AND DOUBLE GATE AS SHOWN. ACCOMODATE ALL ANCHORAGE TO CONCRETE PAD.

12 - PROVIDE 15 CONCRETE FILLED METAL TUBE BOLLARDS 150mm DIA X 1220mm Hg PAINTED YELLOW.

13 -ATCO STRUCTURES OR EQUIVALENT (BY OTHERS) : STANDARD 2440mm X 4270mm OFFICE c/w 38mm X 140mm FRAME, 2 INT'R & 1 EXT'R LIGHTS, 2 SWITCHES, 4 WINDOWS (1220mm X 915mm), EXT'R DOOR (915mm), ELECTRICAL PANEL (120-240 1 PHASE, 100A,24 CIRC.), 6 PLUGS, 1 THERMOSTAT, 2KW ELECT'L HEATER & A/C UNIT, METAL STAIR PLATFORM AND GUARDRAIL

13A -ELECTRICAL POWER DISTRIBUTION TO THE TRAILER INCLUDED IN THE CONTRACT.

14 -ELECTRICAL POWERED VEHICLES NOT IN CONTRACT.

15 - CONDUIT TRENCHES REFER TO CIVIL DWGS.

16 - ASPHALTING WALKWAYS AND ROADWAYS, REFER TO CIVIL DWGS

GENERAL NOTES:

1
- THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK.
- THE CONTRACT INCLUDES ALL NEW UTILITIES FEED, SLEEVES AND CONNECTION TO & FROM THE CONCRETE PAD, INCLUDING ANY NECESSARY CONDUITS TO INDIVIDUAL COMPONENTS ON THE PAD.

2 EXCAVATION AND BACKFILL:
- REMOVE ALL TOPSOIL AND EXCAVATE TO DEPTH SHOWN ON DRAWING
- REMOVE ALL ROOTS FROM TWO ADJACENT TREES RECENTLY CUT
- PROOF-ROLL THE EXPOSED SUBSOIL CHECKING FOR ANY AREAS OF SOFT MATERIAL AND REPLACE WITH A COMPACTED, WELL-GRADED GRANULAR MATERIAL PLACED IN LIFTS OF 150mm MAXIMUM.
- PLACE 50mm SAND LEVELING BED AND 50mm RIGID INSULATION
- RIGID INSULATION SHALL BE "STYROFOAM HI-40", PRODUCED BY DOW CHEMICAL CANADA INC. OR EQUIVALENT.
- BACKFILL WITH GRADED CRUSHED STONE COMPACTED TO 95% MODIFIED PROCTOR DRY DENSITY IN MAXIMUM LIFTS OF 150mm.
- THE CONTRACTOR SHALL INCLUDE IN HIS BID THE COST OF TESTING THE BACKFILL, INCLUDING PROCTOR DENSITY TEST AND FIELD DENSITY TESTS.

3 CONCRETE:
CONCRETE PAD AND REINFORCING TO BE DESIGNED BY A STRUCTURAL ENGINEER USING EQUAL OR BETTER AS PER BELOW.
- CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 35Mpa WITH 6% ENTRAINED AIR.
- THE CONTRACTOR SHALL TAKE ONE SET OF CONCRETE COMPRESSION TEST CYLINDERS FOR EACH CONCRETE POUR. ONE SHALL BE TESTED AT 7 DAYS AND TWO AT 28 DAYS.
- REINFORCING STEEL SHALL CONFORM TO CSA G30. 18-M92.
- CONCRETE COVER TO REINFORCING STEEL SHALL BE AS FOLLOWS:
  - BOTTOM STEEL = 75mm
  - TOP STEEL = 50mm
- THE CONTRACTOR SHALL SUBMIT FOR REVIEW REINFORCING STEEL PLACING DRAWINGS AND BAR LISTS.
- ALL CONCRETE SLAB SHALL RECEIVE A STEEL TROWEL FINISH AND SLOPE AS SHOWN ON THE ARCHITECTURAL DRAWINGS.
- THE CONCRETE SHALL BE WATER CURED FOR MINIMUM PERIOD OF 7 DAYS.
- ALL CONCRETE WORK SHALL CONFORM TO CSA A23.1 AND CSA A23.2-09.2 E
- NOTIFY THE ENGINEER BEFORE PLACING THE INSULATION AND BEFORE THE CONCRETE POUR.

4 MASONRY WALLS ON 150mm CURB:
- 240mm CONCRETE BLOCKS FILLED SOLID C/W ANCHORAGE TO CURB. PROVIDE 9 COURSES (1800mm High)
- 10mm GROUT CAVITY SOLID
- 90mm BRICK VENEER TO U/S OF PRECAST CAP
- PROVIDE GALVANIZED METAL FLASHING AT BOTTOM COURSE EXTENDING 610mm Hg. C/W dDRIP EDGE AT BOTTOM.
- PROVIDE PRECAST CONCRETE CAP UNITS C/W GROUTED JOINTS IN BETWEEN UNITS C/W DRIP EDGE AND ANCHORAGE TO CONCRETE BLOCKS

ASPM 11x17

National Research Council Canada / Conseil national de recherches Canada
Administrative Services and Property Management Branch / Division des services administratifs et gestion de l'immobilier
NRC · CNRC

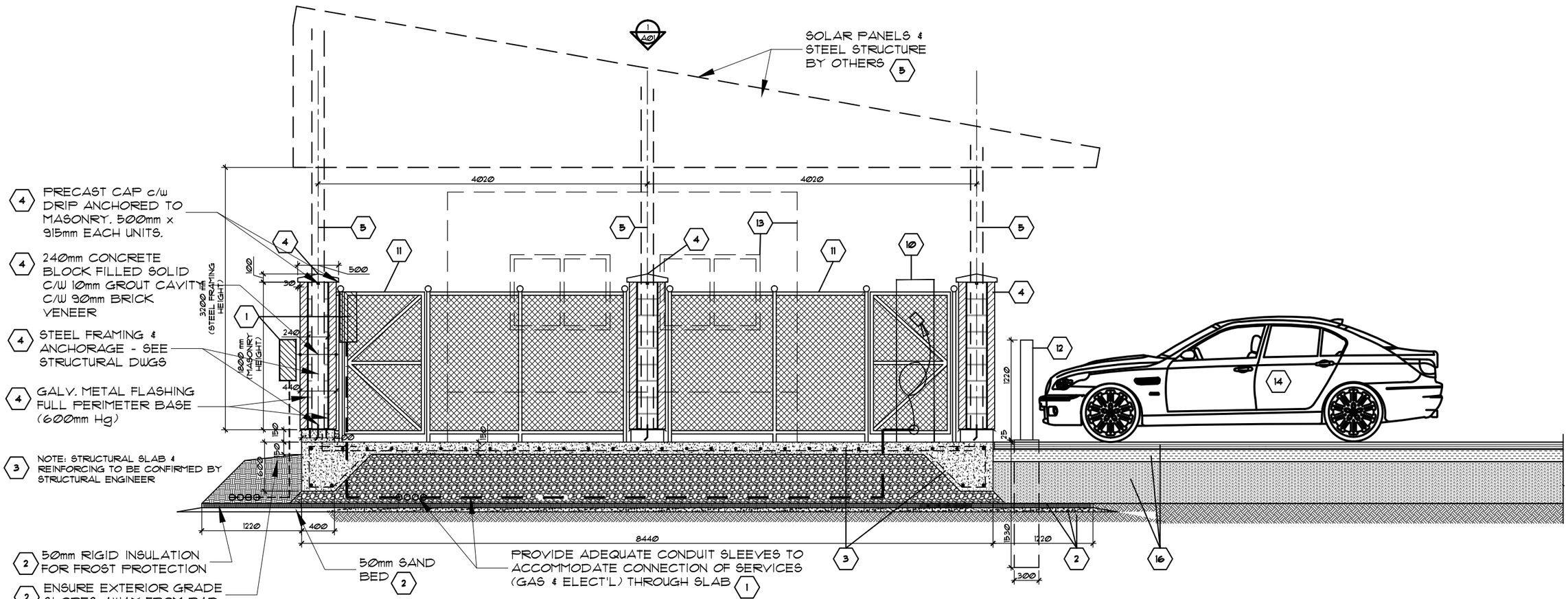
- Verify all dimensions and site conditions and be responsible for same
- Vérifier toutes les dimensions et l'etat des liéux et en assumer la responsabilité

REV	ISSUE	DATE
1	ISSUED FOR RFP2 - ADDENDUM No2	16MAR2016

project / projet
NEW BUILDING M-24E:
CCHT New Housing Bldgs
MONTREAL ROAD CAMPUS

drawing / dessin
UTILITY PAD DESIGN CONCEPT
- plan and general notes

designed / conçu	checked / vérifié
J.C.W.	C.R. / M.A.
drawn / dessiné	approved / approuvé
J.C.W.	C.R.
W.O.no.	D.T.no. / sheet / feuille
A1-00679	1 of/de 3
date / date	scale / échelle
MAR 2016	AS NOTED
Acad File: / fichier CDAO	dwg.no. / dessin no
5034-TRANSFPAD-16MAR2016	5034-PAD01



1 UTILITY PAD MAIN SECTION
PAD01 SCALE = 1:25

ASPM 11x17

National Research Council Canada | Conseil national de recherches Canada
Administrative Services and Property Management Branch | Division des services administratifs et gestion de l'immobilier
NRC·CNRC

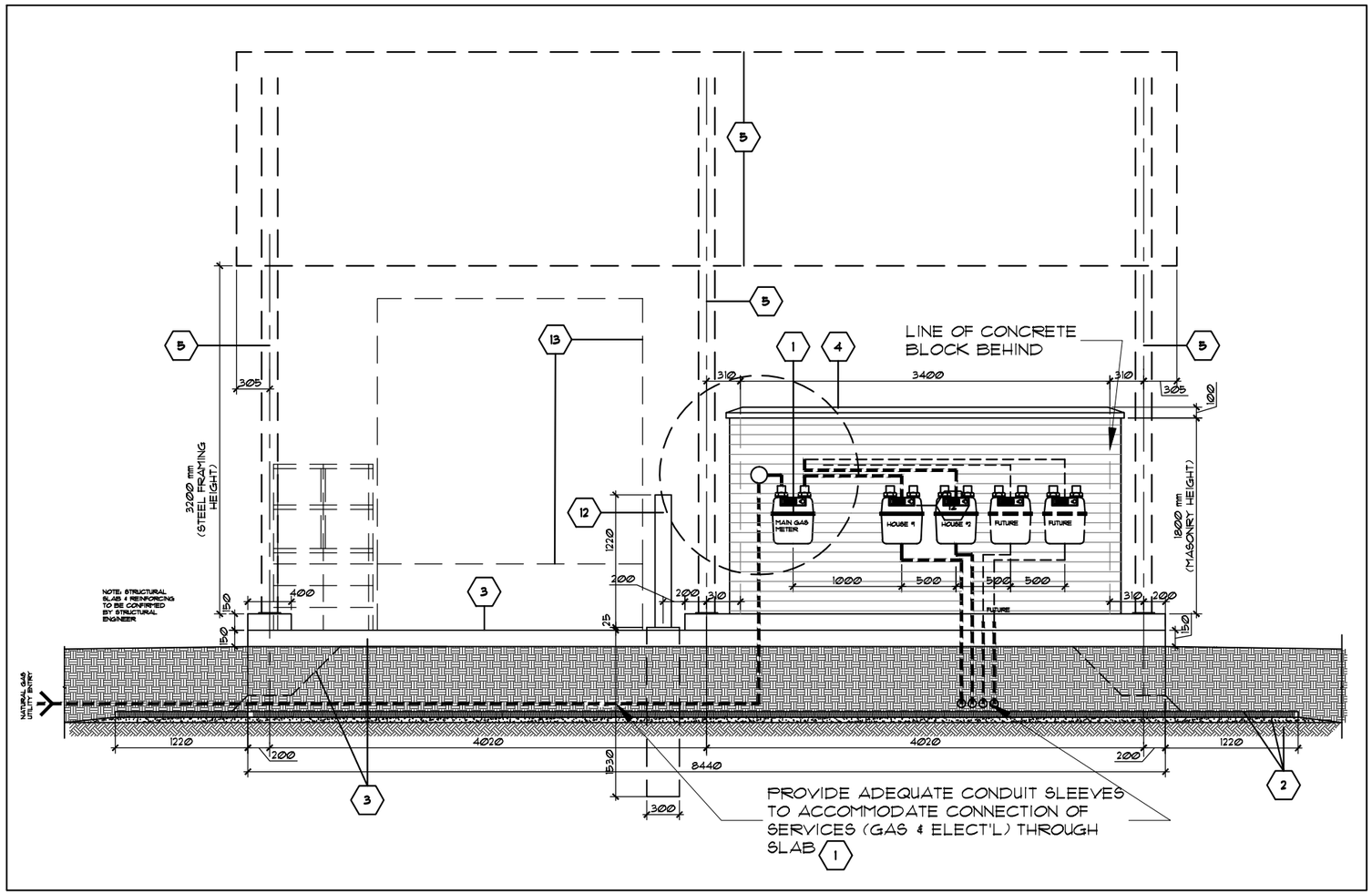
- Verify all dimensions and site conditions and be responsible for same
- Vérifier toutes les dimensions et l'etat des liéux et en assumer la responsabilité

REV	ISSUE	DATE
1	ISSUED FOR RFP2 - ADDENDUM No2	16MAR2016

project / projet
NEW BUILDING M-24E:
CCHT New Housing Bldgs
MONTREAL ROAD CAMPUS

drawing / dessin
UTILITY PAD DESIGN CONCEPT - ELEVATION AND SECTION

designed / conçu	checked / vérifié
J.C.W.	C.R. / M.A.
drawn / dessiné	approved / approuvé
J.C.W.	C.R.
W.O.no.	D.T.no.	sheet / feuille
A1-00679		2 of/de 3
date	scale / échelle	Acad File: / fichier CDAO	dwg.no. / dessin no
MAR 2016	AS NOTED	5034-TRANSFPAD-16MAR2016	5034-PAD02



1 UTILITY PAD - ELEVATION NATURAL GAS ENTRY SIDE

PAD01 SCALE = 1:25

ASPM 11x17

National Research Council Canada | Conseil national de recherches Canada
Administrative Services and Property Management Branch | Division des services administratifs et gestion de l'immobilier
NRC · CNRC

- Verify all dimensions and site conditions and be responsible for same
- Vérifier toutes les dimensions et l'etat des liéux et en assumer la responsabilité

REV	ISSUE	DATE
1	ISSUED FOR RFP2 - ADDENDUM No.2	16MAR2016

project / projet: NEW BUILDING M-24E: CCHT New Housing Bldgs

MONTREAL ROAD CAMPUS

drawing / dessin: UTILITY PAD DESIGN CONCEPT - ELEVATION AND SECTION

designed / conçu	checked / vérifié
J.C.W.	C.R. / M.A.
drawn / dessiné	approved / approuvé
J.C.W.	C.R.
W.O.no. / D.T.no.	sheet / feuille
A1-00679	3 of/de 3
date: MAR 2016	scale / échelle: AS NOTED
Acad File: / fichier CDAO: 5034-TRANSFPAD-16MAR2016	dwg.no. / dessin no: 5034-PAD03

Criteria – Technical Scoring	Max Points	Scored Points
A. Conceptual design for a two-unit semi-detached Research House		
A.1 Does the proposal show an understanding of our objectives for the Research House (innovation, sustainability)?	10	
A.2 Is the house design representative and acceptable?	6	
A.3 Does it meet R-2000/Healthy House requirements? Is there a HOT2000 run?	5	
A.4 Have the insulation requirements been met?	4	
Total Points Allowed:	25	
B. Conceptual design of the Power-Pad		
B.1 Does the proposal show an understanding of our objectives for the Power-Pad (innovation, sustainability)?	0	
B.2 Are the space, electrical, mechanical, hydronic and gas provisions adequate?	0	
B.3 Does the layout provide the appropriate "plug and play" accessibility and distribution of energy features?	0	
B.4 Are there provisions for renewable energy generation systems (PV, Wind)?		
B.5 Are any additional innovative technologies / design features suggested, such as CHP & E-vehicle charging?	0	
Total Points Allowed:	0	
C. Conceptual provisions for research infrastructure		
C.1 Is the proposed method of upgrading the Research House energy performance to Net Zero+ acceptable?	6	
C.2 Are the proposed provisions and adaptation of the building to support features in the design brief plausible?	7	
C.3 Are the data acquisition room requirements for the garage incorporated?	4	
C.4 Is the proposed method to allow for easy changeover of mechanical room plants acceptable?	4	
C.5 Are any additional innovative technologies or design features suggested that have merit?	4	
Total Points Allowed:	25	
D. Proposed construction documentation process		
D.1 Will as-build construction drawings and broadcast-quality video be provided?	6	
D2. Will construction mock-ups be provided?	3	
D3. Is a construction waste management plan included?	3	
D4. Are any other forms of documentation to be provided?	3	
Total Points Allowed:	15	
E. Team (Refer to Appendix 7 - Builder Qualifications)		
Mandatory Requirements		
Refer to Qualification scoring sheet. Pass or Fail?	P or F	
Asset Qualifications		
Refer to Qualification scoring sheet. Total Mark: _____ % x 25 points =		
Total Points Allowed:	25	
F. Construction Schedule		
F.1: Is the schedule realistic and will our deadlines be met?	5	
F.2: Has time been allocated for NRC technicians to install sensors and monitoring equipment?	5	
Total Points Allowed:	10	

RFP 15 22186 - CCTH Semi-detached Research House

This document is issued to address requests for information and/or clarifications received from the bidders.

1. **Question:** Please confirm if having completed the training for R2000 certification is sufficient to meet the builder`s requirements for this project. We would use this project as the final portion of our R2000 certification process. Page 3 of the Builders Qualification Requirements indicates the training is not sufficient alone.

   Answer: Builders having completed the training for R2000 certification, and wishing to use the CCHT build in order to obtain the final portion of the R2000 certification process, will be considered.

2. **Question:** Given that NRC will be contracting directly with a Civil Engineer to advise the design team on matters relating to the power pad, please clarify what if any design work will be required to be done by the contractor relating to the power pad.

   Answer: See Addendum no 2 Item no 2.

3. **Question:** Please confirm if a removable metal siding would be deemed acceptable or is the specified EIFS system all that will be considered as an acceptable exterior cladding.

   Answer: principally both a removable metal siding and EIFS is acceptable as a means to meet the project requirements. During the design phase of the project the merits of various approaches will be discussed. In principal we wish the look of the building to be representative of existing new homes and therefore attractive to the average homebuyer. There may be some esthetical advantage to a finish that will allow CCHT clients to associate the new build as part of the existing facility (common look and feel), but this esthetical advantage should not supersede fundamental building performance or ability to modify the exterior insulation and finish (no solid brick finish as is the case for the existing facility – a faux brick vaneer is acceptable).

4. **Question:** Please confirm what is the intent of the mechanical, plumbing and electrical schematic drawings that are to be submitted with the proposal. Normally the mechanical equipment is selected and it is left up to the subcontractor to determine the best way to connect to the equipment. The simple requirement that all work will be done according to the plumbing and electrical code is normally all that is required

   Answer: A simple single line diagram (SLD) and equipment schedule would help to explain what mechanical, electrical and plumbing systems will be considered in the design. Additional suggested features allowing for experimental analysis and “plug and play” approach to testing would also be advantageous.

_____ End of Question Set #1_____