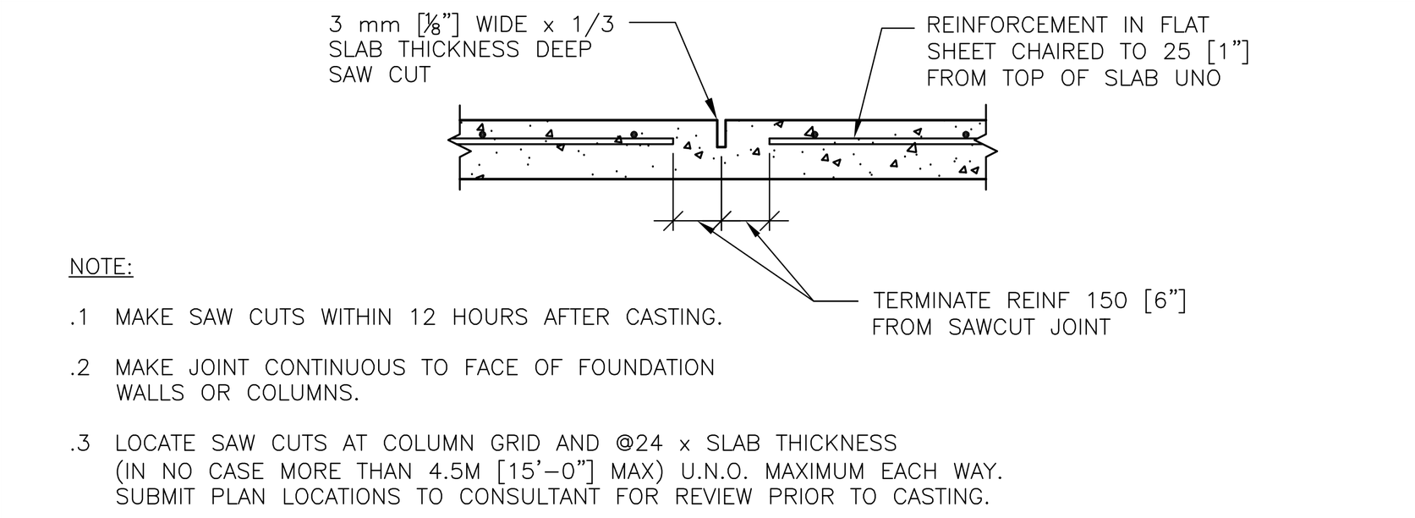
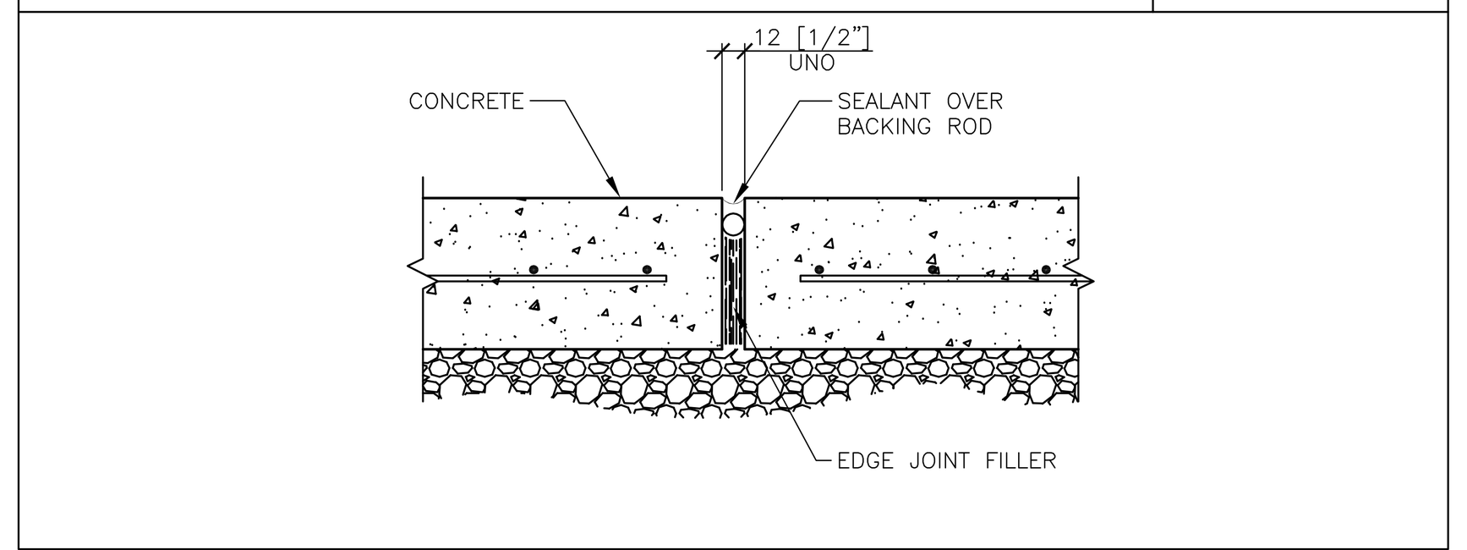
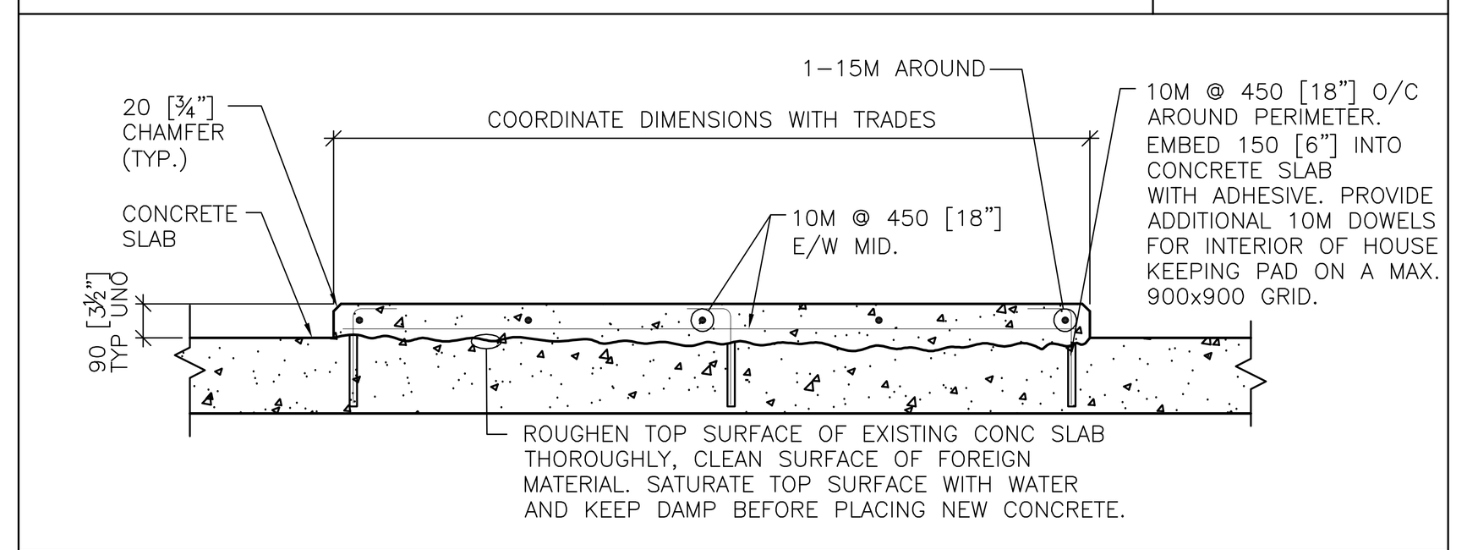
SLAB ON GRADE CONTROL JOINT — CF08



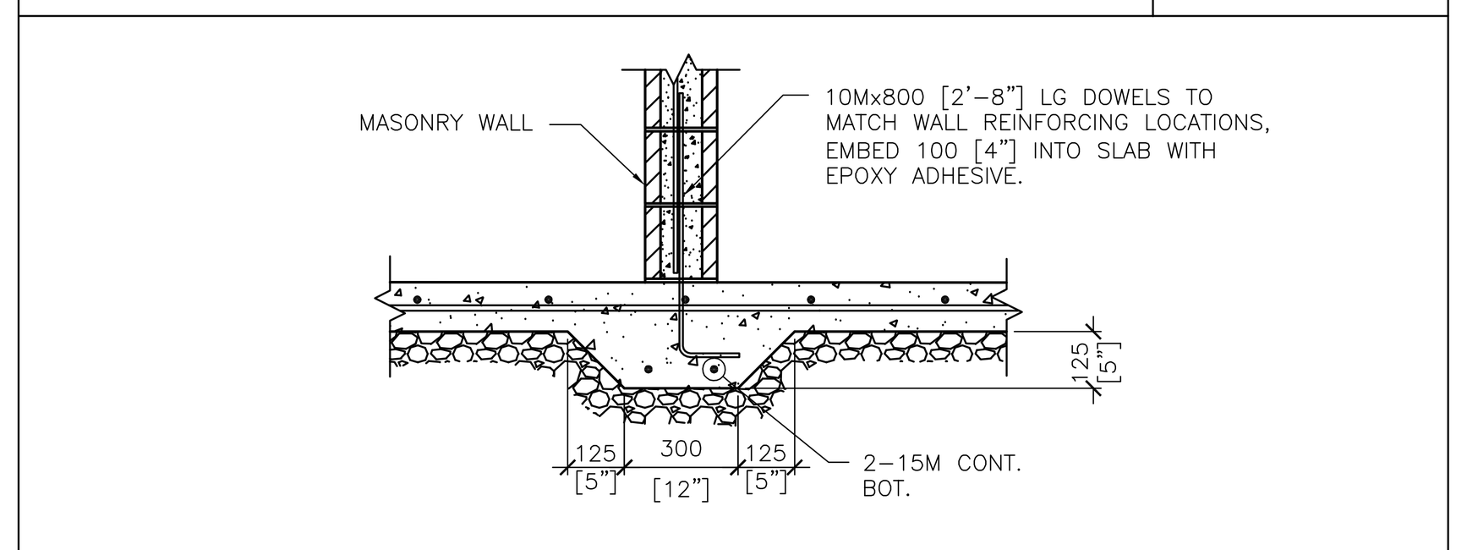
SLAB ON GRADE ISOLATION JOINT — CF09



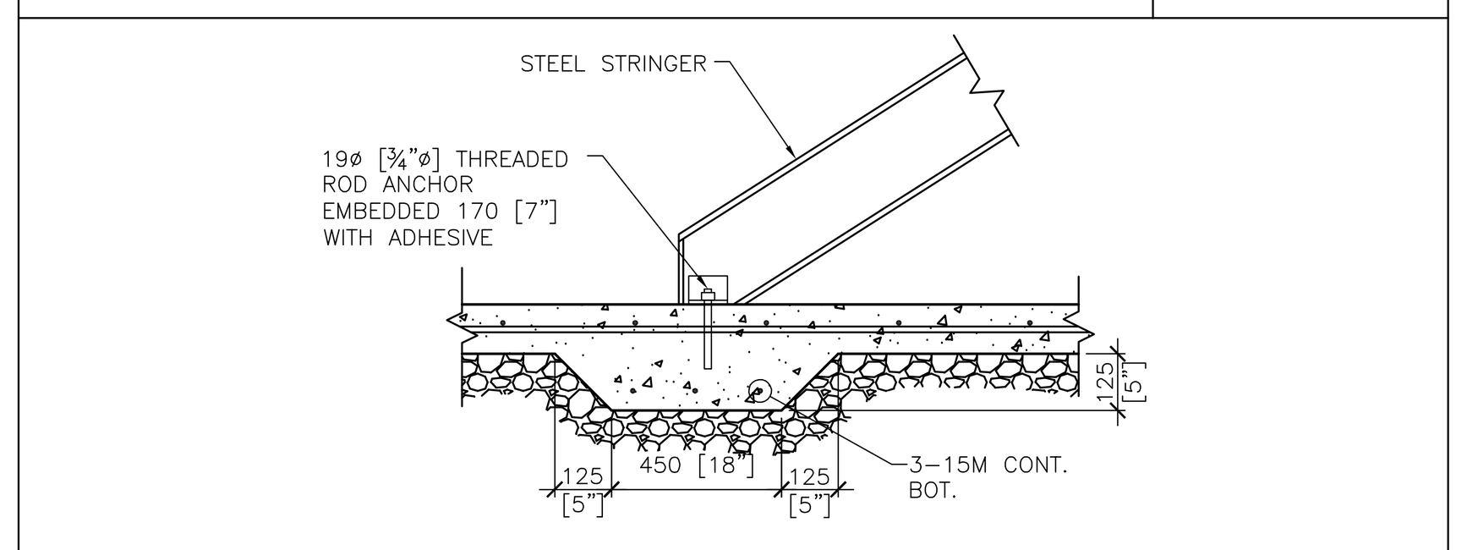
HOUSEKEEPING PAD — CF10 P



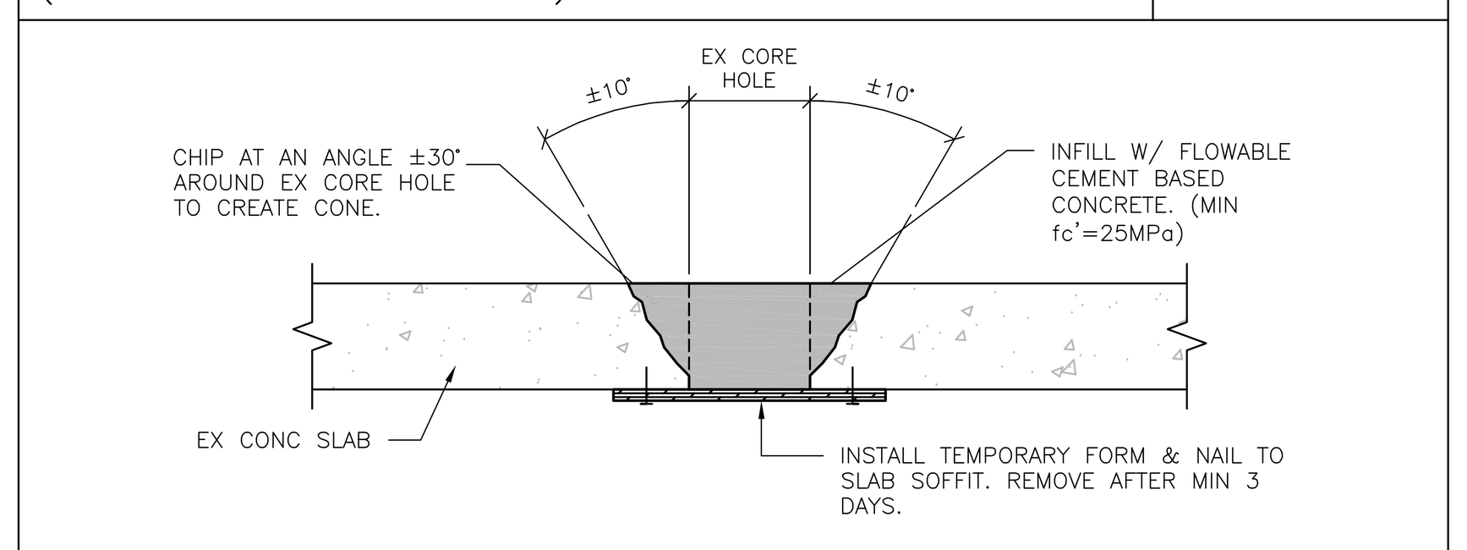
SLAB ON GRADE THICKENING BELOW MASONRY WALLS — CF11



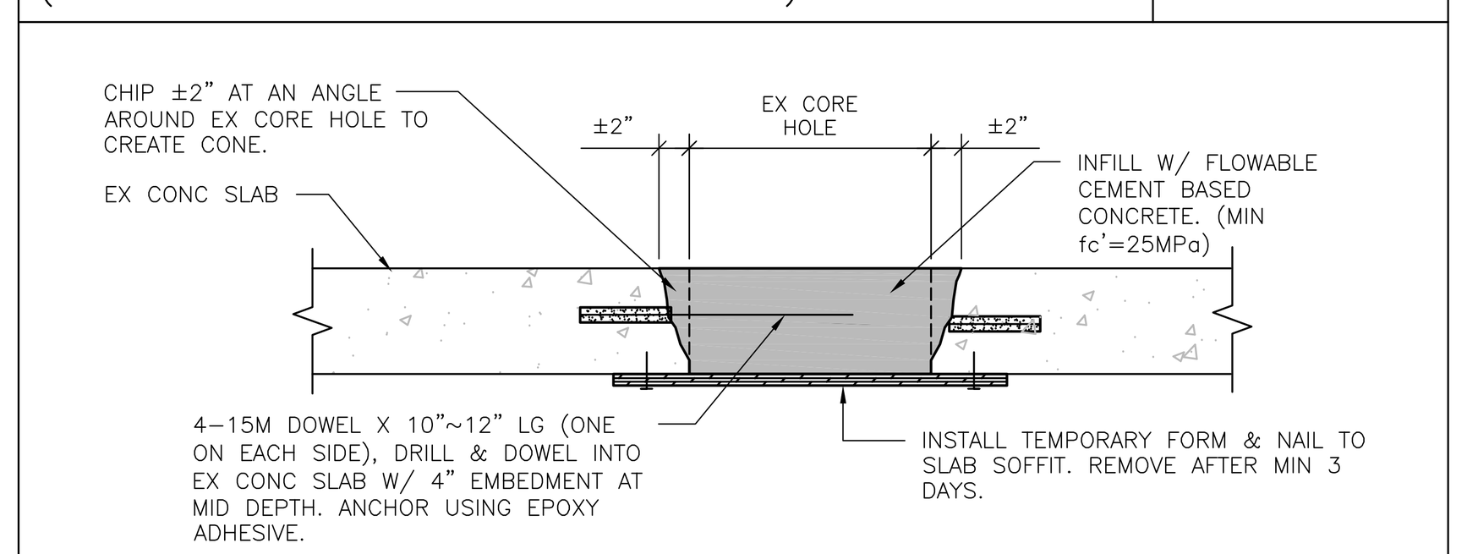
SLAB ON GRADE THICKENING AT STEEL STAIRS — CF13



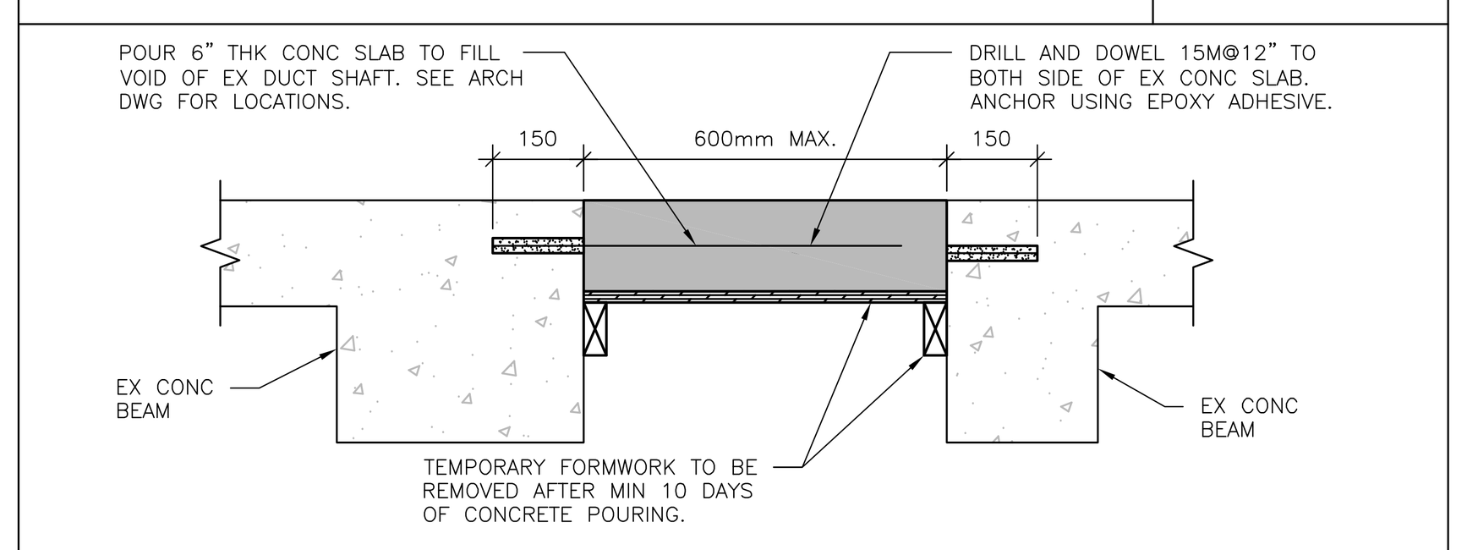
INFILL EXISTING CORE HOLE (UP TO ø200mm MAX) — CF38 P



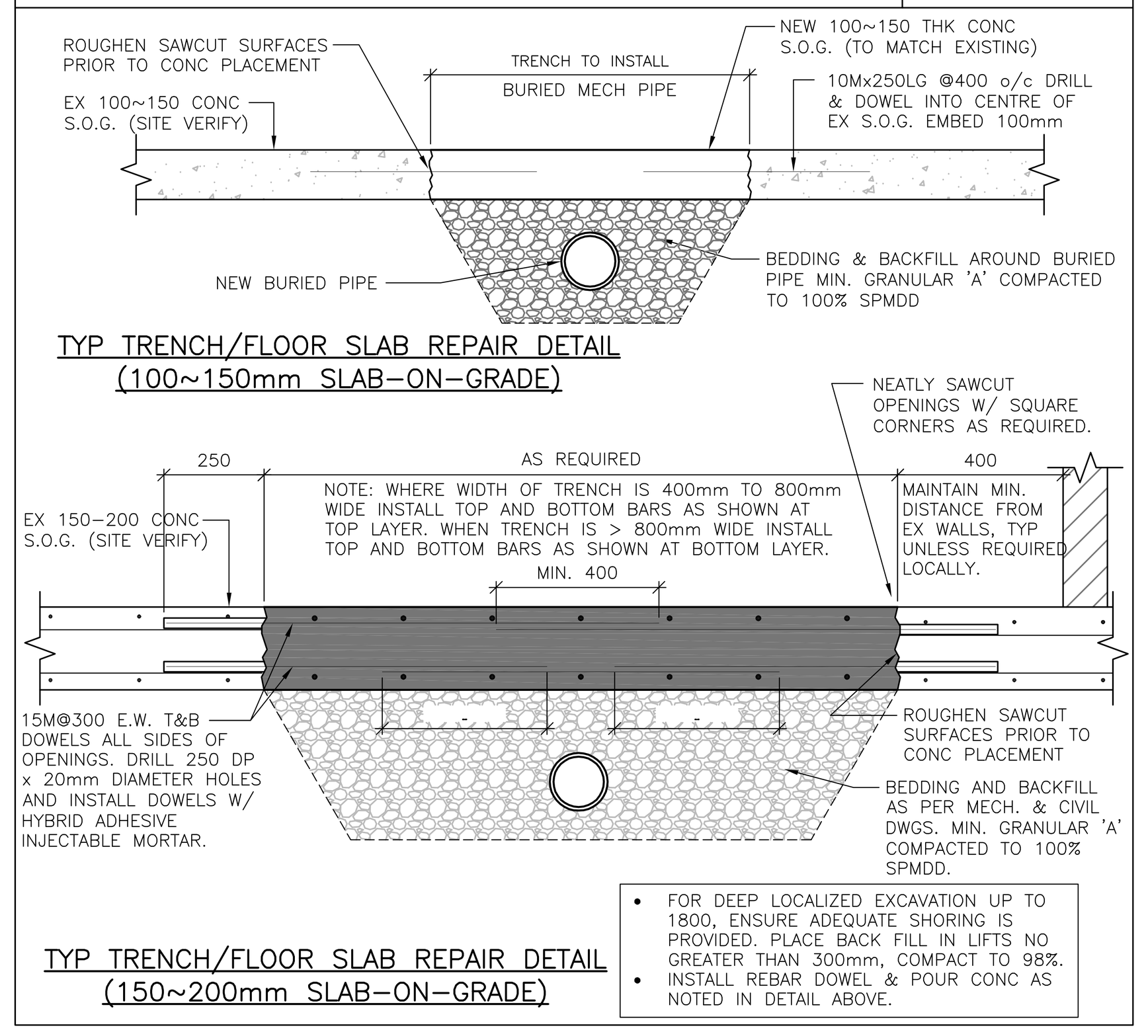
INFILL EXISTING CORE HOLE (ø200mm UP TO ø400mm MAX) — CF39 P



INFILL EXISTING DUCT SHAFT — CF40 P

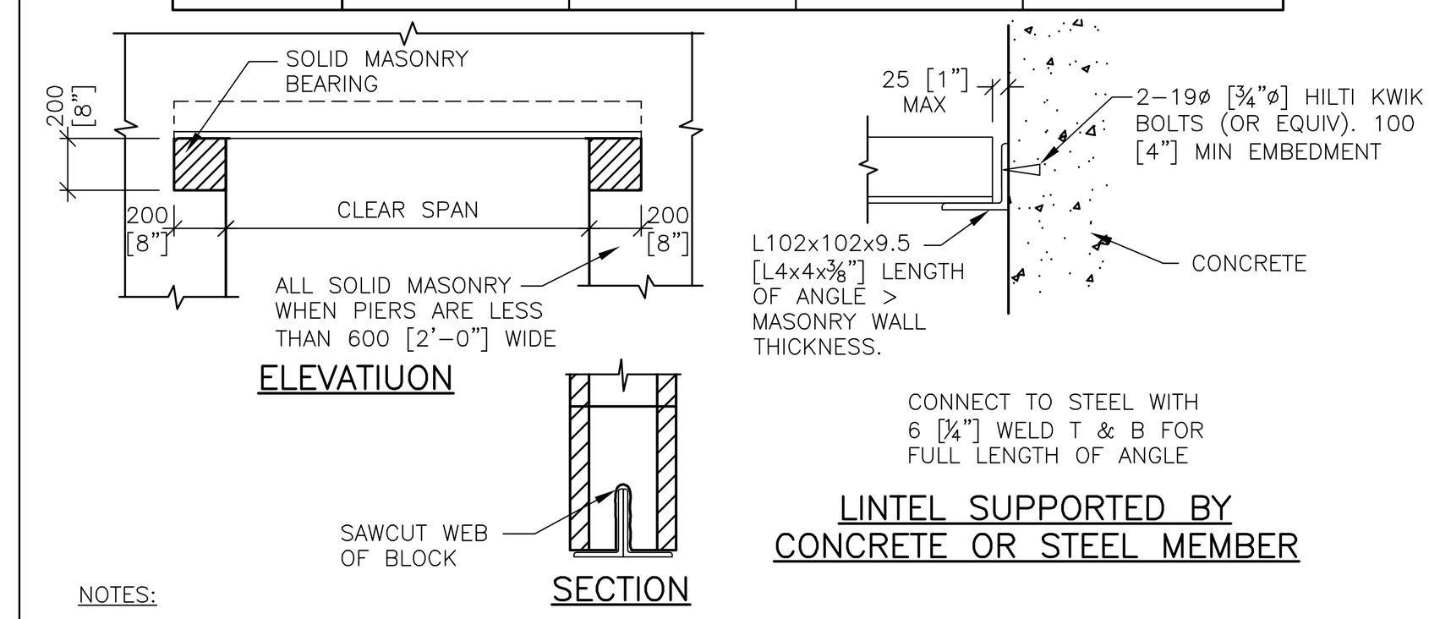


NEW TRENCH IN EXISTING SLAB — CF41 P



STEEL LINTELS FOR MASONRY WALLS (UNO) — M07

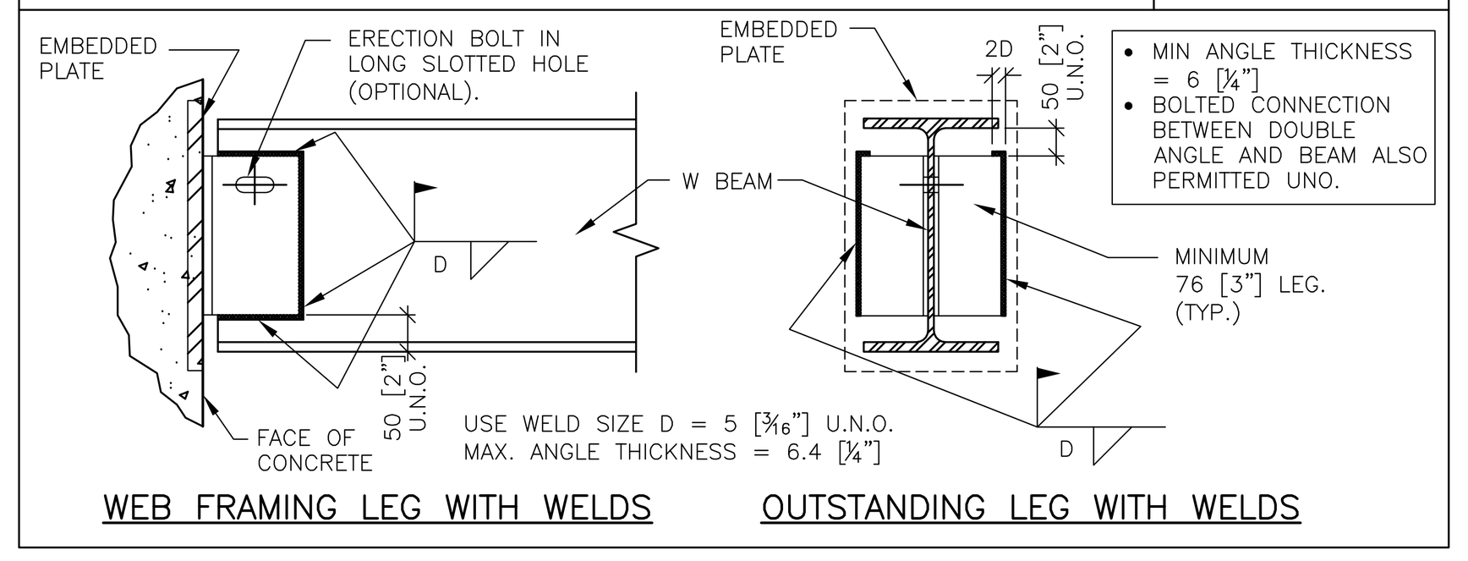
WALL THICKNESS	CLEAR SPAN UP TO 1800 UP TO [6'-0]	CLEAR SPAN 1800 TO 2400 [6'-0] TO [8'-0]	CLEAR SPAN 2400 TO 3000 [8'-0] TO [10'-0]	DETAIL
90 [3½"] VENEER	1-L102x89x7.9 [1-L4"x3½"x5/16"]	1-L127x89x7.9 [1-L5"x3½"x5/16"]	1-L127x89x9.5 [1-L5"x3½"x3/8"]	
140 [5½"]	2-L89x64x7.9 [2-L3½"x2½"x5/16"]	2-L89x64x7.9 [2-L3½"x2½"x5/16"]	2-L89x64x9.5 [2-L3½"x2½"x3/8"]	64 [2½"] LEGS HORIZ
190 [7½"]	2-L89x89x7.9 [2-L3½"x3½"x5/16"]	2-L102x89x7.9 [2-L4"x3½"x5/16"]	2-L127x89x7.9 [2-L5"x3½"x5/16"]	89 [3½"] LEGS HORIZ
240 [9½"]	1-L102x102x7.9+ 1-L127x76x7.9 [1-L4"x4"x5/16"+ 1-L5"x3"x5/16"]	1-L102x102x7.9+ 1-L127x89x7.9 [1-L4"x4"x5/16"+ 1-L5"x3½"x5/16"]	1-L102x152x7.9+ 1-L127x127x7.9 [1-L4"x6"x5/16"+ 1-L5"x5"x5/16"]	102 [4"] &127 [5"] LEGS HORIZ
290 [11½"]	3-L89x89x7.9 [3-L3½"x3½"x5/16"]	3-L102x89x7.9 [3-L4"x3½"x5/16"]	3-L127x89x7.9 [3-L5"x3½"x5/16"]	



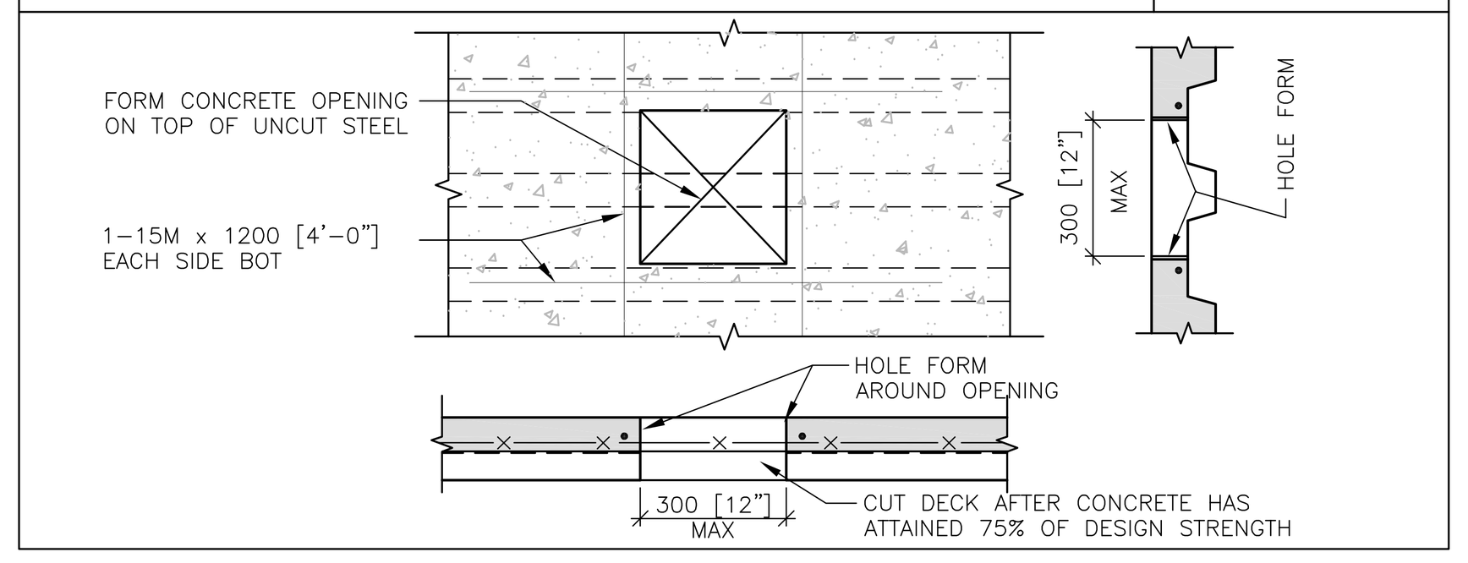
NOTES:

1. BOLT DOUBLE ANGLES BACK TO BACK USING 16ø [5/8"ø] BOLTS @450 [18"] O/C OR PROVIDE 6x50 [1/4"x2"] LONG WELDS @450 [18"] O/C TOP AND BOTTOM. DISTANCE FROM END OF LINTEL TO FIRST BOLT OR WELD IS 75 [3"].
2. PROVIDE STEEL PACKING PLATES TO ENSURE EVEN BEARING.
3. AS AN ALTERNATE TO USING STEEL LINTELS, BLOCK LINTELS MAY BE USED PER DETAIL M11.

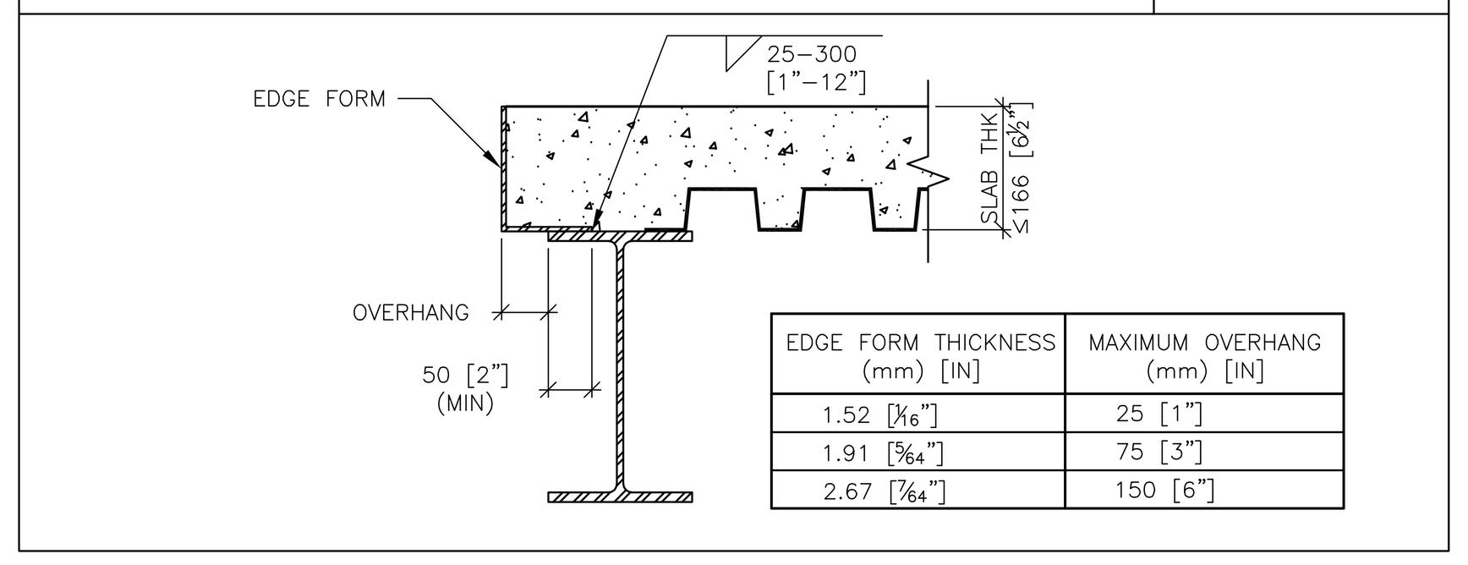
W-BEAM TO EMBEDDED PLATE CONNECTION — S03



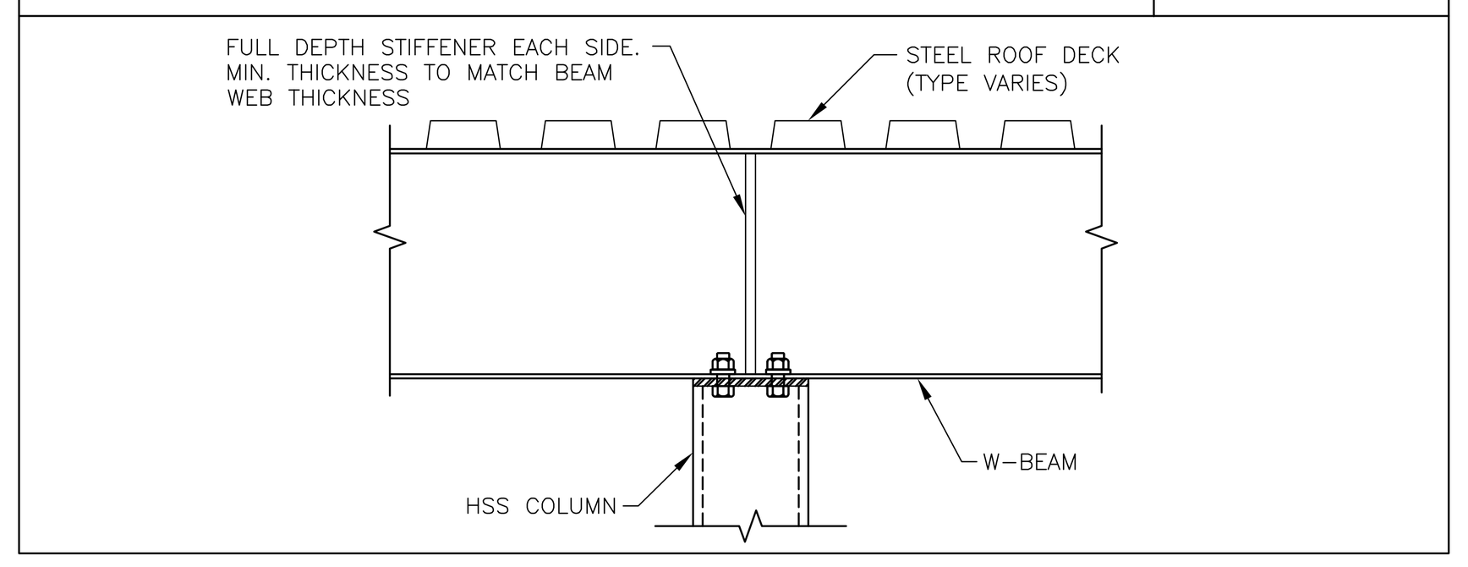
SMALL OPENING AT CONCRETE ON STEEL DECK — S05



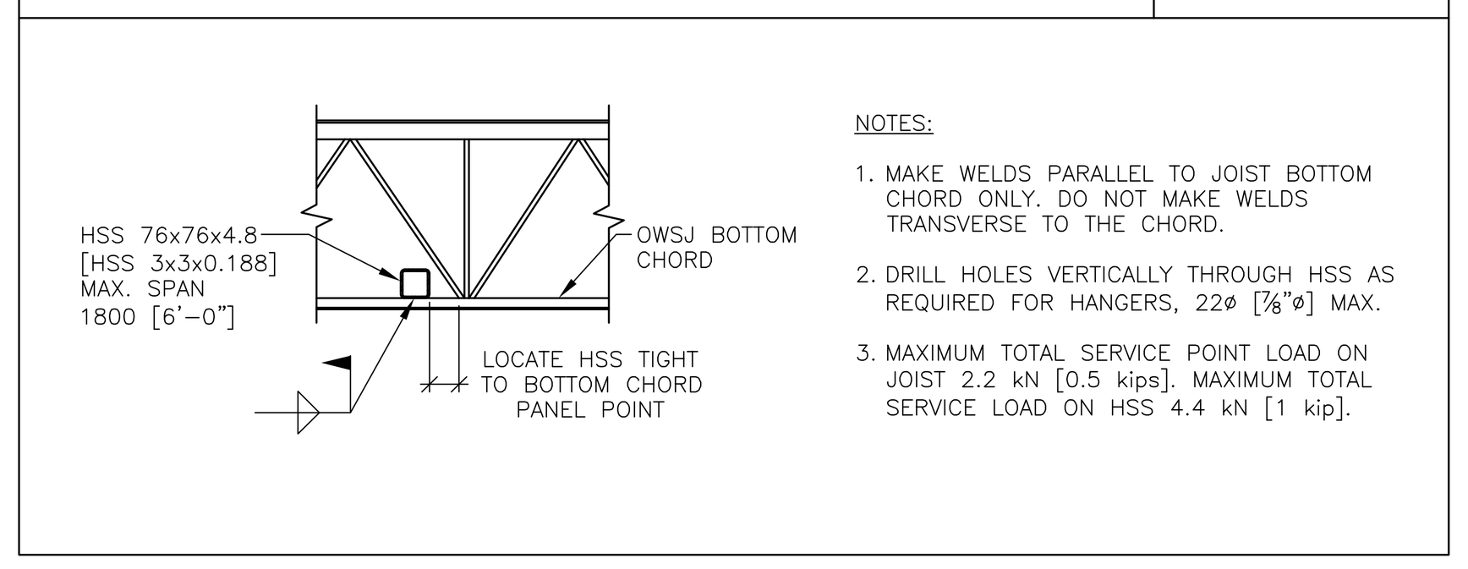
CONCRETE ON STEEL DECK EDGE FORM — S07



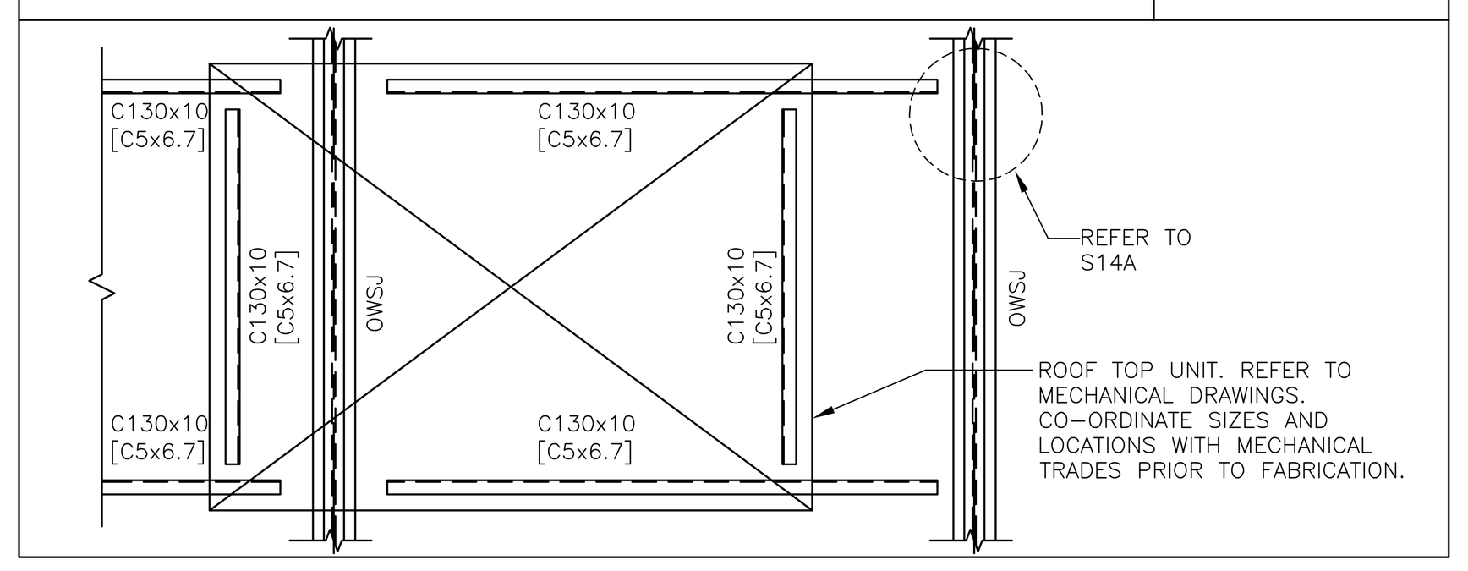
CANTILEVER BEAM — S10



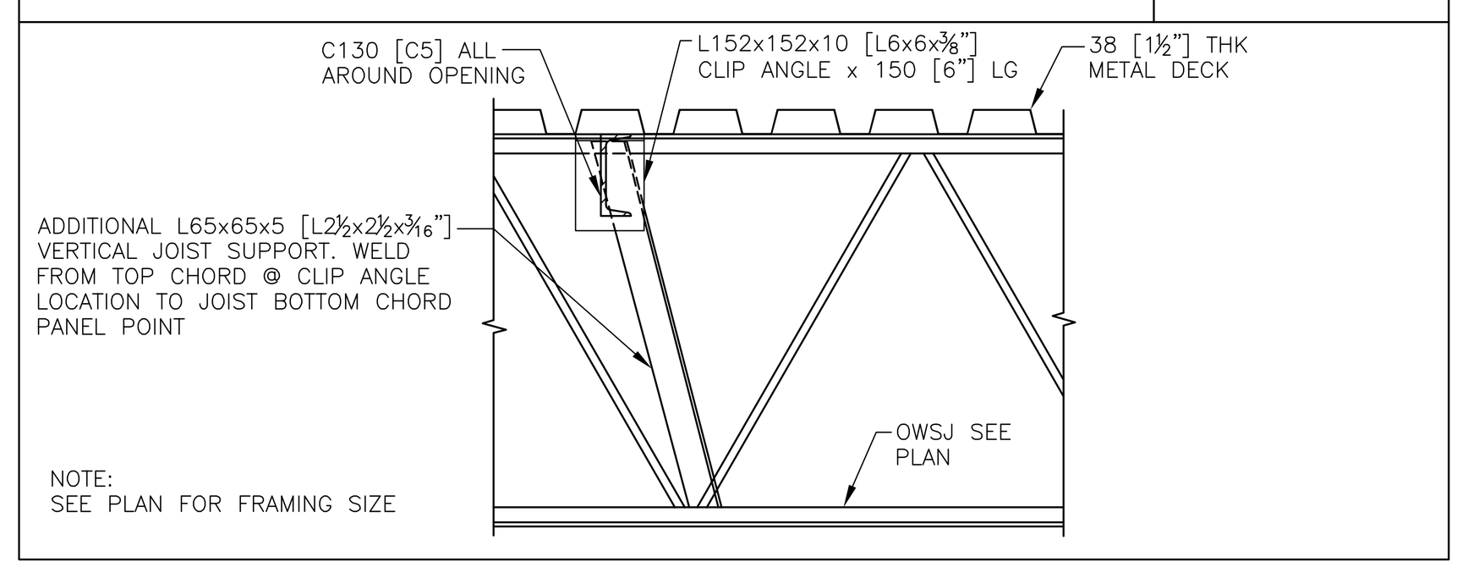
SUPPORT FOR MECHANICAL HANGER RODS — S12



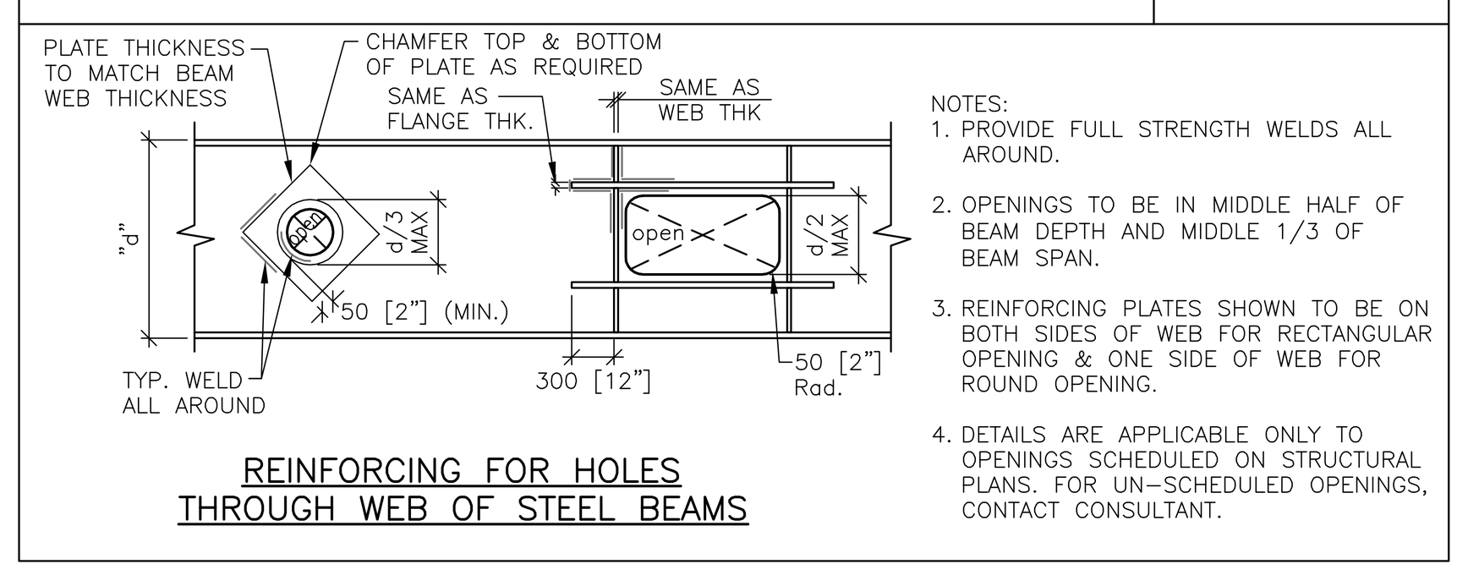
TYPICAL ROOF TOP UNIT SUB-FRAMING — S14



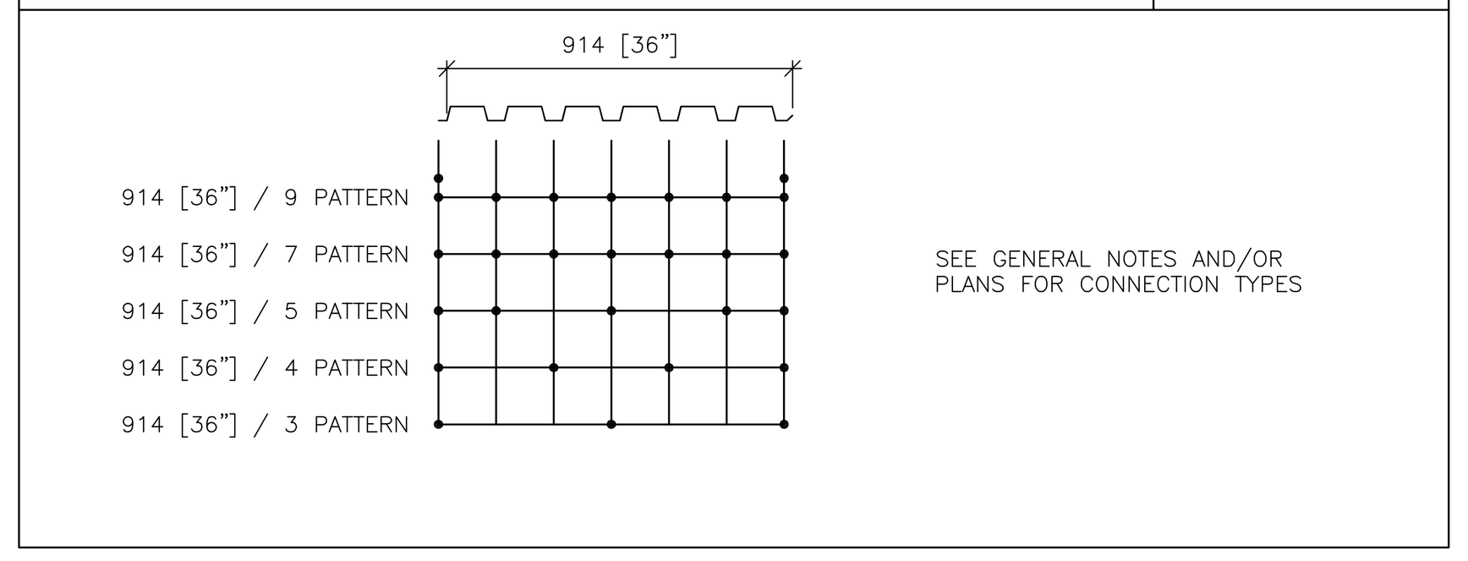
CLIP ANGLE CONNECTION AT OWSJ — S14A



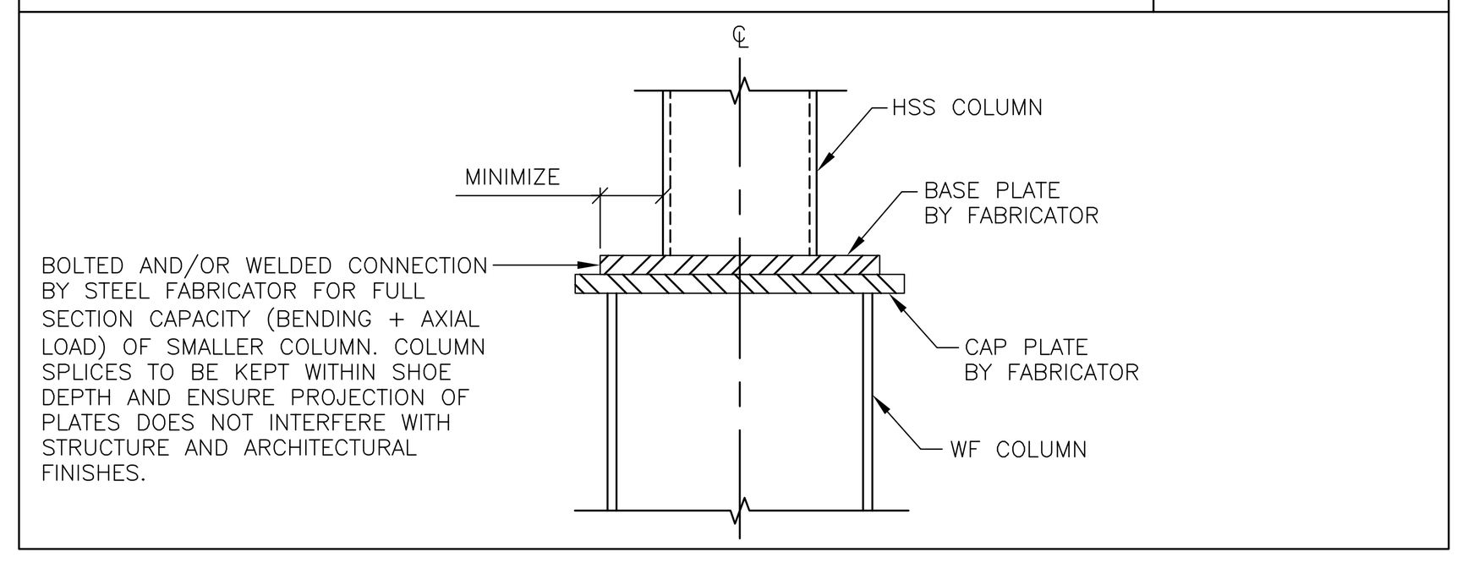
PUNCH HOLE DETAILS — S16



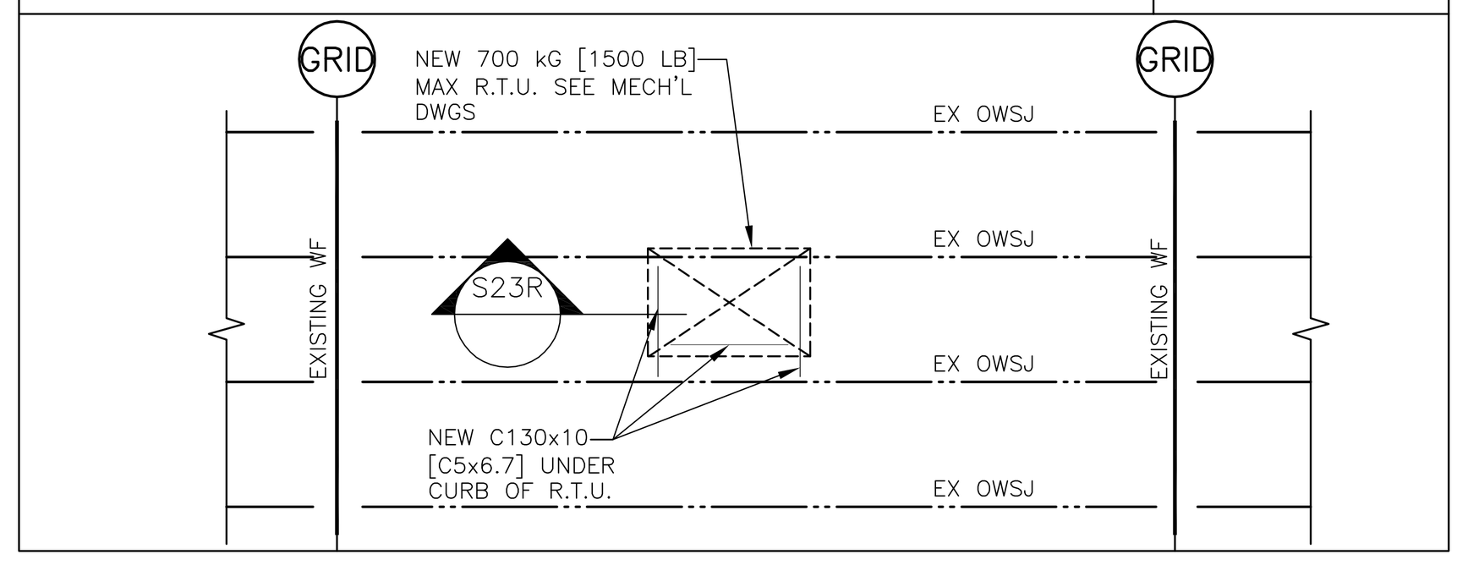
STEEL DECK DIAPHRAGM CONNECTION PATTERNS — S19



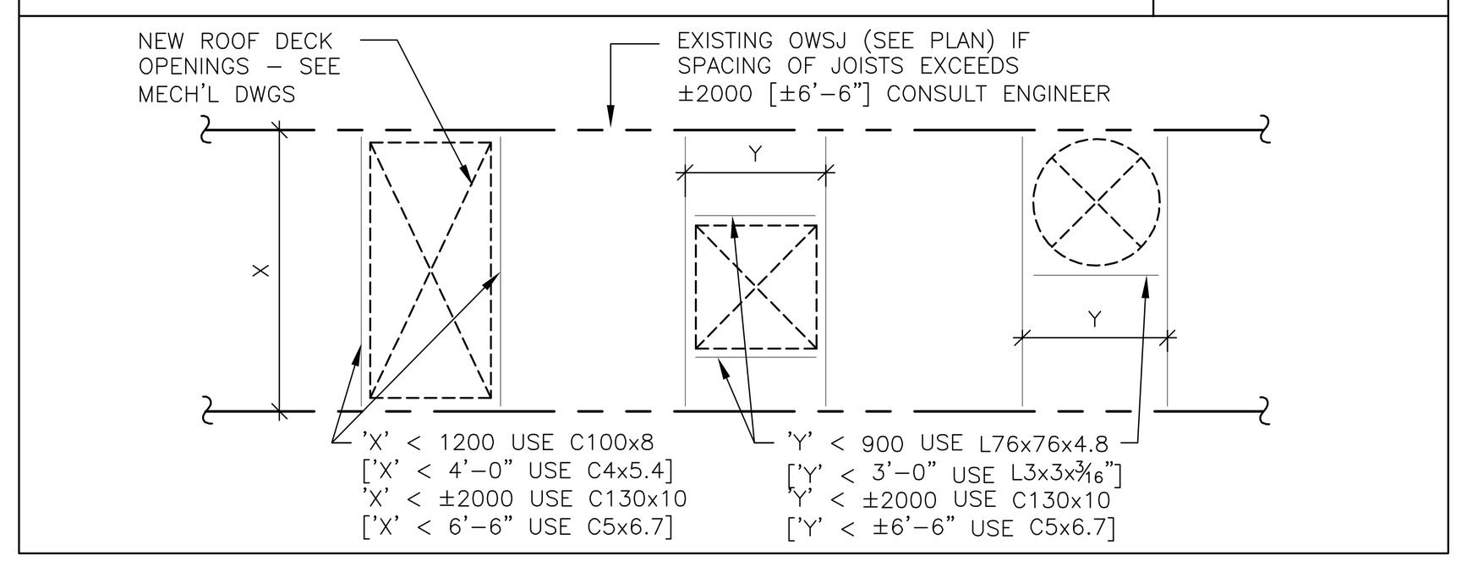
COLUMN SPLICE DETAIL — S20



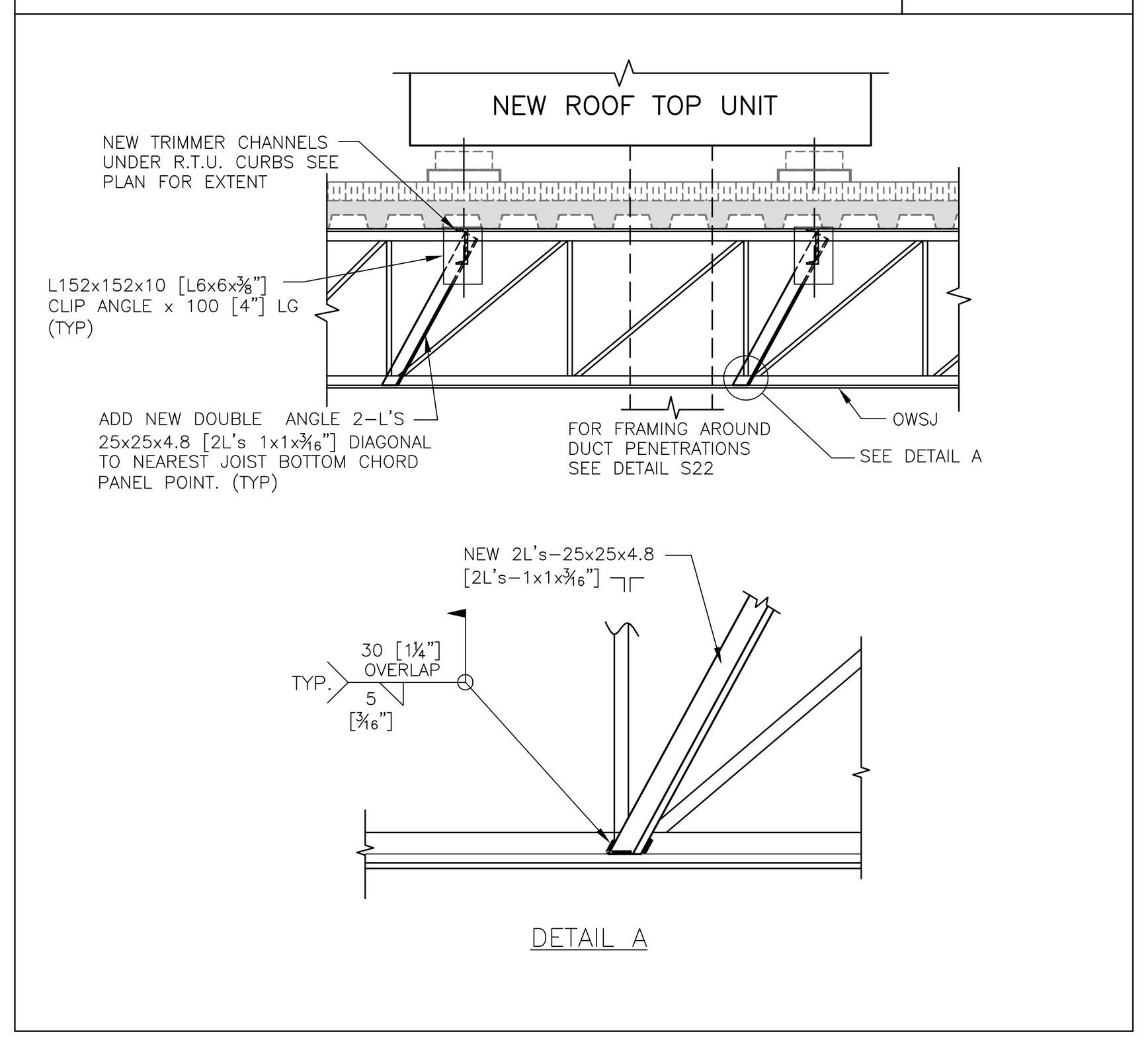
PART ROOF FRAMING PLAN AT NEW MECHANICAL ROOF TOP UNIT — S21



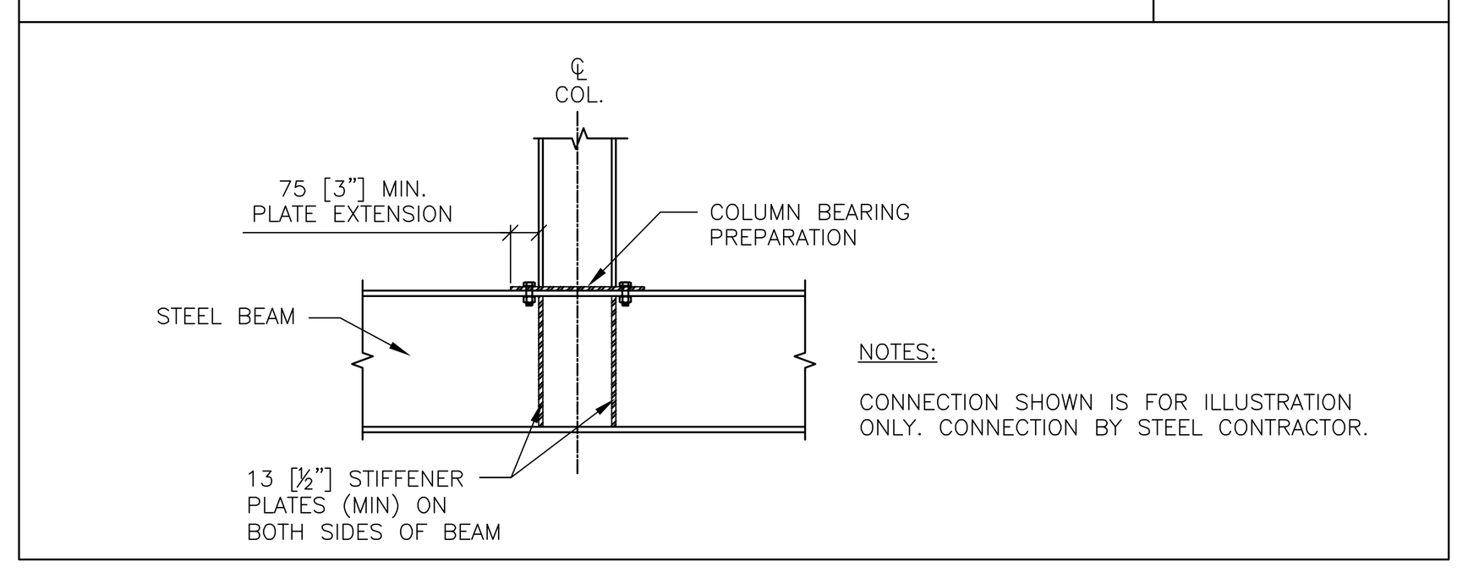
FRAMING OPENINGS THROUGH DECK — S22



SECTION THROUGH ROOF TOP UNIT — S23 R



STEEL COLUMN TRANSFER TO STEEL BEAM — S27



ABBREVIATIONS

ALT	ALTERNATING	LG	LONG
AFF	ABOVE FINISHED FLOOR	LLBB	LONG LEG BACK TO BACK
A.BOLT	ANCHOR BOLT	LLH	LONG LEG HORIZONTAL
ARCH	ARCHITECTURAL	LLV	LONG LEG VERTICAL
ASL	ACCUMULATED SNOW LOAD	LP	LOW POINT
BCE	BOTTOM CHORD EXTENSION	LSH	LONG SIDE HORIZONTAL
BEW	BOTTOM EACH WAY	LSV	LONG SIDE VERTICAL
BOT	BOTTOM	MAX	MAXIMUM
BTWN	BETWEEN	MECH	MECHANICAL
BLL	BOTTOM LOWER LAYER	MC	MOMENT CONNECTION
BUL	BOTTOM UPPER LAYER	Mf	FACTORED MOMENT
B.PL	BASE PLATE	MID	MID-DEPTH
CA	COLUMN ABOVE	MIN	MINIMUM
CANT	CANTILEVER	MRF	MOMENT RESISTING FRAME
CB	COLUMN BELOW	NTS	NOT TO SCALE
C/C	CENTRE TO CENTRE	O/C	ON CENTRE
Cf	FACTORED COMPRESSION FORCE	O.D.	OUTSIDE DIAMETER
CJ	CONTROL JOINT	O.F.	OUTSIDE FACE
CJP	COMPLETE JOINT PENETRATION	O/O	OUT TO OUT
CO	CLEANOUT	OPP	OPPOSITE
COL	COLUMN	OWSJ	OPEN WEB STEEL JOIST
CONC	CONCRETE	PA	POST ABOVE
CONN	CONNECTION	PERP	PERPENDICULAR
CONST	CONSTRUCTION	PJP	PARTIAL JOINT PENETRATION
CONT	CONTINUOUS	PL	PLATE
C/W	COMPLETE WITH	PROJ	PROJECTION
DET	DETAIL	PT	POINT
DIA	DIAMETER	PTFE	POLYTETRAFLUOROETHYLENE
DL	DEAD LOAD	R/W	REINFORCED WITH
DO	DITTO	REINF	REINFORCING
DN	DOWN	REM	REMAINDER
DP	DEEP	REV	REVERSE
DWG	DRAWINGS	RHE	RIGHT HAND END
DWLS	DOWELS	SCHED	SCHEDULE
EE	EACH END	SDF	STEP DOWN FOOTING
ELECT	ELECTRICAL	SDL	SUPERIMPOSED DEAD LOAD
ELEV	ELEVATION	SECT	SECTION
EF	EACH FACE	SIM	SIMILAR
EL	ELEVATION	SOG	SLAB ON GRADE
EW	EACH WAY	STGD	STAGGERED
EQ	EQUAL	STRUCT	STRUCTURAL
ES	EACH SIDE	SW	SHEAR WALL
EX	EXISTING	T&B	TOP AND BOTTOM
EXP	EXPANSION	T/O	TOP OF
EXT	EXTERIOR	TEMP	TEMPERATURE
FDN	FOUNDATION	TEW	TOP EACH WAY
FIN	FINISHED	Tf	FACTORED TENSION FORCE
FL	FLOOR		
FTG	FOOTING	TLL	TOP LOWER LAYER
GRND	GROUND	TUL	TOP UPPER LAYER
HCJ	HORIZONTAL CONSTRUCTION JOINT	TYP	TYPICAL
HEE	HOOK EACH END	UNO	UNLESS NOTED OTHERWISE
HEF	HORIZONTAL EACH FACE	U/S	UNDERSIDE
HIF	HORIZONTAL INSIDE FACE	VBF	VERTICAL BRACE FRAME
HP	HIGH POINT	VEF	VERTICAL EACH FACE
HOR	HORIZONTAL	VERT	VERTICAL
I.D.	INSIDE DIAMETER	Vhf	FACTORED HORIZONTAL SHEAR FORCE (IN PLANE W/ FLOOR)
I.F.	INSIDE FACE	Vf	FACTORED SHEAR FORCE
INT	INTERIOR	VIF	VERTICAL INSIDE FACE
INV	INVERT	VOF	VERTICAL OUTSIDE FACE
JT	JOINT	VSC	VERTICAL SLOTTED CONNECTION
LHE	LEFT HAND END	W/	WITH
LL	LIVE LOAD	WP	WORK POINT
		WWF	WELDED WIRE FABRIC

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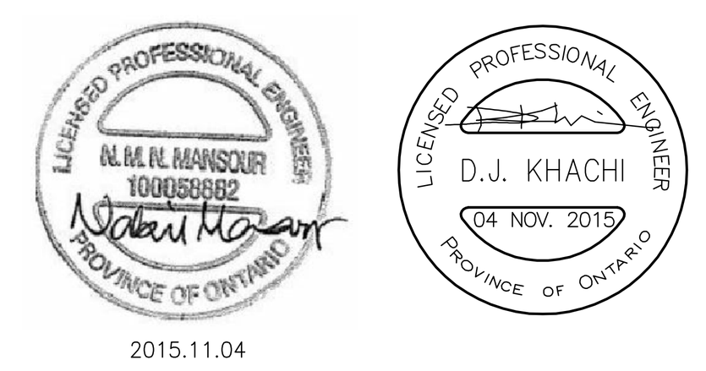

revision	issue	date
1	ISSUED FOR BID	04/11/2015

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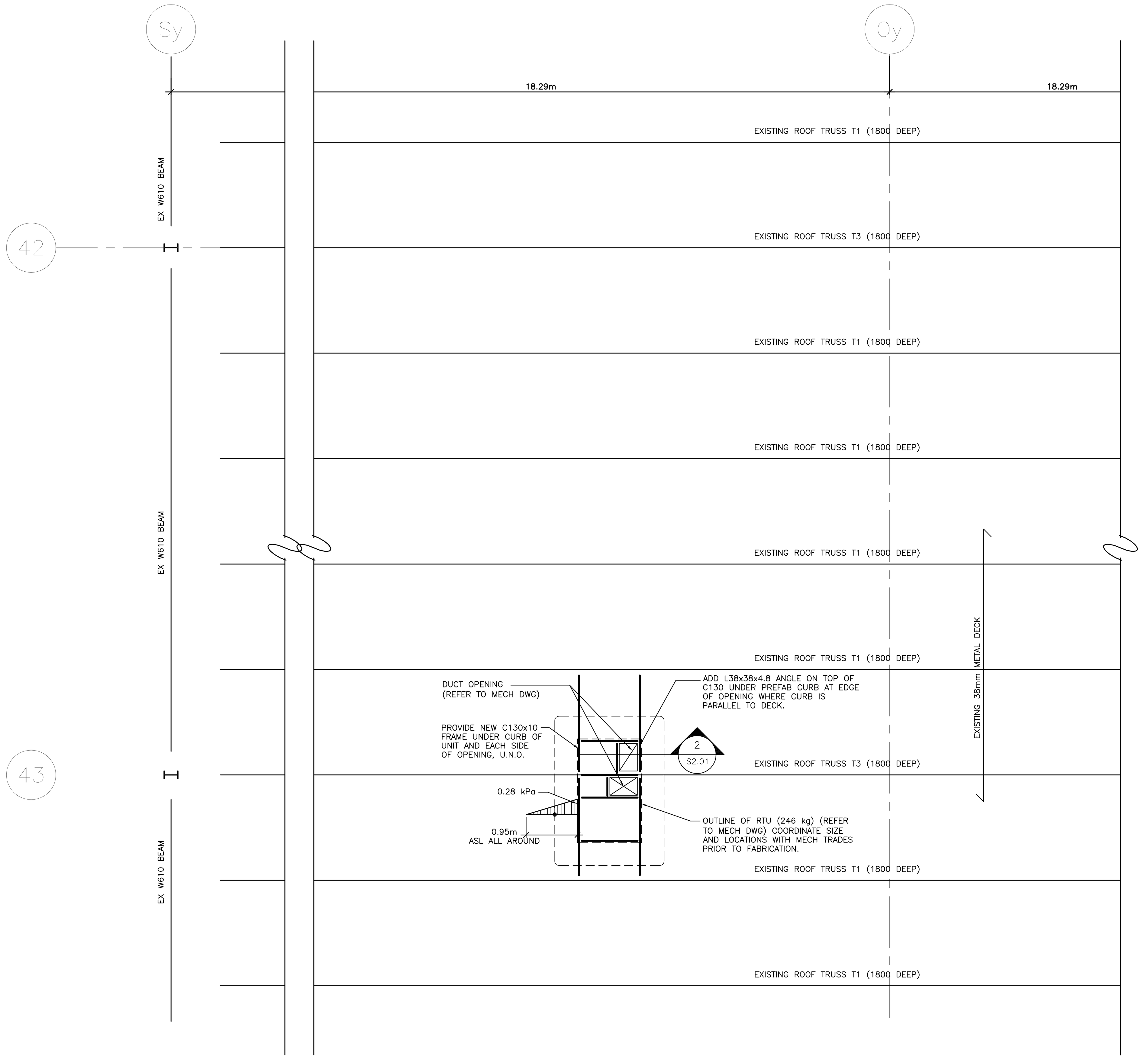
project title / titre du projet
CANADA CENTRE FOR INLAND WATERS
867 LAKESHORE ROAD BURLINGTON, ONTARIO, L7R 4A6
LABS, AHUs, AND HEATING UPGRADE

drawing title / titre du dessin
TYPICAL DETAILS

drawn by / dessine par: DT
designed by / conc par: NM
approved by / approuve par: NM
bid / offre: AM — project manager / administrateur de projets
project date / date du projet: 2015-11-04
project no. / no. du projet: R.073578.001
DIALOG NO. 09946T0200
drawing no. / dessine no.: S1.01



1 S2.01 ROOF RTU FRAMING DETAIL

SCALE: 1:50

ROOF RTU FRAMING NOTES:

1. TOP OF STEEL ELEVATION IS ± 8.0m ABOVE FINISHED GROUND FLOOR.
2. READ THESE DRAWINGS IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE DEPARTMENTAL REPRESENTATIVE PRIOR TO COMMENCING WITH THE AFFECTED WORK. COORDINATE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR THE SIZES AND LOCATIONS OF ALL OPENINGS.
3. DESIGN AND CONSTRUCTION OF THIS PROJECT SHALL COMPLY WITH THE NATIONAL BUILDING CODE NBCC 2010 AND ONTARIO BUILDING CODE 2012, MOST STRINGENT APPLY.
4. CONSTRUCTION METHODS, EQUIPMENT AND ALL OPERATIONS SHALL CONFORM TO ALL APPLICABLE REGULATION, ACTS AND BY–LAWS IN FORCE TO ENSURE THE SAFETY OF THE WORK AND CONTRACTOR'S PERSONAL AND OTHERS AT ALL TIMES.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT, ELEVATIONS, AND ALIGNMENT OF THE WORK AND SHALL VERIFY ALL DIMENSIONS AND DETAILS OF ANY EXISTING STRUCTURES NECESSARY FOR THE PROPER FITTING AND CONNECTING OF THE NEW WORK TO IT. REPORT TO DEPARTMENTAL REPRESENTATIVE ANY DISCREPANCIES AND ALL DOUBTFUL CONDITIONS BEFORE PROCEEDING WITH THE WORK.
6. EXISTING CONDITIONS HAVE BEEN ASSUMED AND/OR OBTAINED FROM AS–BUILT DRAWINGS S1 TO S16, DATED MAY 1973, CREATED BY REID CROWTHER AND PARTNERS LIMITED. REFER IN PARTICULAR TO DRAWINGS S1, S2 AND S4. THESE MAY OR MAY NOT REPRESENT THE ACTUAL SITE CONDITIONS. SITE VERIFY ALL CRITICAL DIMENSIONS PRIOR TO FABRICATING NEW CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE DEPARTMENTAL REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK.
7. EXISTING ROOF IS A 38mm STEEL DECK, DESIGNED FOR DEAD LOAD = 0.58 kPa [12 psf] AND SNOW LOAD = 1.92 kPa [40 psf].
8. EXISTING ROOF DECK AND TRUSS FRAMING ARE ADEQUATE TO SUPPORT LOAD FROM NEW RTU AND ACCUMULATED SNOW PILING LOADS WITHOUT REINFORCEMENT.
9. CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH THE FULL SCOPE OF WORK PRIOR TO SUBMITTING BID.
10. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY BRACING AND SHORING DURING CONSTRUCTION.
11. CONTRACTOR TO NOTIFY DEPARTMENTAL REPRESENTATIVE FOR SITE REVIEW(S) 48 HOURS BEFORE COVERING UP THE WORK.

ADDITIONAL NOTE FOR GROUND FLOOR FRAMING

1. EXISTING GROUND FLOOR SLAB IS DESIGNED FOR LIVE LOAD = 14.4 kPa [300psf]

STRUCTURAL STEEL (REFER TO SPECIFICATIONS):

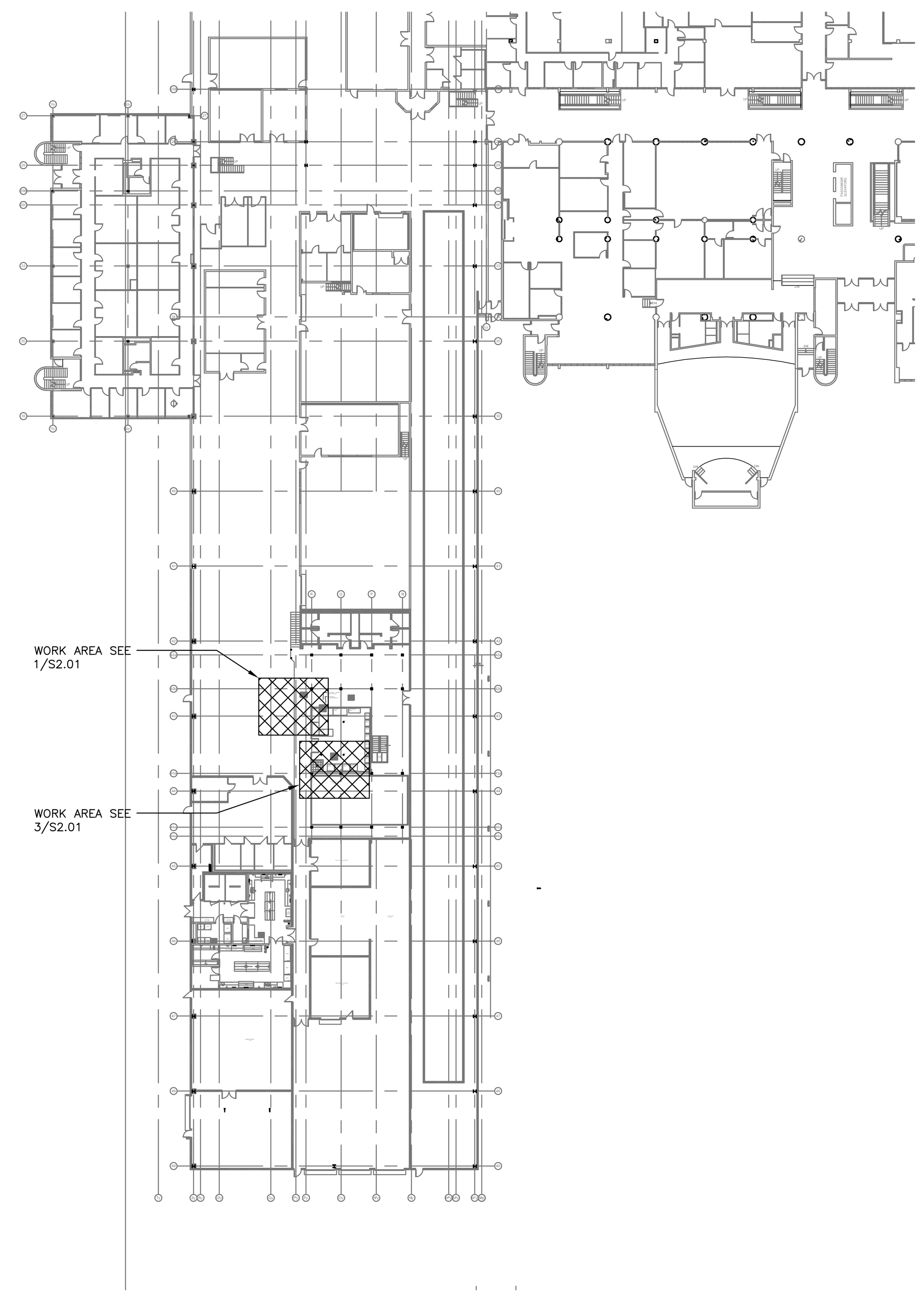
1. STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH CAN/CSA S16–14 AND THE CISC CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL.
2. MATERIAL REQUIREMENTS

CHANNEL, ANGLES AND PLATES:	CAN/CSA G40.20–13/G40.21–13 GRADE 300W
W SHAPES:	CAN/CSA G40.20–13/G40.21–13 GRADE 350W
BOLTS ASSEMBLY:	REFER TO NOTE {3}

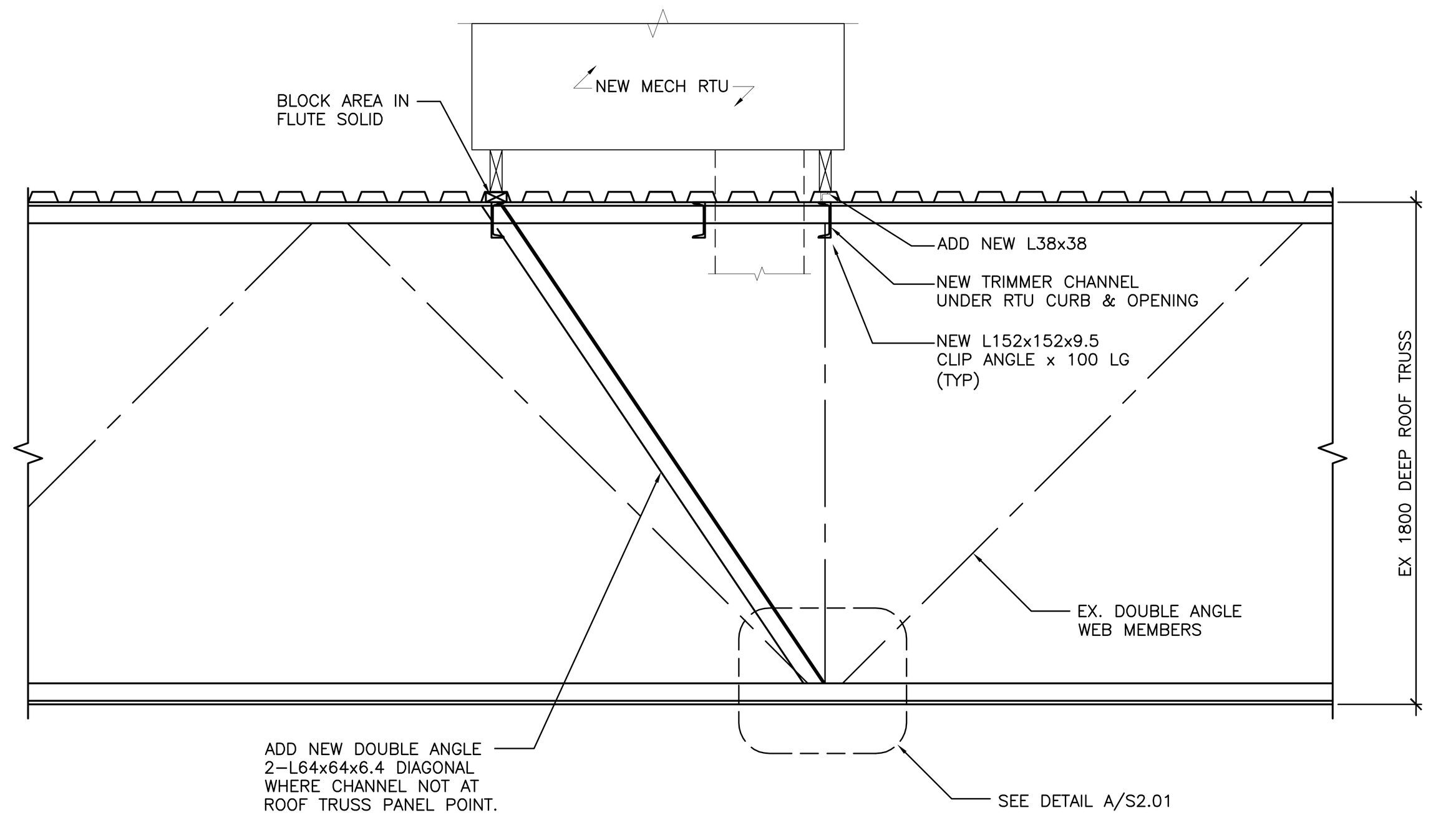
3. BOLTS, NUTS, AND WASHERS AS FOLLOWS:

BOLTS:	ASTM A325–10E1
NUTS:	ASTM A563–07a(2014)
WASHERS:	ASTM F436M–11.
FINISH:	PLAIN, UNCOATED.

4. PROVIDE SHOP–APPLIED PRIMER IN ACCORDANCE WITH ASTM A780/A780M–09 AND CAN/CGSB 1.40–97 AND TOUCH UP AFTER ERECTION.
5. WELDING SHALL CONFORM TO CURRENT CSA W59–13. WELD SIZES INDICATED ON DRAWINGS AND BASED ON E49XX ELECTRODES. FABRICATOR MUST BE CERTIFIED TO CSA W47.1–09.
6. MAKE ADEQUATE PROVISION FOR ERECTION LOADS AND PROVIDE SUFFICIENT TEMPORARY BRACING.
7. NO SPLICING WILL BE PERMITTED UNLESS OTHERWISE NOTED ON STRUCTURAL DRAWINGS.
8. ALL CONNECTIONS SHALL BE DESIGNED FOR FULL STRENGTH OF THE MEMBER UNLESS MEMBER CONNECTION LOADS ARE SHOWN ON THE DRAWINGS.
9. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BEFORE PROCEEDING WITH FABRICATION. SHOP DRAWINGS SHOWING CONNECTIONS DETAILS DESIGNED BE THE FABRICATOR ARE TO BE STAMPED BY A PROFESSIONAL ENGINEER.
10. THE QUALITY ASSURANCE INSPECTOR WILL REVIEW 100% VISUAL OF FIELD WELDS AND WORKMANSHIP. QUALITY ASSURANCE TESTING SHALL BE PERFORMED BY A TECHNICIAN CERTIFIED BY CSA AND PAID FOR BY THE CLIENT.

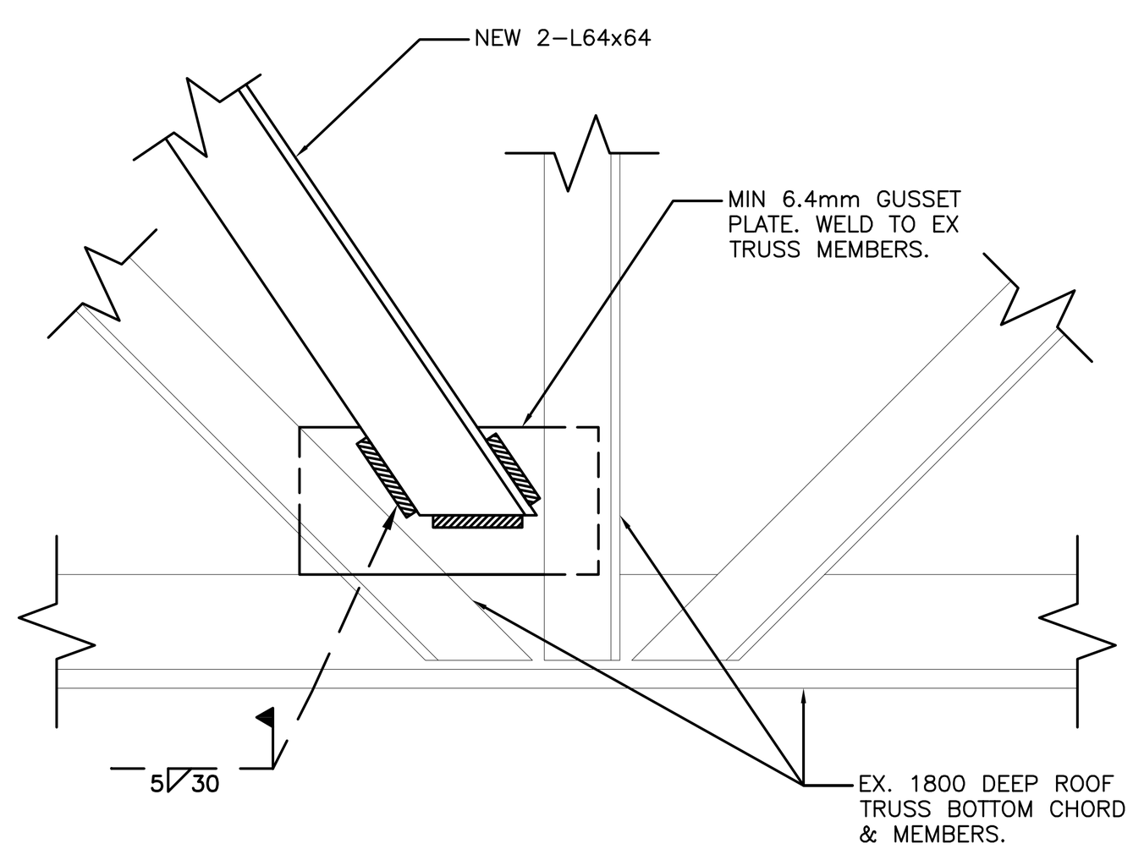


KEY PLAN



2 S2.01 SECTION

SCALE: 1:20



A S2.01 DETAIL A

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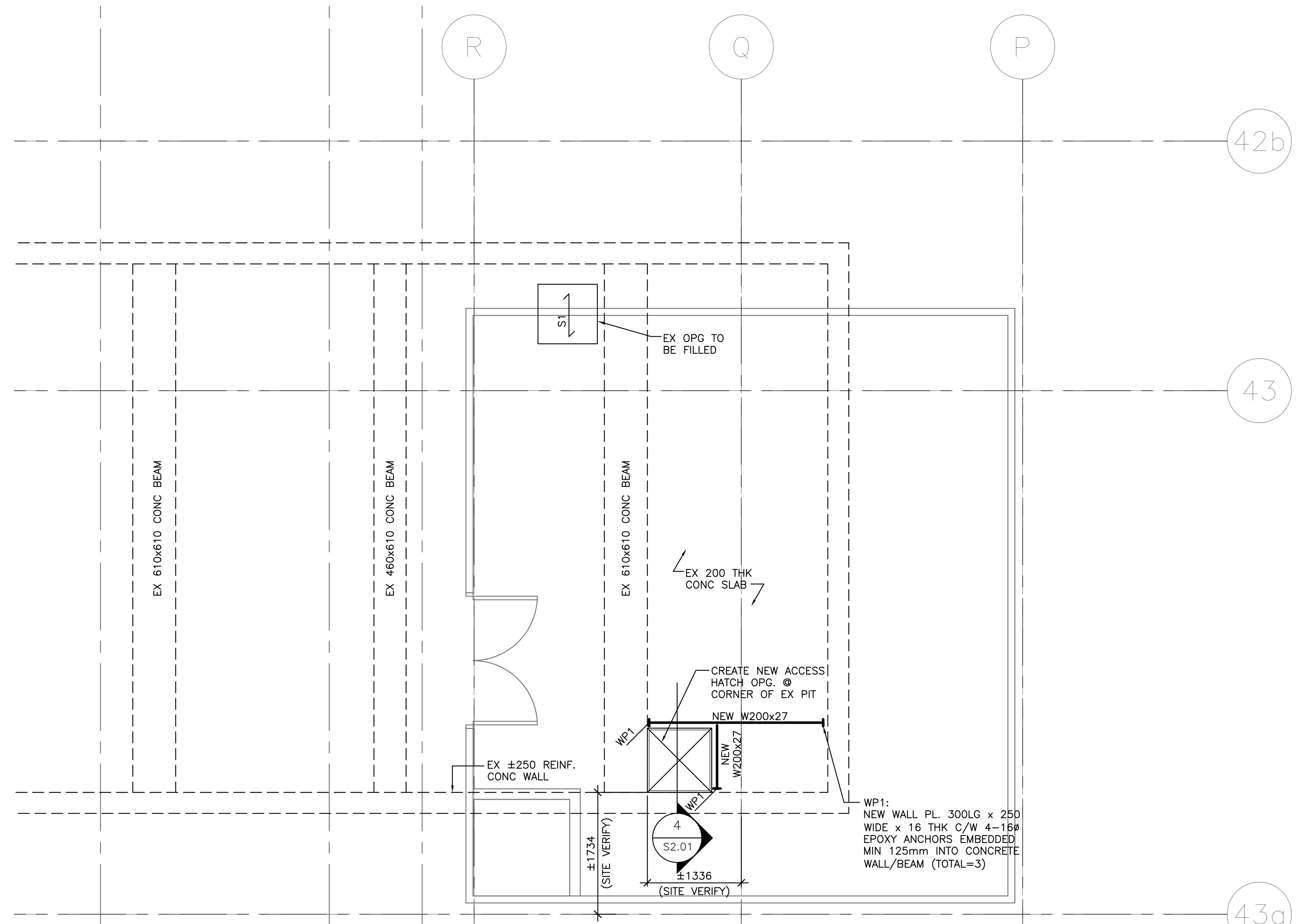
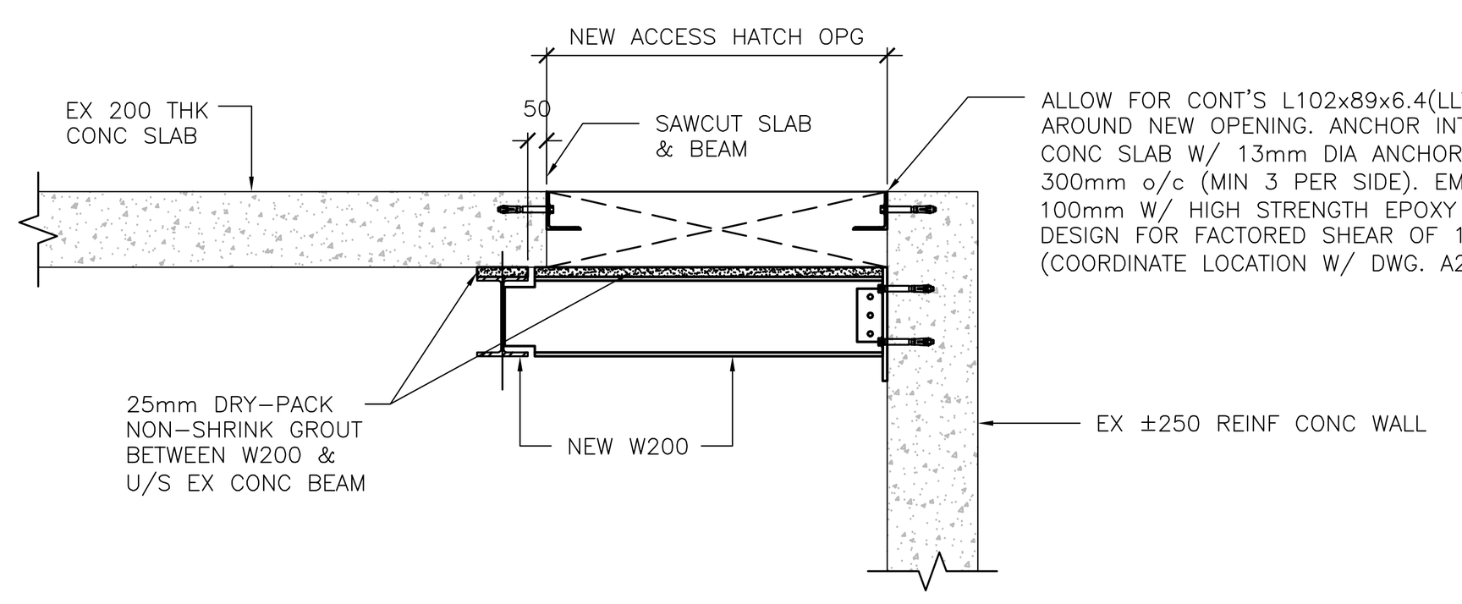


S1: INFILL EX FLOOR HATCH OPG. PROVIDE NEW 62mm CONC ON COMPOSITE 38mm STEEL DECK (22ga). REINFORCE SLAB WITH ONE LAYER OF WWF 152x152 MW18.7xMW18.7 PLACED & CHAIRED SECURELY AT 25mm FROM TOP OF SLAB. PROVIDE CONT'S L102x89x6.4(LLV) ALL AROUND. ANCHOR INTO EX CONC SLAB WITH 13mm DIA. ANCHOR RODS @ 300mm o/c (MIN 3 PER SIDE). EMBED 100mm WITH HIGH STRENGTH EPOXY ADHESIVE. DESIGN FOR FACTORED SHEAR OF 15kN.

3 S2.01 GROUND FLOOR OPENING FRAMING PLAN

SCALE: 1:50



CONTRACTOR NOTE!

DO NOT DRILL THROUGH ANY REINFORCING STEEL OR CONDUIT WITHIN THE EXISTING SLAB/BEAM. SCANNING AND/OR X–RAY EXISTING SLAB/BEAM IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL SUBMIT FOR REVIEW CONSTRUCTION METHODOLOGY COVERING THE SCANNING / X–RAY PROCESS & PROTOCOL TO ENSURE EMBEDDED SERVICES OR REBAR ARE NOT DISTURBED.

4 S2.01 SECTION

SCALE: 1:20

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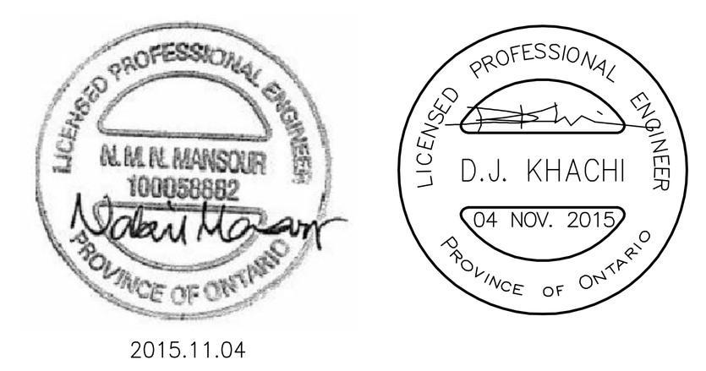

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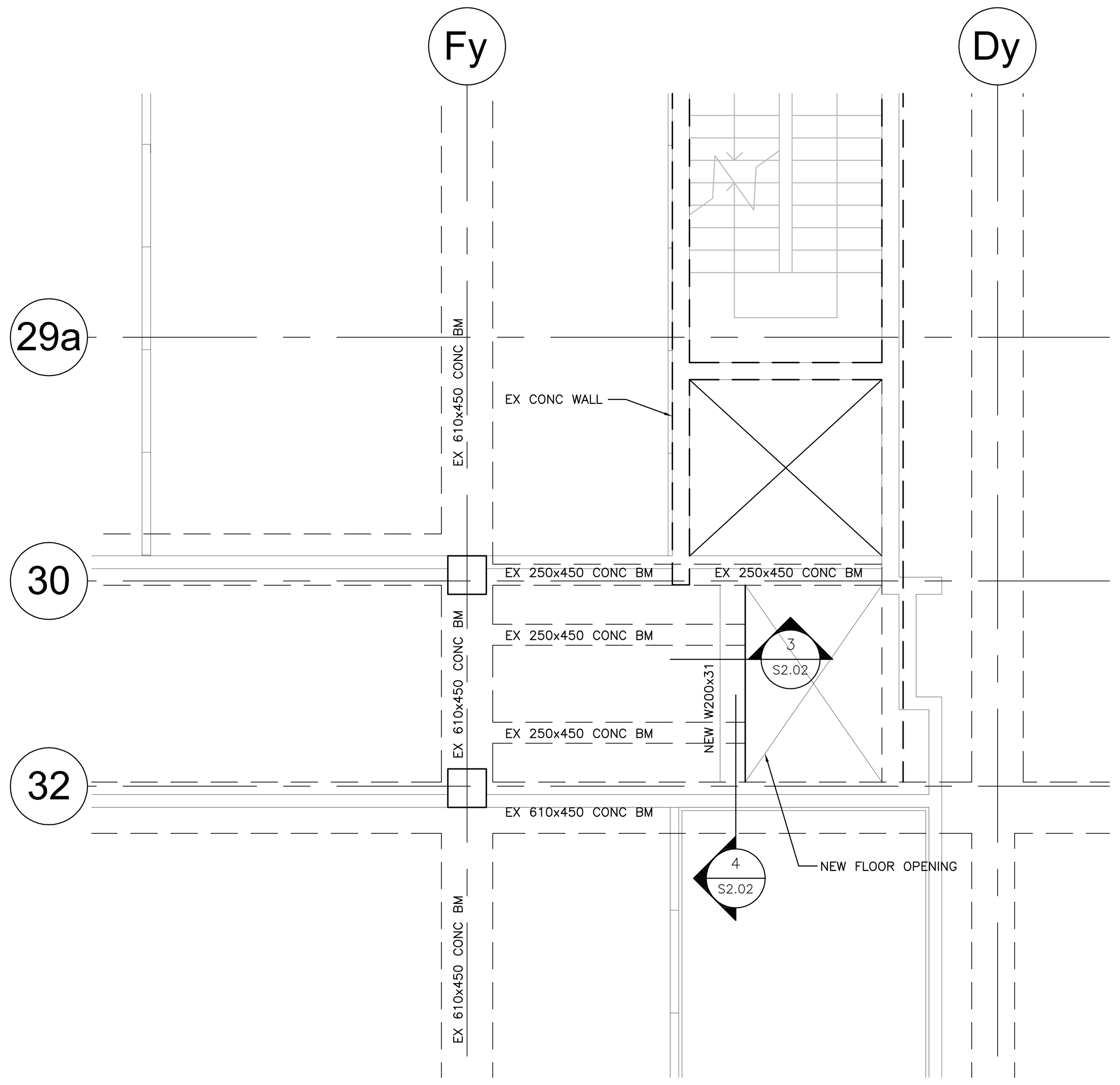
drawing title / titre du dessin
HYDRAULICS WING RTU FRAMING PLAN

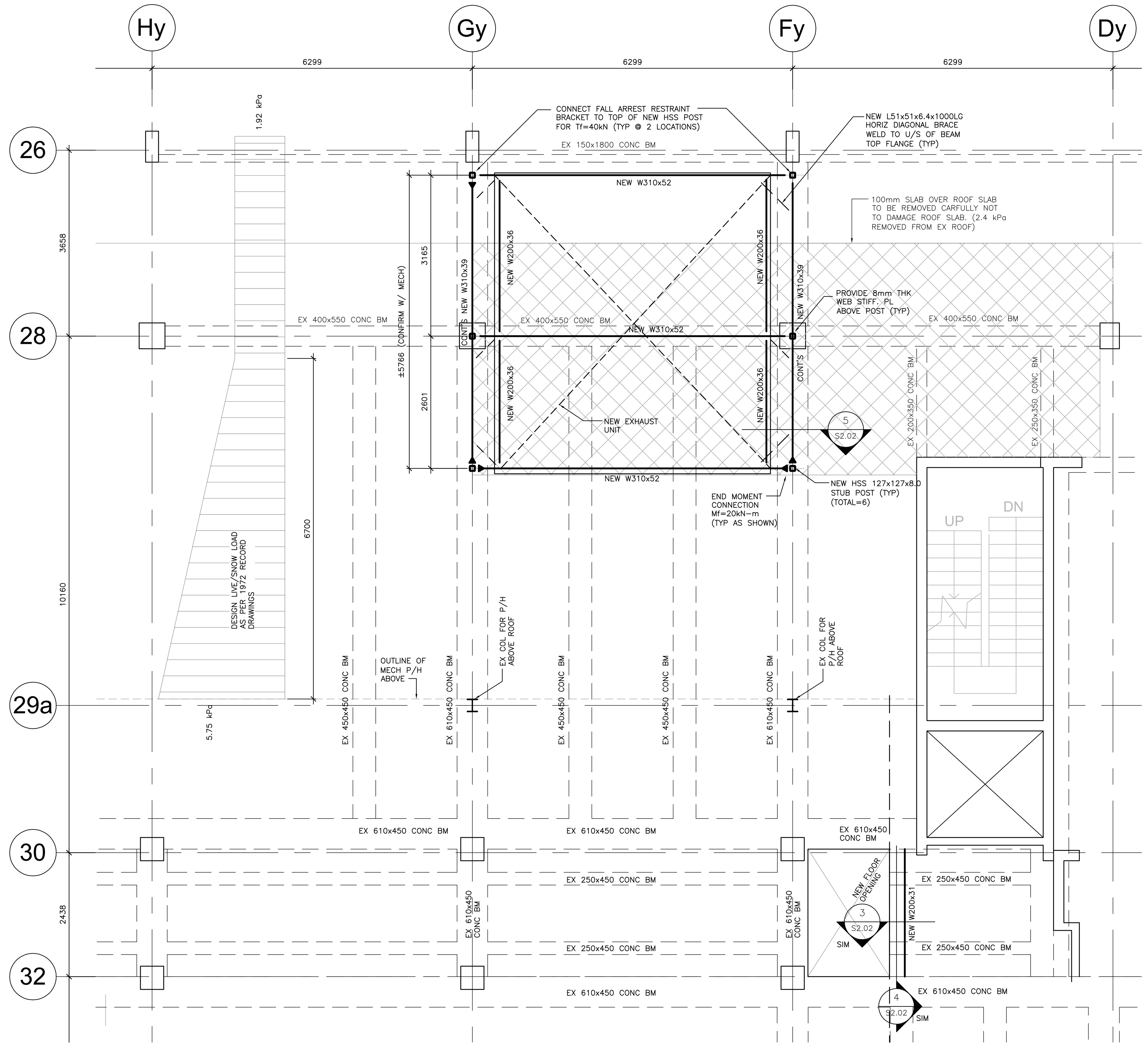
drawn by / dessiné par	DT
designed by / conc par	NM
approved by / approuvé par	NM
bid / offre	AM
project date / date du projet	2015–11–04
project no. / no. du projet	R.073578.001 DIALOG NO. 09946T0200
drawing no. / dessine no.	S2.01

project manager / administrateur de projets



1 TYPICAL PART 5TH TO 7TH FLOOR FRAMING PLAN
S2.02 SCALE: 1:50

1. PLAN INDICATES TYPICAL FRAMING AROUND NEW MECHANICAL SHAFT OPENING.
2. READ THESE DRAWINGS IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE DEPARTMENTAL REPRESENTATIVE PRIOR TO COMMENCING WITH THE AFFECTED WORK. COORDINATE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR THE SIZES AND LOCATIONS OF ALL OPENINGS.
3. TYPICAL EXISTING FLOOR HAS BEEN DESIGNED FOR A LIVE LOAD EQUAL TO:
   - 7.2 kPa [150psf] FOR CENTRAL CORE LAB AREA (BETWEEN GRID LINES 28 AND 34)
   - 4.8 kPa [100psf] PERIMETER AREAS



2 PART ROOF FRAMING PLAN
S2.02 SCALE: 1:50

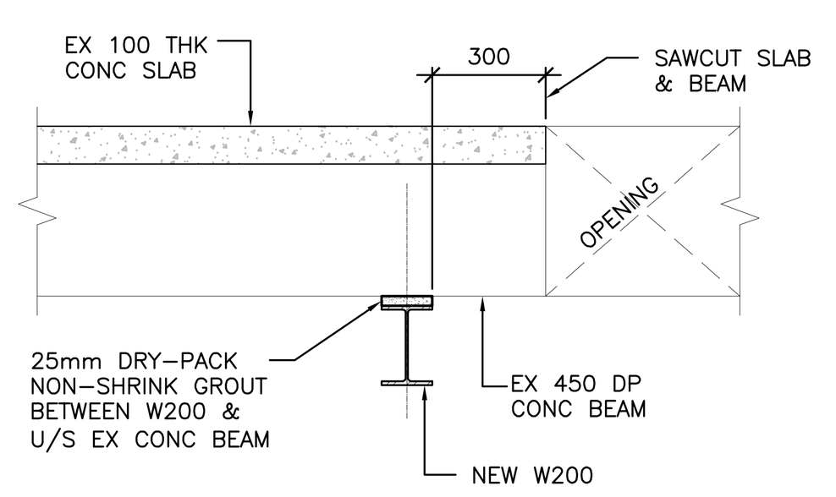
NOTE:

1. 'KB' DENOTES KNEE BRACE USING L51x51x6.4.
2. ALL STEEL TO BE HOT DIP GALVANIZED.

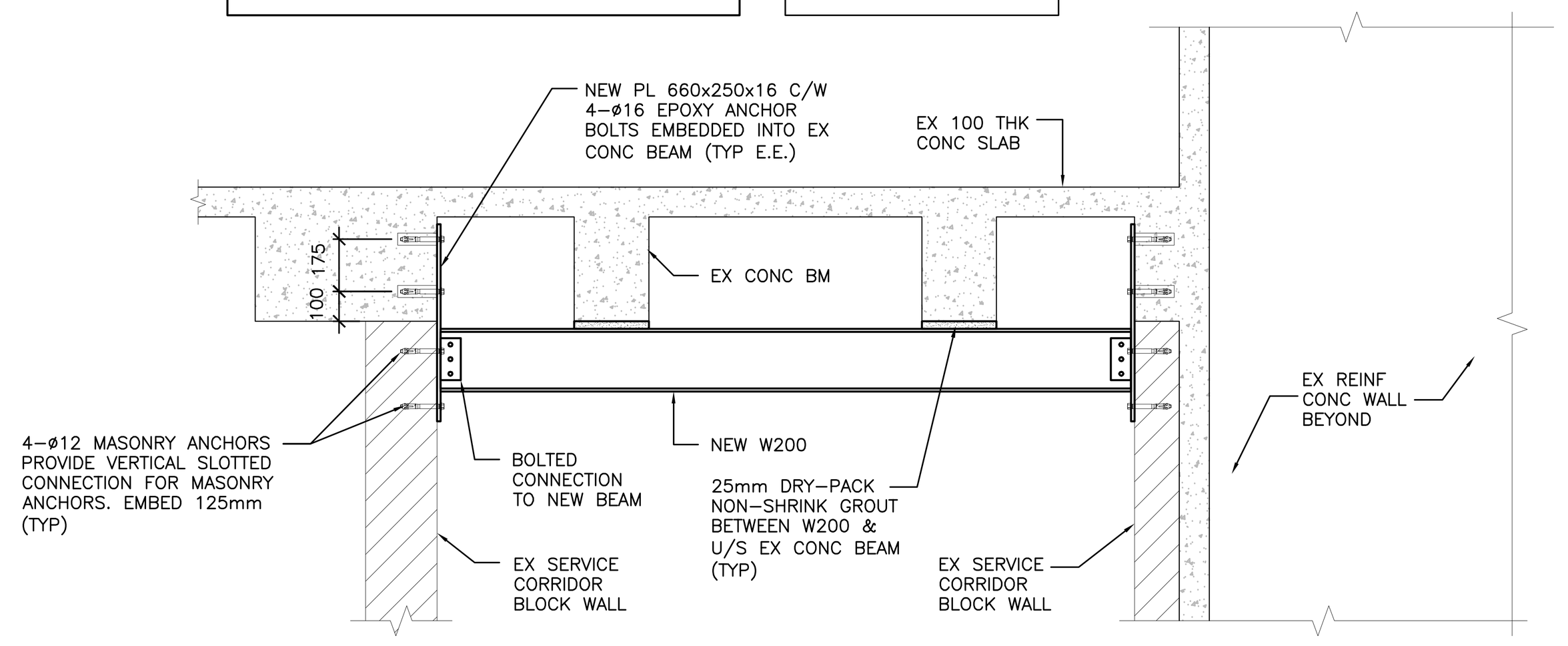
CONTRACTOR NOTE!

DO NOT DRILL THROUGH ANY REINFORCING STEEL OR CONDUIT WITHIN THE EXISTING SLAB/BEAM. SCANNING AND/OR X-RAY EXISTING SLAB/BEAM IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL SUBMIT FOR REVIEW CONSTRUCTION METHODOLOGY COVERING THE SCANNING / X-RAY PROCESS & PROTOCOL TO ENSURE EMBEDDED SERVICES OR REBAR ARE NOT DISTURBED.

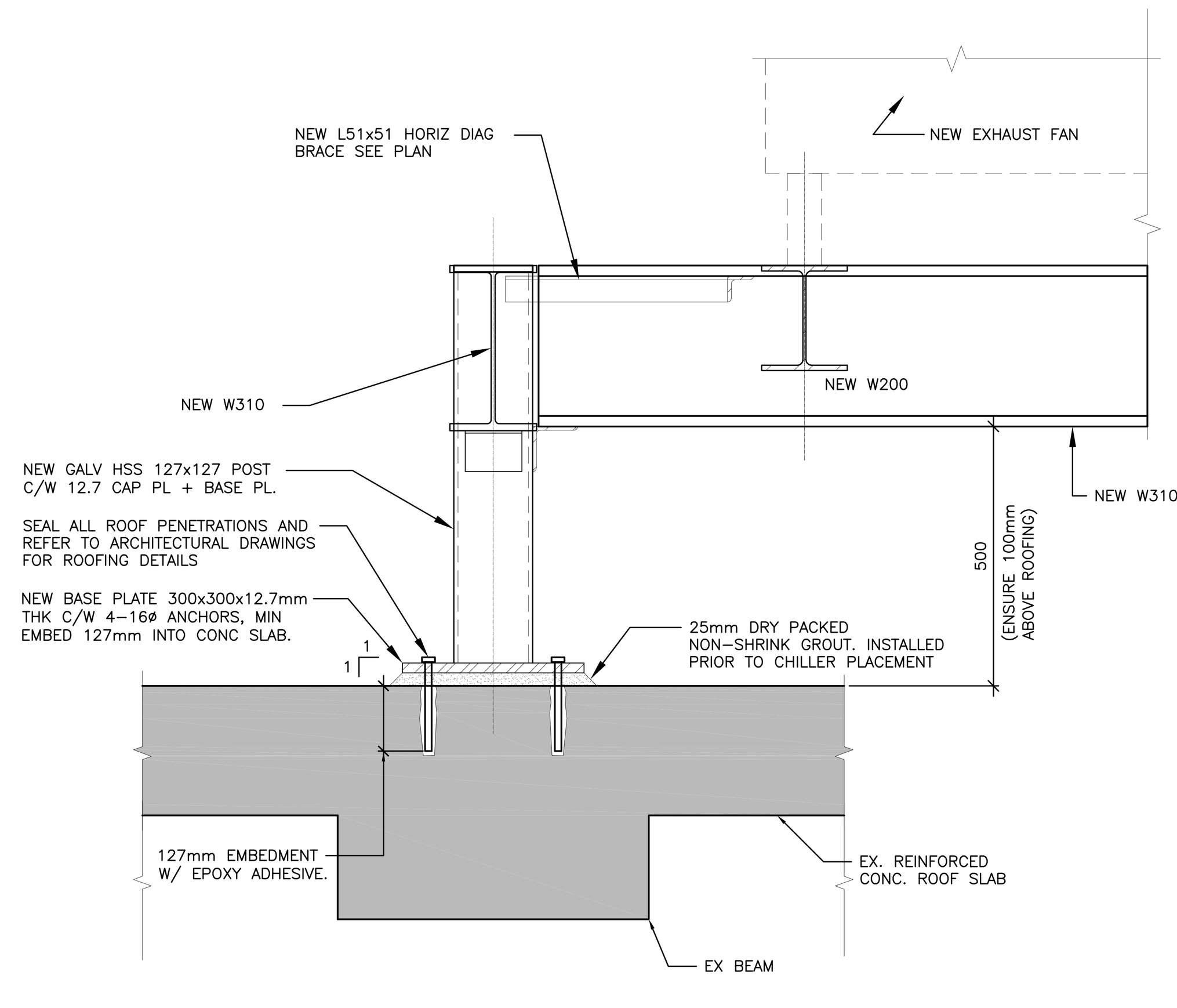
REINF NOT SHOWN IN EX CONC BEAM FOR CLARITY



3 SECTION
S2.02 SCALE: 1:20



4 SECTION
S2.02 SCALE: 1:20



CONTRACTOR TO SCAN TOP OF EXISTING SLAB TO DETERMINE LOCATION OF EXISTING REINFORCEMENT/CONDUITS PRIOR TO FABRICATING BASE PLATE. NO REINFORCEMENT TO BE DAMAGED DURING DRILLING.

ALL STEEL TO BE HOT DIP GALVANIZED.

5 CENTRAL EXHAUST FAN PLATFORM FRAMING SECTION
S2.02 SCALE: 1:10

ROOF PLATFORM (A&L BLDG) FLOOR FRAMING NOTES:

1. TOP OF STEEL ELEVATION IS ± 0.81m ABOVE EXISTING ROOF SLAB.
2. EXISTING ROOF SLAB ELEVATION IS ± 30.18 ABOVE FINISHED GROUND FLOOR, AT DATUM ELEVATION +108.51m.
3. READ THESE DRAWINGS IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE DEPARTMENTAL REPRESENTATIVE PRIOR TO COMMENCING WITH THE AFFECTED WORK. COORDINATE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR THE SIZES AND LOCATIONS OF ALL OPENINGS.
4. DESIGN AND CONSTRUCTION OF THIS PROJECT SHALL COMPLY WITH THE NATIONAL BUILDING CODE NBCC 2010 AND ONTARIO BUILDING 2012, MOST STRINGENT APPLY.
5. CONSTRUCTION METHODS, EQUIPMENT AND ALL OPERATIONS SHALL CONFORM TO ALL APPLICABLE REGULATION, ACTS AND BY-LAWS IN FORCE TO ENSURE THE SAFETY OF THE WORK AND CONTRACTOR'S PERSONAL AND OTHERS AT ALL TIMES.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT, ELEVATIONS, AND ALIGNMENT OF THE WORK AND SHALL VERIFY ALL DIMENSIONS AND DETAILS OF ANY EXISTING STRUCTURES NECESSARY FOR THE PROPER FITTING AND CONNECTING OF THE NEW WORK TO IT. REPORT TO DEPARTMENTAL REPRESENTATIVE ANY DISCREPANCIES AND ALL DOUBTFUL CONDITIONS BEFORE PROCEEDING WITH THE WORK.
7. EXISTING CONDITIONS HAVE BEEN ASSUMED AND/OR OBTAINED FROM AS-BUILT DRAWINGS S1 TO S29 DATED DEC 1972, CREATED BY REID CROWTHER AND PARTNERS LIMITED. THESE MAY OR MAY NOT REPRESENT THE ACTUAL SITE CONDITIONS. SITE VERIFY ALL CRITICAL DIMENSIONS PRIOR TO FABRICATING NEW CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE DEPARTMENTAL REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK.
8. EXISTING BUILDING IS A CONCRETE FRAMED STRUCTURE. ROOF SLAB IS 115mm THICK CONCRETE SLAB SUPPORTED ON CONCRETE BEAMS. THE MAIN ROOF IS DESIGNED FOR A LIVE /SNOW LOAD AS SHOWN ON PLAN WITH ACCUMULATED SNOW PILING ADJACENT TO ROOF MECHANICAL PENTHOUSE. THE NEW RAISED PLATFORM AND CENTRAL EXHAUST FAN UNIT (28,450 lbs) DOES NOT IMPOSE A LOAD GREATER THAN WHAT THE EXISTING MAIN ROOF HAS BEEN DESIGNED FOR.
9. CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH THE FULL SCOPE OF WORK PRIOR TO SUBMITTING BID.
10. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY BRACING AND SHORING DURING CONSTRUCTION.
11. CONTRACTOR TO NOTIFY DEPARTMENTAL REPRESENTATIVE FOR SITE REVIEW(S) 48 HOURS BEFORE COVERING UP THE WORK.

STRUCTURAL STEEL (REFER TO SPECIFICATIONS):

1. STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH CAN/CSA S16-14 AND THE CISC CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL.
2. MATERIAL REQUIREMENTS

W SHAPES:	CAN/CSA G40.20-13/G40.21-13 GRADE 350W
HSS SECTIONS:	CAN/CSA G40.20-13/G40.21-13 GRADE 350W (CLASS C)
CHANNEL, ANGLES AND PLATES:	CAN/CSA G40.20-13/G40.21-13 GRADE 300W
BOLTS ASSEMBLY:	REFER TO NOTE 3

3. BOLTS, NUTS, AND WASHERS AS FOLLOWS:

BOLTS:	ASTM A325-10E1
NUTS:	ASTM A563-07a(2014)
WASHERS:	ASTM F436M-11.
FINISH:	GALVANIZED.

4. ALL STEEL SHALL BE HOT DIP GALVANIZED. REFER TO SPECIFICATIONS.
5. WELDING SHALL CONFORM TO CURRENT CSA W59-13. WELD SIZES INDICATED ON DRAWINGS AND BASED ON E49XX ELECTRODES. FABRICATOR MUST BE CERTIFIED TO CSA W47.1-09.
6. MAKE ADEQUATE PROVISION FOR ERECTION LOADS AND PROVIDE SUFFICIENT TEMPORARY BRACING.
7. NO SPLICING WILL BE PERMITTED UNLESS OTHERWISE NOTED ON STRUCTURAL DRAWINGS.
8. CONNECTIONS NOT DETAILED ON THE DRAWINGS SHALL BE DESIGNED AND DETAILED BY FABRICATOR'S ENGINEER FOR THE LOADS INDICATED ON THE DRAWING. DESIGN CONNECTIONS IN ACCORDANCE WITH CAN/CSA-S16. UNLESS NOTED OTHERWISE, SELECT FRAMED BEAM SHEAR CONNECTIONS FROM THE CISC HANDBOOK OF STEEL CONSTRUCTION FOR NON-COMPOSITE BEAMS. IF SHEAR VALUES ARE NOT INDICATED, DESIGN CONNECTIONS TO SUPPORT REACTION FROM 67% OF MAXIMUM UNIFORMLY DISTRIBUTED LOAD THAT CAN BE SAFELY SUPPORTED BY BEAM BENDING. USE MINIMUM OF 2 BOLTS IN EACH BOLTED CONNECTION.
9. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BEFORE PROCEEDING WITH FABRICATION. SHOP DRAWINGS SHOWING CONNECTIONS DETAILS DESIGNED BE THE FABRICATOR ARE TO BE STAMPED BY A PROFESSIONAL ENGINEER.
10. THE QUALITY ASSURANCE INSPECTOR WILL REVIEW 100% VISUAL OF FIELD WELDS AND WORKMANSHIP. QUALITY ASSURANCE TESTING SHALL BE PERFORMED BY A TECHNICIAN CERTIFIED BY CSA AND PAID FOR BY THE CLIENT.
11. SITE TOUCH-UP AND REPAIR OF GALVANIZED FINISHES AT BOLTS, WELDS AND BURNED OR SCRATCHED SURFACES USING ZINC RICH PAINT IN ACCORDANCE WITH ASTM A123M.

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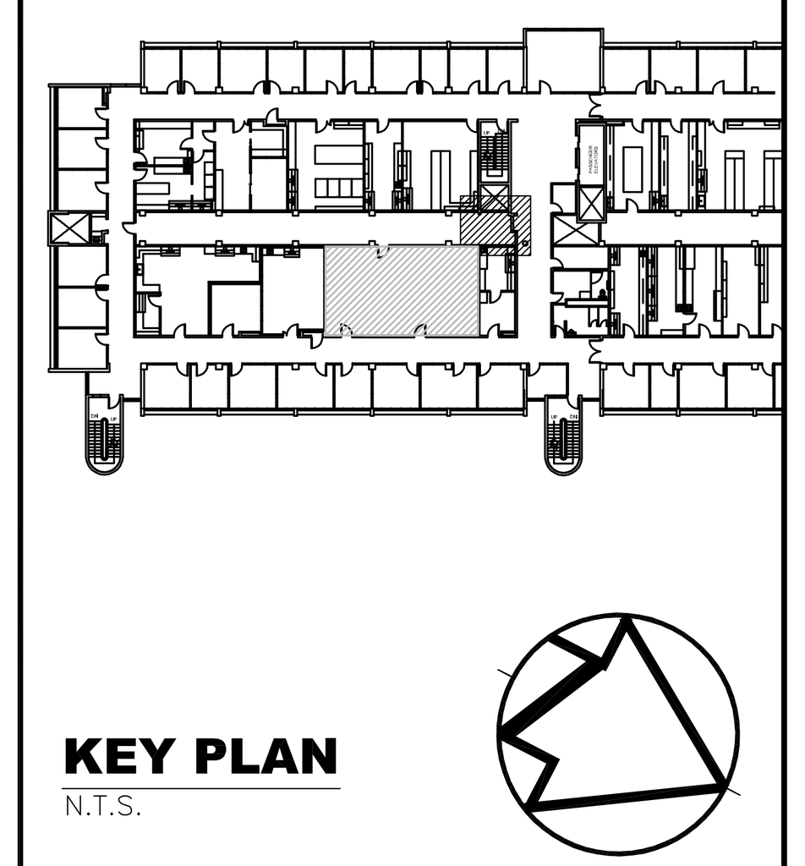
DIALOG

Stamp

2015.11.04
D.J. KHACHI
04 NOV. 2015



KEY PLAN
N.T.S.

revision	issue	date
1	ISSUED FOR BID	04/11/2015

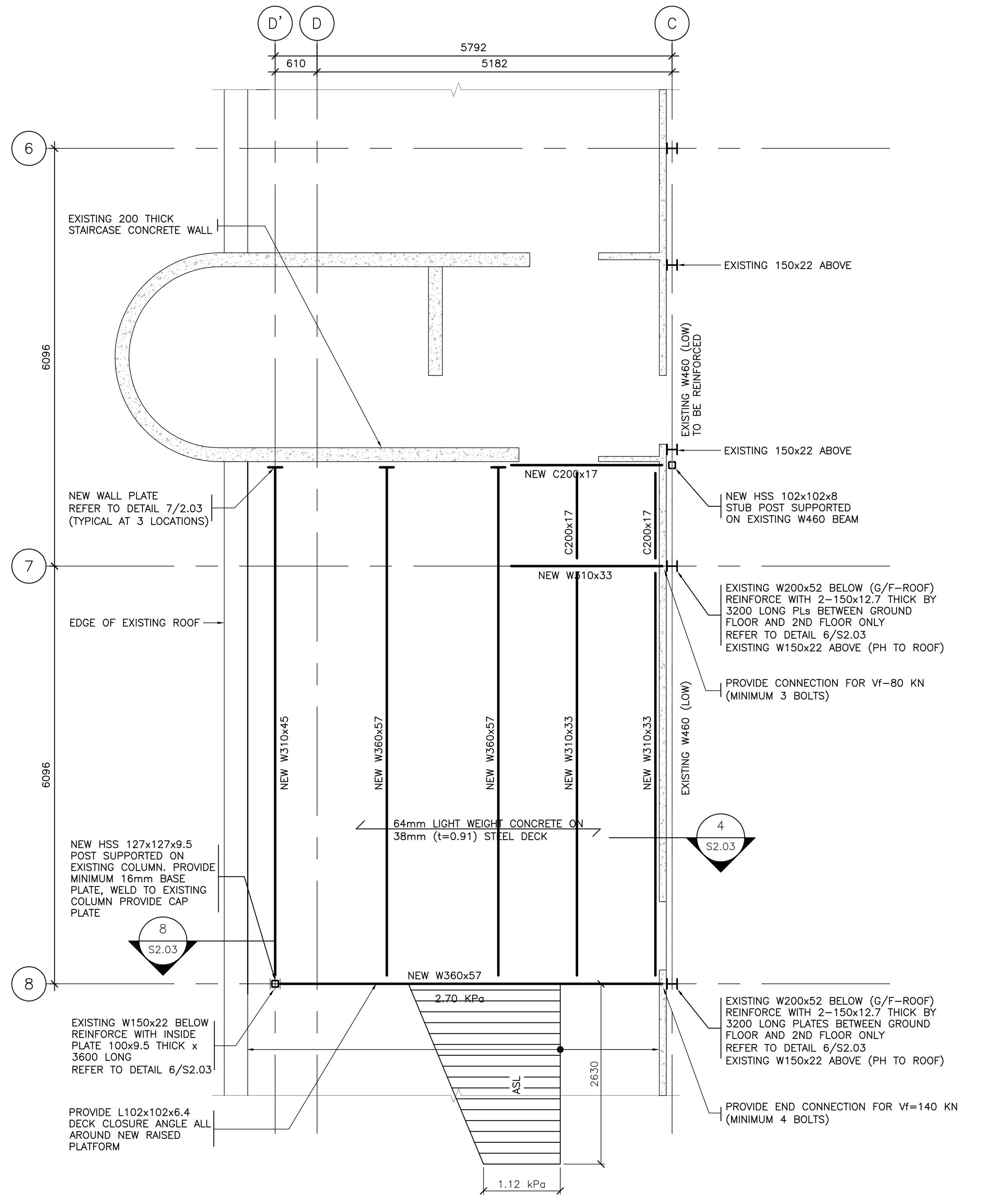
Do not scale drawings.
Verify all dimensions and conditions on site and immediately notify the Departmental Representative of all discrepancies.

A Detail No. / No. du détail
B drawing no. – where detail required / dessin no. – où détail exigé
C drawing no. – where detailed / dessin no. – où détaillé

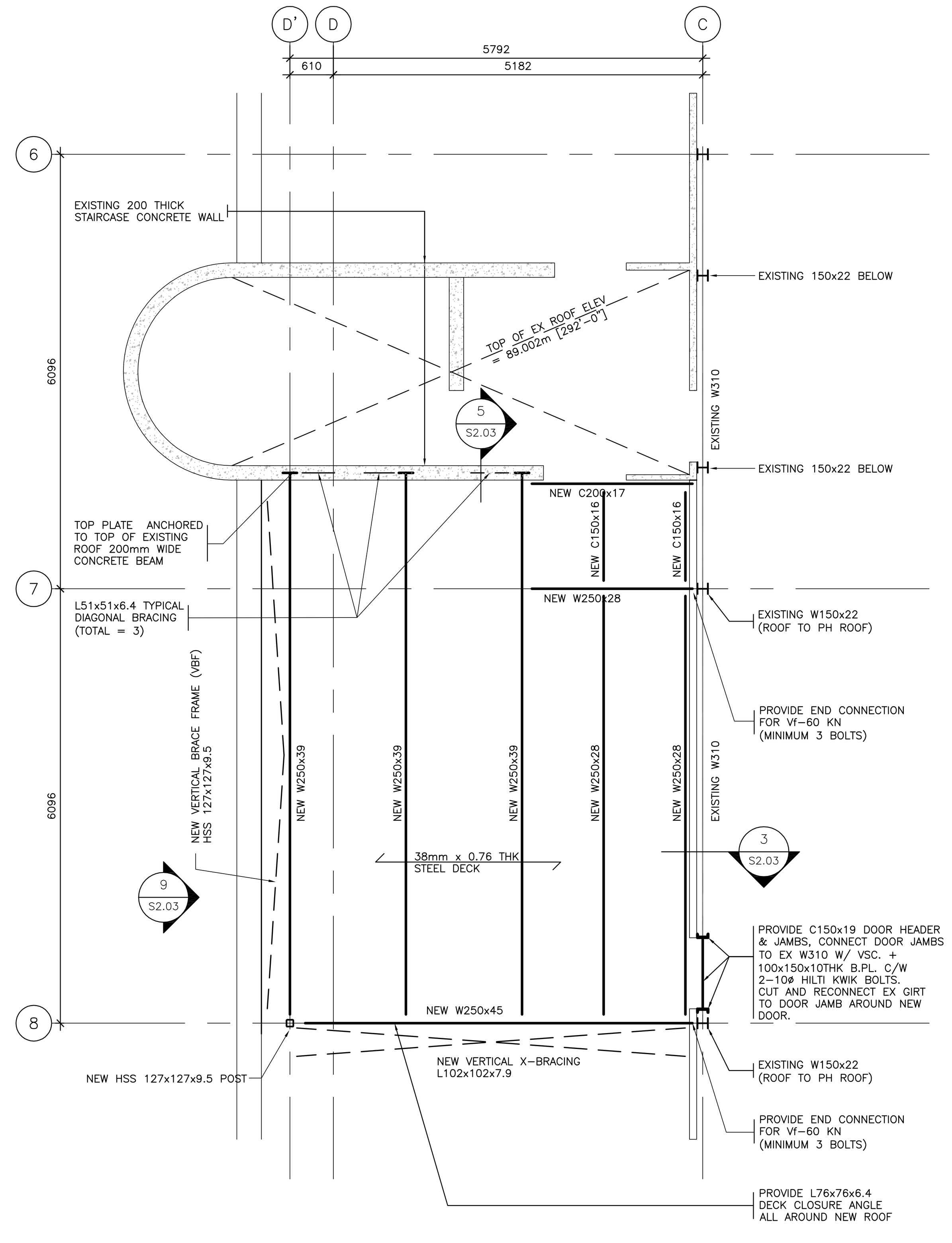
project title / titre du projet
CANADA CENTRE FOR INLAND WATERS
867 LAKESHORE ROAD BURLINGTON, ONTARIO, L7R 4A6
LABS, AHUs, AND HEATING UPGRADE

drawing title / titre du dessin
A&L BUILDING 5TH TO 8TH (ROOF) FLOOR FRAMING PLANS & SECTIONS

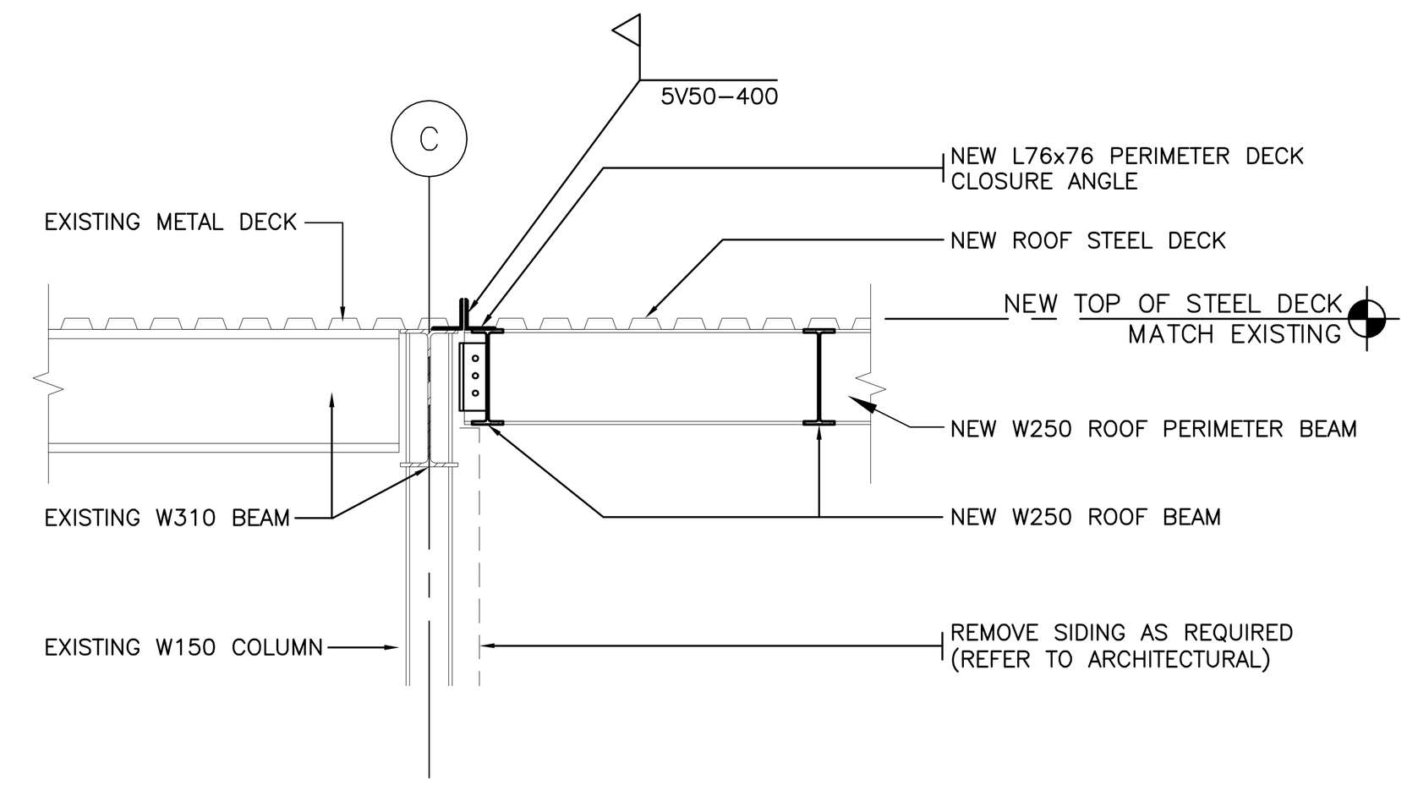
drawn by / dessine par	DT
designed by / conc par	NM
approved by / approuve par	NM
bid / offre	AM (project manager / administrateur de projets)
project date / date du projet	2015-11-04
project no. / no. du projet	R.073578.001 DIALOG NO. 09946T0200
drawing no. / dessine no.	S2.02



1 S2.03 PENTHOUSE FLOOR FRAMING PLAN
SCALE: 1:50
CCIW-S2.03.DWG



2 S2.03 PENTHOUSE ROOF FRAMING PLAN
SCALE: 1:50
CCIW-S2.03.DWG



3 S2.03 HIGH ROOF SECTION
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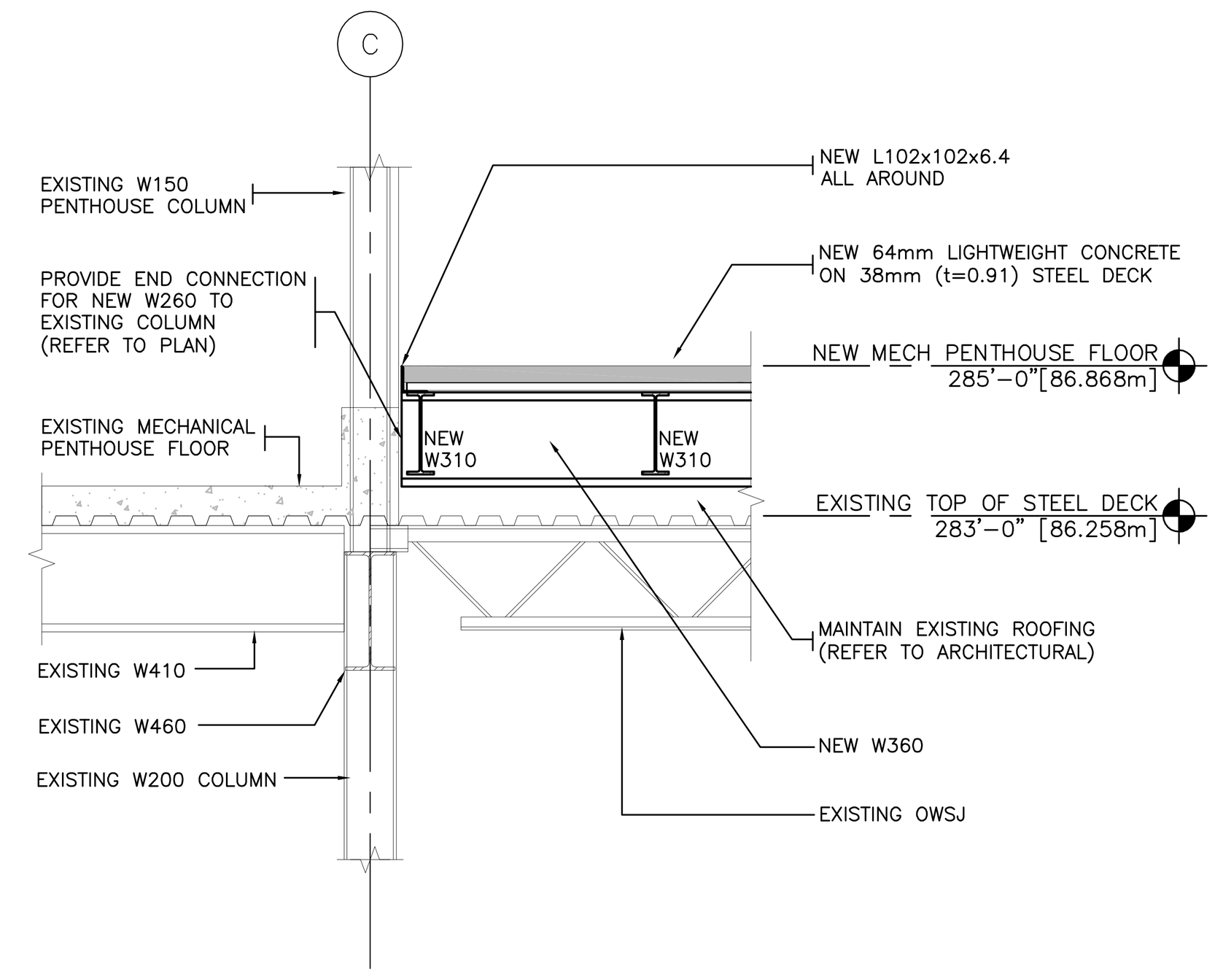
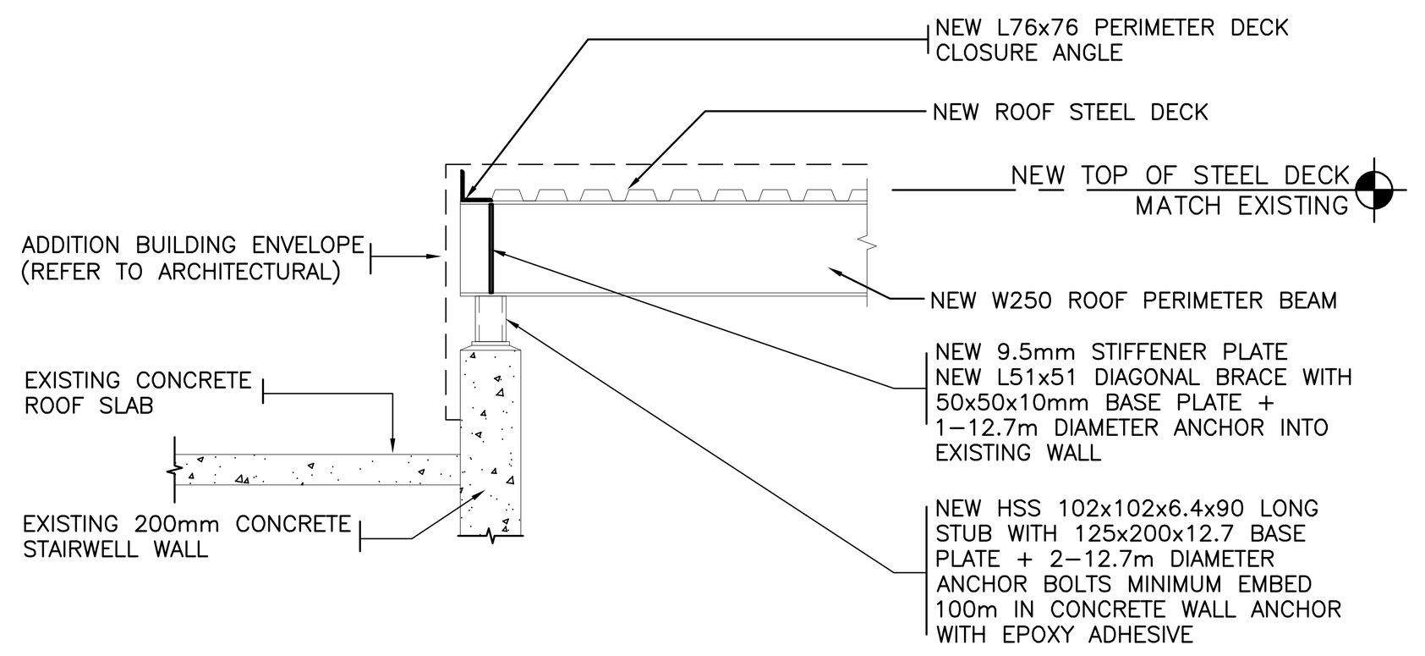
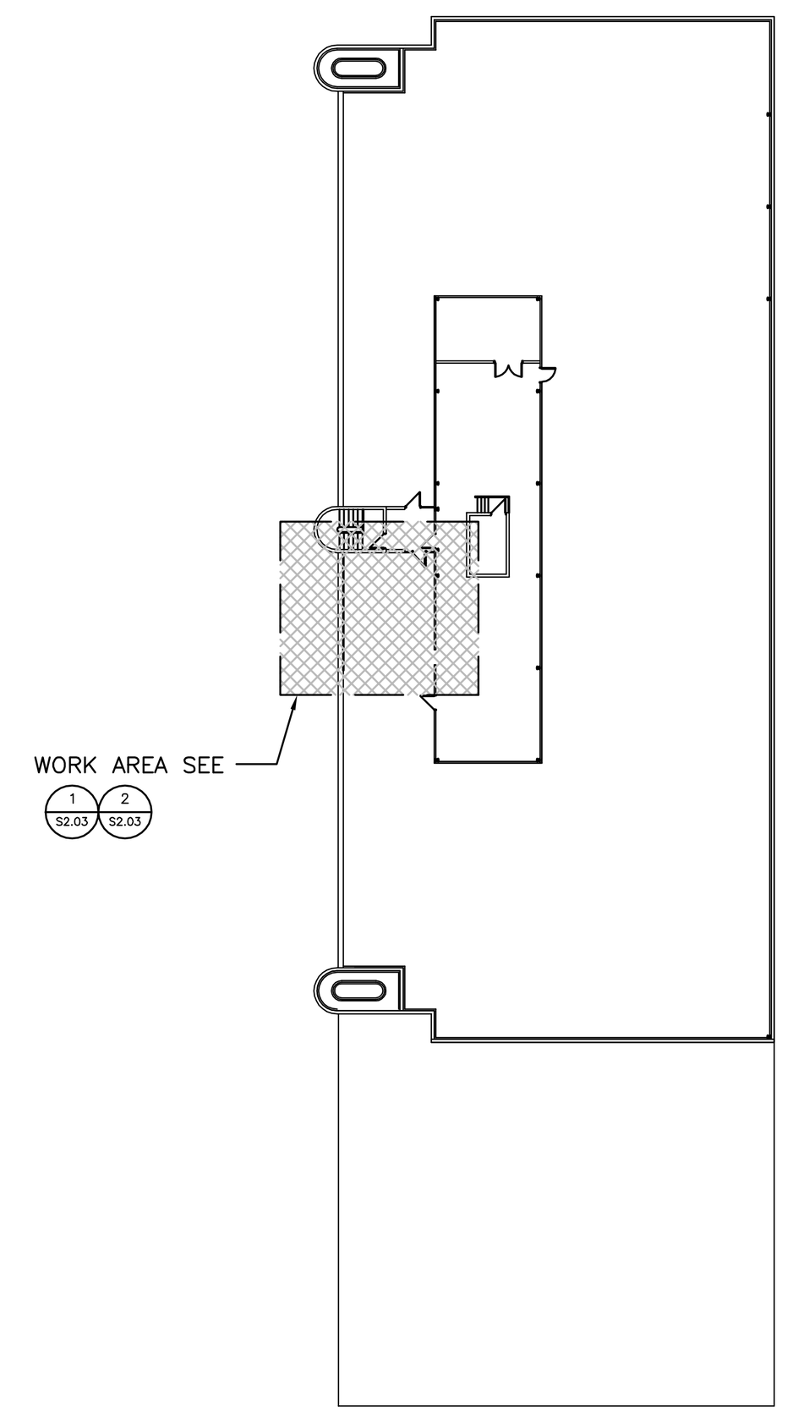


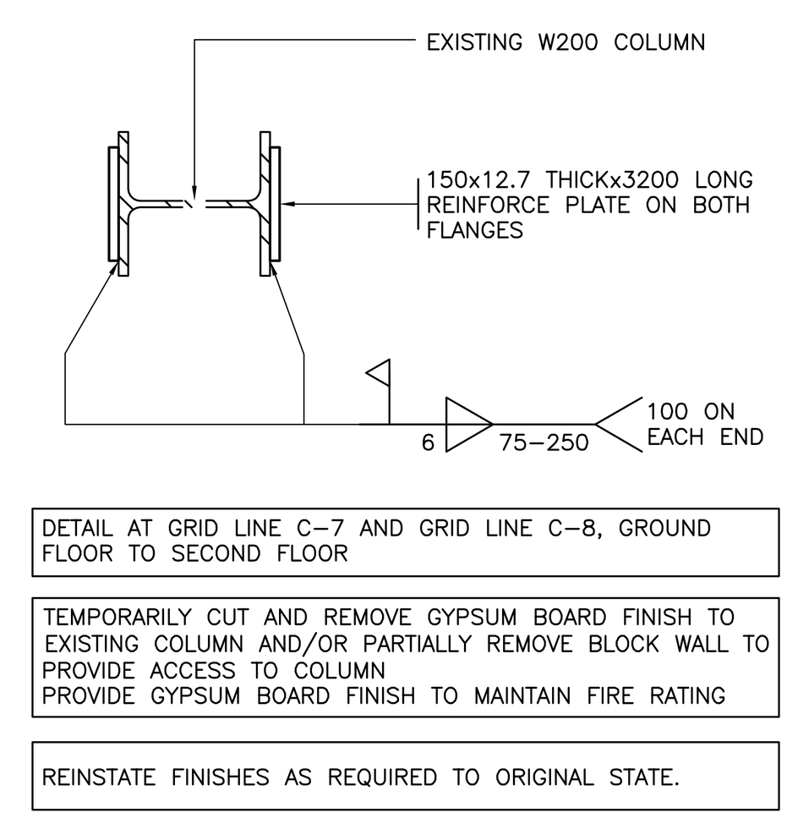
4 S2.03 MAIN ROOF / NEW PENTHOUSE FLOOR SECTION
SCALE: 1:25



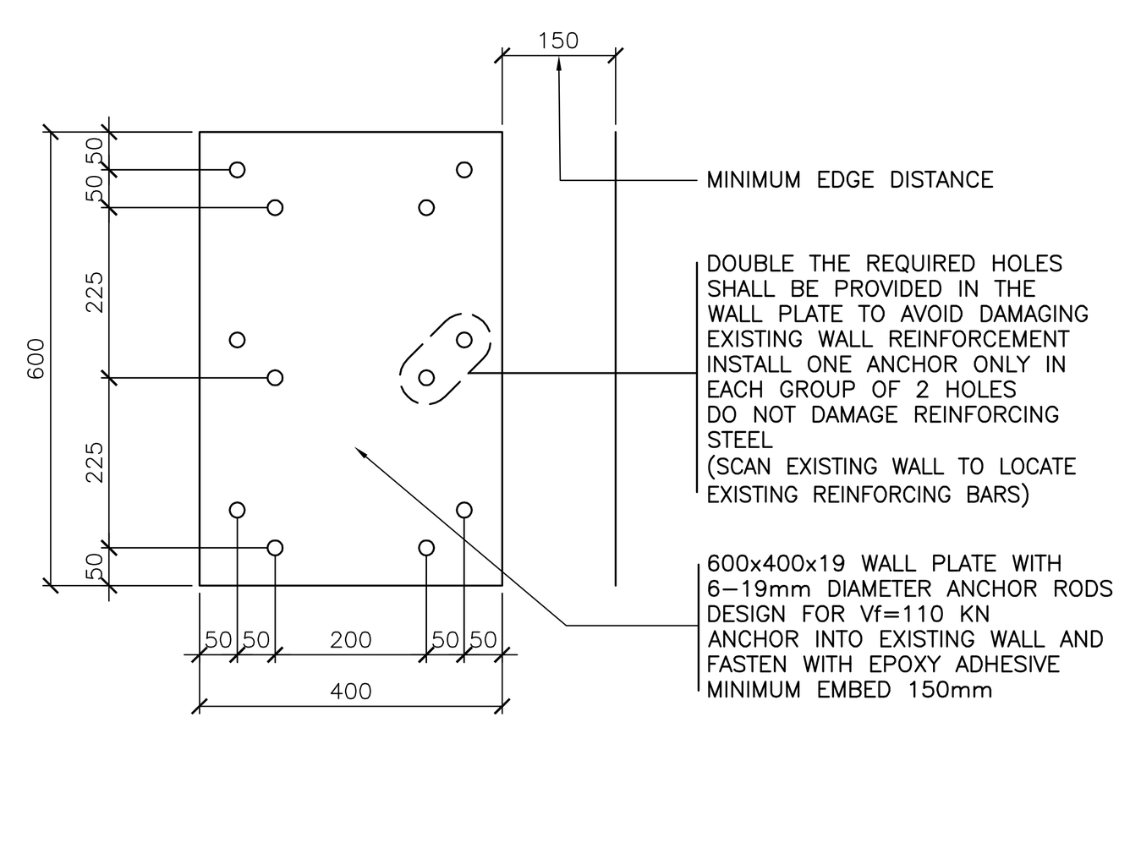
5 S2.03 HIGH ROOF SECTION AT STAIRWELL
SCALE: 1:25



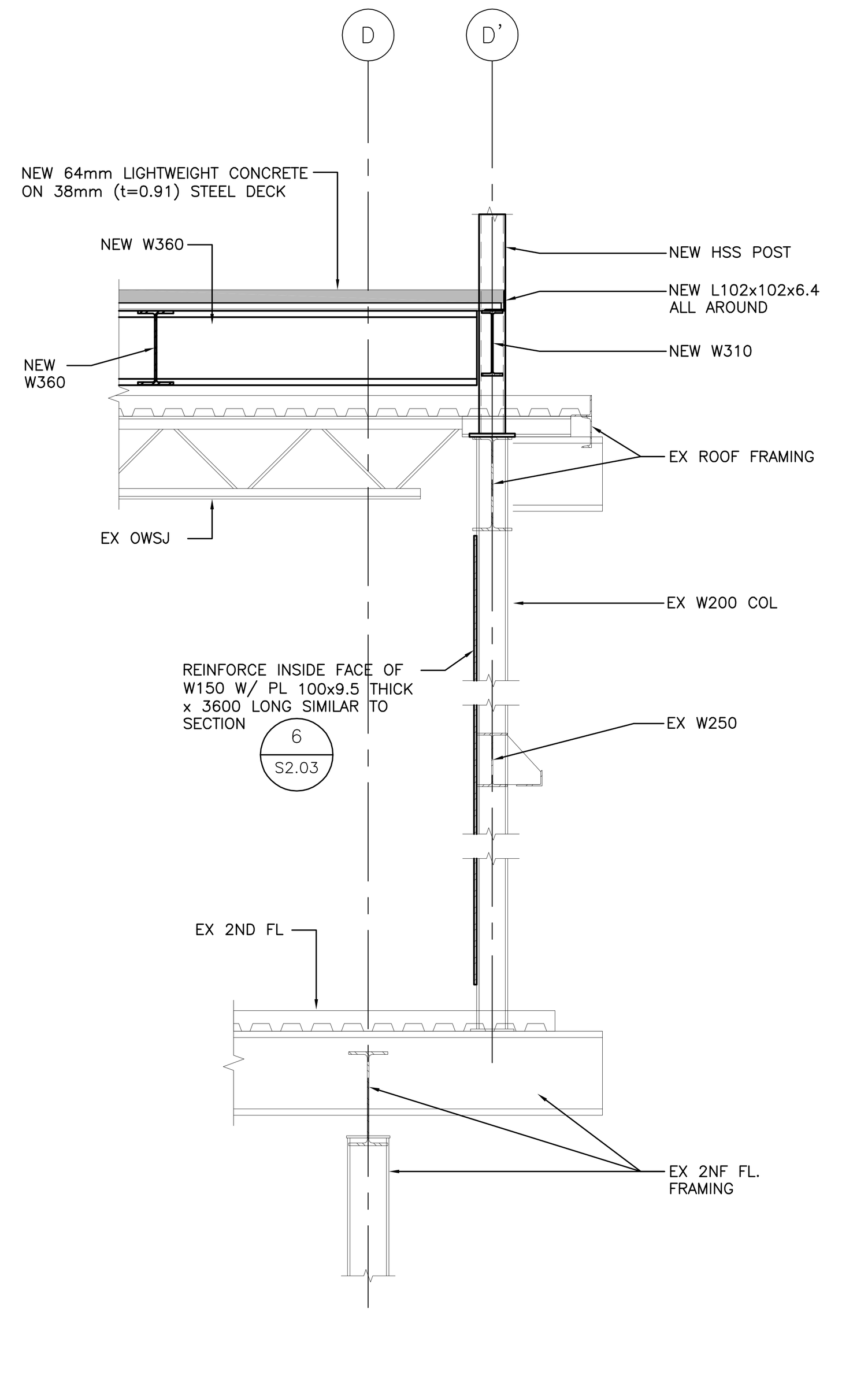
KEY PLAN



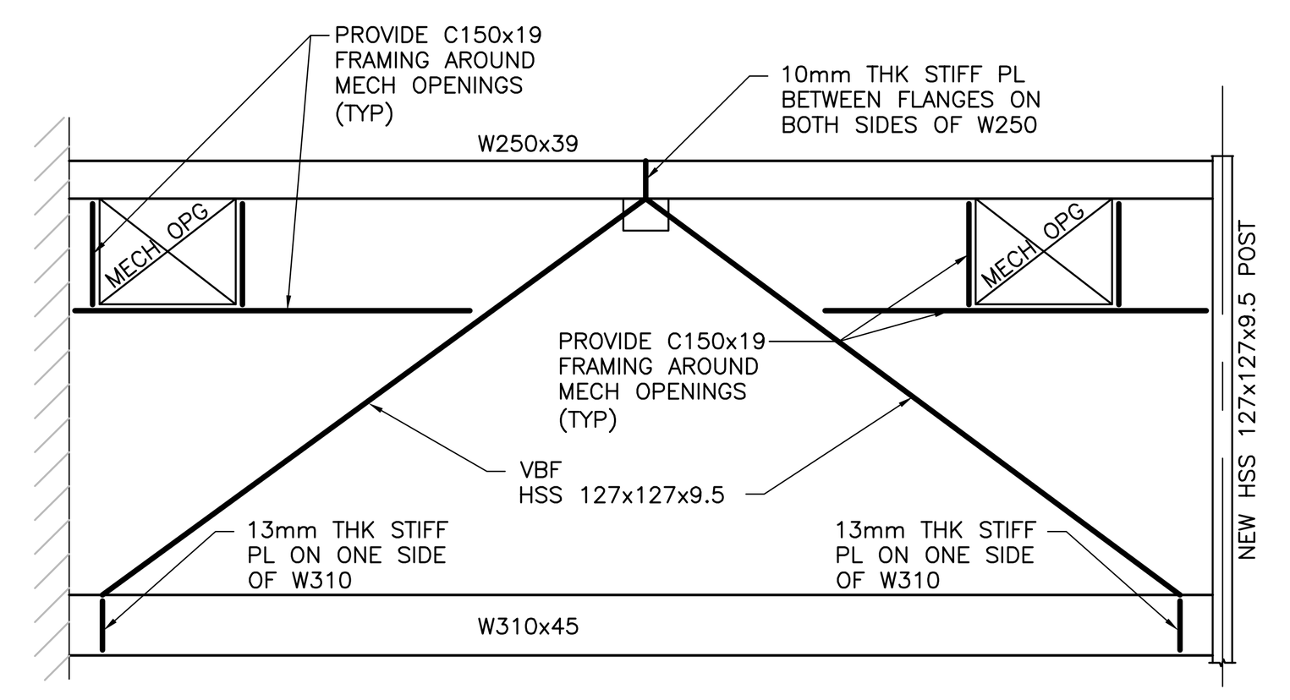
6 S2.03 COLUMN REINFORCING DETAIL
SCALE: 1:10



7 S2.03 WALL PLATE DETAIL
SCALE: 1:10



8 S2.03 MAIN ROOF / NEW PENTHOUSE FLOOR SECTION
SCALE: 1:10



9 S2.03 ELEVATION
SCALE: 1:50
CCIW-S2.03.DWG

(1/S2.01) PENTHOUSE EXTENSION FLOOR FRAMING NOTES:

1. TOP OF STEEL ELEVATION IS ± 28.0m ABOVE FINISHED GROUND FLOOR, AT DATUM ELEVATION +86.868m [285'0"]. THE U/S OF METAL DECK IS −100mm BELOW TOP OF SLAB.
2. PENTHOUSE EXTENSION FLOOR IS DESIGNED FOR:

DEAD LOAD	62mm CONCRETE + 38mm STEEL DECK	=	1.90 kPa
	STEEL FRAMING	=	0.30 kPa
LIVE LOAD		=	4.80 kPa

3. PENTHOUSE EXTENSION FLOOR IS 62mm LOW DENSITY CONCRETE ON 38mm STEEL DECK (t=0.91mm), REINFORCED WITH ONE LAYER OF 102x102–MW19Xmw19 WWF PLACED IN FLAT SHEETS AND CHAIRED 25mm FROM TOP OF SLAB. PROVIDE L102x102x6.4 DECK ANGLE ALL AROUND FLOOR PLATE AND AROUND FLOOR OPENINGS.
4. STEEL DECK TO BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE CANADIAN SHEET STEEL BUILDING INSTITUTE. PROVIDE STEEL DECK CONTINUOUS OVER MINIMUM 3 SPANS. PROVIDE TRANSVERSE WELDS EVERY OTHER FLUTE @300mm O/C AND BUTTON PUNCH SIDE LAPS @300mm O/C. REFER TO TYPICAL DETAIL S19 FOR CONNECTION DETAILS.
5. READ THESE DRAWINGS IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE DEPARTMENTAL REPRESENTATIVE PRIOR TO COMMENCING WITH THE AFFECTED WORK. COORDINATE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR THE SIZES AND LOCATIONS OF ALL OPENINGS.
6. DESIGN AND CONSTRUCTION OF THIS PROJECT SHALL COMPLY WITH THE NATIONAL BUILDING CODE NBCC 2010 AND ONTARIO BUILDING CODE 2012, MOST STRINGENT APPLY.
7. CONSTRUCTION METHODS, EQUIPMENT AND ALL OPERATIONS SHALL CONFORM TO ALL APPLICABLE REGULATION, ACTS AND BY–LAWS IN FORCE TO ENSURE THE SAFETY OF THE WORK AND CONTRACTOR'S PERSONAL AND OTHERS AT ALL TIMES.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT, ELEVATIONS, AND ALIGNMENT OF THE WORK AND SHALL VERIFY ALL DIMENSIONS AND DETAILS OF ANY EXISTING STRUCTURES NECESSARY FOR THE PROPER FITTING AND CONNECTING OF THE NEW WORK TO IT. REPORT TO DEPARTMENTAL REPRESENTATIVE ANY DISCREPANCIES AND ALL DOUBTFUL CONDITIONS BEFORE PROCEEDING WITH THE WORK.
9. EXISTING CONDITIONS HAVE BEEN ASSUMED AND/OR OBTAINED FROM AS–BUILT DRAWINGS S1 TO S6, DATED FEB 1970, CREATED BY REID CROWTHER AND PARTNERS LIMITED. THESE MAY OR MAY NOT REPRESENT THE ACTUAL SITE CONDITIONS. SITE VERIFY ALL CRITICAL DIMENSIONS PRIOR TO FABRICATING NEW CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE DEPARTMENTAL REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK.
10. EXISTING MAIN ROOF IS A 38mm STEEL DECK, DESIGNED FOR DEAD LOAD = 1.20 kPa [25 psf] AND AVERAGE SNOW LOAD (INCLUDING ASL) = 3.82 kPa [80 psf]. THE ASL PRODUCED BY SNOW DRIFTING FROM THE NEW PENTHOUSE EXTENSION DOES NOT IMPOSE A LOAD GREATER THAN WHAT THE EXISTING ROOF HAS BEEN DESIGNED FOR.
11. CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH THE FULL SCOPE OF WORK PRIOR TO SUBMITTING BID.
12. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY BRACING AND SHORING DURING CONSTRUCTION.
13. CONTRACTOR TO NOTIFY DEPARTMENTAL REPRESENTATIVE FOR SITE REVIEW(S) 48 HOURS BEFORE COVERING UP THE WORK.

STRUCTURAL STEEL (REFER TO SPECIFICATIONS):

1. STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH CAN/CSA S16–14 AND THE CISC CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL.
2. MATERIAL REQUIREMENTS

W SHAPES:	CAN/CSA G40.20–13/G40.21–13 GRADE 350W
HSS SECTIONS:	CAN/CSA G40.20–13/G40.21–13 GRADE 350W (CLASS C)
CHANNEL, ANGLES AND PLATES:	CAN/CSA G40.20–13/G40.21–13 GRADE 300W
BOLTS ASSEMBLY:	REFER TO NOTE {3}

3. BOLTS, NUTS, AND WASHERS AS FOLLOWS:

BOLTS:	ASTM A325–10E1
NUTS:	ASTM A563–07a(2014)
WASHERS:	ASTM F436M–11.
FINISH:	PLAIN, UNCOATED.

4. PROVIDE SHOP–APPLIED PRIMER IN ACCORDANCE WITH ASTM A780/A780M–09 AND CAN/CGSB 1.40–97 AND TOUCH UP AFTER ERECTION.
5. WELDING SHALL CONFORM TO CURRENT CSA W59–13. WELD SIZES INDICATED ON DRAWINGS AND BASED ON E49XX ELECTRODES. FABRICATOR MUST BE CERTIFIED TO CSA W47.1–09.
6. MAKE ADEQUATE PROVISION FOR ERECTION LOADS AND PROVIDE SUFFICIENT TEMPORARY BRACING.
7. NO SPLICING WILL BE PERMITTED UNLESS OTHERWISE NOTED ON STRUCTURAL DRAWINGS.
8. CONNECTIONS NOT DETAILED ON THE DRAWINGS SHALL BE DESIGNED AND DETAILED BY FABRICATOR'S ENGINEER FOR THE LOADS INDICATED ON THE DRAWING. DESIGN CONNECTIONS IN ACCORDANCE WITH CAN/CSA–S16. UNLESS NOTED OTHERWISE, SELECT FRAMED BEAM SHEAR CONNECTIONS FROM THE CISC HANDBOOK OF STEEL CONSTRUCTION FOR NON–COMPOSITE BEAMS. IF SHEAR VALUES ARE NOT INDICATED, DESIGN CONNECTIONS TO SUPPORT REACTION FROM 67% OF MAXIMUM UNIFORMLY DISTRIBUTED LOAD THAT CAN BE SAFELY SUPPORTED BY BEAM BENDING. USE MINIMUM OF 2 BOLTS IN EACH BOLTED CONNECTION.
9. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BEFORE PROCEEDING WITH FABRICATION. SHOP DRAWINGS SHOWING CONNECTIONS DETAILS DESIGNED BE THE FABRICATOR ARE TO BE STAMPED BY A PROFESSIONAL ENGINEER.
10. THE QUALITY ASSURANCE INSPECTOR WILL REVIEW 100% VISUAL OF FIELD WELDS AND WORKMANSHIP. QUALITY ASSURANCE TESTING SHALL BE PERFORMED BY A TECHNICIAN CERTIFIED BY CSA AND PAID FOR BY THE CLIENT.

CONCRETE: (REFER TO SPECIFICATIONS)

1. DESIGN OF CONCRETE ELEMENTS CONFORMS TO CSA–A23.3–14 ALL CONCRETE WORK, MATERIALS AND MATERIALS TESTING TO CONFORM TO CSA–A23.1–14/CSA–A23.2–14.
2. FRESHLY PLACED CONCRETE TO BE CURED AND PROTECTED TO CONFORM TO CAN/CSA–A23.1–14 AND SPECIFICATIONS.
3. CONCRETE SHALL HAVE MIN 25MPa 28 DAYS STRENGTH.

(2/S2.01) PENTHOUSE EXTENSION ROOF FRAMING NOTES:

1. TOP OF STEEL ELEVATION IS ± 30.781m ABOVE FINISHED GROUND FLOOR, AT DATUM ELEVATION +89.649m TO MATCH EXISTING PENTHOUSE ROOF ELEVATION (SITE VERIFY). THE U/S OF METAL DECK IS TOP OF STEEL.
2. PENTHOUSE EXTENSION ROOF IS DESIGNED FOR:

DEAD LOAD	38mm STEEL DECK	=	0.10 kPa
	STEEL FRAMING	=	0.25 kPa
	BUILT–UP ROOF	=	0.32 kPa
	INSULATION	=	0.10 kPa
	MECHANICAL	=	0.35 kPa
SNOW LOAD		=	1.92 kPa

3. PENTHOUSE EXTENSION ROOF IS 38mm STEEL DECK (t=0.76mm). STEEL DECK TO BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE CANADIAN SHEET STEEL BUILDING INSTITUTE. PROVIDE STEEL DECK CONTINUOUS OVER MINIMUM 3 SPANS. PROVIDE TRANSVERSE WELDS AT EVERY OTHER FLUTE @300mm O/C AND BUTTON PUNCH SIDE LAPS @300mm O/C. REFER TO TYPICAL DETAIL S19 FOR CONNECTION DETAILS.
4. READ THESE DRAWINGS IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE DEPARTMENTAL REPRESENTATIVE PRIOR TO COMMENCING WITH THE AFFECTED WORK. COORDINATE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR THE SIZES AND LOCATIONS OF ALL OPENINGS.

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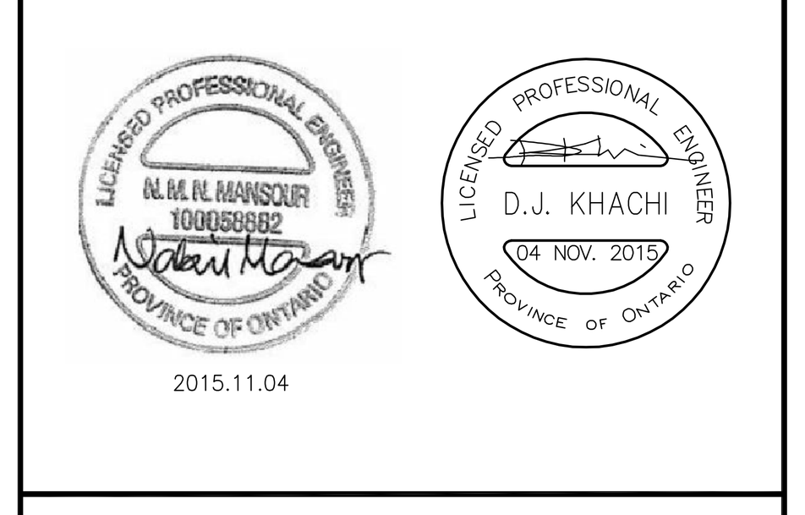
DIALOG

Stamp



revision	issue	date
1	ISSUED FOR BID	04/11/2015

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A Detail No. / No. du détail
B drawing no. – where detail required / dessin no. – où détail exigé
C drawing no. – where detailed / dessin no. – où détaillé

project title / titre du projet
CANADA CENTRE FOR INLAND WATERS
867 LAKESHORE ROAD BURLINGTON, ONTARIO, L7R 4A6
LABS, AHUs, AND HEATING UPGRADE

drawing title / titre du dessin
WTC BUILDING PENTHOUSE EXTENSION FLOOR AND ROOF FRAMING PLANS

drawn by / dessiné par: DT
designed by / conçu par: NM
approved by / approuvé par: NM
bid / offre: AM — project manager / administrateur de projets
project date / date du projet: 2015-11-04
project no. / no. du projet: R.073578.001
DIALOG NO. 09946T0200
drawing no. / dessin no.: S2.03