DRAWING LIST

CLIENT

Canadian Space Agency / Agence spatiale canadienne

ÉRIC VACHON
Chief, Security & Facilities

M. FARID, P. Eng.
Manager, Building Operations & Security

STRUCTURAL

LEEKOR Engineering Inc.
Structural Design

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ARCHITECTURAL

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ÉRIC VACHON
Chief, Security & Facilities

M. FARID, P. Eng.
Manager, Building Operations & Security

ELECTRICAL

Canadian Space Agency / Agence spatiale canadienne

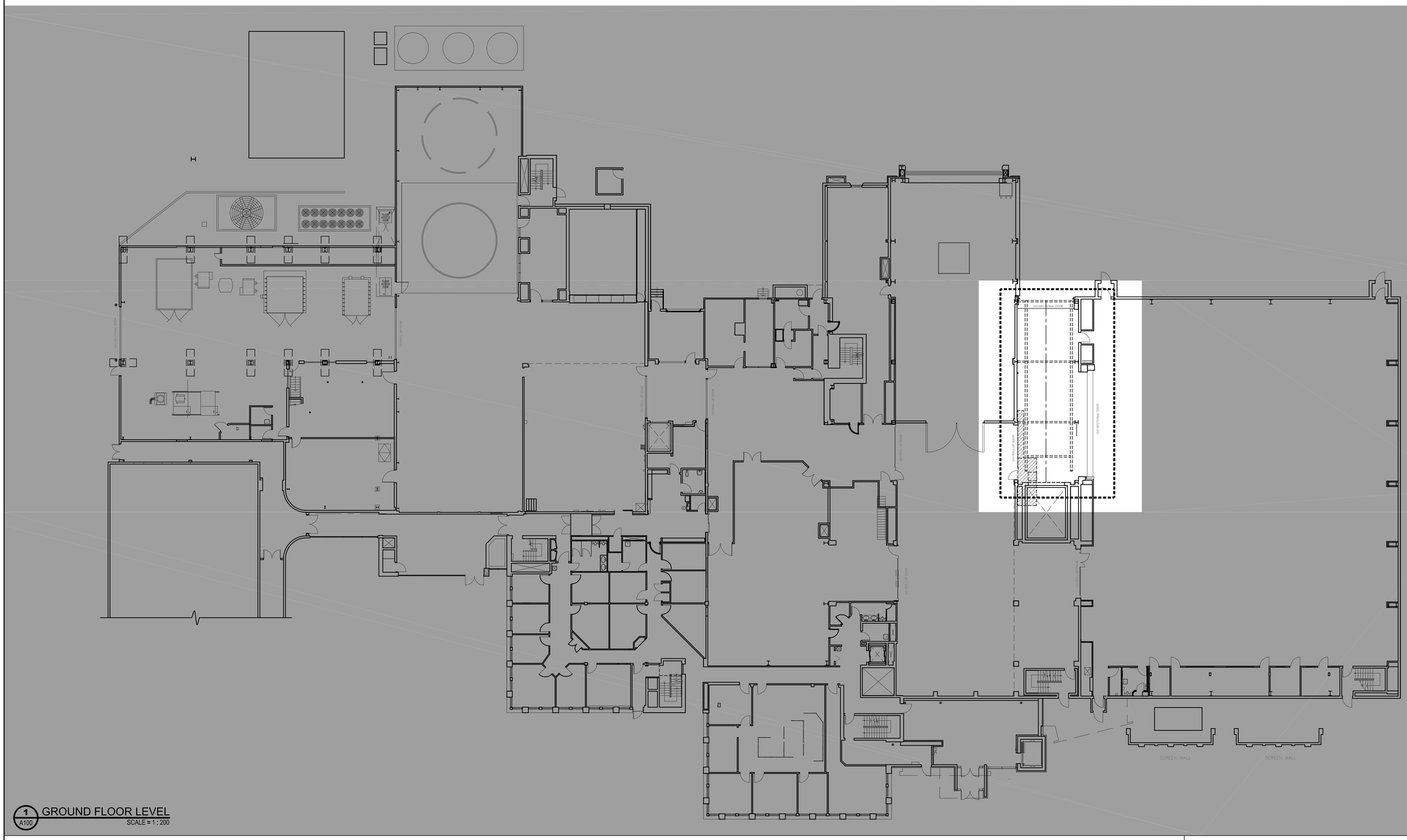
ÉRIC VACHON
Chief, Security & Facilities

M. FARID, P. Eng.
Manager, Building Operations & Security

CSA15-M2b
DAVID FLORIDA LABORATORY
LOADING DOCK CRANE REPLACEMENT

3701 CARLING AVE
OTTAWA, ON

ISSUED FOR TENDER
2015.08.23



1 GROUND FLOOR LEVEL
A100 SCALE = 1 : 200

GENERAL NOTES

A. UNLESS OTHERWISE INDICATED, DIMENSIONS ARE TO BE ESTABLISHED FROM THE FINISHED FACE OF GYPSUM BOARD WALLS, THE FINISHED FACE OF CONCRETE WALLS, EXISTING WALLS AND STRUCTURAL GRID LINE.

B. CONTRACTOR SHALL VERIFY AND CONFIRM SITE CONDITIONS AND DIMENSIONS PRIOR TO BID SUBMISSION.

C. REFER TO ELECTRICAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL REMOVAL INFORMATION AND SERVICING INFORMATION (LOCATIONS & DETAILS).

D. PATCH REPAIR AND MAKE GOOD ALL HOLES MADE THROUGH ASSEMBLIES TO REMAIN MADE BY REMOVALS.

E. GENERAL CONTRACTOR TO REVIEW EXISTING SERVICES AT RENOVATION AREAS, LOCALIZED WALL DEMOLITIONS, PATCH AND REPAIRS REQUIRED FOR SERVICE RELOCATIONS.

F. PROVIDE P. ENG LICENSED IN THE PROVINCE OF ONTARIO STAMPED SHOP DRAWINGS FOR NEW CRANES.

G. REFER TO STRUCTURAL DRAWINGS FOR NEW SUPPORTING STRUCTURE.

H. UNLESS OTHERWISE INDICATED ALL NEW AND AFFECTED WALL & CEILING SURFACES TO BE PRIMED AND PAINTED.

I. UNLESS OTHERWISE INDICATED ALL NEW STRUCTURAL STEEL TO RECEIVE PAINT ON ALL SIDES TO MATCH EXISTING.

J. ANY CONSTRUCTION MATERIALS INDICATED TO BE REMOVED AND REPLACED THAT ARE DAMAGED DURING REMOVALS TO BE REPLACED WITH NEW.

K. LARGE LOADING DOCK FLOOR LIMITATIONS - 250 PSF MAXIMUM, CSA-DFL NEEDS APPROVE ALL EQUIPMENT BEFORE ENTERING THE SPACE.

LEGEND

AREA OF WORK

NOT IN CONTRACT

Canadian Space Agency / Agence spatiale canadienne

ÉRIC VACHON
Director, Security & Facilities

M. FARID, P. Eng.
Manager, Building Operations & Security

No.	Revision	Date
5.		
4.		
3.		
2.		
1.	ISSUED FOR TENDER	16.08.23

LICENSED PROFESSIONAL ENGINEER — Magdi K. Farid — PROVINCE OF ONTARIO

PROFESSIONAL STAMP

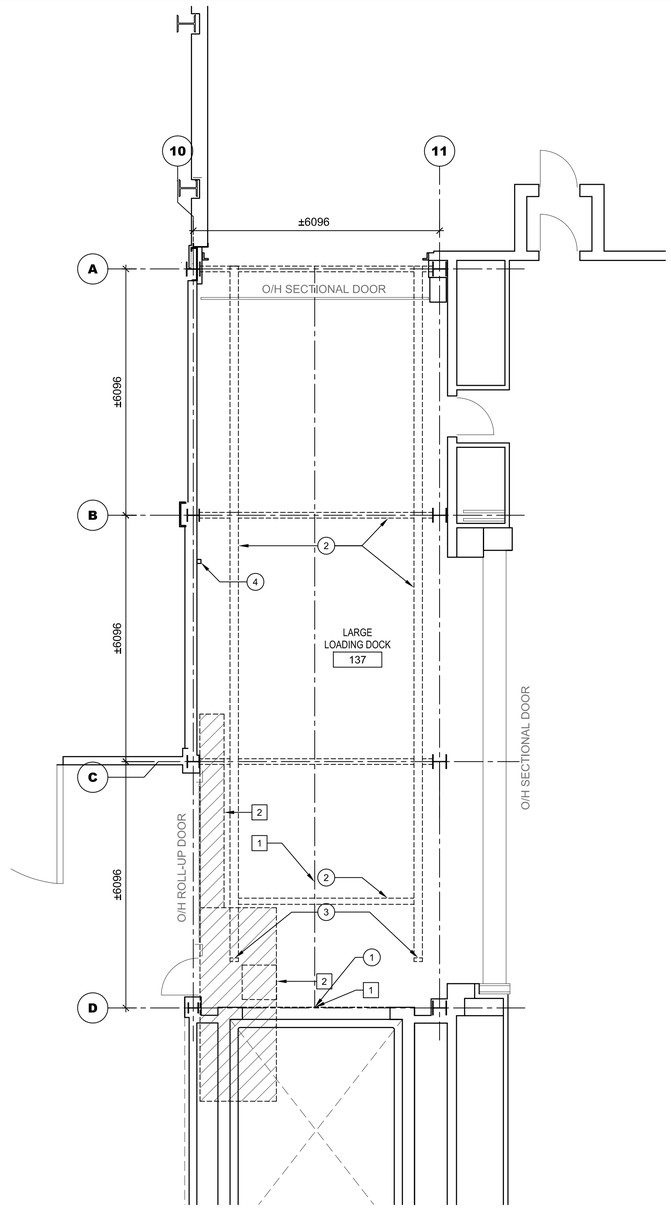
N

A detail no. / no. du detail
B location drawing no. / sur dessin no.
C drawing no. / dessin no.

project / projet
DAVID FLORIDA LABORATORY
BUILDING No, 65, SHIRLEY'S BAY, ONTARIO
LARGE LOADING DOCK CRANE REPLACEMENT

drawing / dessin
GROUND FLOOR PLAN REFERENCE PLAN

designed / concu		
date		
drawn / dessine	R. JAMES	
date		
reviewed / examine	M. MANSOUR, P.ENG.	
date		
approved / approuve	M. FARID, P.ENG.	
date		
scale	AS SHOWN	
project no. / no. du projet	CSA15-M2b	
drawing no. / no. du dessin	A-100	



1 A200 15 TON UNDER RUNNING CRANE
SCALE = 1 : 75

GENERAL NOTES

A. UNLESS OTHERWISE INDICATED, DIMENSIONS ARE TO BE ESTABLISHED FROM THE FINISHED FACE OF GYPSUM BOARD WALLS, THE FINISHED FACE OF CONCRETE WALLS, EXISTING WALLS AND STRUCTURAL GRID LINE.

B. CONTRACTOR SHALL VERIFY AND CONFIRM SITE CONDITIONS AND DIMENSIONS PRIOR TO BID SUBMISSION.

C. REFER TO ELECTRICAL, MECHANICAL, AND STRUCTURAL DRAWINGS FOR ADDITIONAL REMOVAL INFORMATION AND SERVICING INFORMATION (LOCATIONS & DETAILS).

D. PATCH REPAIR AND MAKE GOOD ALL HOLES MADE THROUGH ASSEMBLIES TO REMAIN MADE BY REMOVALS.

E. GENERAL CONTRACTOR TO REVIEW EXISTING SERVICES AT RENOVATION AREAS. LOCALIZED WALL DEMOLITIONS, PATCH AND REPAIRS REQUIRED FOR SERVICE RELOCATIONS.

F. PROVIDE P. ENG LICENSED IN THE PROVINCE OF ONTARIO STAMPED SHOP DRAWINGS FOR NEW CRANES.

G. REFER TO STRUCTURAL DRAWINGS FOR NEW SUPPORTING STRUCTURE.

H. UNLESS OTHERWISE INDICATED ALL NEW WALL & CEILING SURFACES TO BE PRIMED AND PAINTED.

I. UNLESS OTHERWISE INDICATED ALL NEW STRUCTURAL STEEL TO RECEIVE PAINT ON ALL SIDES TO MATCH EXISTING.

J. ANY CONSTRUCTION MATERIALS INDICATED TO BE REMOVED AND REPLACED THAT ARE DAMAGED DURING REMOVALS TO BE REPLACED WITH NEW.

K. CONTRACTOR TO CONFIRM EXISTING SLAB ELEVATIONS PRIOR TO ORDERING & MANUFACTURING OF STRUCTURAL STEEL & CRANE COMPONENTS TO ENSURE NEW CRANE IS LEVEL.

L. LARGE LOADING DOCK FLOOR LIMITATIONS - 250 PSF MAXIMUM. CSA-DFL NEEDS APPROVE ALL EQUIPMENT BEFORE ENTERING THE SPACE.

DEMOLITION NOTES

1 EXISTING MONORAIL GIRDER, HOIST AND ALL ASSOCIATED HARDWARE TO BE REMOVED TO WALL AT GRIDLINE D. ENSURE MONORAIL IS ADEQUATELY SUPPORTED. CONTRACTOR TO CONFIRM EXISTING SITE CONDITIONS.

2 EXISTING DUCTWORK TO REMAIN. CONTRACTOR TO VERIFY AND COORDINATE CLEARANCES PRIOR TO CRANE MANUFACTURING.

CONSTRUCTION NOTES

(1) PATCH AND REPAIR GYPSUM AS REQUIRED. PAINT TO MATCH EXISTING.

(2) NEW STEEL BEAMS AND CROSS BRACING. SEE STRUCTURAL FOR DETAILS. PAINT STEEL YELLOW TO MATCH EXISTING CRANE SYSTEMS THROUGHOUT THE BUILDING.

(3) END STOPS. COORDINATE LOCATION ON SITE TO SUIT EXISTING DUCTWORK. SEE STRUCTURAL FOR DETAILS.

(4) NEW DISCONNECT SWITCH. SEE ELECTRICAL FOR DETAILS.

Canadian Space Agency / Agence spatiale canadienne

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M. FARID, P. Eng.
Manager, Building Operations & Security

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LICENSED PROFESSIONAL ENGINEER Magdi K. Farid PROVINCE OF ONTARIO

PROFESSIONAL STAMP

A detail no. / no. du detail
B location drawing no. / sur dessin no.
C drawing no. / dessin no.

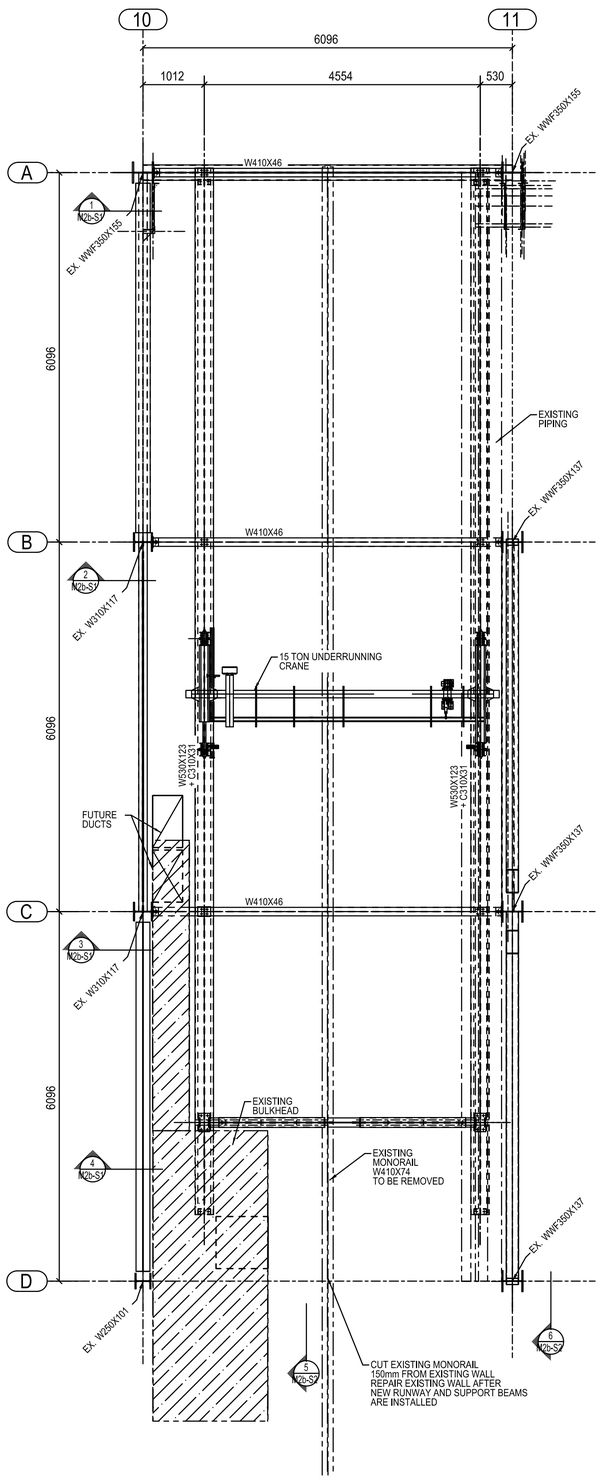
project / projet
DAVID FLORIDA LABORATORY
BUILDING No. 65, SHIRLEY'S BAY, ONTARIO
LARGE LOADING DOCK CRANE REPLACEMENT

drawing / dessin
15 TON CRANE ENLARGED FLOOR PLAN

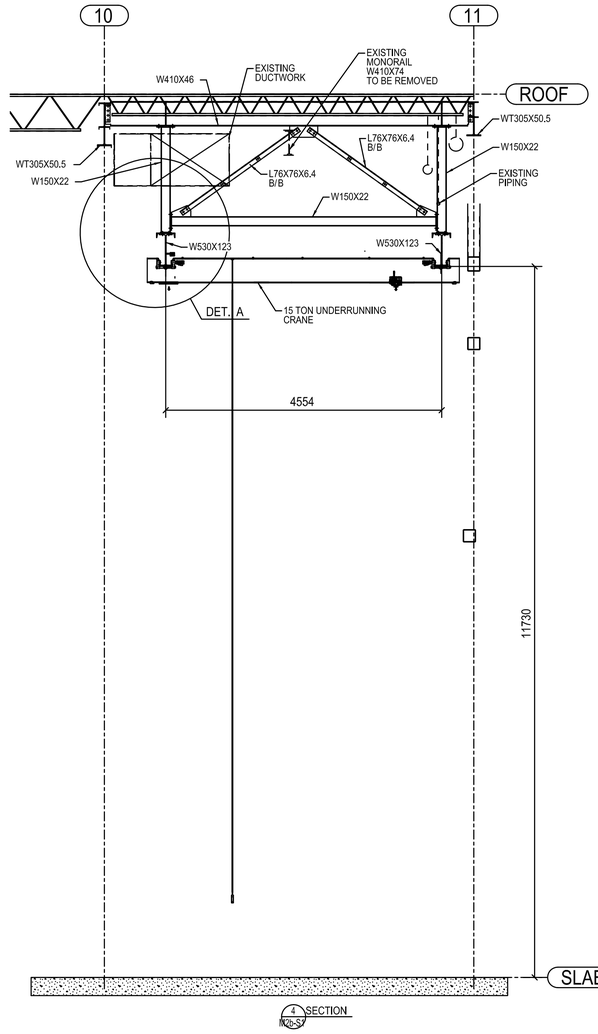
designed / concu
date
drawn / dessine
R. JAMES
date
reviewed / examine
M. MANSOUR, P.ENG.
date
approved / approuve
M. FARID, P.ENG.
date
scale
AS SHOWN

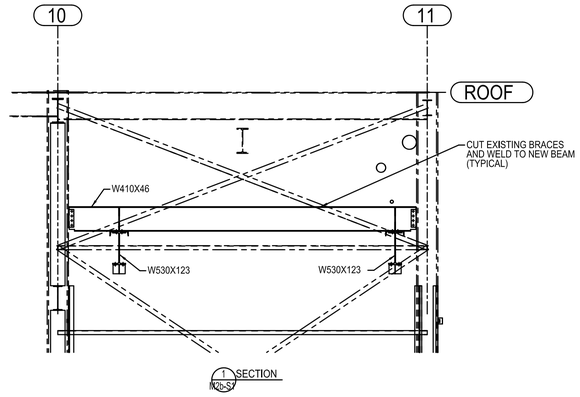
project no. / no. du projet
CSA15-M2b

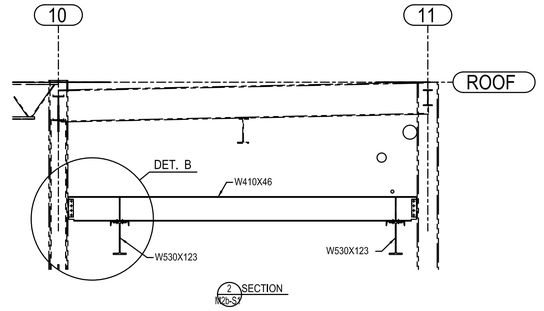
drawing no. / no. du dessin
A-200

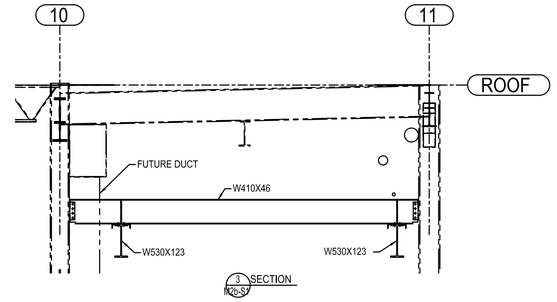


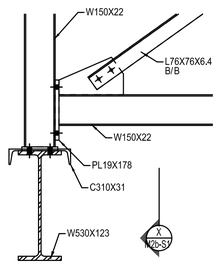
15 TON CRANE-PLAN



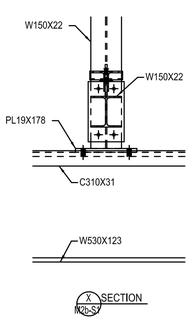


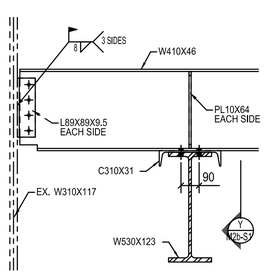




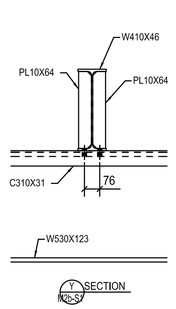


DETAIL A





DETAIL B



Canadian Space Agency / Agence spatiale canadienne

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K2P 0R6

No.	Revision	Date
5.		
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1.	ISSUED FOR TENDER	16.08.23

LICENCED PROFESSIONAL ENGINEER
L. A. ATKINSON
APR. 30/15
PROVINCE OF ONTARIO
PROFESSIONAL STAMP

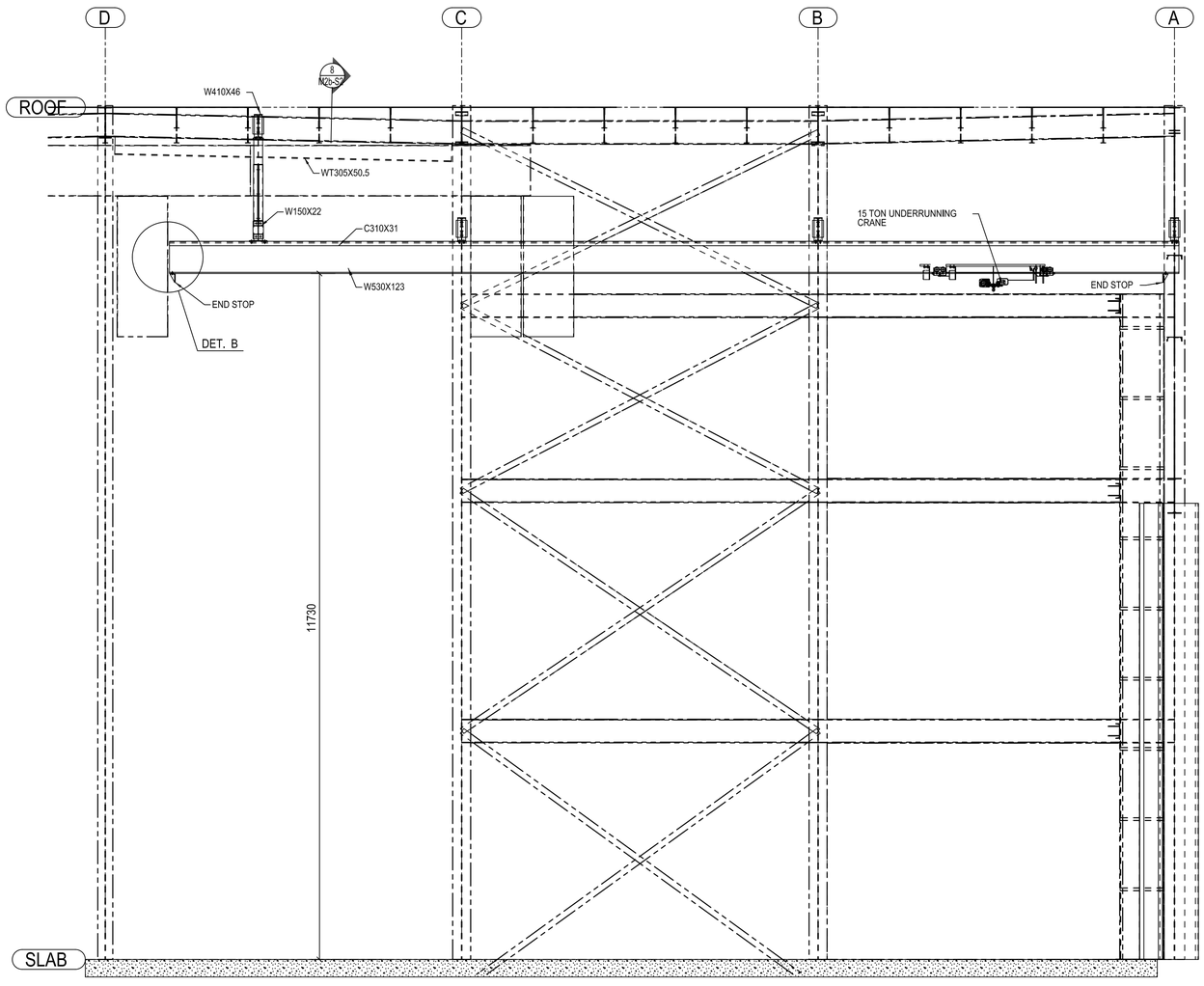
A detail no, no. du detail
B location drawing no, sur dessin no.
C drawing no. dessin no.

project / projet
DAVID FLORIDA LABORATORY
BUILDING No. 65, SHIRLEY'S BAY, ONTARIO

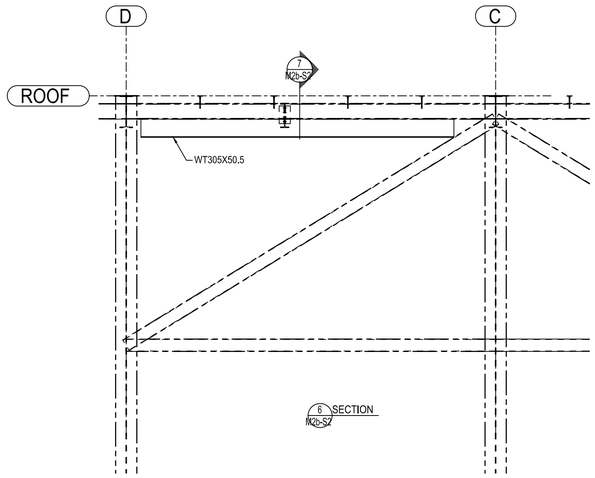
LARGE LOADING DOCK CRANE REPLACEMENT

drawing / dessin
STRUCTURAL PLAN, SECTION AND DETAILS

designed	L. ATKINSON	concu
date		
drawn	D. KEYES	dessine
date		
reviewed	L. ATKINSON	examine
date		
approved		approuve
date		
scale	1:50	
project no.	CSA15-M2b	no. du projet
drawing no.	M2b - S1	no. du dessin



5 SECTION
M2b-S2



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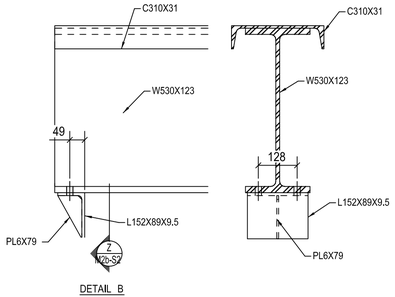
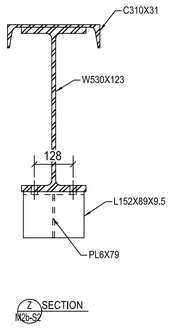
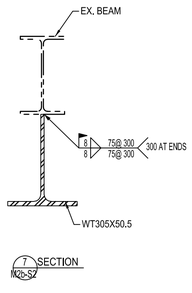
M2b-S2



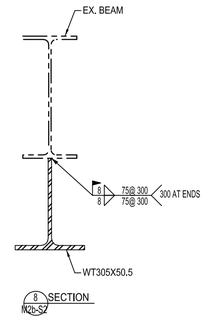
DETAIL B



Z SECTION
M2b-S2



7 SECTION
M2b-S2



8 SECTION
M2b-S2

STRUCTURAL STEEL

STRUCTURAL STEEL SHALL COMPLY WITH CAN/CSA– S16–09, LATEST EDITION.

1. STEEL GRADES:
   WIDE FLANGES TO BE G40.21–M350W.
   OTHER MATERIAL TO BE G40.21–M300W.
2. FIELD BOLTS – 3/4" ø A325 (FRICTION TYPE).
3. WASHERS FOR FIELD BOLTS TO BE PLACED UNDER TURNED ELEMENT.
4. WELD IN ACCORDANCE WITH W59.03 E49xx ELECTRODES.
5. SHOP AND TOUCH–UP PAINT:
   – SURFACE PREPARATION: TO SSPC SP3
   – PRIMER: ONE COAT TO CGSB 1–GP–40M (U/N)

THE EXISTING PILES HAVE SUFFICIENT CAPACITY TO SAFELY RESIST THE NEW LOADS IN ADDITION TO THE EXISTING LOADS.

STRUCTURAL DESIGN

1) DEAD LOAD = 1.2 kPa

SNOW LOAD

Ss = 2.5 kPa

Sr = 0.4 kPa

ULS: Is= 1.0 / SLS: Is= 0.9

Cb = 0.8

ULS: S = 2.4 kPa / SLS: S = 2.16 kPa

WIND LOAD

q50 = 0.41 kPa

ULS: Iw =1.0 / SLS: Iw= 0.75

Ce = 1.03

SEISMIC LOAD

SFRS : CONVENTIONAL CONSTRUCTION OF BRACED FRAMES

(a) Rd = 1.5 Ro = 1.3

(b) Ta=0.29

(c) Sa(0.2)=0.62
Sa(0.5)=0.3
Sa(1.0)=0.13
Sa(2.0)=0.045
PGA=0.32
SITE CLASS=D

(d) Fa=1.15 Fv=1.37

(e) S(Ta)=0.62
S(0.2)=FaSa(2.0)=0.714

(f) IE=1.0

(g) Mv=1.0

(h) V=2/3S(0.2)IEW/(RdRo)

(i) V=0.21W

2) SPECIFIED MAXIMUM STATIC WHEEL LOAD = 18,280 LBS. (81.35 kN)

OBC 4.1.5.11.1 MINIMUM SPECIFIED WHEEL LOAD INCLUDING IMPACT IS 20,108 Lbs. (89.5 kN)

3) OBC 4.1.5.11.3 SPECIFIED CRANE SURGE LOAD NORMAL TO RUNWAY GIRDER = 15.7 kN

4) OBC 4.1.5.11.5 SPECIFIED CRANE SURGE LOAD PARALLEL TO RUNWAY GIRDER = 8.14 kN

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1.	ISSUED FOR TENDER	16.08.23

LICENSED PROFESSIONAL ENGINEER
L. A. ATKINSON
APR. 20/15
PROVINCE OF ONTARIO
PROFESSIONAL STAMP

A detail no. no. du detail
B location drawing no. sur dessin no.
C drawing no. dessin no.

project / projet
DAVID FLORIDA LABORATORY
BUILDING No, 65, SHIRLEY'S BAY, ONTARIO

LARGE LOADING DOCK CRANE REPLACEMENT

drawing / dessin
STRUCTURAL SECTION

designed	L. ATKINSON	concu
date		
drawn	D. KEYES	dessine
date		
reviewed	L. ATKINSON	examine
date		
approved		approuve
date		
scale	1:50	
project no. / no. du projet	CSA15-M2b	
drawing no. / no. du desin	M2b - S2	

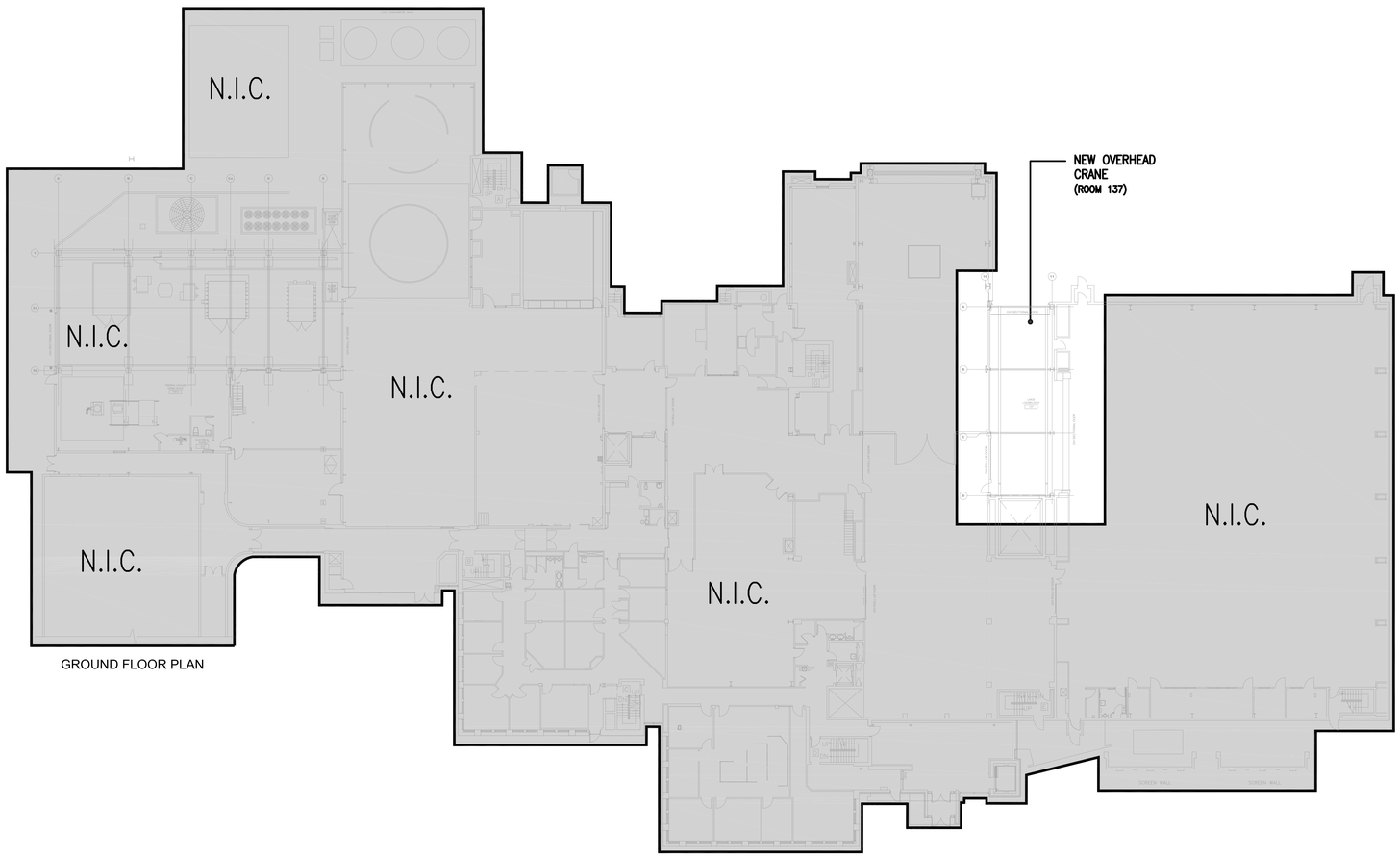
ISSUED FOR TENDER
2016/08/23

Canadian Space Agency | Agence spatiale canadienne

CSA15-M2b: LOADING DOCK CRANE REPLACEMENT
DAVID FLORIDA LABORATORIES

BUILDING 65, 3701 CARLING AVE. OTTAWA, ONTARIO

KEY PLAN



GROUND FLOOR PLAN

DRAWING LIST

LEGEND

- ER — EXISTING TO REMOVE
- NF / 60 — DISCONNECT 60A, NF = NOT FUSED
- DISTRIBUTION PANEL 600V / 3 PH
- JUNCTION BOX
- __#__ + BOND #__ - __mm — CONDUCTOR IDENTIFICATION
  - CONDUIT NOMINAL DIAMETER
  - SIZE OF BONDING CONDUCTOR IN AWG
  - SIZE OF CONDUCTORS IN AWG
  - NUMBER OF CONDUCTORS
- AREA OF WORK
- NOT IN CONTRACT
- NEW OR IN SCOPE OF WORK
- TO BE REMOVED
- NOT IN SCOPE OR WORK
- CONDUIT RISER

Canadian Space Agency | Agence spatiale canadienne

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Director, Security & Facilities

M. FARID, P. Eng.
Manager, Building Operations & Security

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00	ISSUED FOR TENDER	16.08.23

LICENCED PROFESSIONAL ENGINEER — M. MANSOUR 100136114 — PROVINCE OF ONTARIO

PROFESSIONAL STAMP

A detail no, no. du detail
B location drawing no, sur dessin no,
C drawing no, dessin no,

project / projet

DAVID FLORIDA LABORATORY
3701 Carling Avenue Ottawa, ON

LOADING DOCK CRANE REPLACEMENT

drawing / dessin

TITLE, KEY PLAN, LEGEND AND DRAWING LIST

designed / date	M. MANSOUR , P.Eng. 2016-04-22	concu
drawn / date	M. MANSOUR , P.Eng. 2016-04-22	dessine
reviewed / date	M. FARID, P.Eng. 2016-04-22	examine
approved / date	M. MANSOUR , P.Eng. 2016-04-22	approuve
scale	1:200	

project no. / no. du projet: CSA15-M2b

drawing no. / no. du desin: E000

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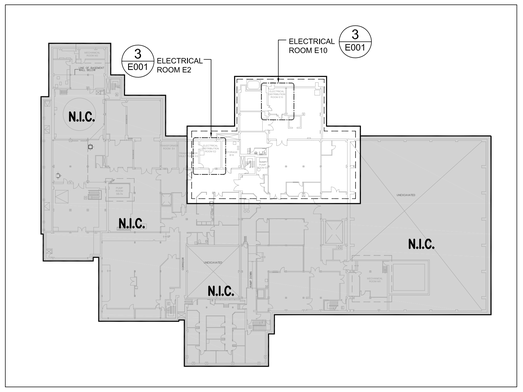
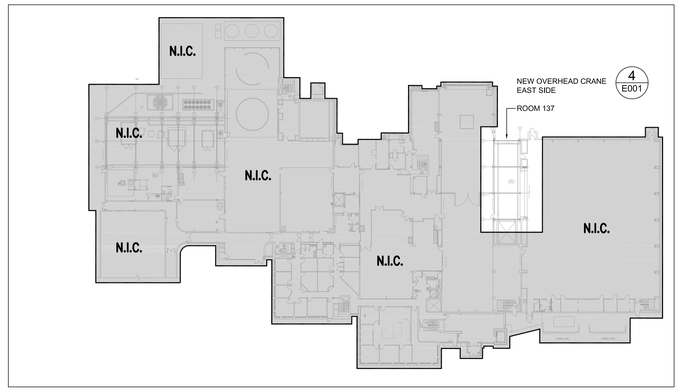
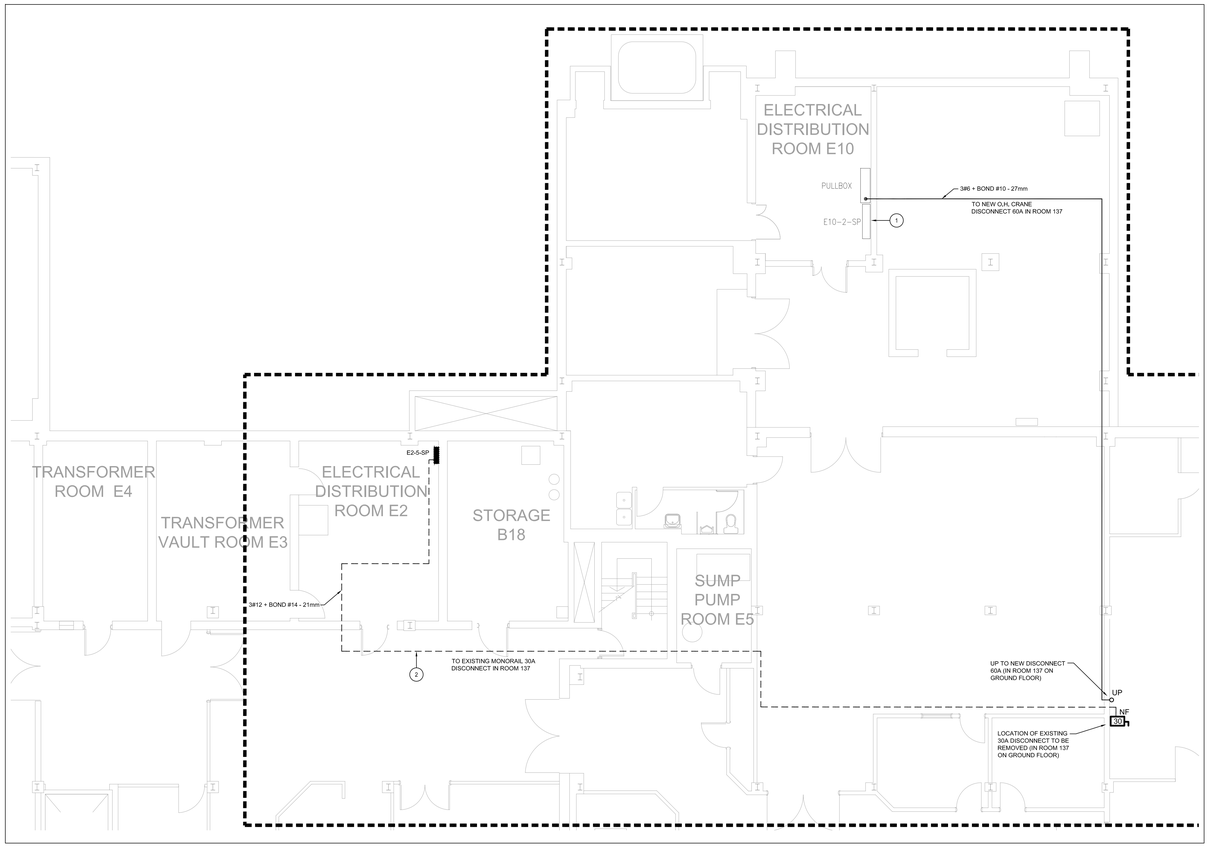


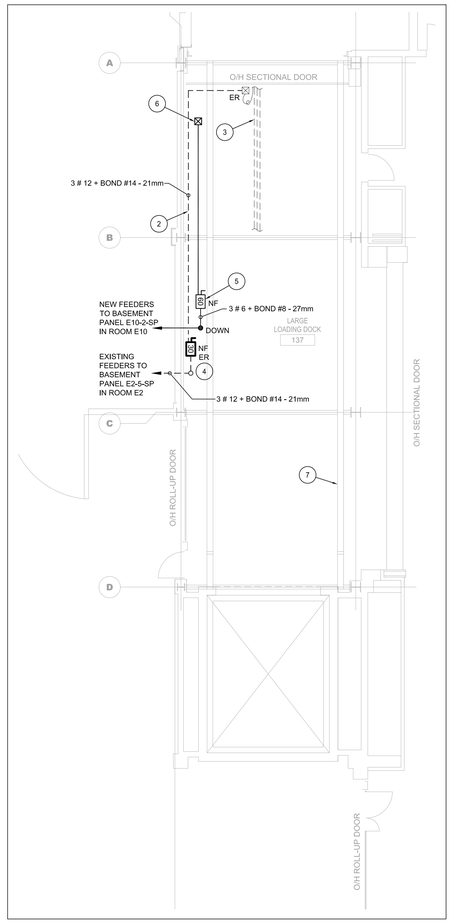
1 E001 BASEMENT FLOOR KEY PLAN - ELECTRICAL WORK
SCALE: 1:500



2 E001 GROUND FLOOR KEY PLAN - ELECTRICAL WORK
SCALE: 1:500



3 E001 ELECTRICAL ROOM E2 & E10 LAYOUT - (BASEMENT) ELECTRICAL WORK
SCALE: 1:75



4 E001 NEW 15 TON OVERHEAD CRANE - (GROUND FLOOR) ELECTRICAL WORK
SCALE: 1:75

GENERAL NOTES

1. THE OVER HEAD CRANE IS PROVIDED BY THE STRUCTURAL TRADE AND CONNECTED BY THE ELECTRICAL CONTRACTOR. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE BETWEEN DISCIPLINES DURING WORK.
2. LARGE LOADING DOCK FLOOR LIMITATIONS - 250 PSF MAXIMUM. CSA-DFL NEEDS APPROVE ALL EQUIPMENT BEFORE ENTERING THE SPACE.

DRAWING NOTES

1. PROVIDE AND INSTALL A NEW 60A, 3P, BREAKER, WIRE AND CONDUIT AND CONNECT THE NEW O.H AS INDICATED. CRANE. PANEL E10-2-SP MAKE: SQUARE D LINE SERIES, MODEL: HOW3268-12NC, 600V 1200A, 28kA IC FOR BREAKER SELECTION. UPDATE PANEL SCHEDULE.
2. EXISTING EMT CONDUIT. REMOVE CONDUCTORS AND THE CONDUIT BACK TO SOURCE
3. DISCONNECT EXISTING MONORAIL BUS SYSTEM ON THE CEILING. THE MONORAIL WILL BE REPLACED WITH A NEW 15 TON OVERHEAD CRANE BY THE STRUCTURAL TRADE.
4. REMOVE EXISTING 30A / 600V / 3 PH NON-FUSED MONORAIL HOIST DISCONNECT C/W WIRING BACK TO SOURCE.
5. SUPPLY AND INSTALL A NEW 60A / 600V / 3 PH NON-FUSED DISCONNECT FOR THE NEW OVERHEAD CRANE C/W CONDUIT AND WIRING BACK TO SOURCE AS INDICATED. INSTALL AT THE SAME LOCATION AS THE EXISTING TO BE REMOVED.
6. SUPPLY AND INSTALL A NEW JUNCTION BOX 150mm X 150mm X 100mm AT APPROXIMATLY 11500mm FROM THE FLOOR AND CONNECT THE NEW OVERHEAD CRANE. THE LOCATION OF THE JUNCTION BOX SHOWN ON THE DRAWING IS APPROXIMATE. CONFIRM THE EXACT LOCATION REQUIRED ON SITE. COORDINATE WITH THE CRANE INSTALLER. SUPPLY AND INSTALL CONDUIT & CONDUCTOR BACK TO NEW DISCONNECT SWITCH.
7. NEW 15 TON OVERHEAD CRANE TO BE INSTALLED BY STRUCTURAL TRADE AND CONNECTED BY ELECTRICAL TRADE.

Canadian Space Agency / Agence spatiale canadienne

ÉRIC VACHON
Director, Security & Facilities

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No.	Revision	Date
00	ISSUED FOR TENDER	16,08,23

LICENSED PROFESSIONAL ENGINEER
M. MANSOUR
100138114
PROVINCE OF ONTARIO
PROFESSIONAL STAMP

A detail no, no. du detail
B location drawing no. sur dessin no,
C drawing no, dessin no.

project / projet
DAVID FLORIDA LABORATORY
3701 Carling Avenue Ottawa, ON

LOADING DOCK
CRANE REPLACEMENT

drawing / dessin
KEY PLAN AND ELECTRICAL ROOM E2 LAYOUT - ELECTRICAL WORK

designed / date	M. MANSOUR , P.Eng. 2016-04-22	concu
drawn / date	M. MANSOUR , P.Eng. 2016-04-22	dessine
reviewed / date	M. FARID, P.Eng. 2016-04-22	examine
approved / date	M. MANSOUR , P.Eng. 2016-04-22	approuve
scale	AS INDICATED	

project no. / no. du projet: CSA15-M2b

drawing no. / no. du desin: E001

Nom du fichier: C:\Users\AutoCAD-ML\Desktop\My Projects\Large Loading Dock Crane\CAD - ENE001.dwg