



FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

**DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING**

STRUCTURAL DRAWING PACKAGE		
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11-31-441	GENERAL ARRANGEMENT - ELEVATIONS AND SECTION	0
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PREPARED
BY:



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GEA PROJECT AND FILE: 16030.621

DATE: 26 MAY, 2017

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439-441 General Arrangement_working.dwg PLOT DATE: May/26/17 04:28 PM SAVE DATE: May/26/17 01:22 PM AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE

1. GENERAL

1.1. In the case of conflict between information presented on this drawing and the information presented in the Technical Specifications, the Technical Specifications shall take precedence.

1.2. SI units are used throughout these drawings. All dimensions are in millimeters and all levels are in meters unless specifically noted otherwise.

1.3. Check all dimensions prior to commencing work and notify the Engineer of any conflicting or erroneous information.

1.4. Do not scale dimensions from the drawings.

2. DESIGN CRITERIA

2.1 Codes and Standards

- British Columbia Building Code
- CAN/CSA A23.3 Design of Concrete Structures
- CAN/CSA S16 Limit States Design of Steel Structures
- CAN/CSA S-136 Design of Cold-Formed Steel Structural Members

2.2 Design Loads

2.2.1 Permissible Loads Due to Usage:

- Vehicle Type : MITSUBISHI FG25 Forklift 2.5 tonnes
- General Floor Load 4.8 kPa

2.2.2 Snow & Rain Loads

- Importance Factor (Normal) Is = 1.0
- Ground Snow Load Ss = 2.4 kPa
- Associated Rain Load Sr = 0.3 kPa

2.2.3 Wind loads

- Importance Factor (Normal) Iw = 1.0
- 1/50 Year Return Reference Pressure q50 = 0.43 kPa

2.2.4 Seismic loads are based on:

2.2.4(a) Design Basis Earthquake Spectral Parameters:

Period, T	0.2s	0.5s	1.0s	2.0s
S(T)	0.93	0.63	0.31	0.17

2.2.4(b) General

- Importance Factor (Normal) Ie = 1.0
- Peak Ground Acceleration PGA = 0.46 g

2.3 Geotechnical Parameters

2.3.1 The geotechnical parameters are based on the report by WSP Canada Inc. from 22nd February 2017.

2.3.2 Bearing Pressure Capacities

- Service 100 kPa
- Factored 150 kPa

2.3.3 Site Class D

3. FORMWORK AND FINISHES

3.1. Design of Formwork and Falsework

- Comply with CAN/CSA S269.1 and CAN/CSA S269.3

3.2. Formed Finishes

Finish F1: Forms built of standard formply with a minimum of refinement.

Finish F2: Forms for general application for surfaces exposed to view without stringent aesthetic requirements; of plywood, steel or form liner pre-approved material.

Finish F3: Forms for surfaces where aesthetic or mechanical performance requires a high quality finish, of plywood, steel or form liner of pre-approved material. Pattern from the forms left in the concrete surface must harmonize with the structure and its function. All joints shall be horizontal or vertical.

3.3. Unformed Finishes

- Finish U1: Even, uniform finish; consolidated, level and screeded.
- Finish U2: Wood float finish.
- Finish U3: Steel troweled finish.
- Finish U4: Hard, steel troweled finish; burnished.
- Finish U5: Broom finish.
- Finish U6: Hardened finish, apply floor hardener per manufacturer.

Form all exposed concrete corners and edges with 20 mm chamfers.

4. REINFORCEMENT

4.1. Materials

4.1.1. Deformed bar reinforcement for structural concrete: CSA G30.18, Grade 400 W.

4.1.2. Minimum yield strengths for deformed bar reinforcement: fy = 400 MPa

4.2. Minimum Concrete Cover to Reinforcement

Unless noted otherwise explicitly in these drawings

- External faces cast against soil, or rock: 75 mm
- Faces exposed to soil backfill, groundwater & weather:
 - (i) primary reinforcement 50 mm
 - (ii) stirrups, ties 40 mm
- Top of floor slab:
 - (i) primary reinforcement 40 mm

4.3. Tolerances

- On cover -0 mm, +10 mm
- On effective depth (from face opposite reinforcement) -10 mm, +10 mm
- On embedment and lap lengths -0 mm, no upper limit
- On standard hook dimensions -0 mm, no upper limit

4.4. Splices

4.4.1. All splice lengths not indicated explicitly on drawings are Type B, as defined by Clause 12.15.1 of CSA A23.3. Unless noted otherwise, minimum splice lengths are:

Bar	Top Bar (mm)	Other (mm)
10M	500	400
15M	700	550
20M	850	650
25M	1350	1050
30M	1600	1250
35M	1850	1450

(Note: Top bars have 300 mm or more of concrete cast below them.)

4.4.2. Locate reinforcement splices only where shown on the drawings. No supplementary splices are allowed without the prior written approval of the Engineer.

4.4.3. Welding of or to reinforcement is not permitted for any purpose except:

- a) if explicitly shown on the drawings.
- b) for lap splices of circular hoop reinforcement.

Tack-welding of reinforcement in lieu of wire-tying or for attaching embedded items to reinforcement is not permitted. Provide additional non-structural erection bars for any such tack-welding and ensure that no accidental welding to structural reinforcement occurs.

4.5. Fabricate bends and hooks of bars to CAN/CSA A23.1 unless otherwise dimensioned on the drawings.

4.6. Bend all steel reinforcement cold.

4.7. Spacing limits for reinforcement

4.7.1 Clear distance between parallel bars in a layer not less than 1.4 times the bar diameter, not less than 1.4 times the nominal maximum size of the coarse aggregate, and not less than 25 mm.

4.7.2 Where parallel reinforcement is placed in two or more layers, place bars in the upper layers directly above bars in the lowest layer.

4.8. Drawing Symbols

5. CONCRETE

5.1. Materials

5.1.1. Concrete

- Cement: To CSA A3000, Type GU
- Fly ash: To CSA A3000, Type F
- Aggregates: To CSA A23.1
- Admixtures: CSA A23.3, ASTM C260, ASTM C494 and ASTM C1017
- Calcium chloride admixtures not permitted

5.1.2. Specified concrete cylinder strength at 28 days:

Class	Category	f'c = 30 MPa
C30	Cast-in-place	

5.1.3. Grouts

- Non-shrink grout: cementitious pre-mixed grout, 40 MPa specified 28 day compressive strength.
- Epoxy grout: Hilti HY-200 as indicated on the drawings.

5.2. Do not add additional water to the concrete after batching and mixing in accordance with the mix design. The Engineer may reject any concrete to which additional water was added without further cause.

5.3. Do not place concrete without prior review and approval by the Engineer.

5.4. Locate construction joints as shown on the drawings. Do not make additional construction joints without the prior written approval of the Engineer.

5.5. Do not remove forms before the concrete achieves a cylinder strength of at least 70% of the specified compressive strength or twice the maximum stress present in the concrete after form removal.

5.6. Commence with curing of all surfaces immediately after stripping of forms.

5.7. Roughen all vertical and horizontal construction joints to minimum 5 mm amplitude by means of air/water jet blasting or bush-hammering to remove laitance and expose coarse aggregate. Simple roughening of freshly cast surface is not adequate.

5.8. Drawing Symbols

Construction joints: — — — — —

6. EMBEDMENTS

6.1. Materials

6.1.1(a) Carbon Steel (Galvanized)

- Anchor Rods: to ASTM F1554, Grade as specified
- Misc. metal parts of anchor rod assemblies: CSA G40.21M Grade 300W

6.1.1(b) Stainless Steel

- Anchor Rods: to ASTM F593, (Hilti HAS-SS) AISI 304/316 (Fu=586MPa)
- Misc. metal parts of anchor rod assemblies: ASTM A666, Type AISI 304

6.2. verification of Embedments

Ensure that required structural, mechanical, electrical or other embedments are accurately placed prior to concreting.

Do not place additional embedments for construction purposes without the prior written approval of the engineer.

6.3. Protect exposed ends of anchor bolts embedded in concrete from damage during and after concrete placement.

7. STRUCTURAL STEEL

7.1. Materials: to CSA G40.21M

Shapes	Grade	Yield stress
W Shapes	350W	350 MPa
C and L Shapes	300W	300 MPa
HSS Shapes	350W, Grade C	350 MPa
Structural Pipes	ASTM A53, Grade B	240 MPa
Plate & Bar	300W	300 MPa

7.2. Materials: to ASTM A653M

Shapes	Grade	Yield stress
Wall Cladding	Structural Quality GR.230	230 MPa
Cold Formed Sections	Structural Quality GR.345	345 MPa

7.3. Bolted Connections

7.3.1(a) Carbon Steel (Galvanized)

- Bolts: to ASTM A325 (Primary Structural Bolts)
- to ASTM A307 (Secondary Structural Bolts)
- Nuts: to ASTM A563M
- Washers: to ASTM F436M Type I.

- Install bolts by the turn-of-nut method in accordance with CAN/CSA S16.1.

7.4. Welded Connections

- Welding: to CSA W59M
- (a) For Grade 300W, 350W, 350W Grade C E49XX equivalent
- (b) For A53 Grade B steel E43XX equivalent

Unless noted otherwise on drawings.

- Perform all welding using welders certified in accordance with the requirements of CSA W47.1.
- Unless noted otherwise, welds are 6 mm continuous fillet welds.

7.5. Unless shown otherwise, all gusset plates are 10 mm thick.

8. FOUNDATIONS

8.1. Backfill all excavations with clean, frost-stable granular fill as approved by the Geotechnical Engineer.

8.2. The foundation inverts to be prepared per the Geotechnical Engineers Recommendations.

8.3. The foundation inverts to be reviewed by the Geotechnical Engineer prior to casting concrete.

8.4. Keep excavations free of standing water at all times.

8.5. The foundation levels given on the drawings are anticipated levels. The final foundation levels will be determined by the Engineer based on actual site conditions.

9. TEMPORARY STRUCTURES

9.1. Design and detail all temporary structures, in particular the excavation support system. Submit the design and drawings for such structures to the Engineer for approval prior to construction.

9.2. Maintain all structures in a stable condition during construction and ensure at all times that no part of the structure is overstressed due to the construction activities.

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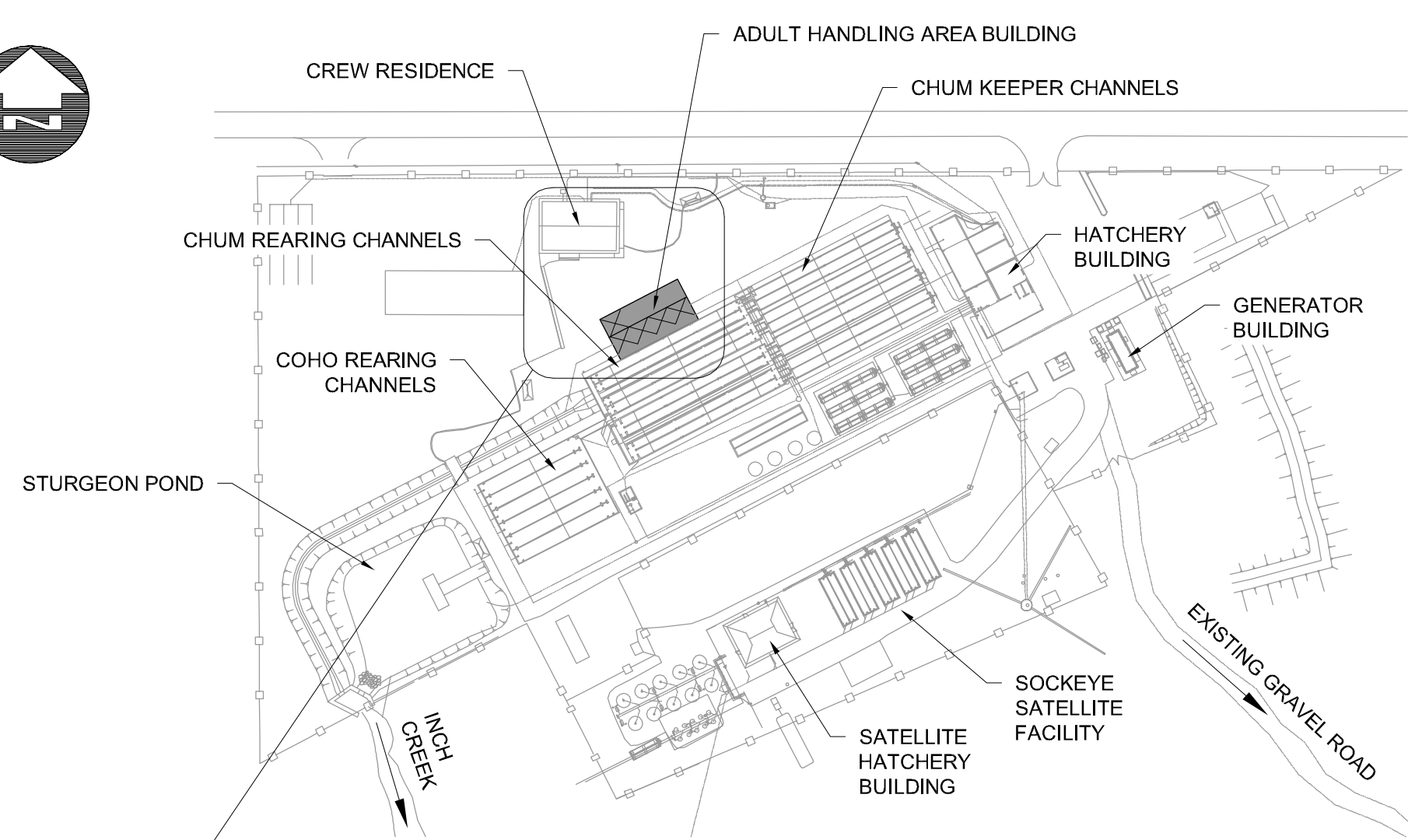
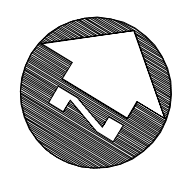
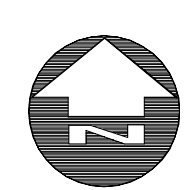
**DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
GENERAL ARRANGEMENT**

NOTES

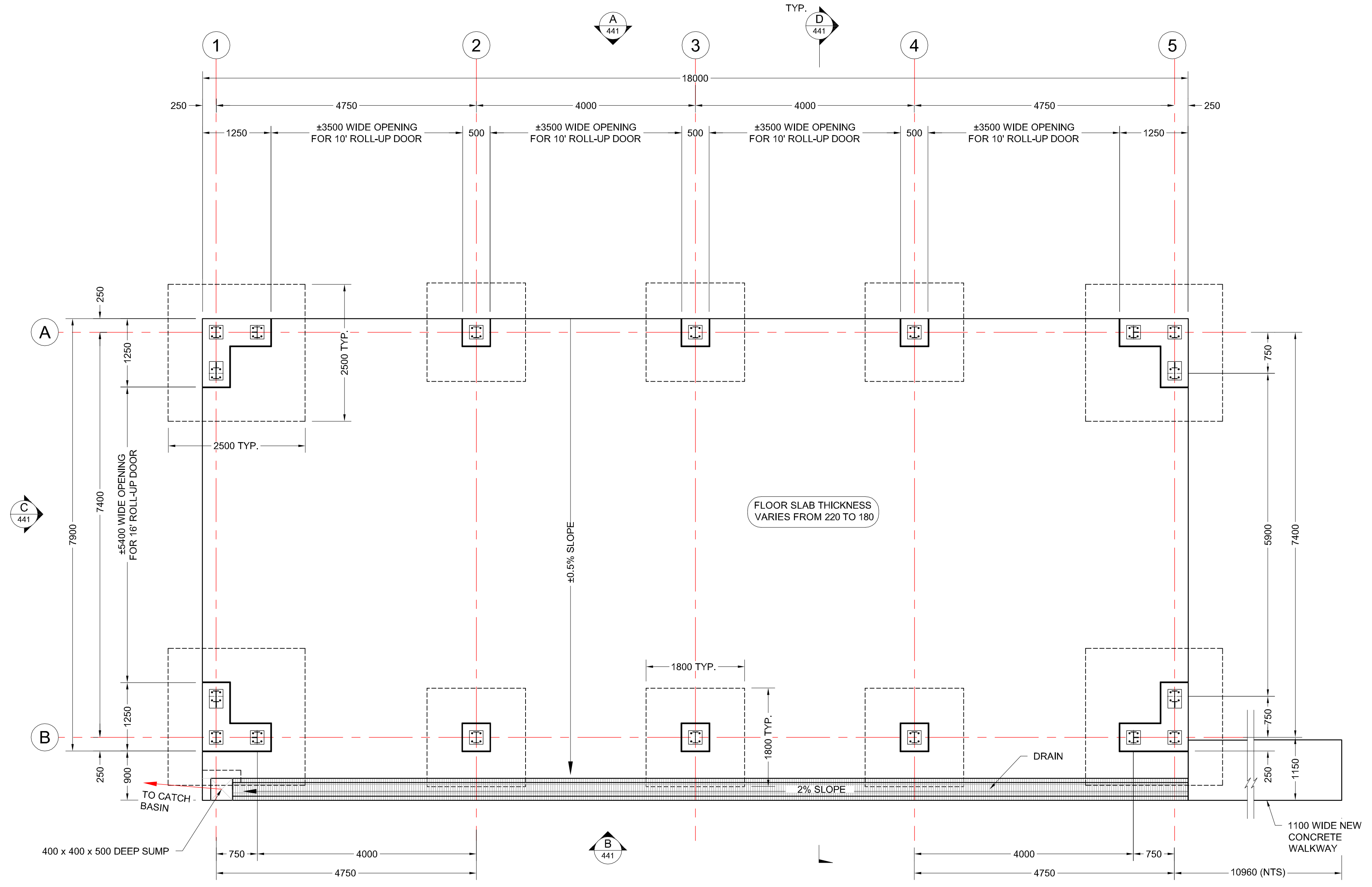
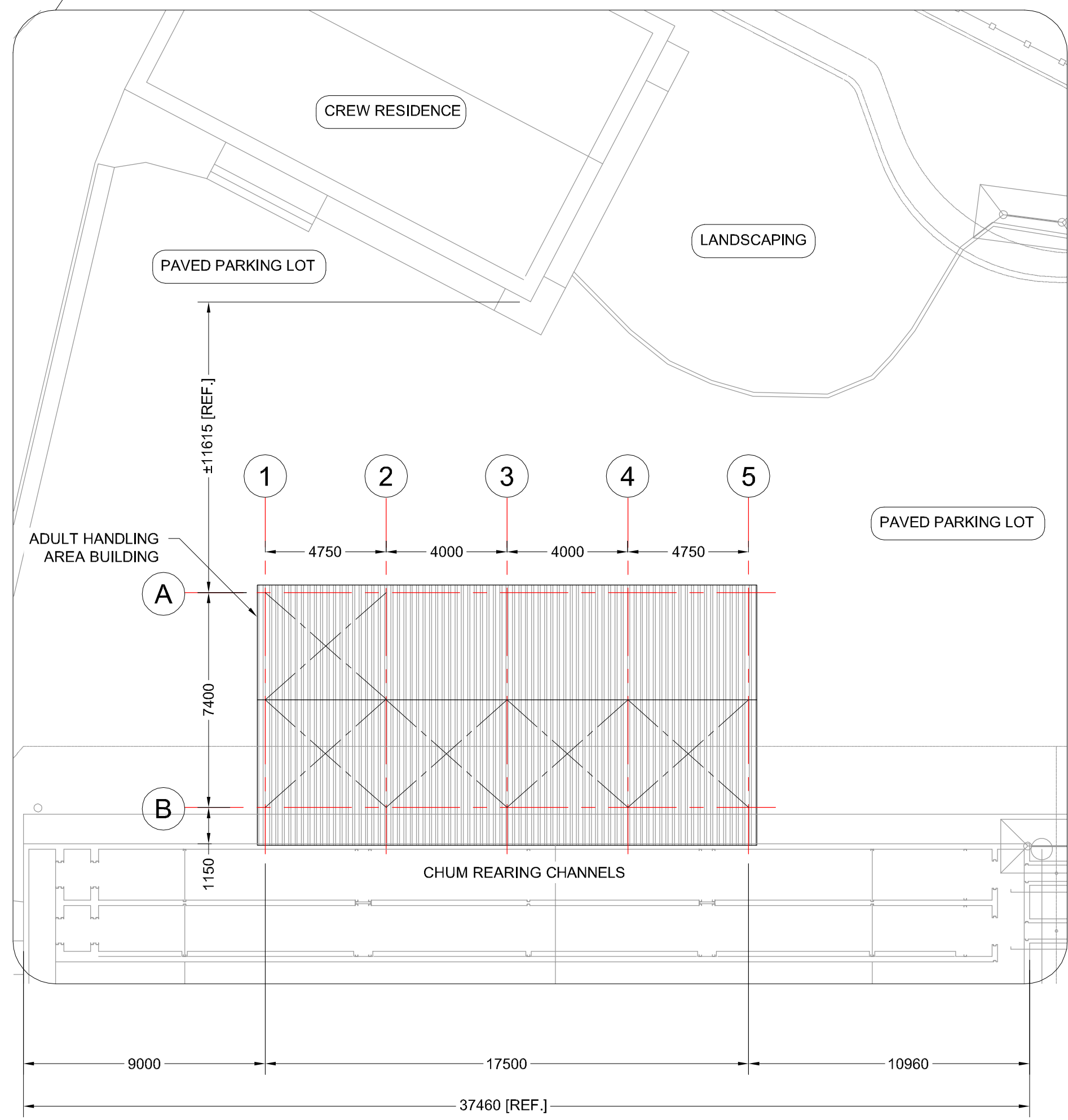
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Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision	Notes
0	26 MAY 17	PB	PB	GY	GY	ISSUED FOR TENDER	





KEY PLAN - AREA LAYOUT
SCALE: NTS




PLAN
SCALE: 1:50

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 **FISHERIES AND OCEANS CANADA**
REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
GENERAL ARRANGEMENT
PLAN

Scale 1:50  Drawing Number **11-31-440** Rev. **0**

439-441 General Arrangement_working.dwg PLOT DATE: May/26/17 01:24 PM SAVE DATE: May/26/17 01:22 PM AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE.

Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	PB	GY	GY	ISSUED FOR TENDER

Notes:

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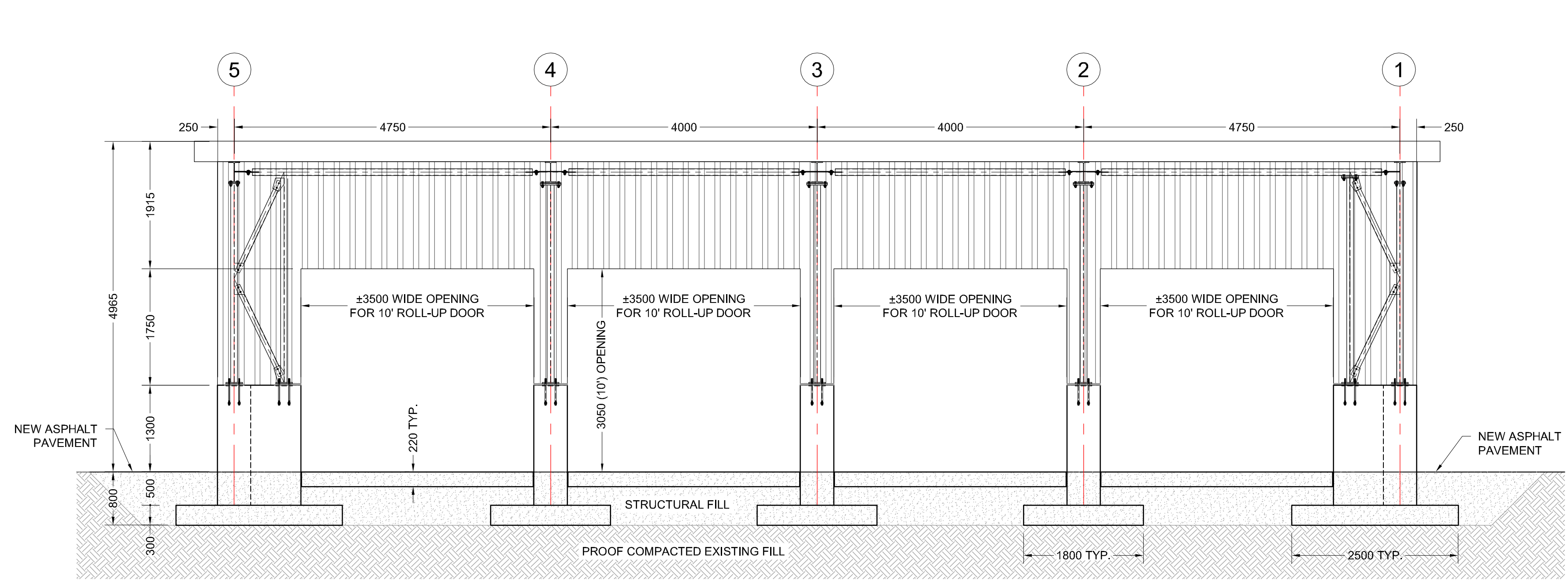
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AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE

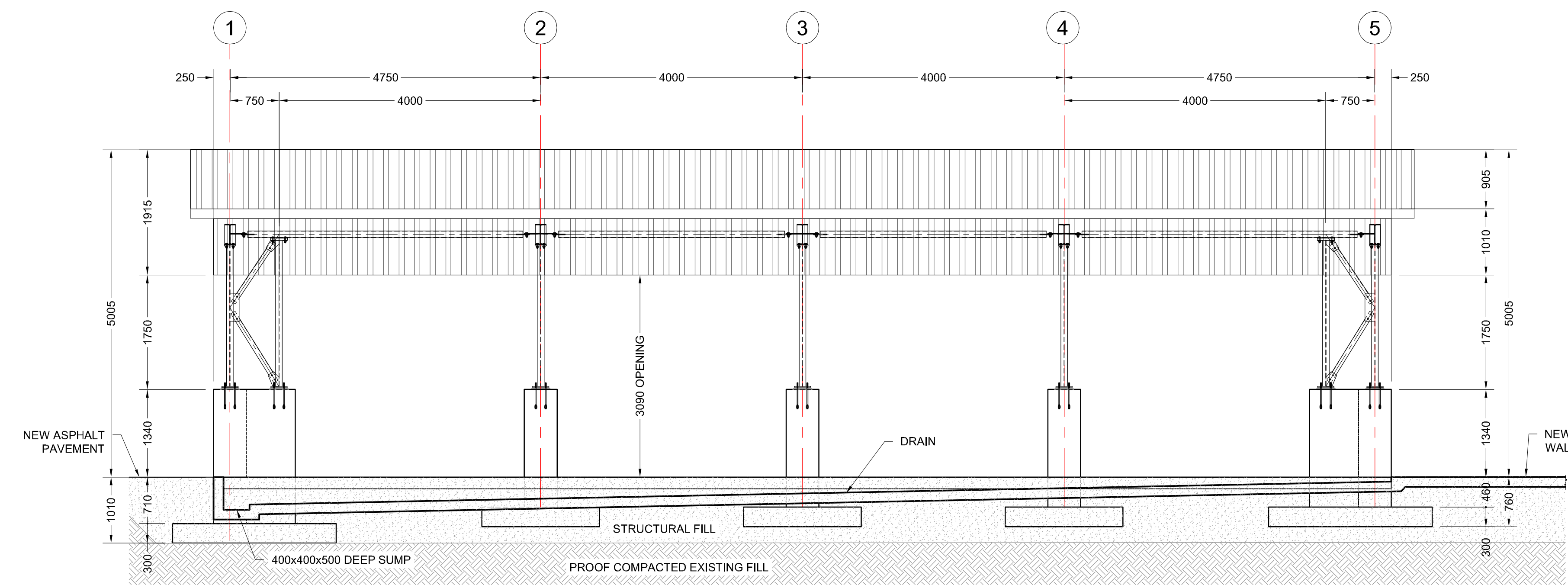
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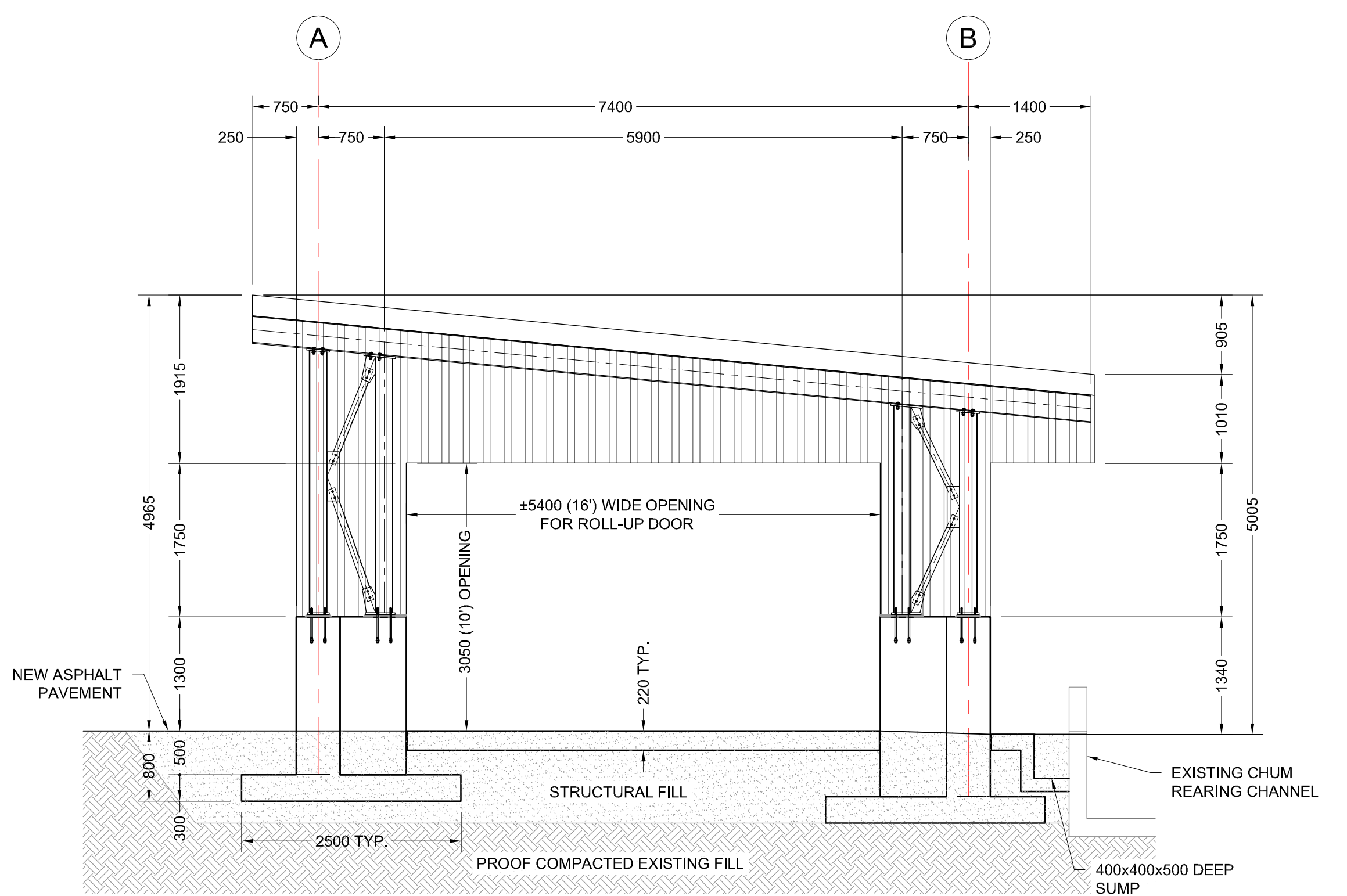
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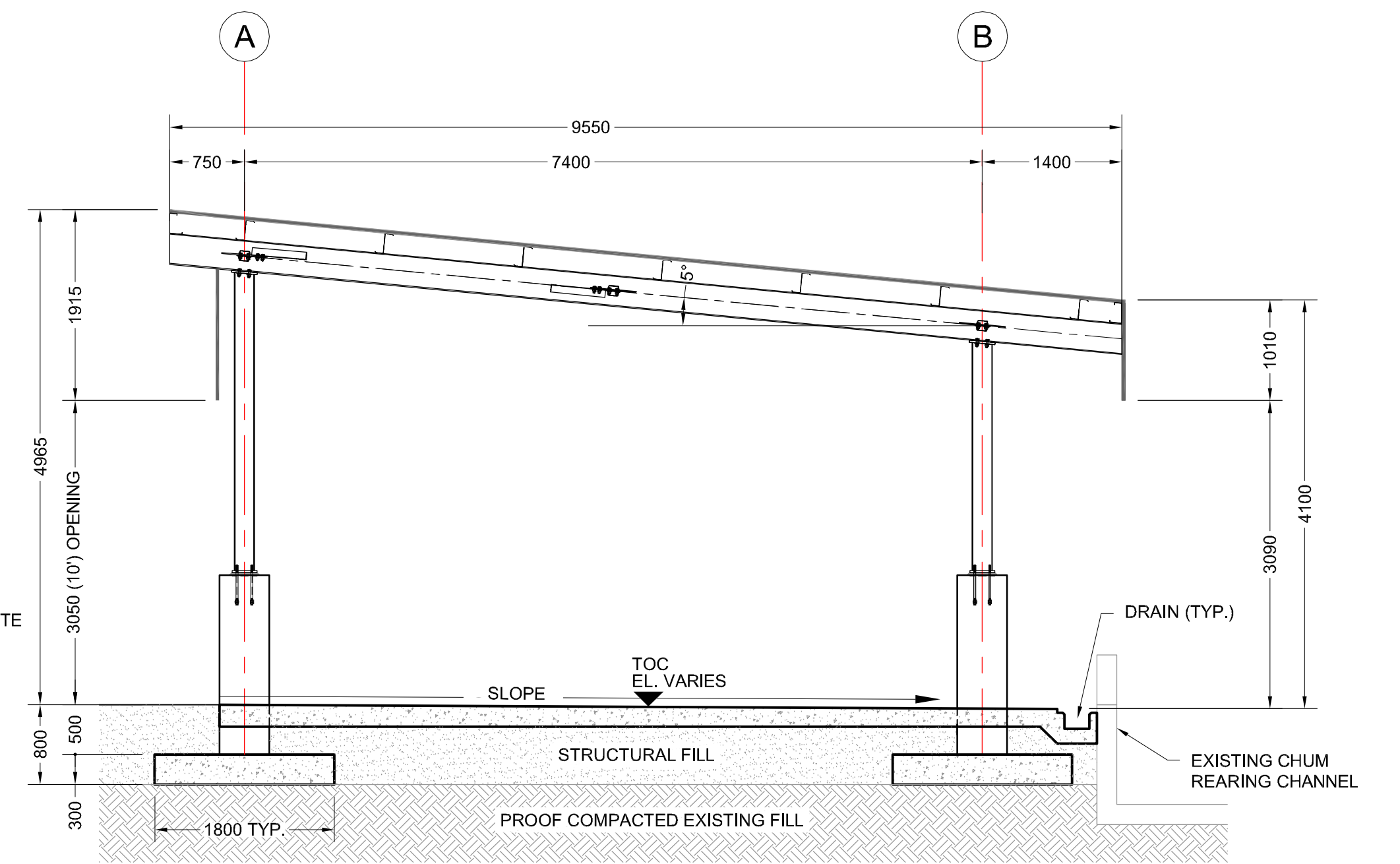
A ELEVATION
440 SCALE: 1:50



B ELEVATION
440 SCALE: 1:50



C ELEVATION
440 SCALE: 1:50



D SECTION
440 SCALE: 1:50

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FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
GENERAL ARRANGEMENT
ELEVATIONS AND SECTION

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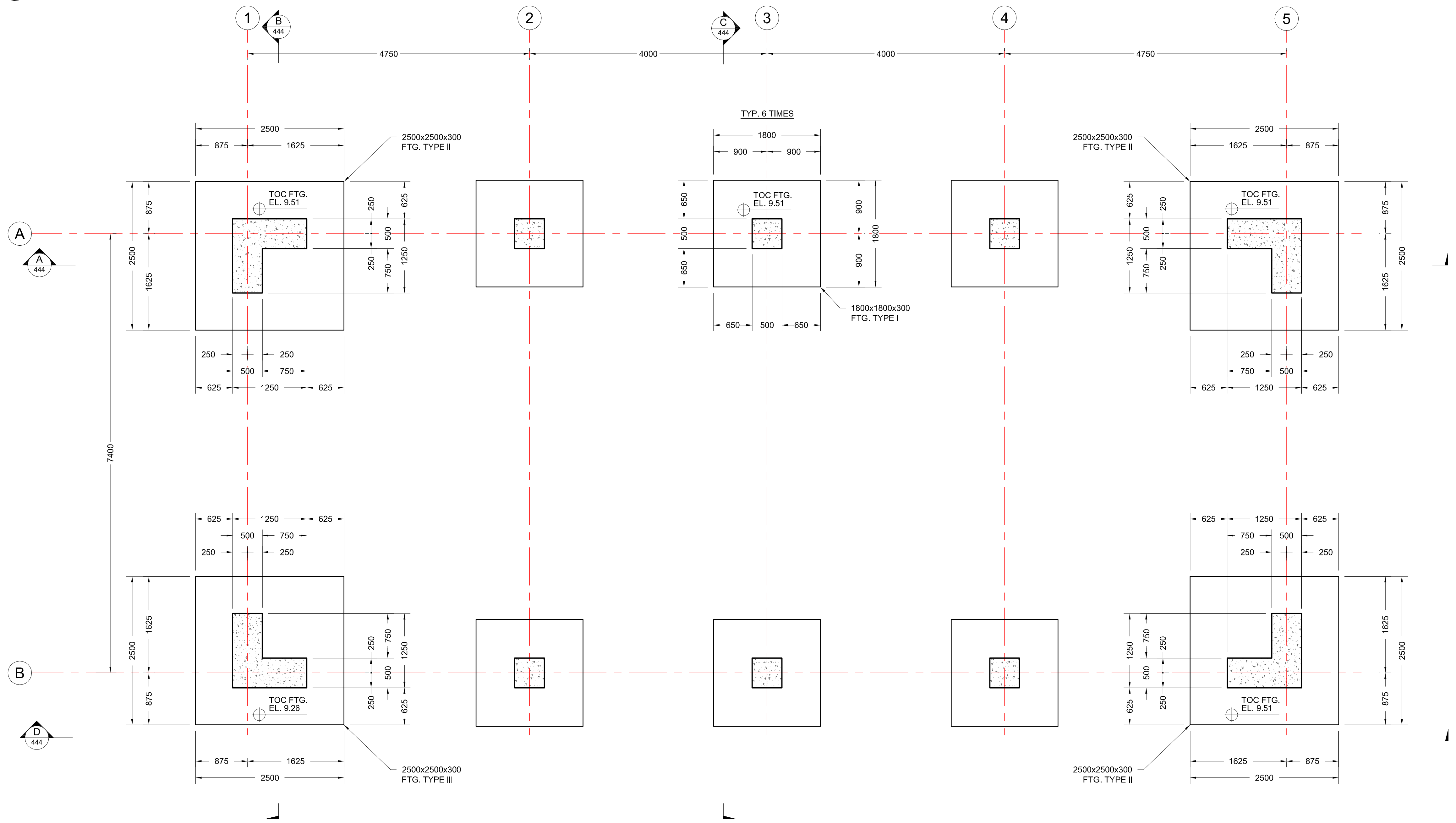
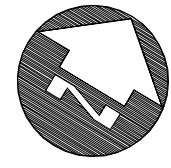
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11-31-441
Rev. **0**

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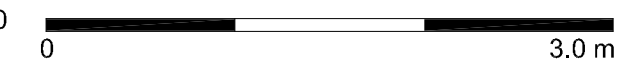


PLAN - AT EL. 9.51
SCALE: 1:40 (TOC FOOTING)

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DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
STRUCTURE OUTLINE
FOUNDATION -PLAN

Scale 1:40  3.0 m

Drawing Number **11-31-442** Rev. **0**

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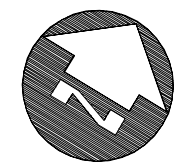
442-445 Structure Outline_working.dwg

Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	AGO	PB	GY	ISSUED FOR TENDER

Notes:
1.1. REFER DRAWING 11-31-439 FOR COMPLETE STRUCTURAL NOTES.
1.2. DEFINITIONS
TOC - TOP OF CONCRETE
WP - WORKING POINT

Seal

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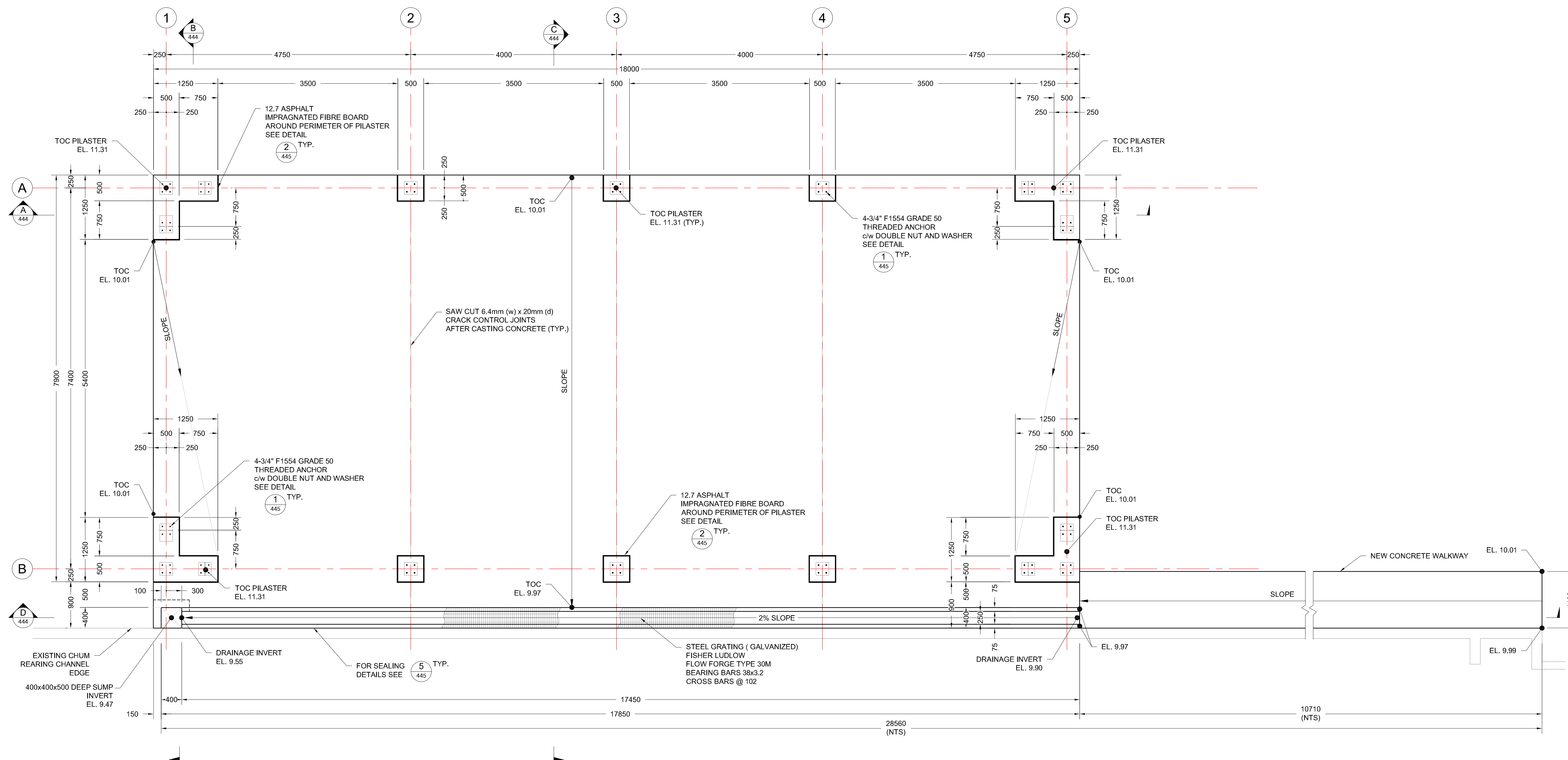


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PLOT DATE: May/26/17 01:28 PM

442-445 Structure Outline_working.dwg



PLAN - AT EL. 11.31
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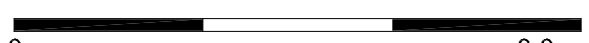
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 REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
STRUCTURE OUTLINE
PLAN

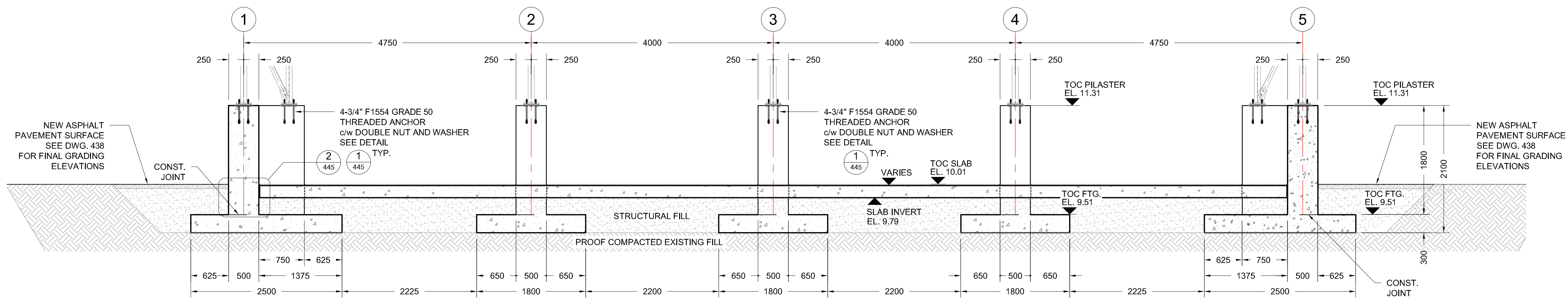
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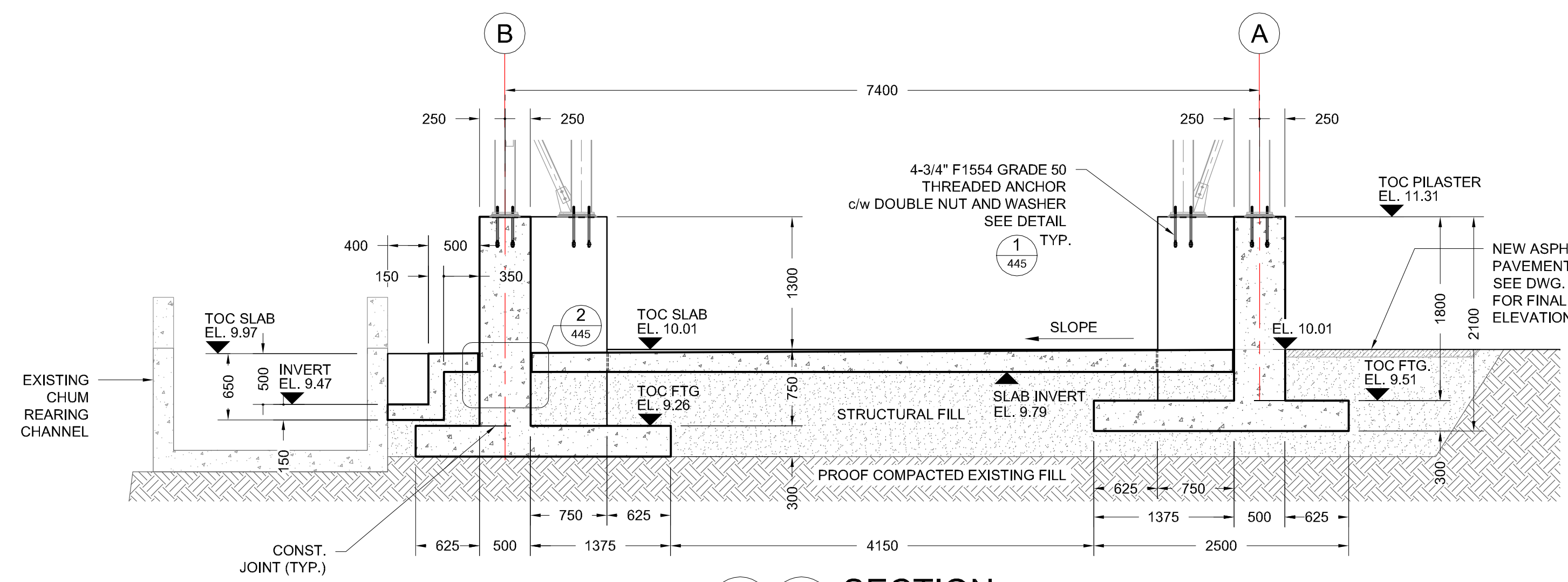
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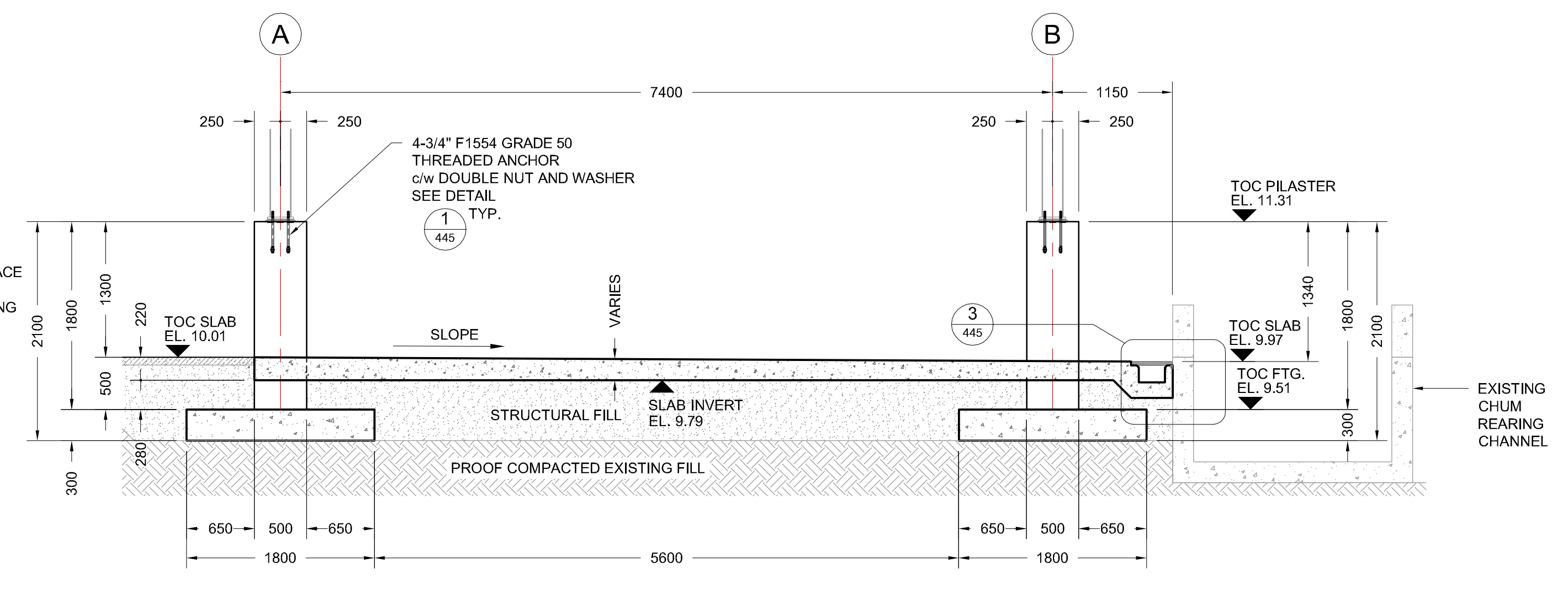
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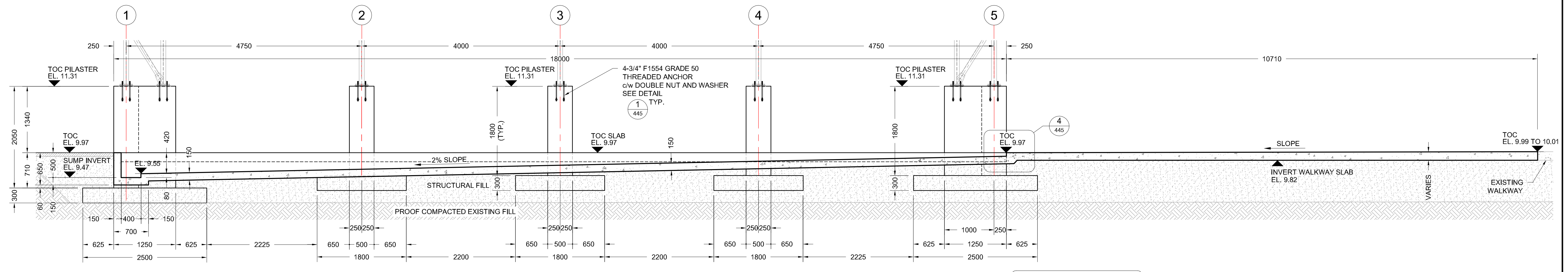
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B SECTION
442 443 SCALE: 1:40



C SECTION
442 443 SCALE: 1:40



D SECTION
442 443 SCALE: 1:40

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REAL PROPERTY AND TECHNICAL SUPPORT

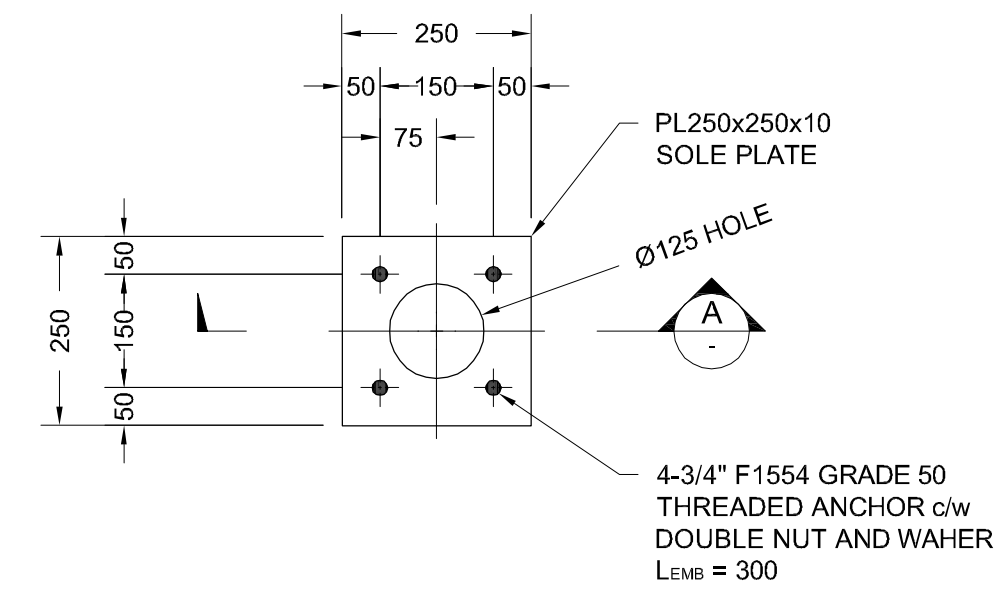
DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
STRUCTURE OUTLINE
SECTIONS

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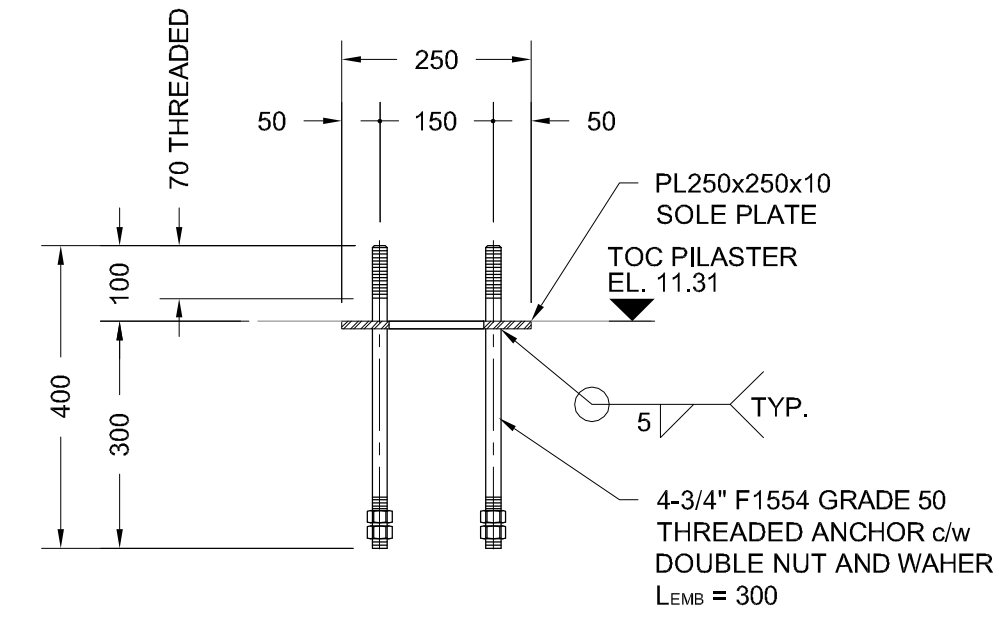
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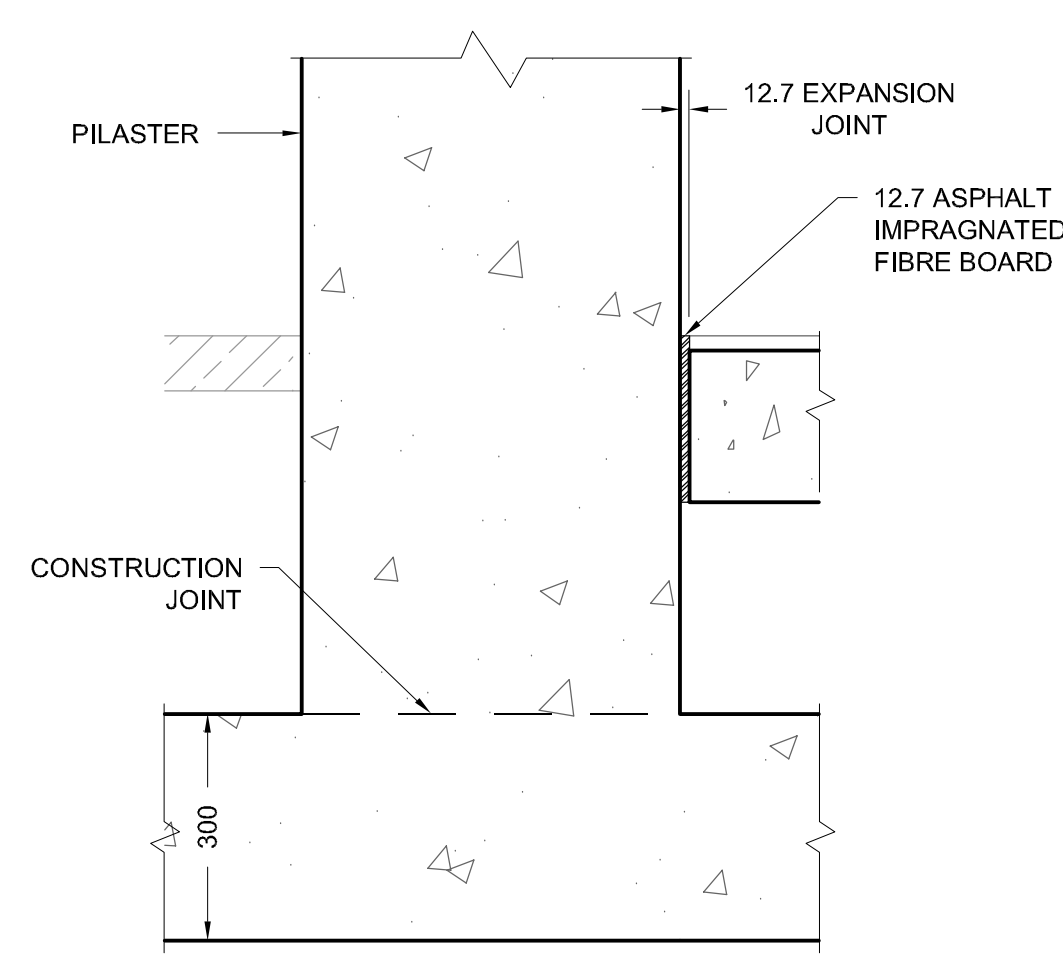
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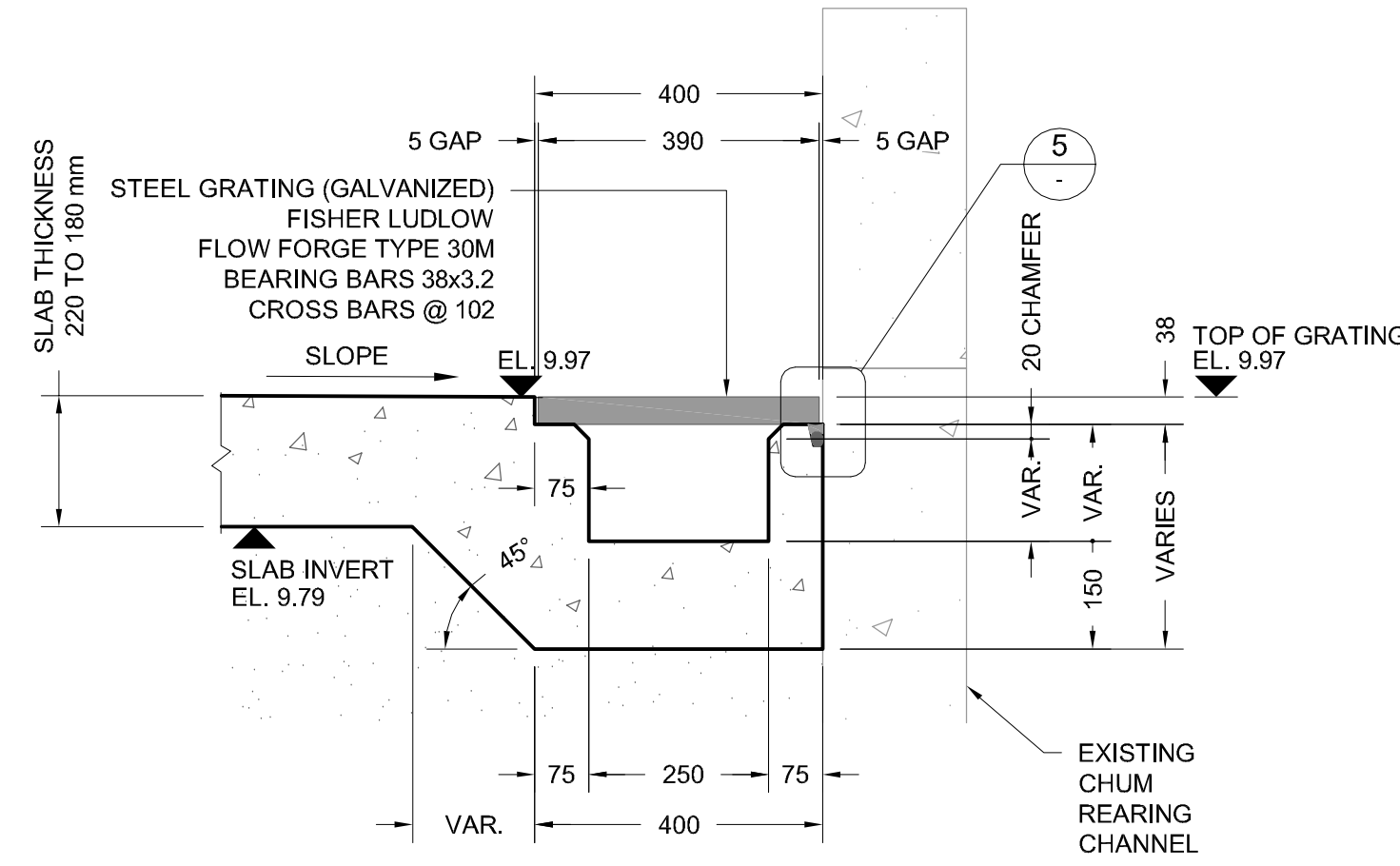
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443 444 **DETAIL - ANCHORAGE**
SCALE: 1:10



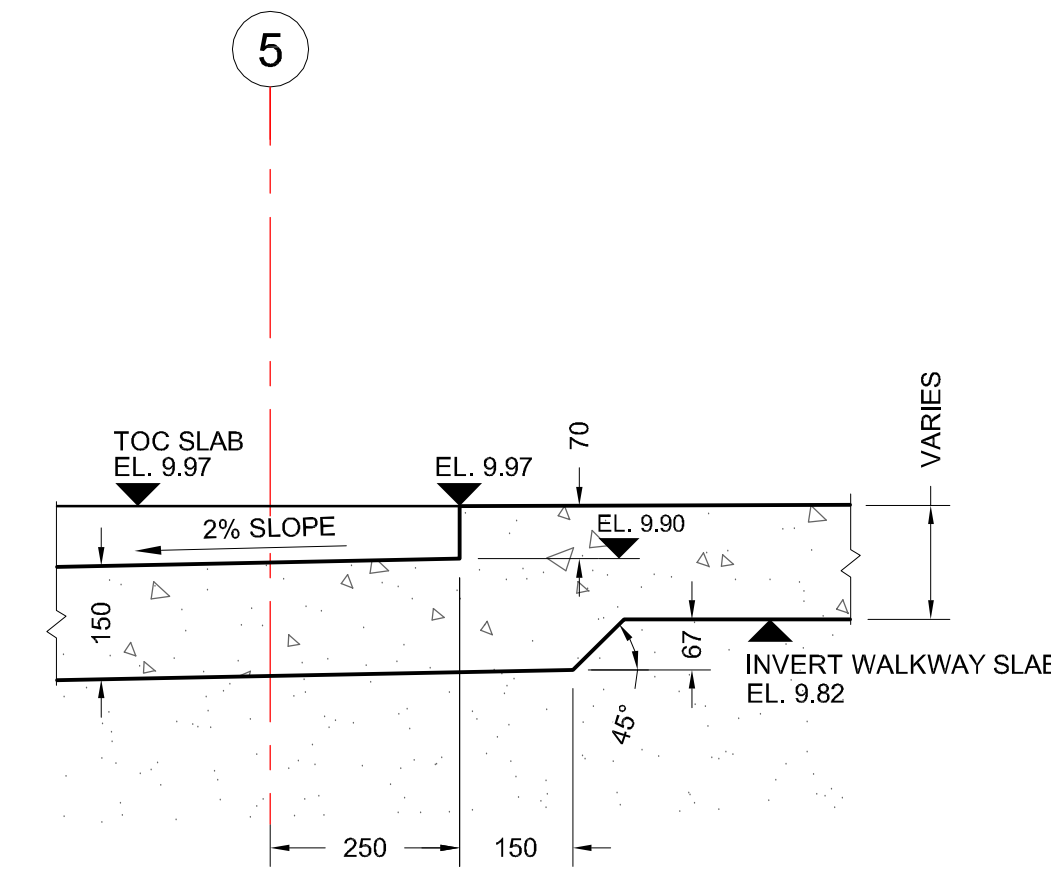
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- **SECTION**
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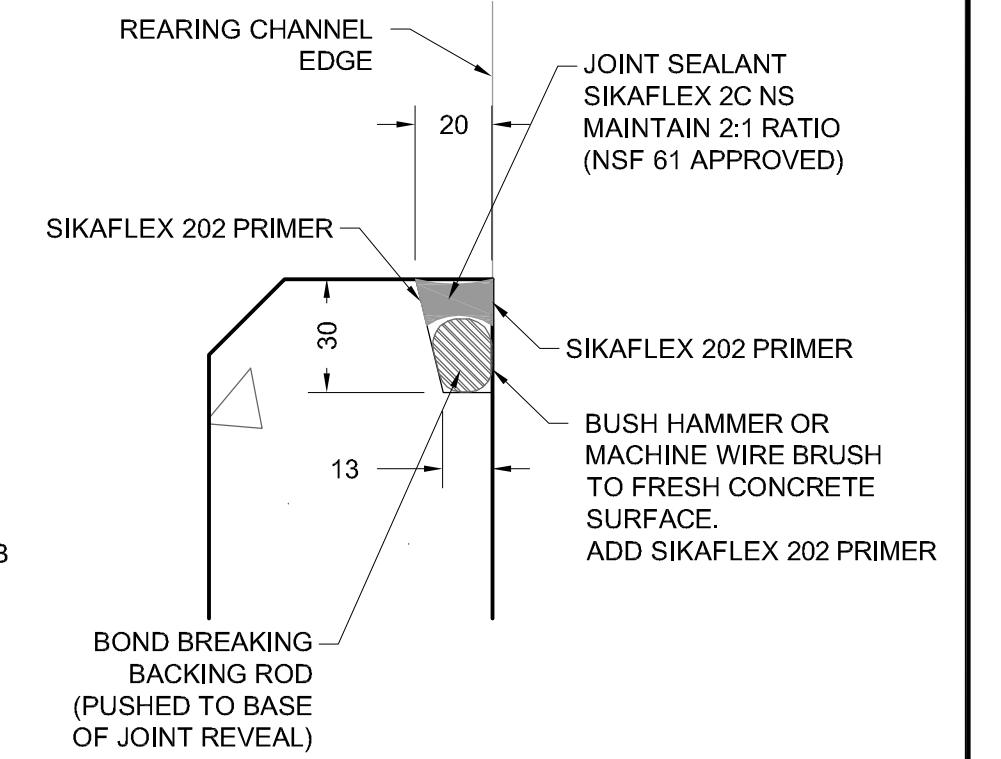
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443 444 **DETAIL - EXPANSION JOINT**
SCALE: 1:10



3
444 **DETAIL**
SCALE: 1:10



4
444 **DETAIL**
SCALE: 1:10



5 **5**
443 - **DETAIL**
SCALE: 1:2

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FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
STRUCTURE OUTLINE
DETAILS

Scale 1:10
0 800 mm

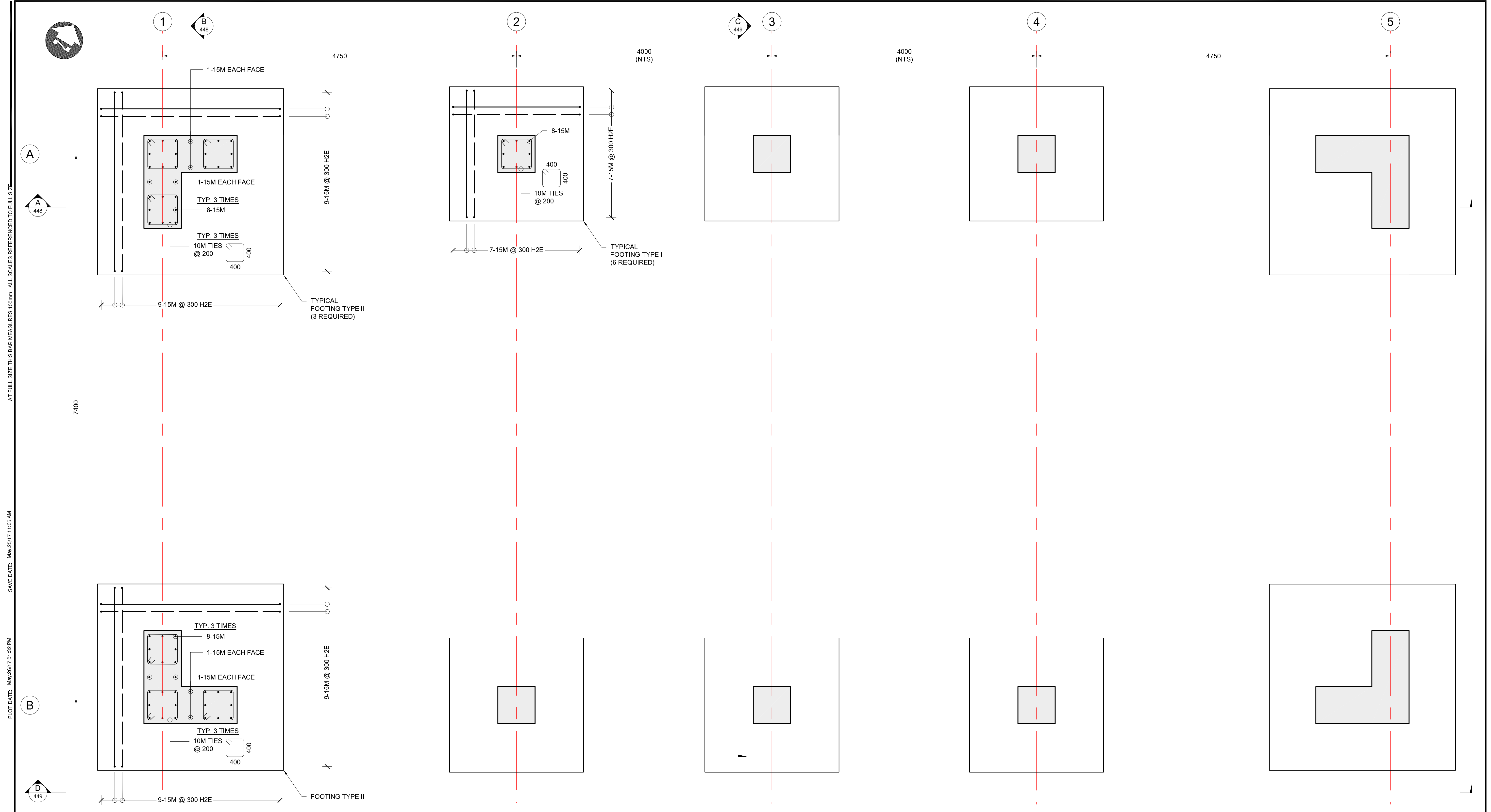
Drawing Number
11-31-445
Rev.
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Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	AGO	PB	GY	ISSUED FOR TENDER

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PLAN - AT EL. 9.51
SCALE: 1:25 (TOC FOOTING)

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 **FISHERIES AND OCEANS CANADA**
REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
REINFORCEMENT
FOUNDATION -PLAN

Scale 1:25  Drawing Number **11-31-446** Rev. **0**

Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	AGO	PB	GY	ISSUED FOR TENDER

Notes:
1.1. REFER DRAWING 11-31-439 FOR COMPLETE STRUCTURAL NOTES.

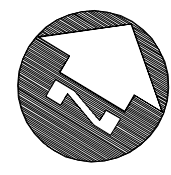
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446-449 Reinforcement_working.dwg

PLOT DATE: May 28/17 01:32 PM

SAVE DATE: May 28/17 11:05 AM

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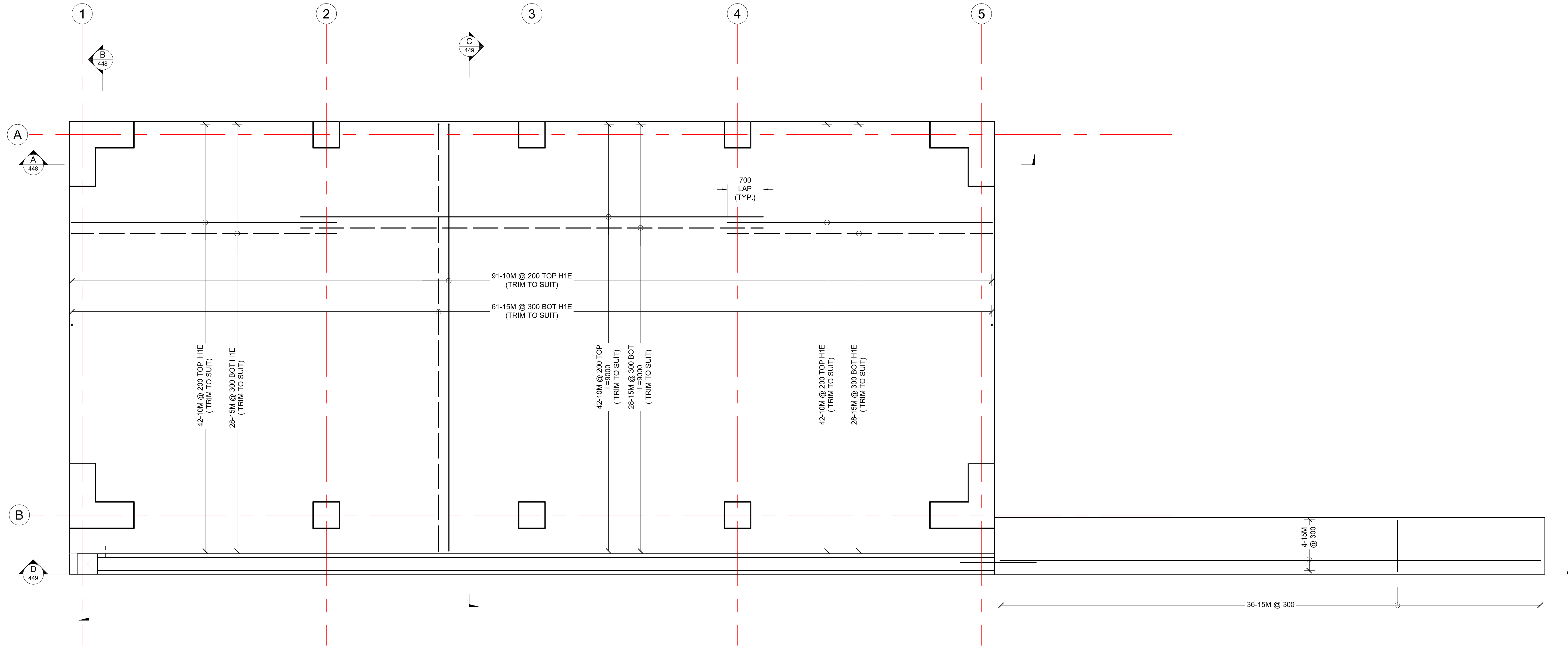


AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE

SAVE DATE: May/26/17 01:32 PM

PLOT DATE: May/26/17 01:32 PM

446-449 Reinforcement_working.dwg



PLAN - AT EL. 11.31
 SCALE: 1:40 (TOC PILASTER)

ISSUED FOR TENDER
 NOT FOR CONSTRUCTION



FISHERIES AND OCEANS CANADA
 REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
REINFORCEMENT
PLAN

Scale 1:40
 0 3.0 m

Drawing Number
11-31-447

Rev.
0

Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	AGO	PB	GY	ISSUED FOR TENDER

Notes:

Seal

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 Associates Ltd.

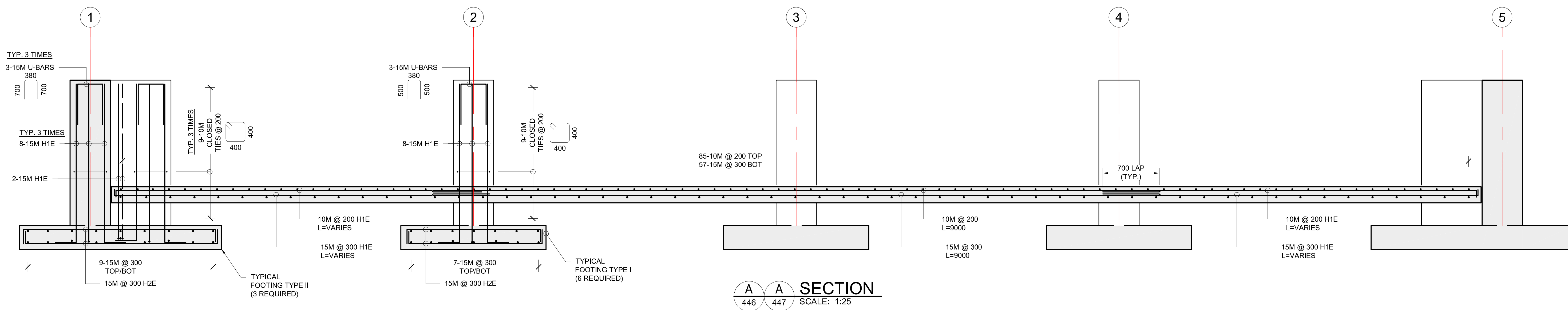
103 - 1718 Commercial Drive, Vancouver BC V5N 4A3 TEL: 1 604 254 3914 FAX: 1 604 254 3928 Email: info@gygax.com

AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE.

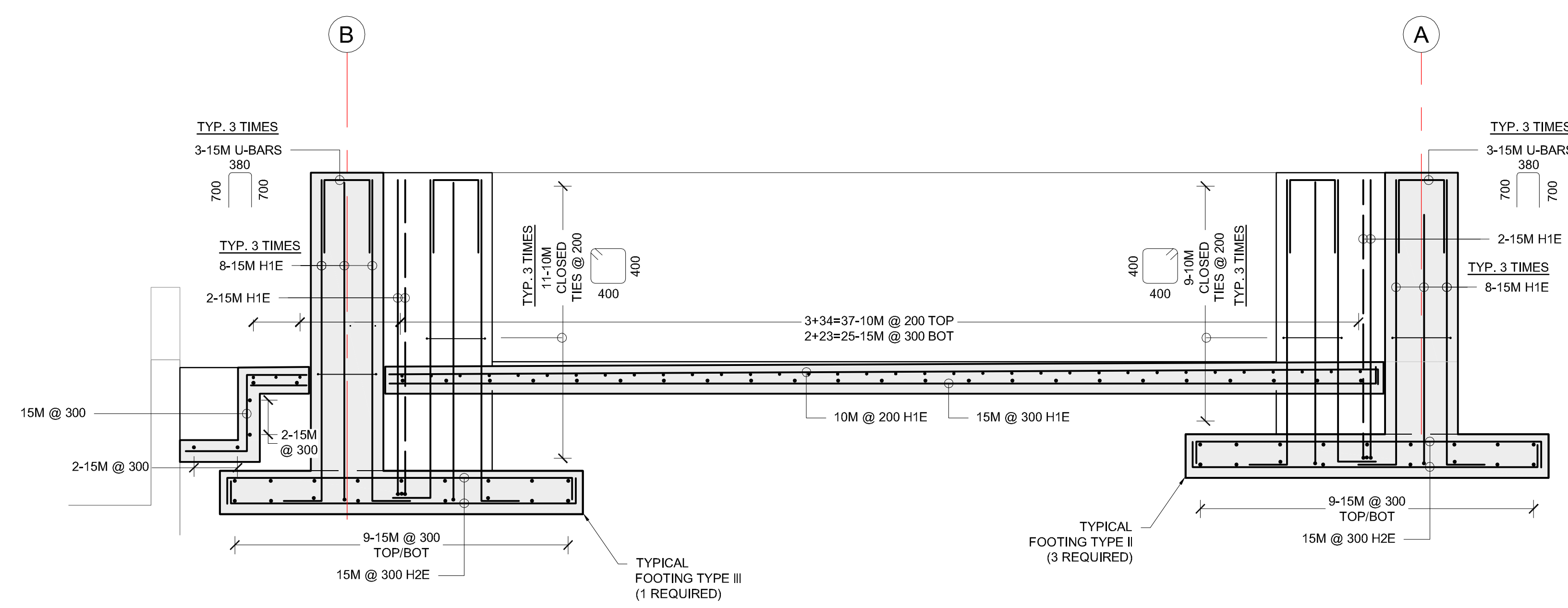
SAVE DATE: May/26/17 01:32 PM

PLOT DATE: May/26/17 01:35 PM

446-448 Reinforcement_working.dwg



A A SECTION
446 447 SCALE: 1:25



B B SECTION
446 447 SCALE: 1:25

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FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
REINFORCEMENT
SECTIONS

Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	AGO	PB	GY	ISSUED FOR TENDER

Notes:

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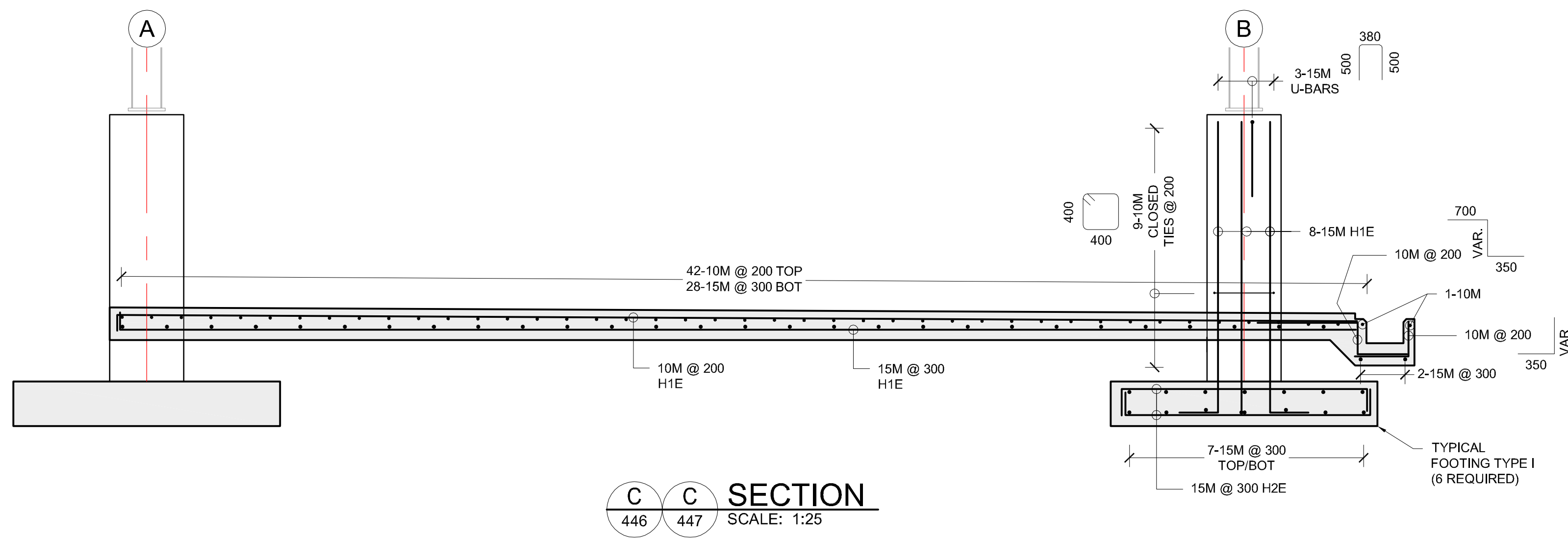
Scale 1:25 Drawing Number **11-31-448** Rev. **0**

AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE

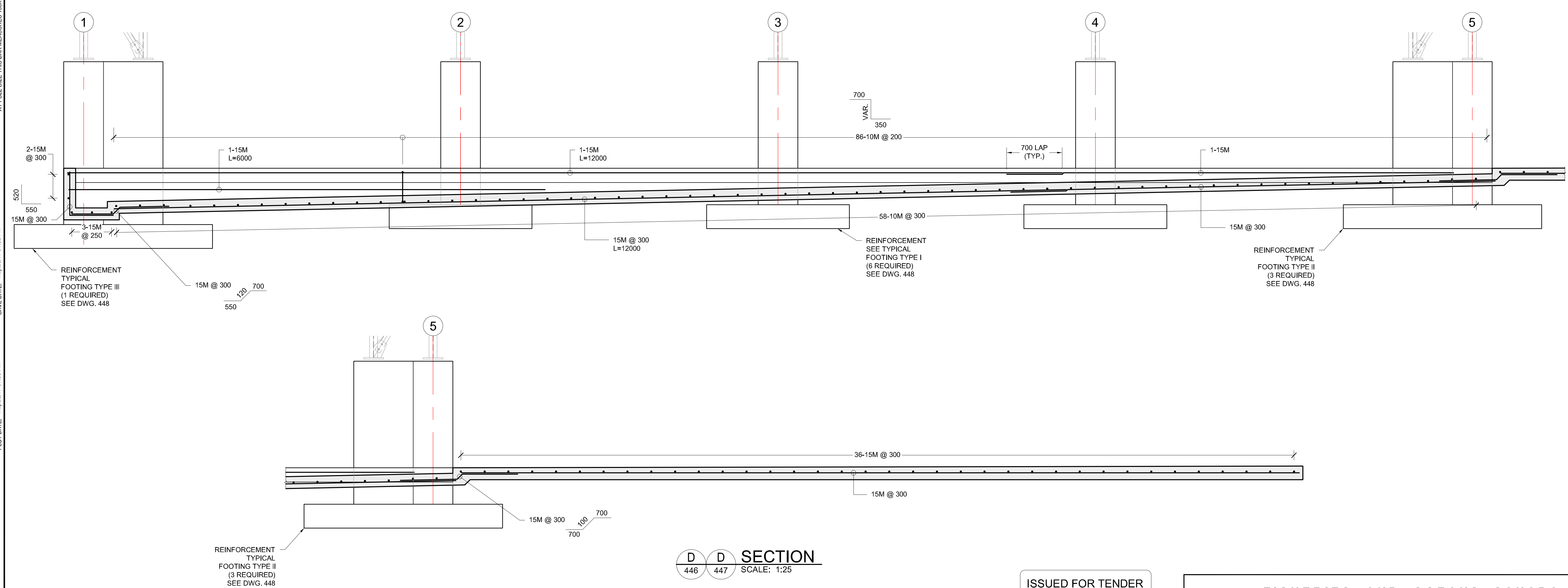
SAVE DATE: May/26/17 01:32 PM

PLOT DATE: May/26/17 01:36 PM

446-449 Reinforcement_working.dwg



C C SECTION
446 447 SCALE: 1:25



D D SECTION
446 447 SCALE: 1:25

ISSUED FOR TENDER
NOT FOR CONSTRUCTION

FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

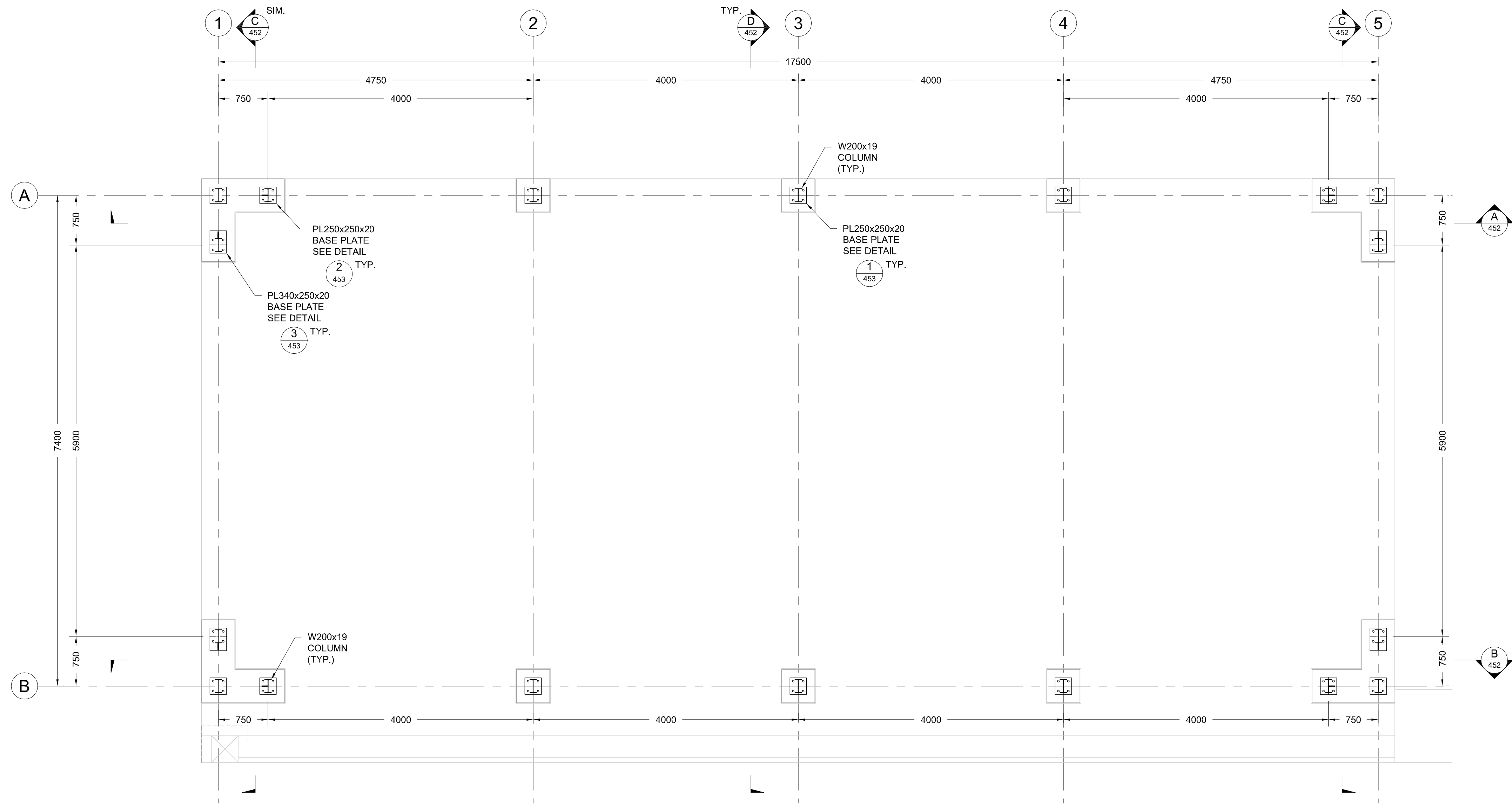
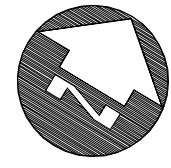
DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
REINFORCEMENT
SECTIONS

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Scale 1:25 0 2.0 m Drawing Number **11-31-449** Rev. **0**

Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	AGO	PB	GY	ISSUED FOR TENDER

Notes:



PLAN - AT EL. 11.31
SCALE: 1:40 (TOC PILASTER)

AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE

SAVE DATE: May/26/17 04:54 PM

PLOT DATE: May/26/17 04:54 PM

450-454 Primary Structural Steel_working.dwg

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FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
PRIMARY STRUCTURAL STEEL
PLAN

Scale 1:40
0 3.0 m

Drawing Number
11-31-450 Rev.
0

Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	AGO	PB	GY	ISSUED FOR TENDER

Notes:

1.1. REFER DRAWING 11-31-439 FOR COMPLETE STRUCTURAL NOTES.

1.2. DEFINITIONS
 TOC - TOP OF CONCRETE BOS - BOTTOM OF STEEL
 TOS - TOP OF STEEL WP - WORKING POINT



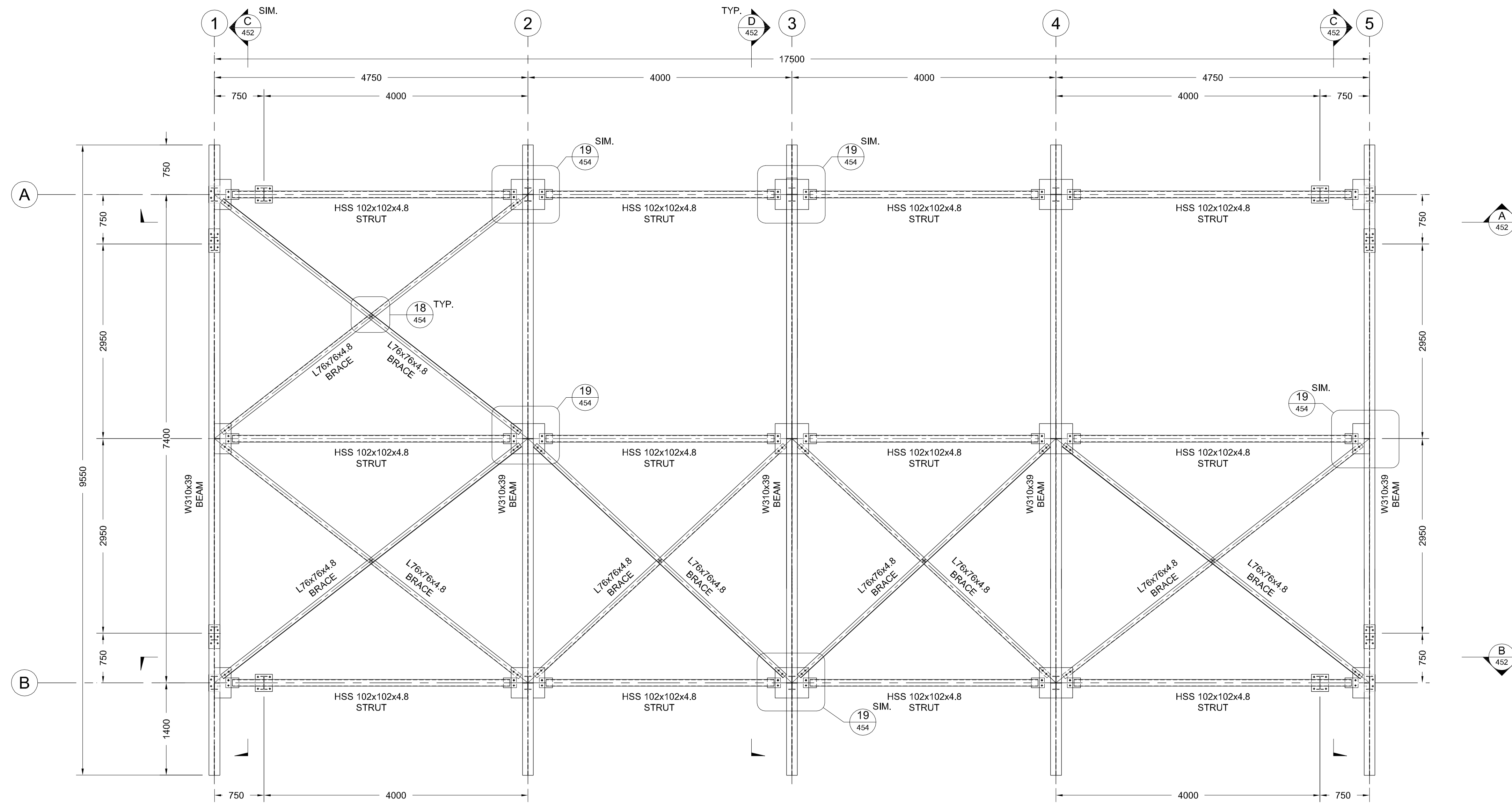
Seal

AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE

SAVE DATE: May/26/17 04:54 PM

PLOT DATE: May/26/17 04:55 PM

450-454 Primary Structural Steel_working.dwg



PLAN - ROOF
SCALE: 1:40

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FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
PRIMARY STRUCTURAL STEEL
PLAN

Scale 1:40
0 3.0 m

Drawing Number
11-31-451

Rev.
0

Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	AGO	PB	GY	ISSUED FOR TENDER

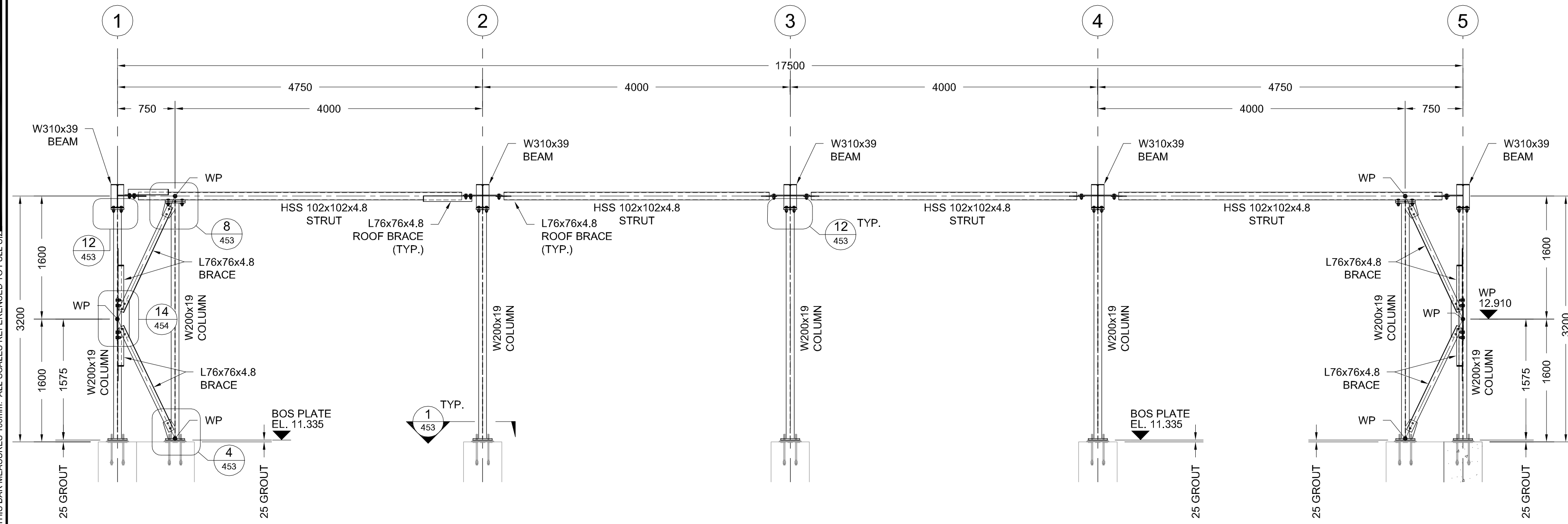
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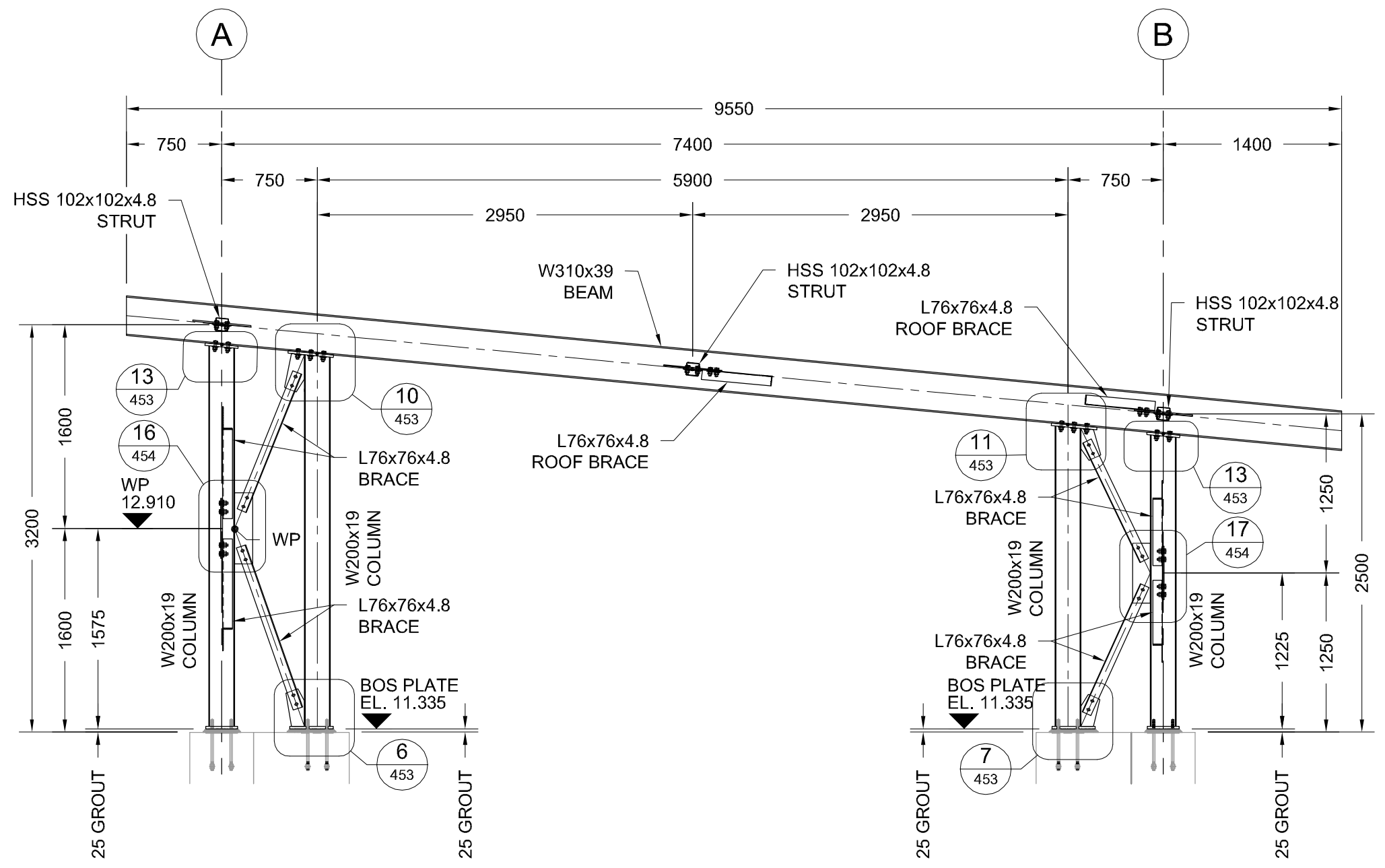
103 - 1718 Commercial Drive, Vancouver BC V5N 4A3 TEL: 1 604 254 3914 FAX: 1 604 254 3928 Email: info@gea.ca

Seal

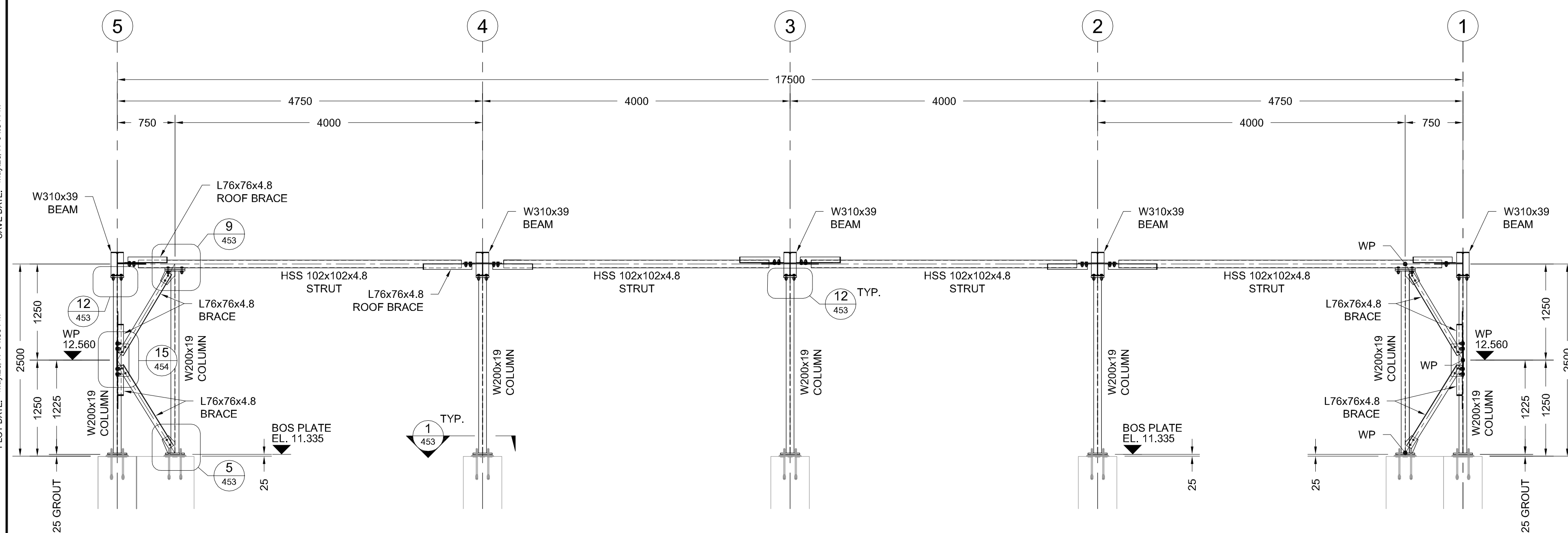
450-454 Primary Structural Steel_working.dwg
 PLOT DATE: May/26/17 04:56 PM
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 AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE



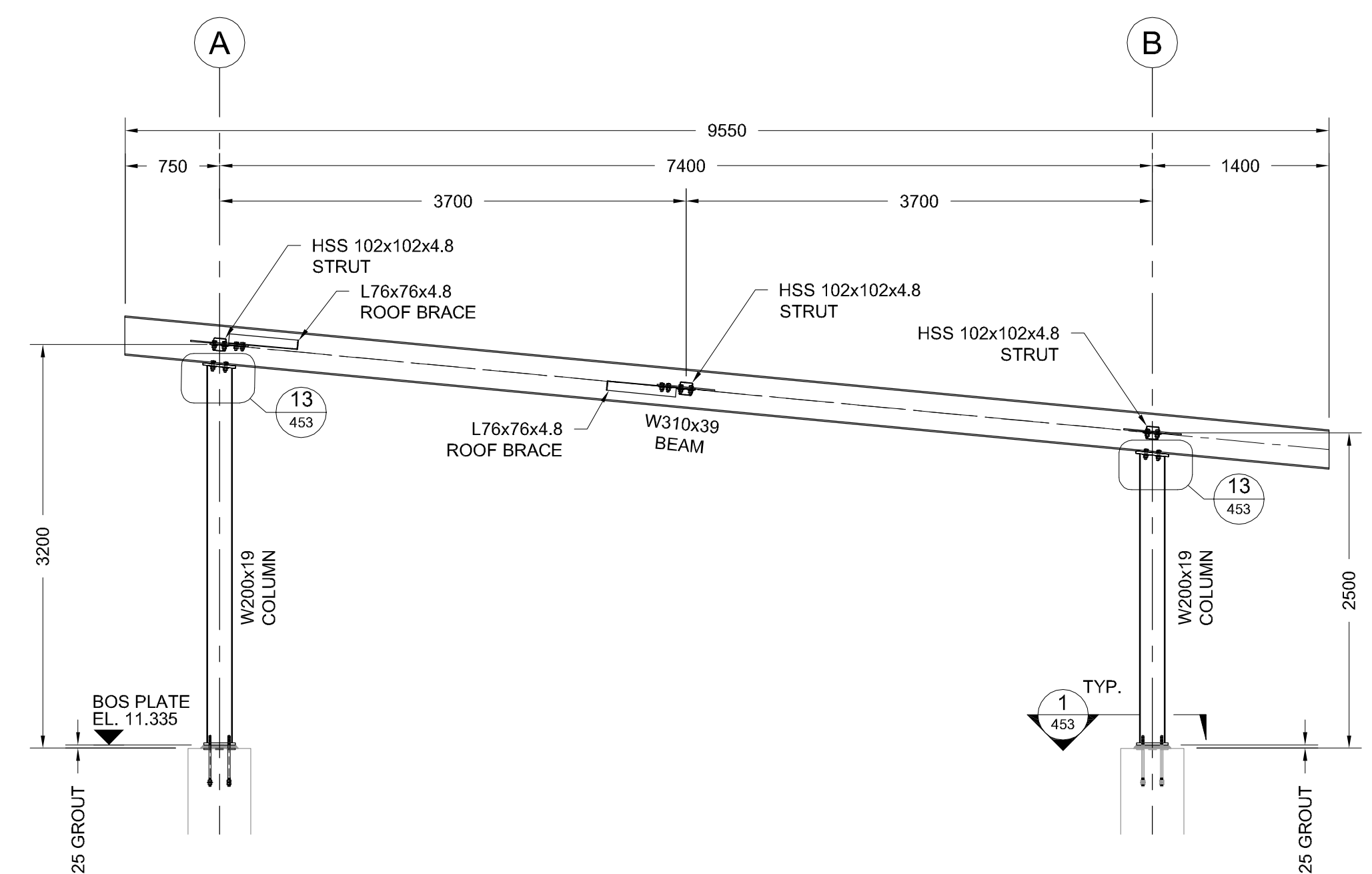
A A SECTION
450 451 SCALE: 1:40



C C SECTION
450 451 SCALE: 1:40



B B SECTION
450 451 SCALE: 1:40



D D SECTION
450 451 SCALE: 1:40

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FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
PRIMARY STRUCTURAL STEEL
SECTIONS

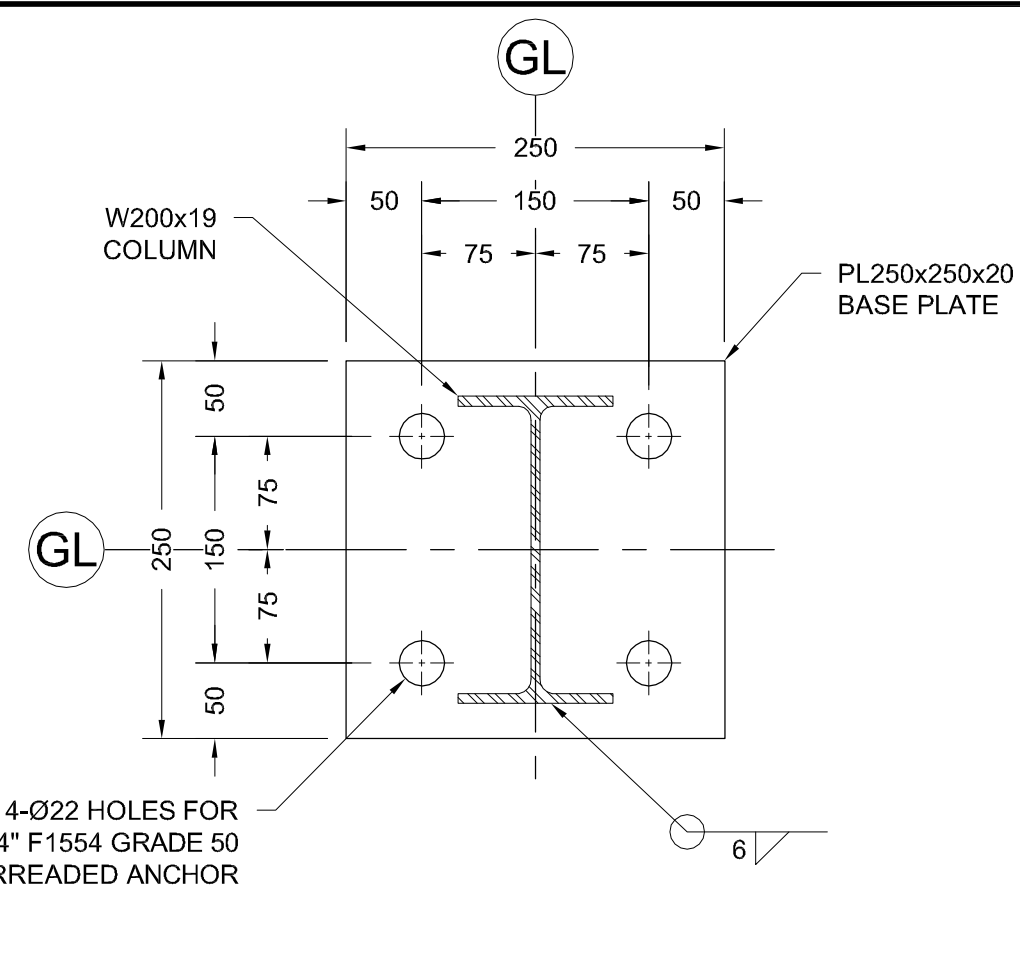
Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
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Notes:

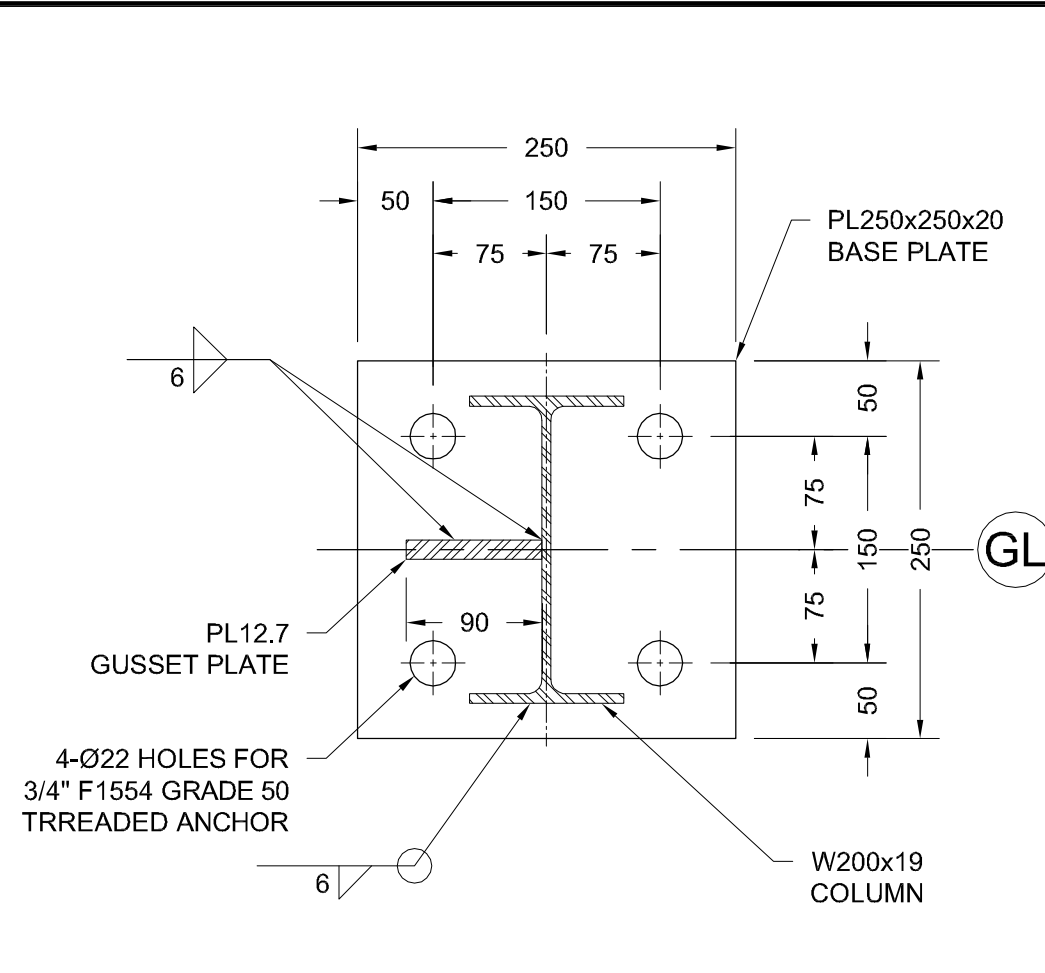
GEA Gygax
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Scale: 1:40
0 3.0 m
Drawing Number: **11-31-452**
Rev: **0**

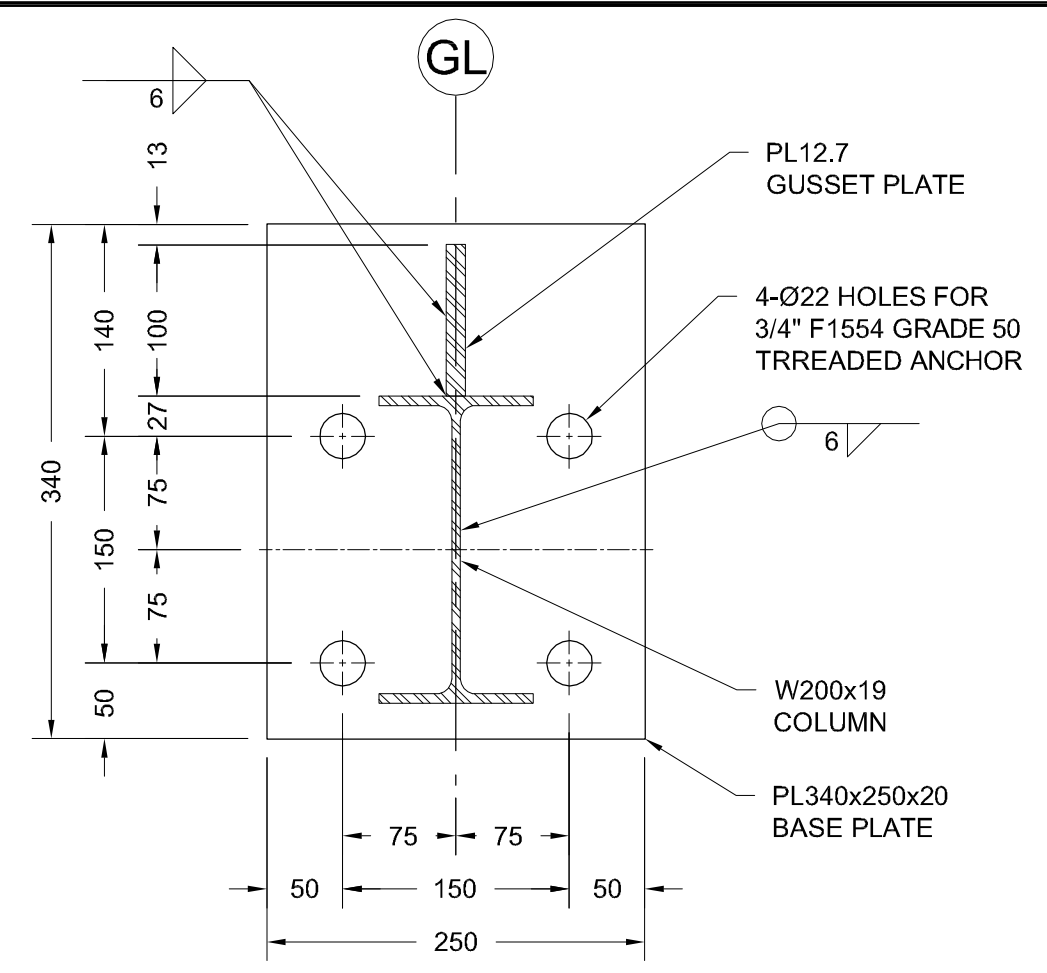
450-454 Primary Structural Steel_working.dwg
 PLOT DATE: May/26/17 04:56 PM
 SAVE DATE: May/26/17 04:54 PM
 AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE



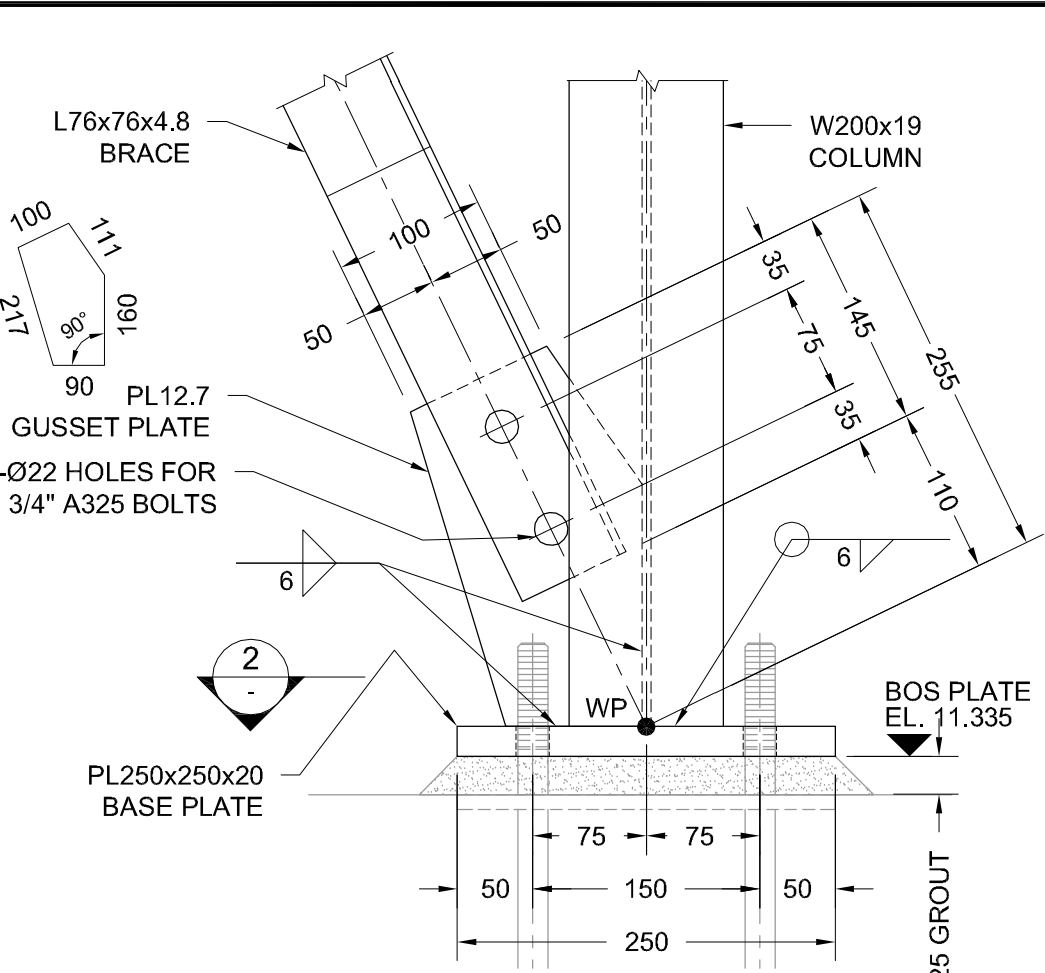
1 **1** **DETAIL**
450 452 SCALE: 1:5



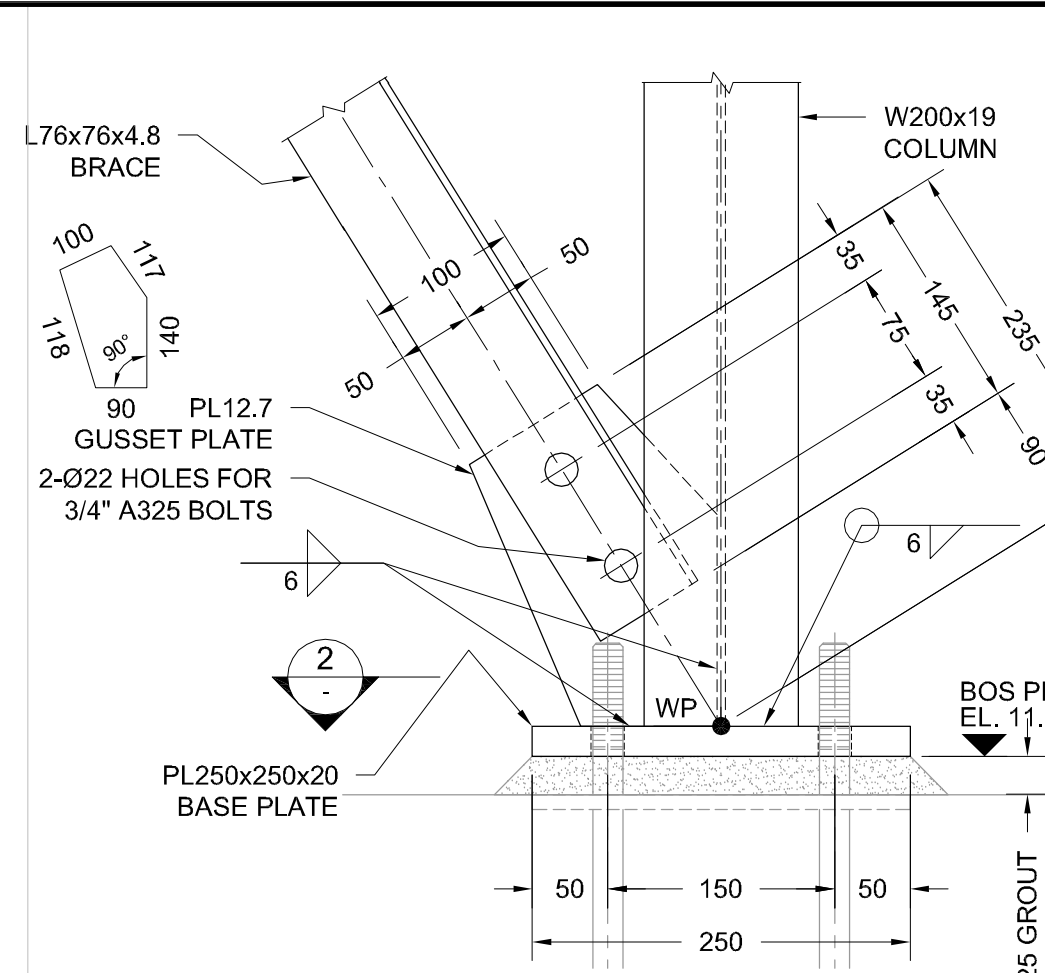
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450 452 SCALE: 1:5



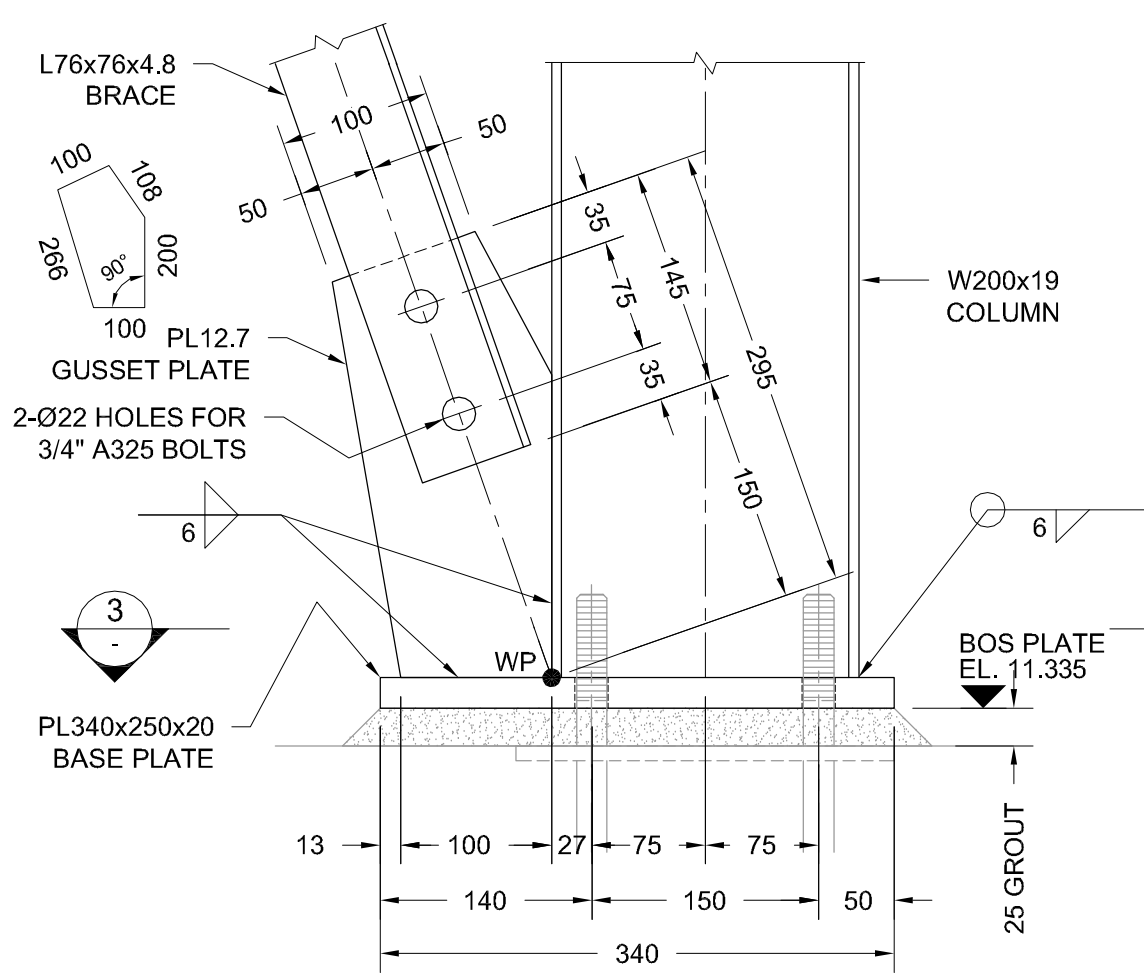
3 **3** **DETAIL**
450 452 SCALE: 1:5



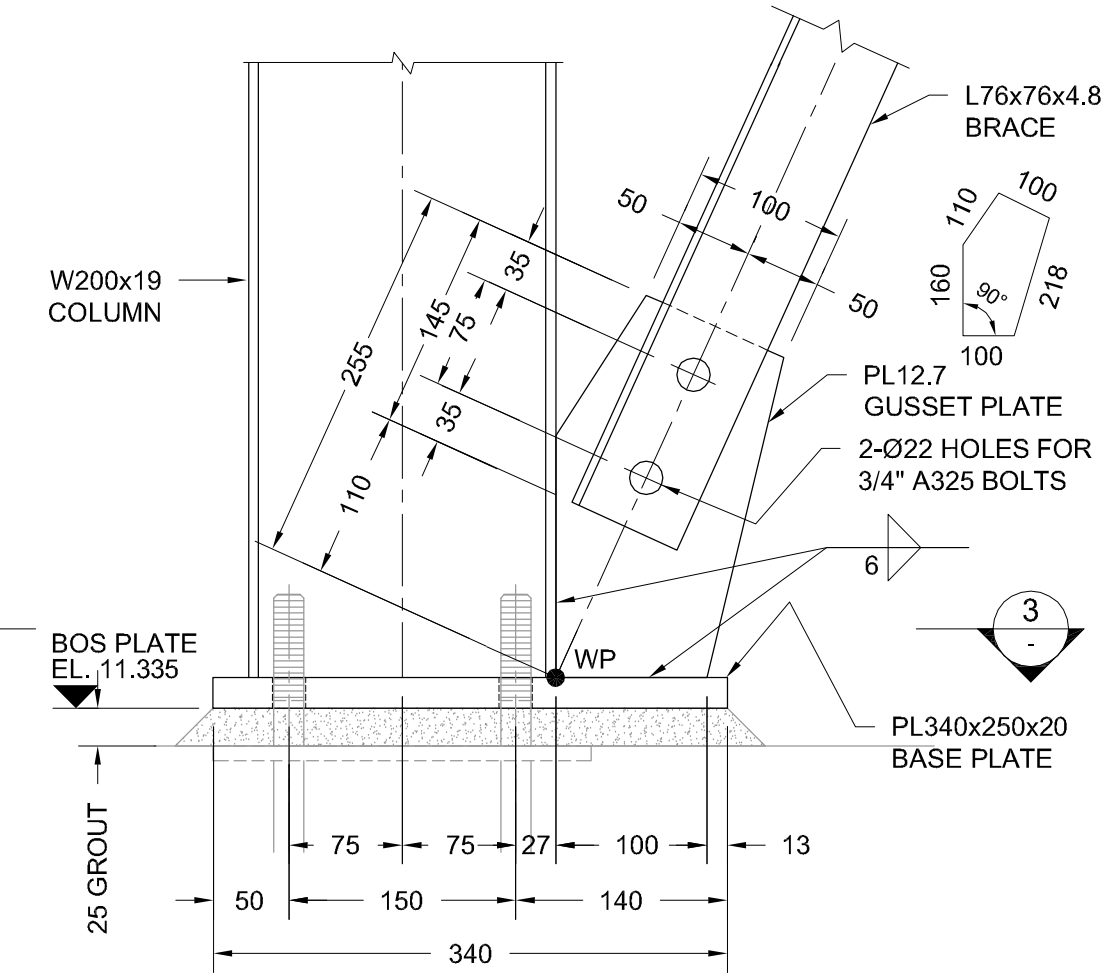
4 **DETAIL**
452 SCALE: 1:5



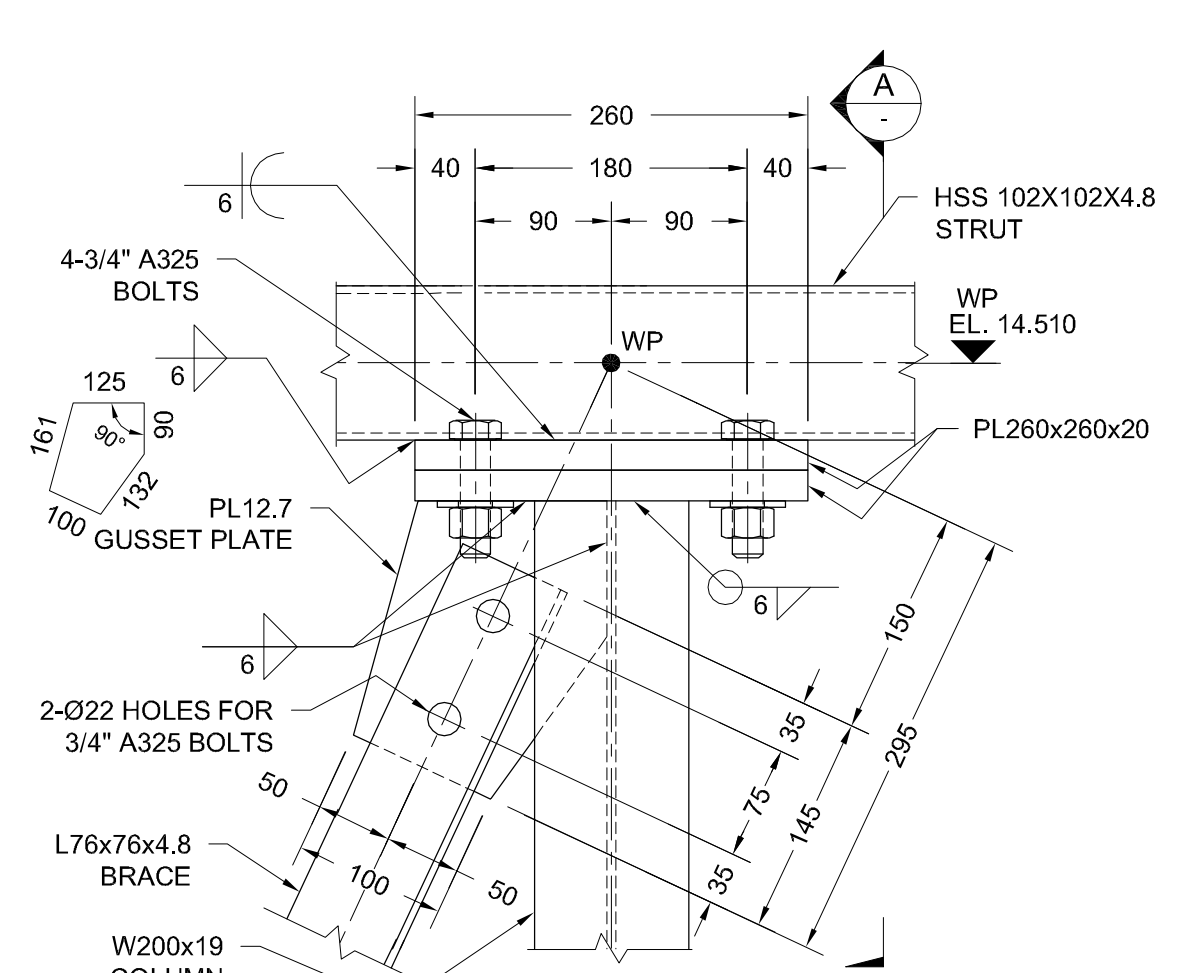
5 **DETAIL**
452 SCALE: 1:5



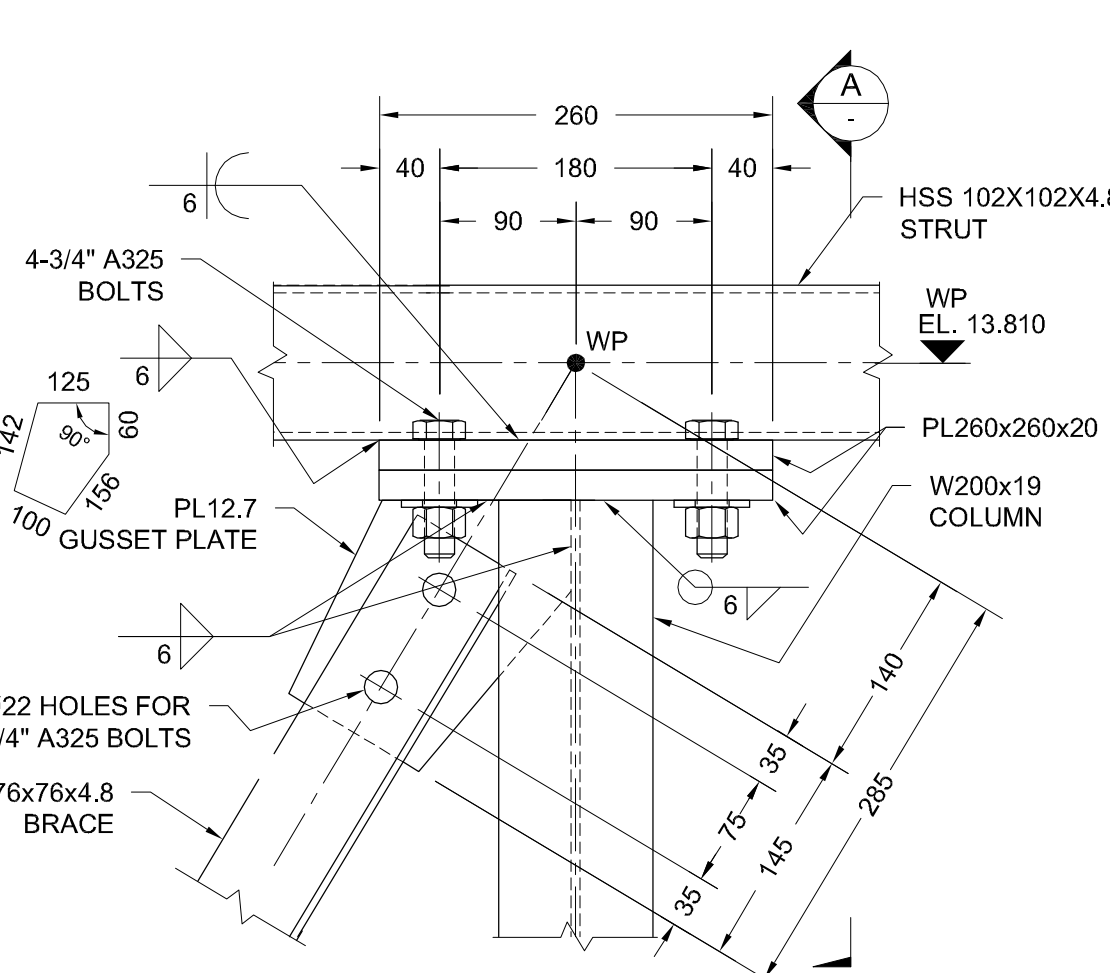
6 **DETAIL**
452 SCALE: 1:5



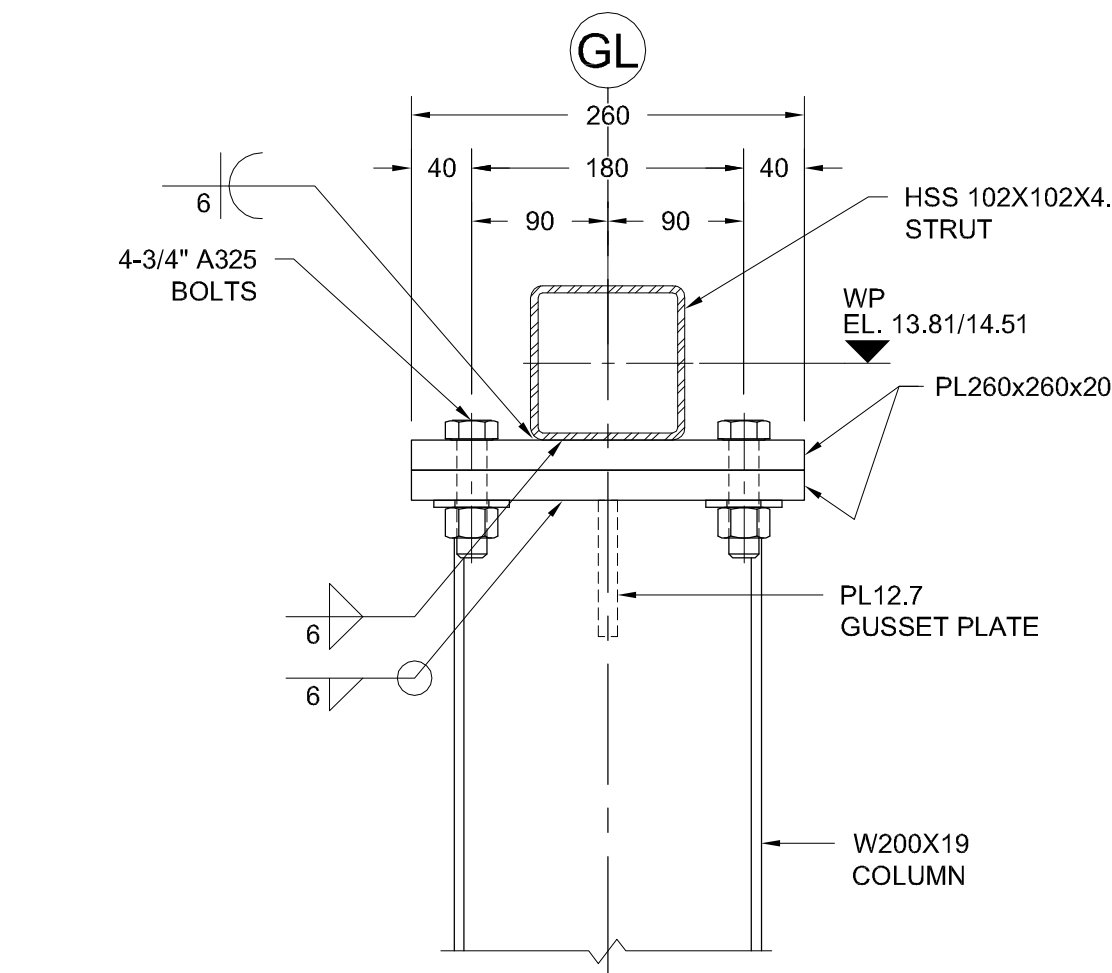
7 **DETAIL**
452 SCALE: 1:5



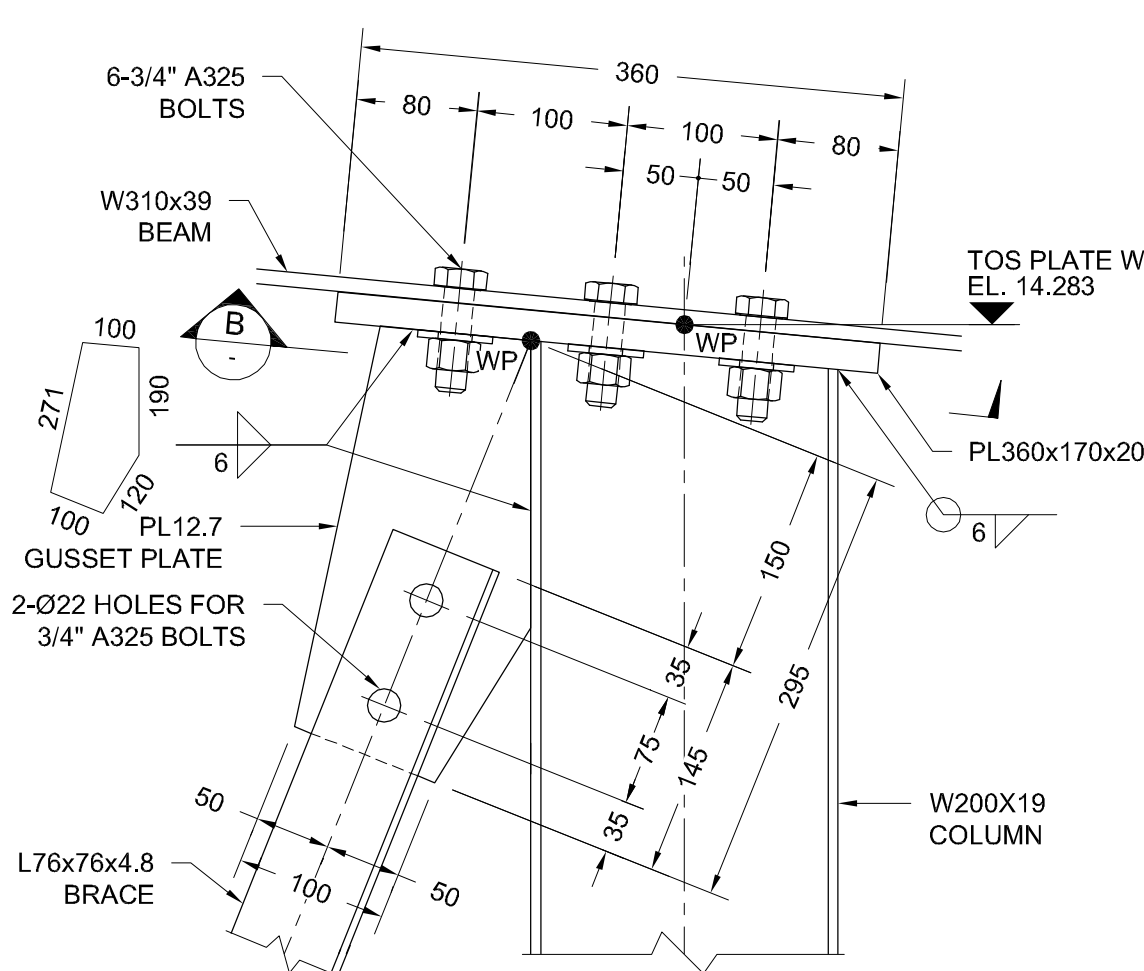
8 **DETAIL**
452 SCALE: 1:5



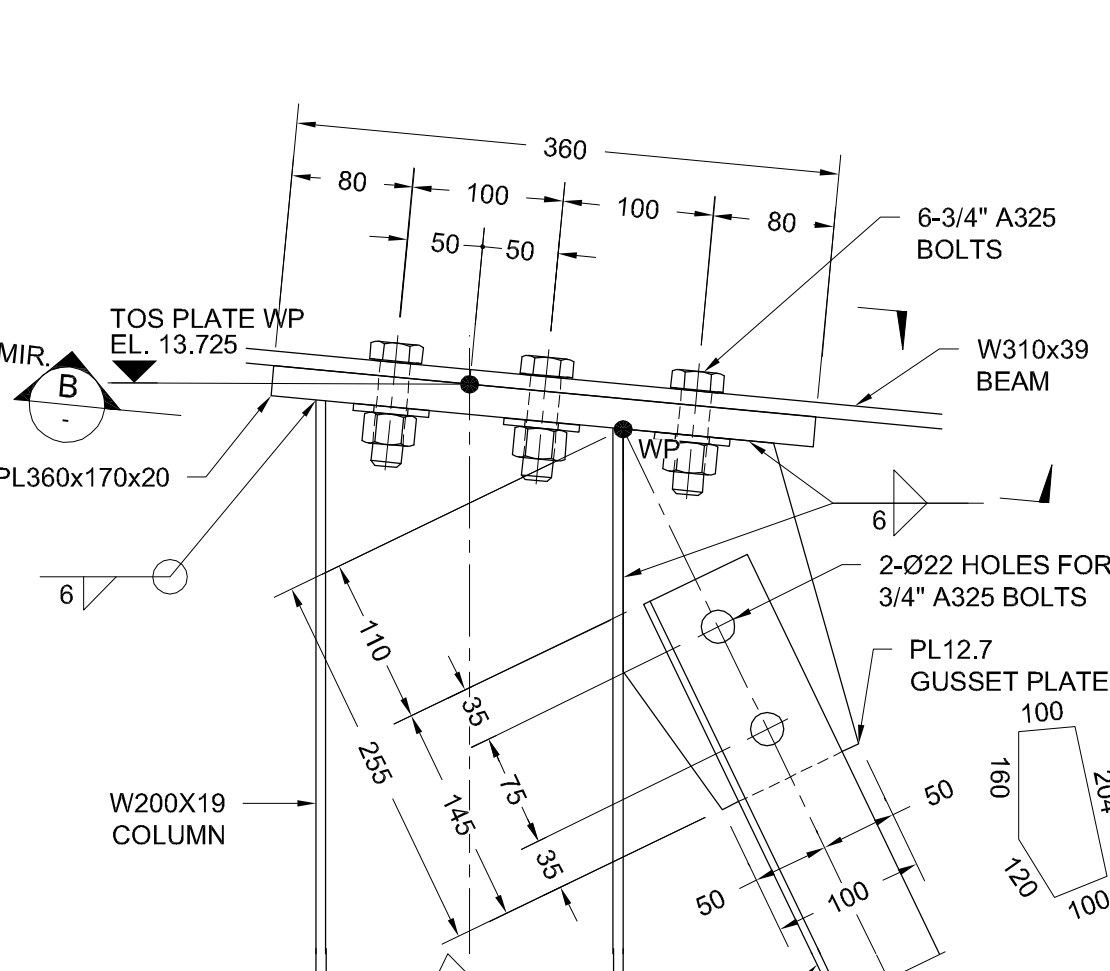
9 **DETAIL**
452 SCALE: 1:5



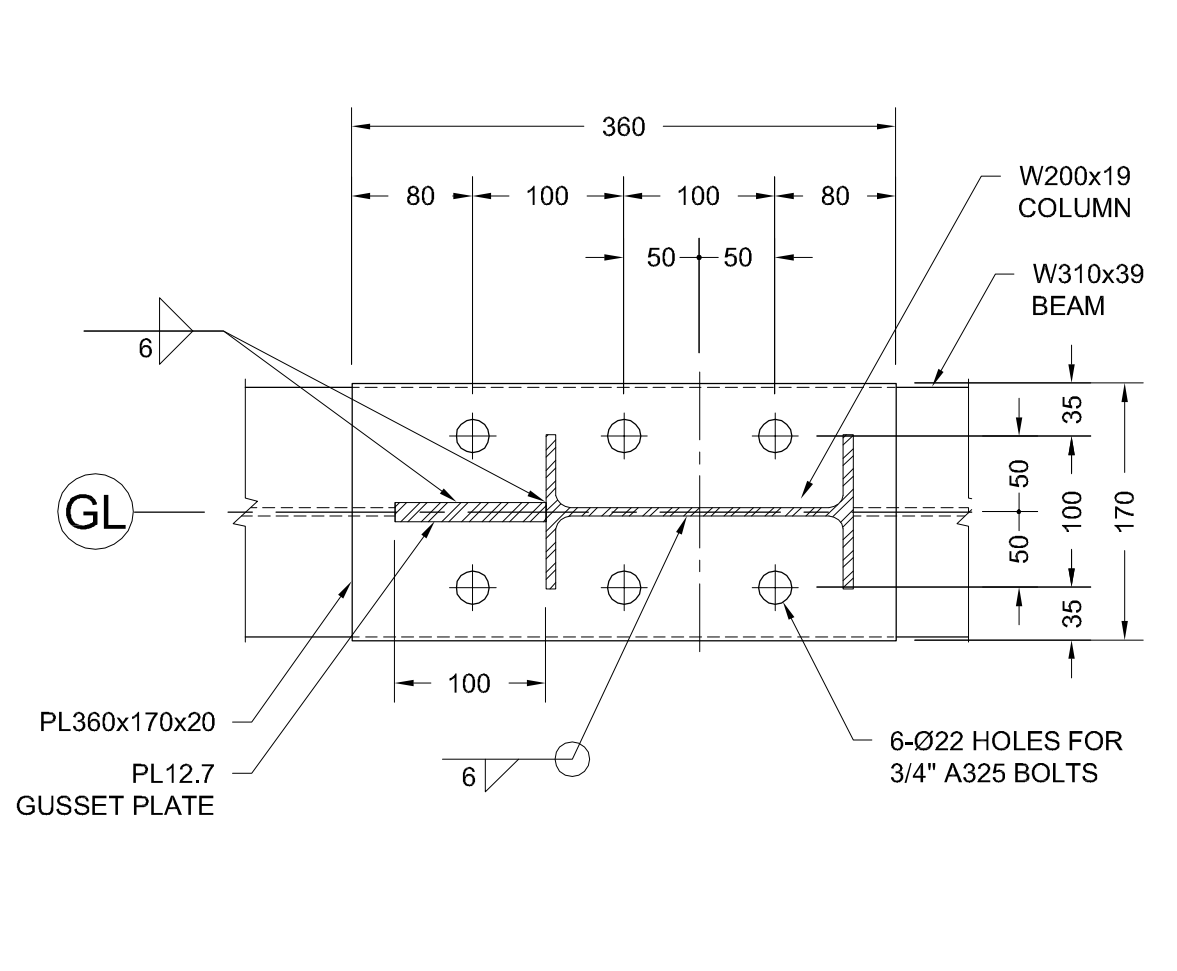
A **SECTION**
SCALE: 1:5



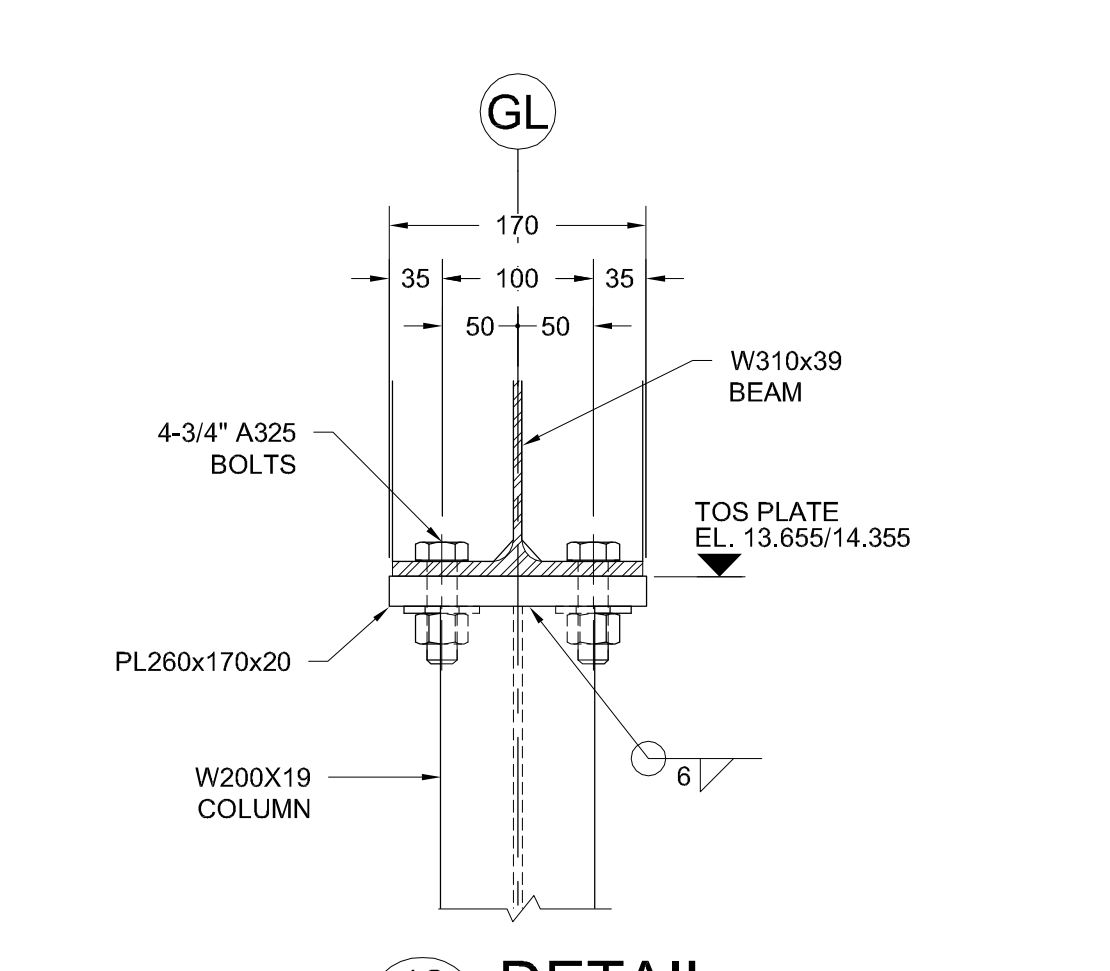
10 **DETAIL**
452 SCALE: 1:5



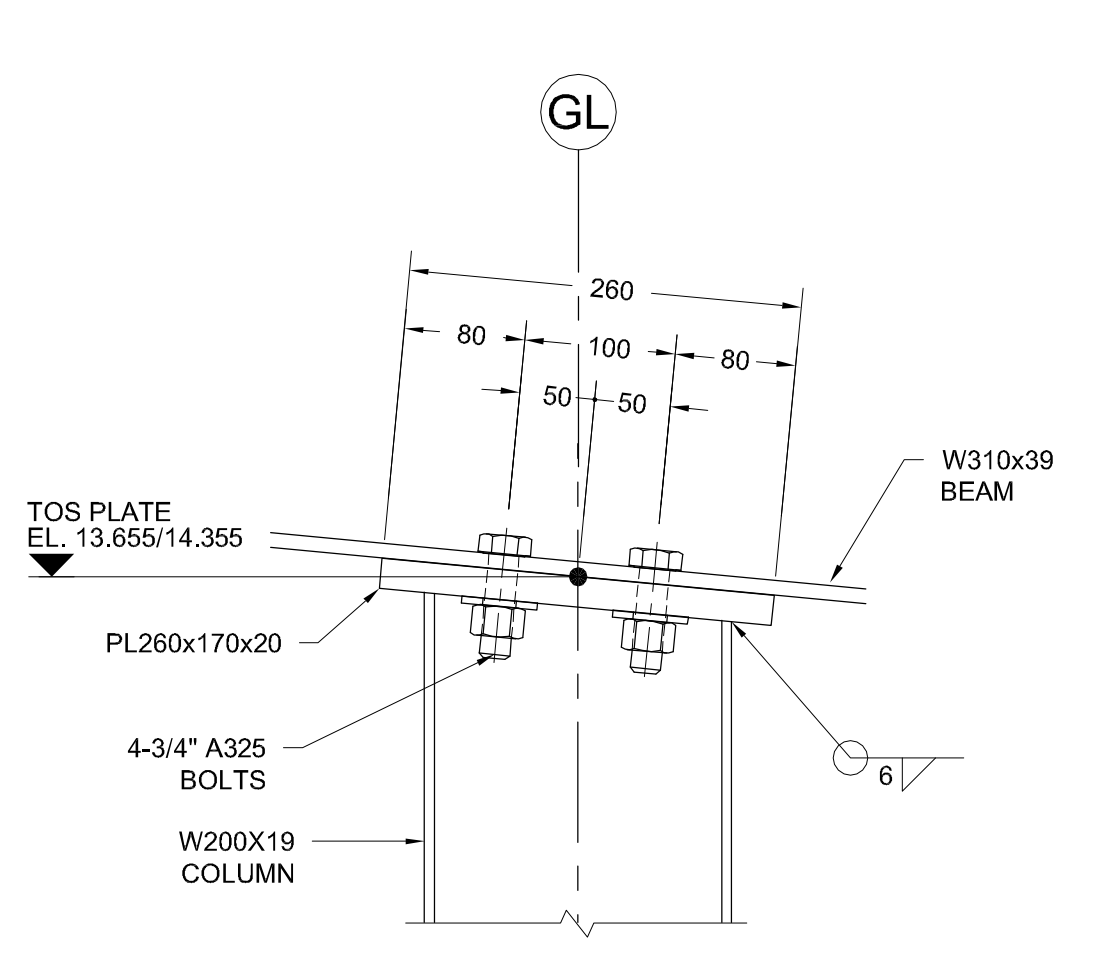
11 **DETAIL**
452 SCALE: 1:5



B **SECTION**
SCALE: 1:5



12 **DETAIL**
452 SCALE: 1:5



13 **DETAIL**
452 SCALE: 1:5

ISSUED FOR TENDER
NOT FOR CONSTRUCTION

FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
PRIMARY STRUCTURAL STEEL
DETAILS

Scale 1:5 0 400 mm Drawing Number **11-31-453** Rev. **0**

Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision	Notes
0	26 MAY 17	PB	AGO	PB	GY	ISSUED FOR TENDER	

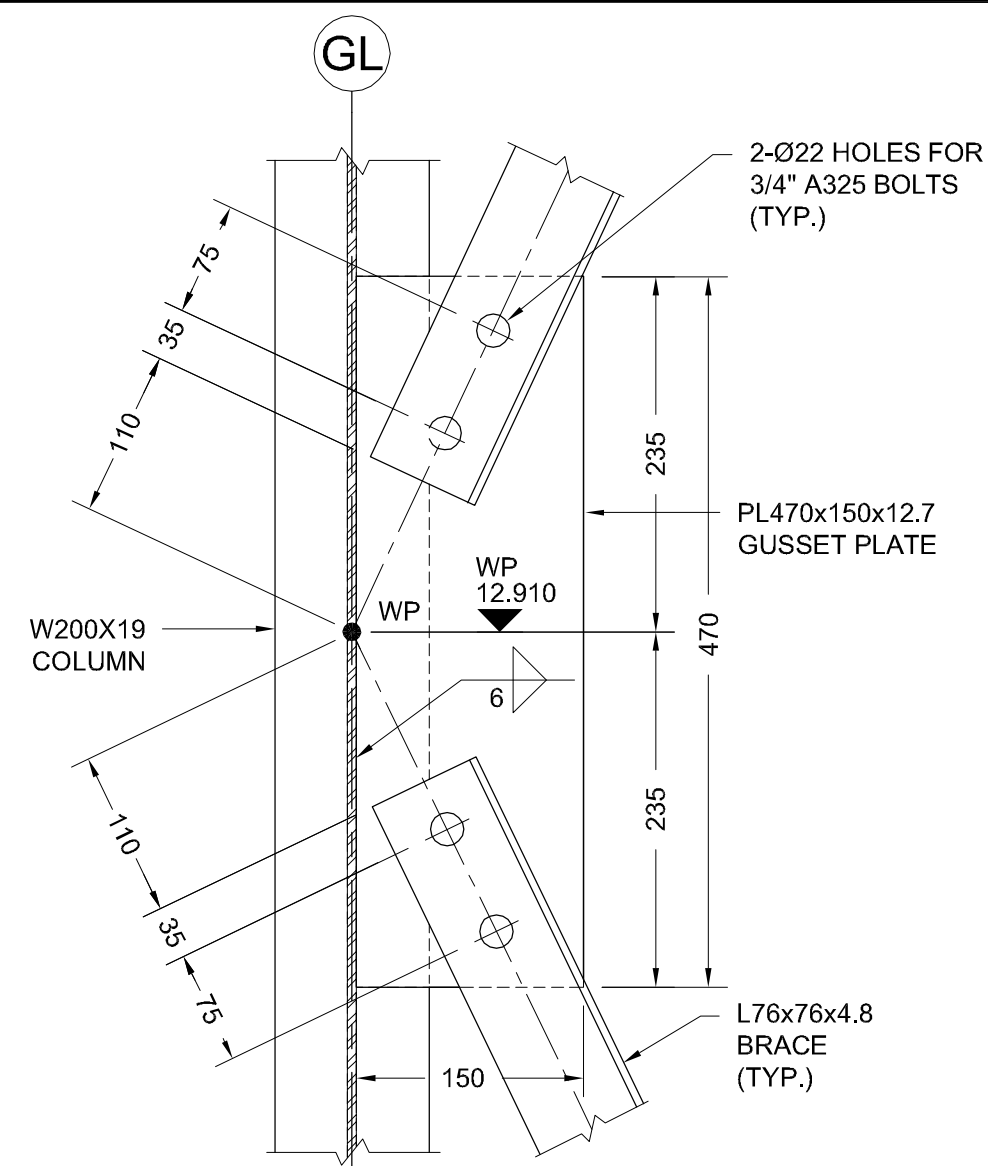
GEA Gygax
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AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE

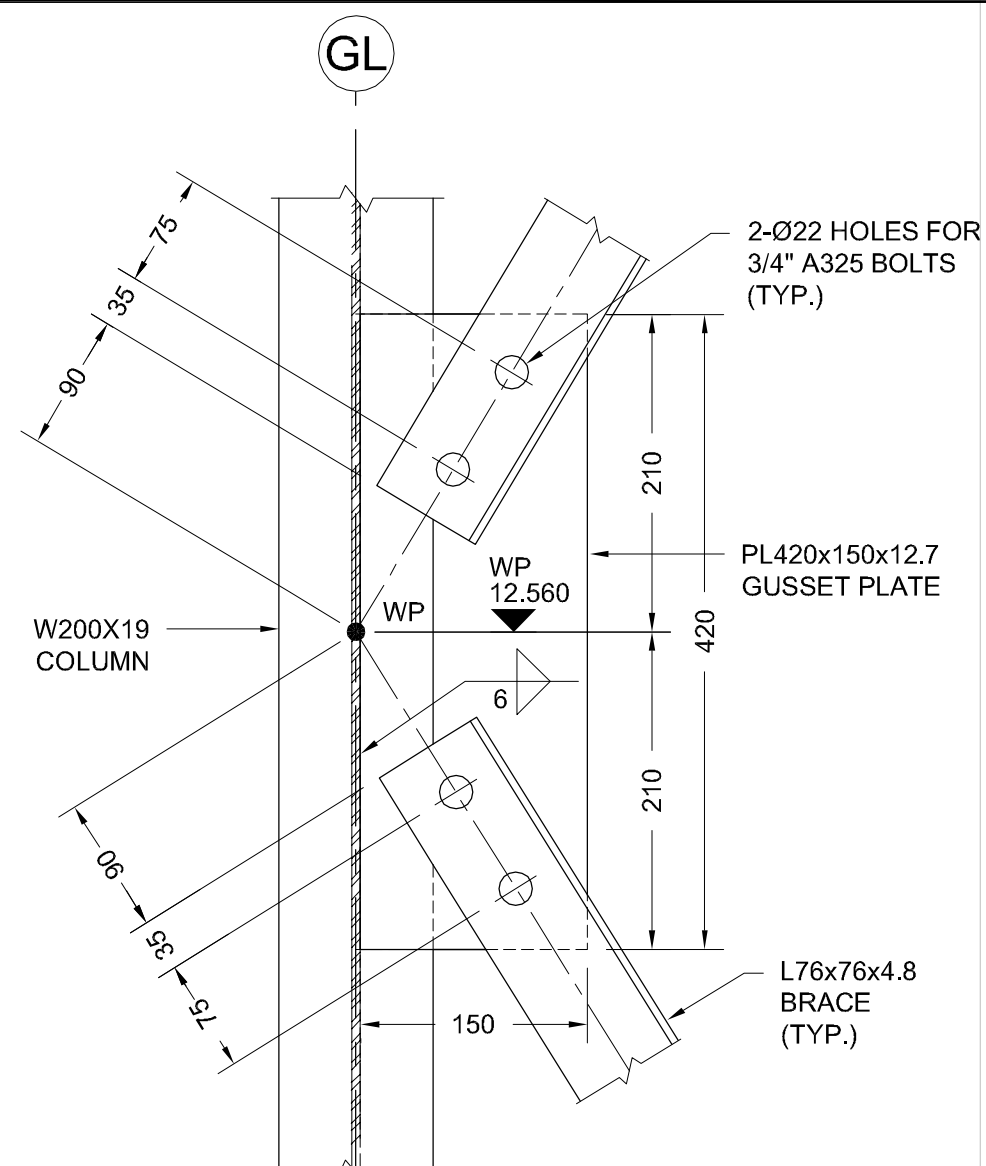
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PLOT DATE: May/26/17 04:58 PM

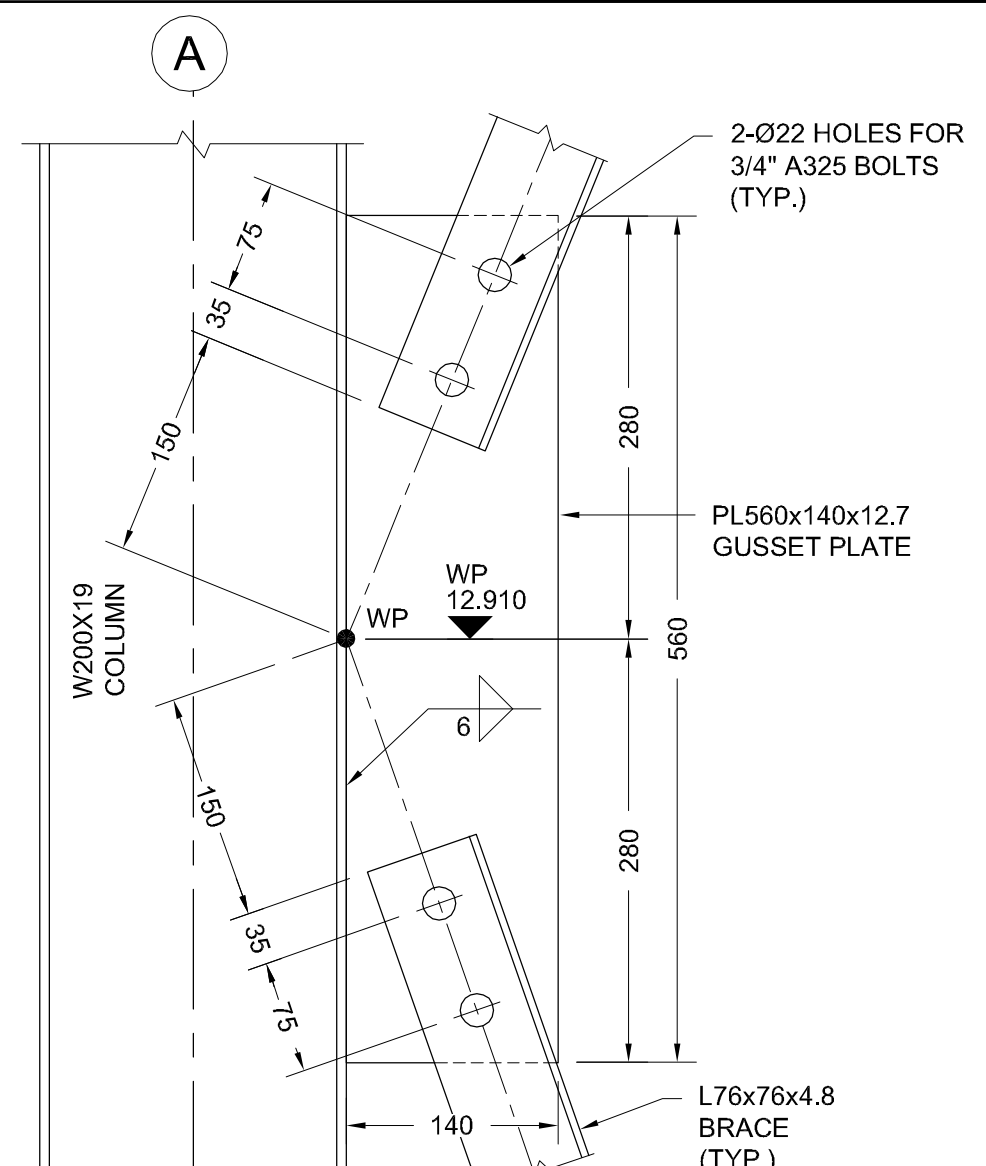
450-454 Primary Structural Steel_working.dwg



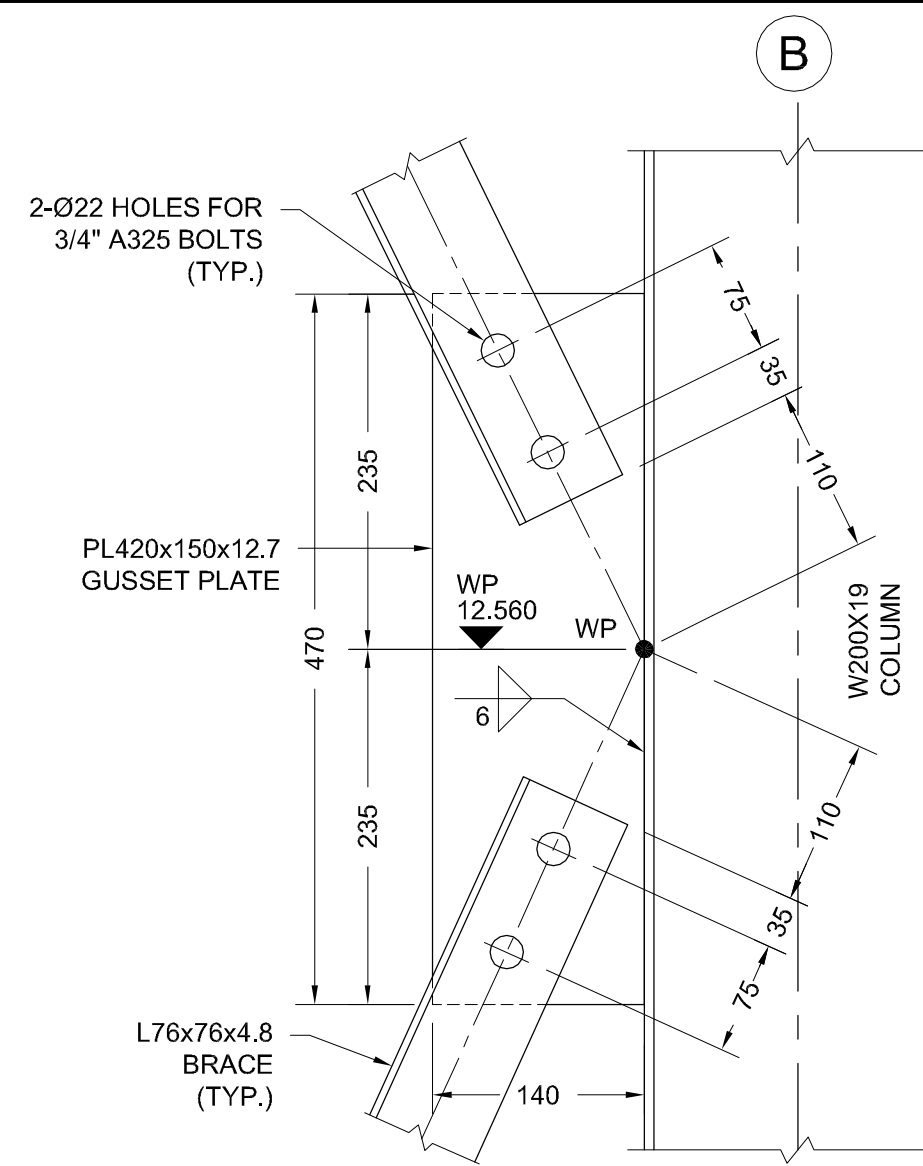
14 DETAIL
452 SCALE: 1:5



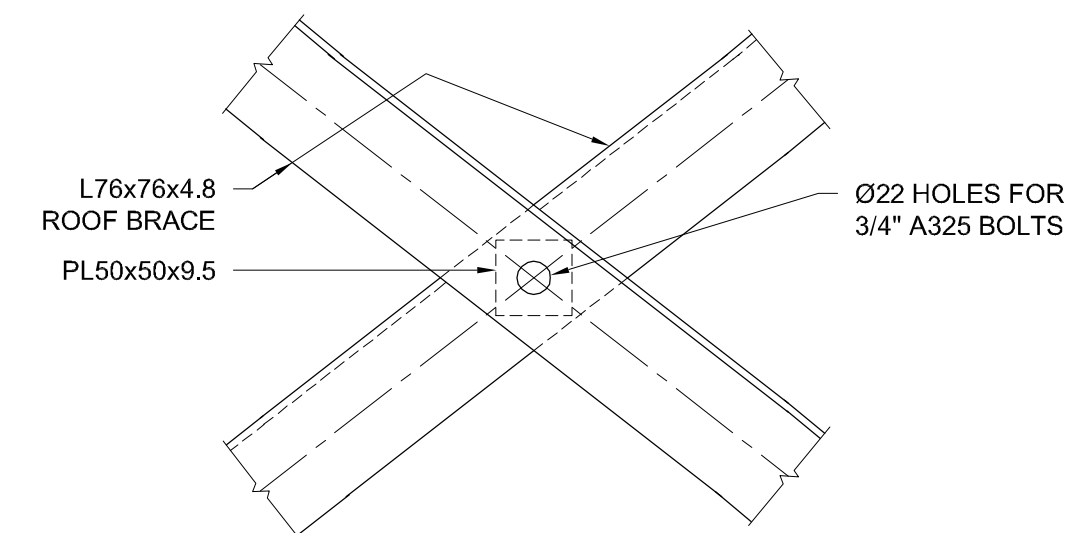
15 DETAIL
452 SCALE: 1:5



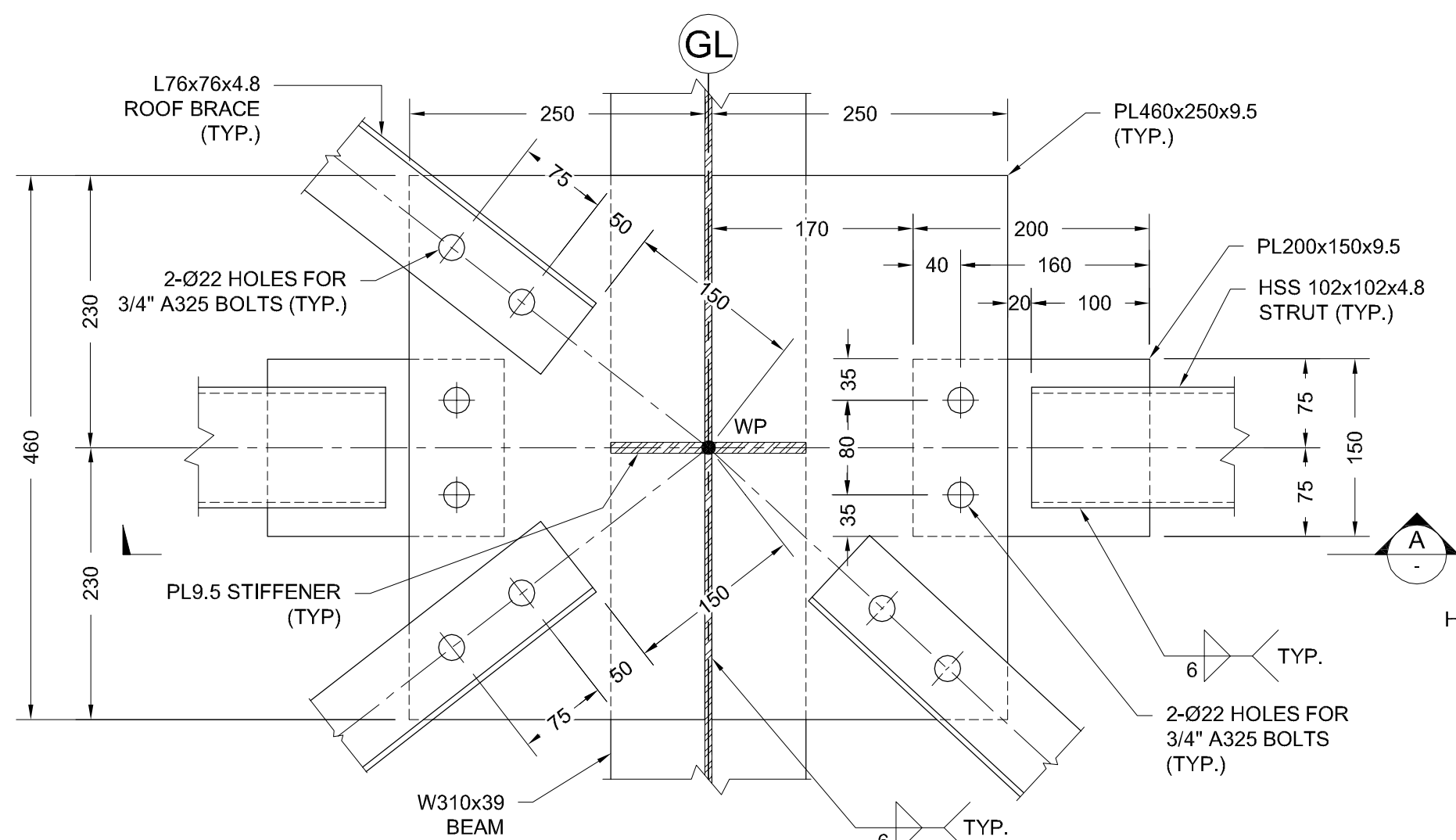
16 DETAIL
452 SCALE: 1:5



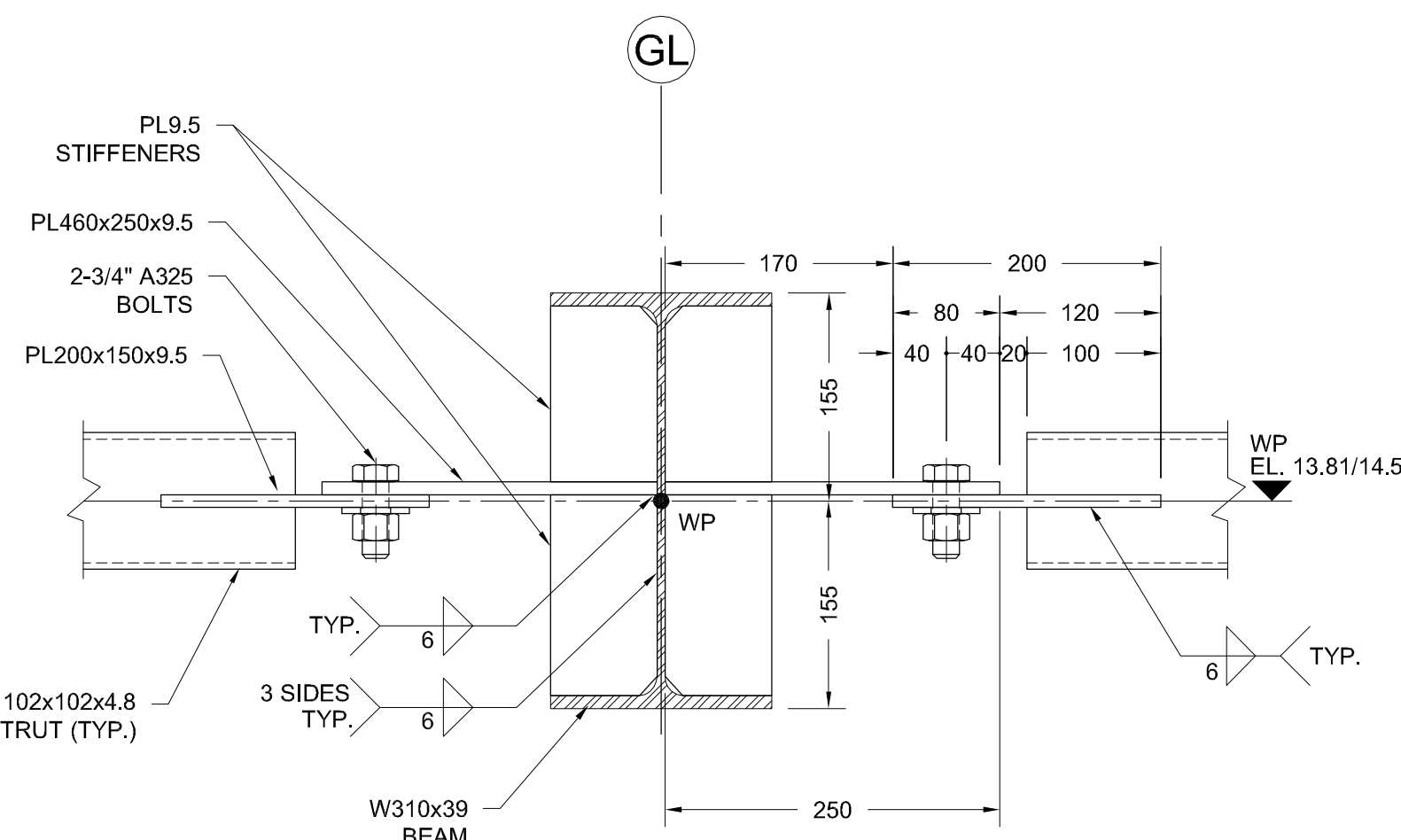
17 DETAIL
452 SCALE: 1:5



18 DETAIL
451 SCALE: 1:5



19 DETAIL
451 SCALE: 1:5



A SECTION
SCALE: 1:5

ISSUED FOR TENDER
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FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
PRIMARY STRUCTURAL STEEL
DETAILS

Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	AGO	PB	GY	ISSUED FOR TENDER

Notes:

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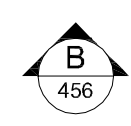
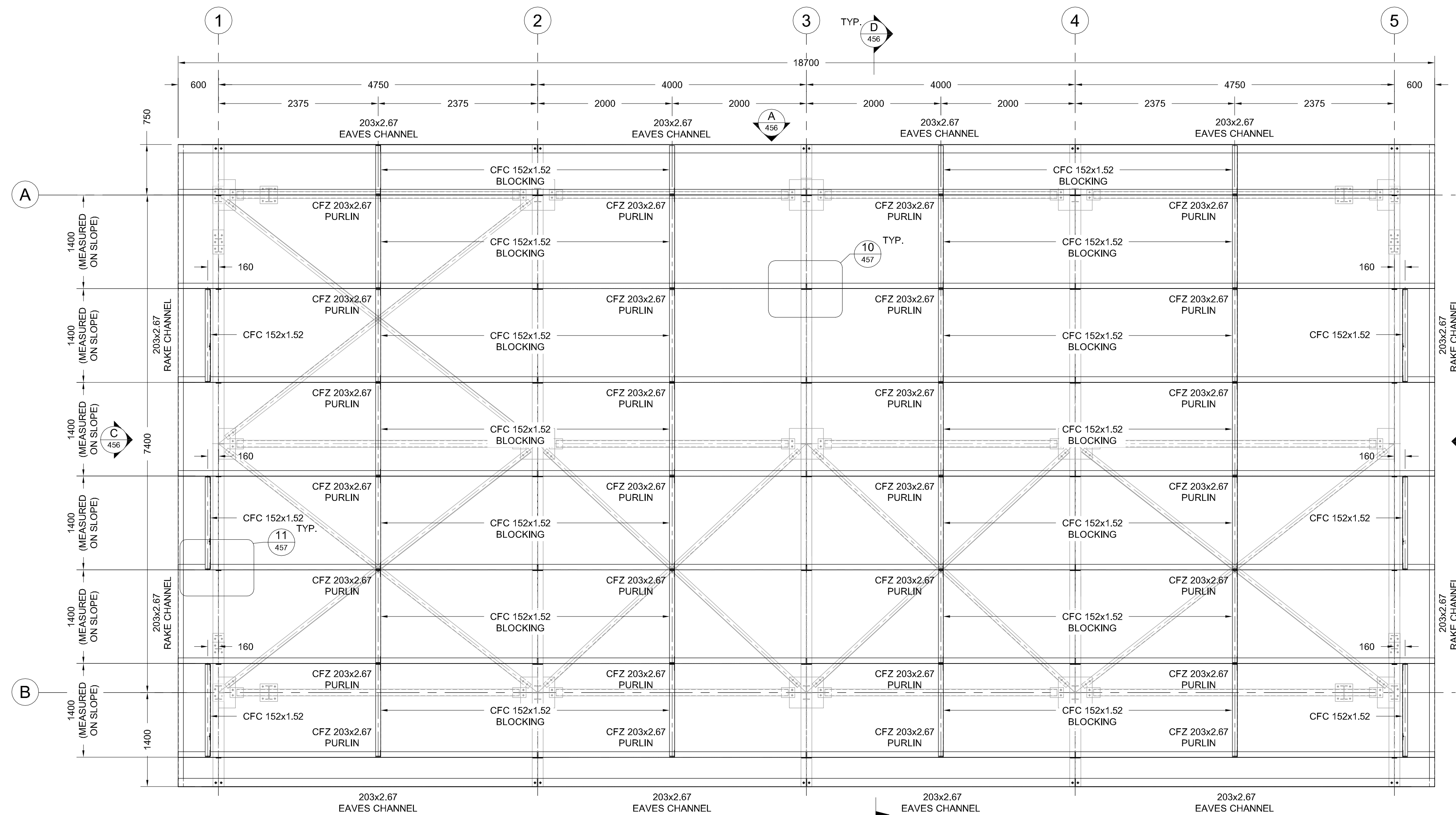
Scale 1:5 Drawing Number **11-31-454** Rev. **0**

AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE.

SAVE DATE: May 26/17 02:47 PM

PLOT DATE: May 26/17 04:59 PM

455-456 Secondary Structural Steel_working.dwg



PLAN - ROOF
SCALE: 1:40

NOTES:

1. GENERAL

- 1.1. REFER DRAWING 11-31-439 FOR COMPLETE STRUCTURAL NOTES.
- 1.2. ENVELOPE DESIGN LOADS:
 - 1.2.1. WALL CLADDING
 - MAXIMUM PRESSURE 1.08 kPa
 - MAXIMUM SUCTION 1.16 kPa
 - 1.2.2. ROOF DECKING DESIGN LOADS:
 - MAXIMUM ROOF SNOW LOAD 2.2 kPa
 - MAXIMUM ROOF WIND SUCTION 1.7 kPa
- 1.3. DESIGN IS BASED ON FOLLOWING STANDARD COLD-FORMED SHAPES

CFZ-SECTION	CFC-SECTION	EAVES CHANNEL	RAKE CHANNEL		
Designation	d	b	h	t	b1
1.3.1. Z-Sections	CFZ203x2.67	203	74	19	2.67
1.3.2. C-Sections	CFC152x2.67	152	77	20.3	2.67
	CFC152x1.52	152	77	17.8	1.52
	EAVES CHANNEL 203x2.67	203	77	20.3	2.67
	RAKE CHANNEL 203x2.67	209	77		2.67

2. MATERIALS

- 2.1. ROLLED STRUCTURAL SECTIONS: TO CSA G40.21M
 - C SECTIONS Fy = 300 MPa
- 2.2. COLD-FORMED SHAPES: TO ASTM A653/A653M, (GALVANIZED).
 - C AND Z SECTIONS Fy = 345 MPa
- 2.3. SAG ROD:
 - ASTM A36 OR SIMILAR Fy = 250 MPa
- 2.4. BOLTS CONNECTIONS FOR SECONDARY STEEL CONNECTION (GALVANIZED)
 - BOLTS TO ASTM A307
 - NUTS TO ASTM A563M
 - WASHERS TO ASTM A436M TYPE I
- 2.5. CONNECTION COMPONENTS
 - PLATE AND BAR TO CSA G40.21M 300W Fy = 300 MPa
- 2.6. POST INSTALLED ANCHORS
 - HILTI HAS-SS w/ HIT-HY200 EPOXY ADHESIVE
- 2.7. WELDED CONNECTIONS
 - TO CSA W59 - E49XX EQUIVALENT

3. EXECUTION

- 3.1. DETAILS NOT EXPLICITLY SHOWN ARE TO SECONDARY STEEL SUPPLIER'S STANDARDS.
- 3.2. INSTALL BOLTS BY THE TURN-OF-NUT METHOD TO CANCSA S16.1.
- 3.3. PERFORM ALL WELDING USING WELDERS CERTIFIED IN ACCORDANCE WITH THE REQUIREMENTS OF CSA W47.1.
- 3.4. UNLESS NOTED OTHERWISE, WELDS ARE 6 mm CONTINUOUS FILLET WELDS.

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FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
SECONDARY STRUCTURAL STEEL
PLAN

Scale 1:40 Drawing Number **11-31-455** Rev. **0**

Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	AGO	PB	GY	ISSUED FOR TENDER

Notes:

Gygax Engineering Associates Ltd.
103 - 1718 Commercial Drive, Vancouver BC V5M 4A3 Tel: 1 604 254 3914 Fax: 1 604 254 3929 Email: rna@gea.ca

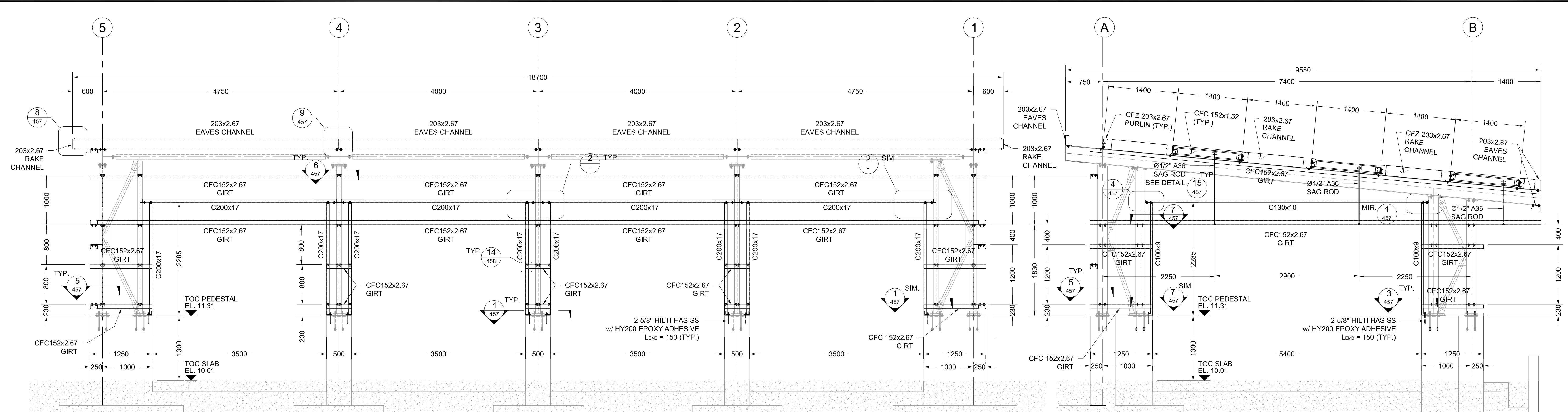
Seal

AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE

SAVE DATE: May/26/17 02:47 PM

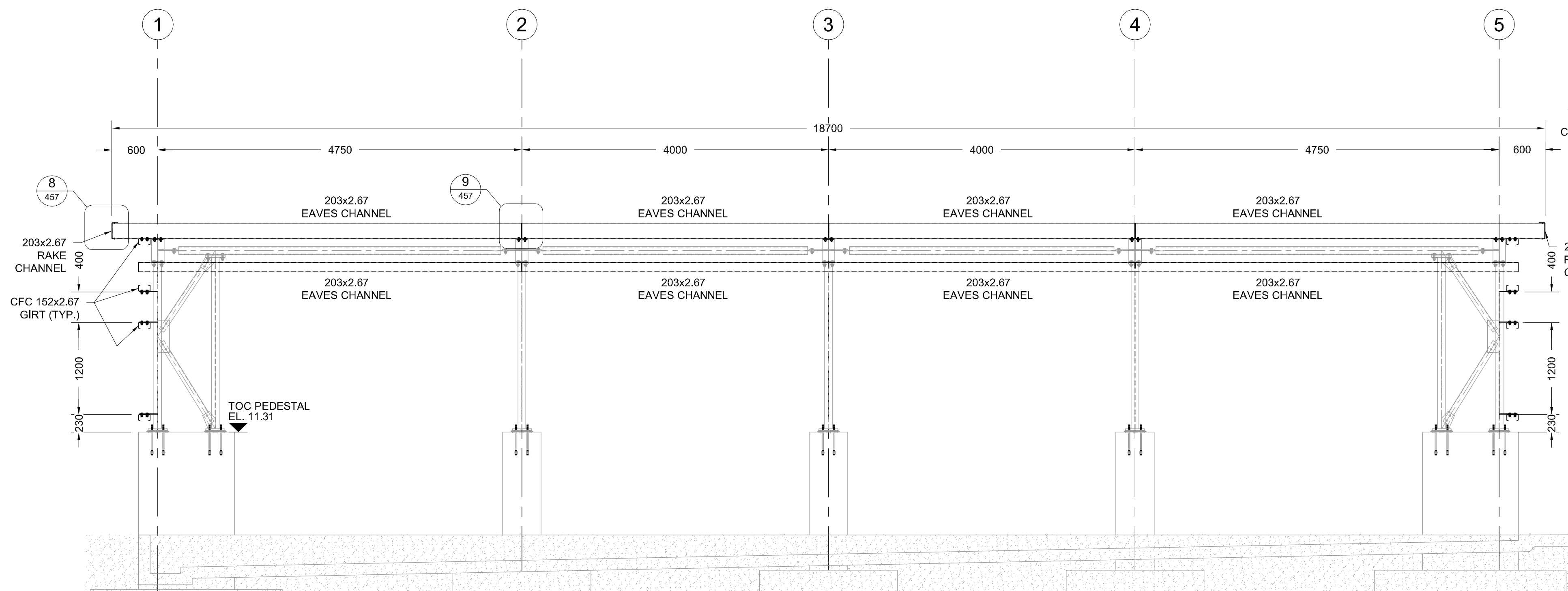
PLOT DATE: May/26/17 04:59 PM

455-458 Secondary Structural Steel_working.dwg

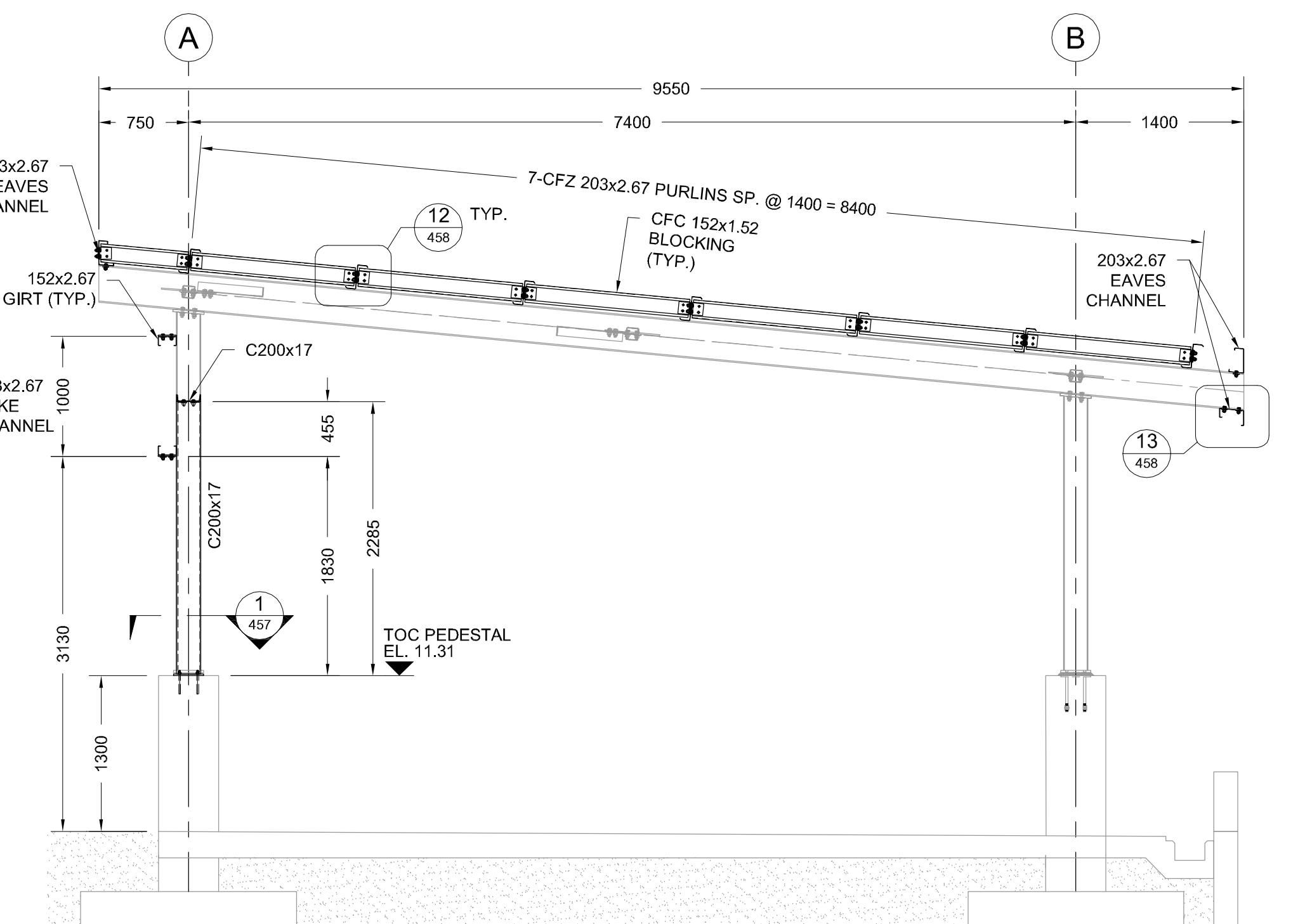


A ELEVATION
455 SCALE: 1:40

C ELEVATION
455 SCALE: 1:40



B ELEVATION
455 SCALE: 1:40



D SECTION
455 SCALE: 1:40

ISSUED FOR TENDER
NOT FOR CONSTRUCTION

FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
SECONDARY STRUCTURAL STEEL
ELEVATIONS AND SECTIONS

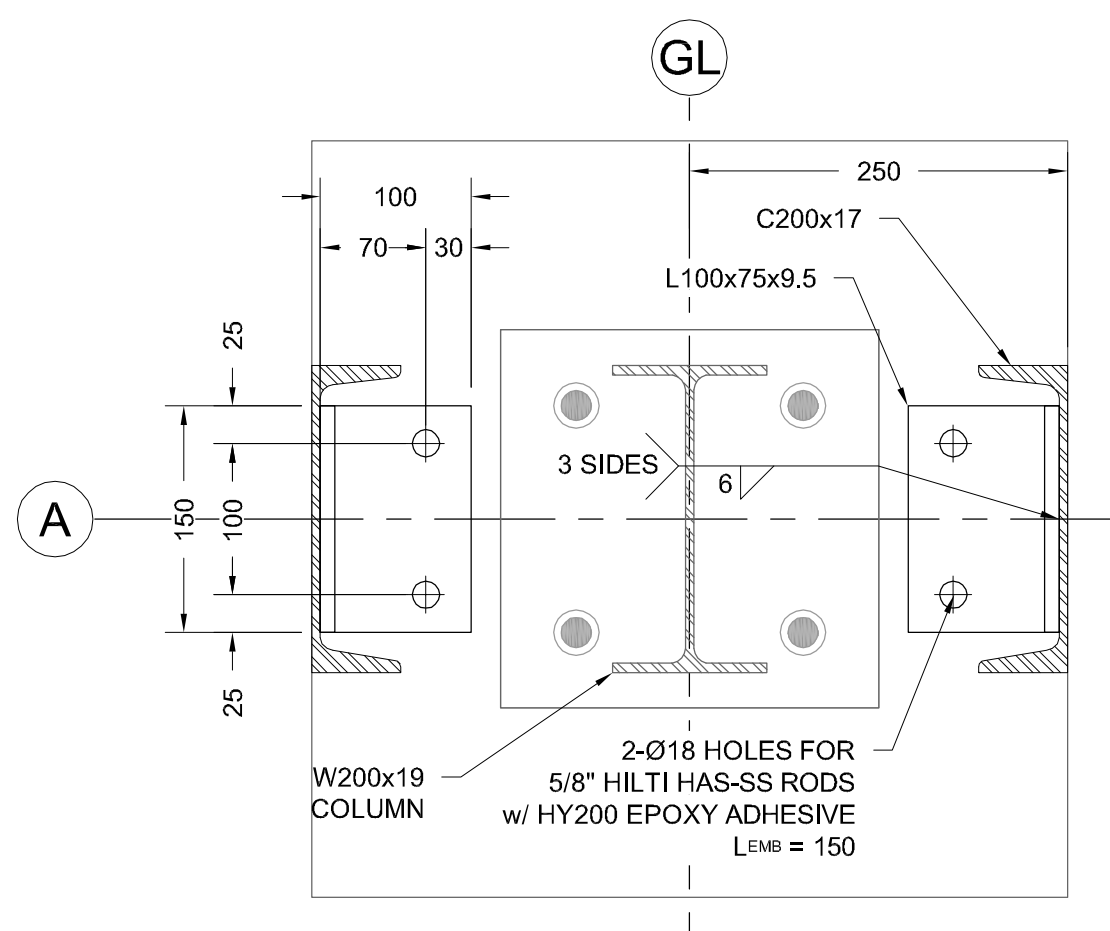
Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	AGO	PB	GY	ISSUED FOR TENDER

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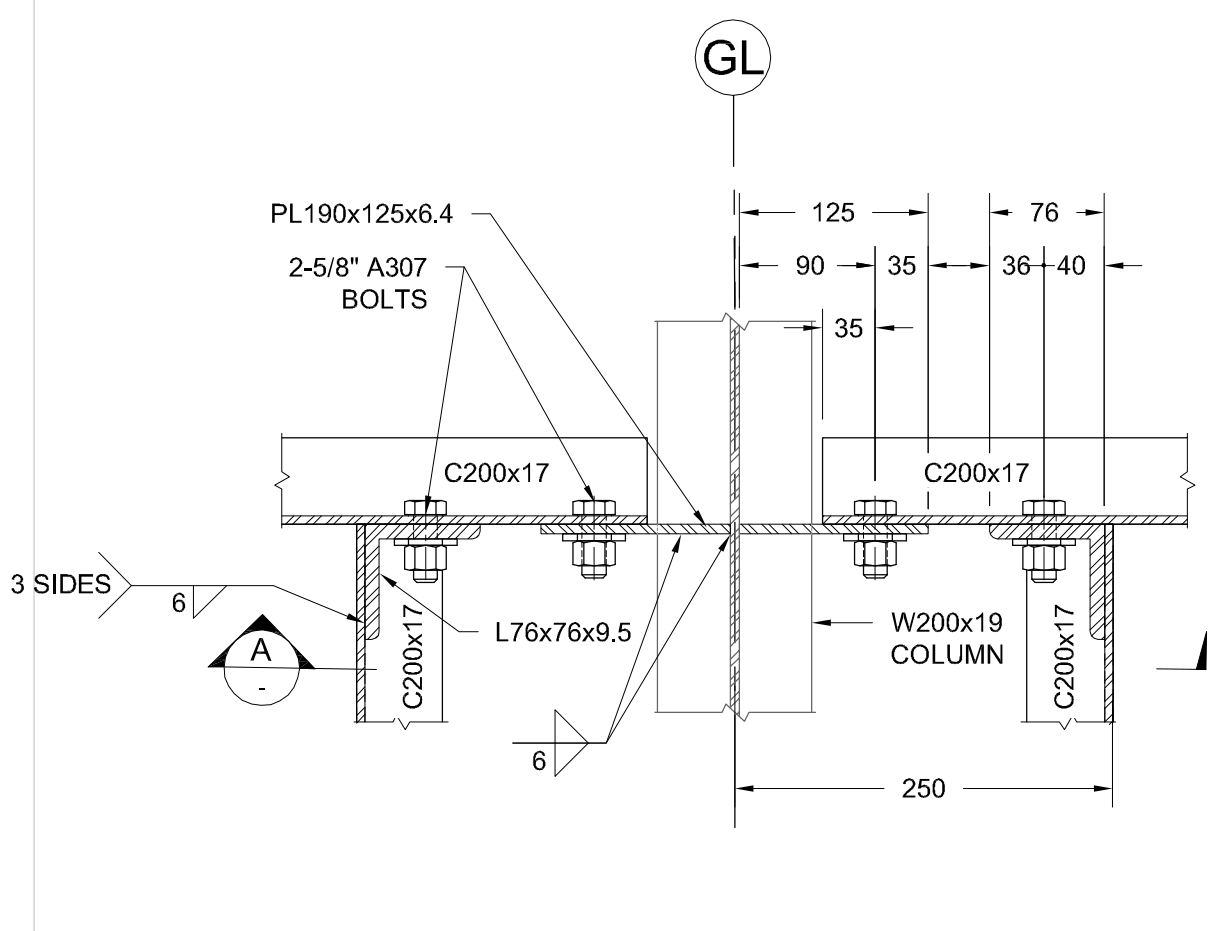
GEA Gyax
Engineering
Associates Ltd.

Scale: 1:40
0 3.0 m
Drawing Number: **11-31-456**
Rev: **0**

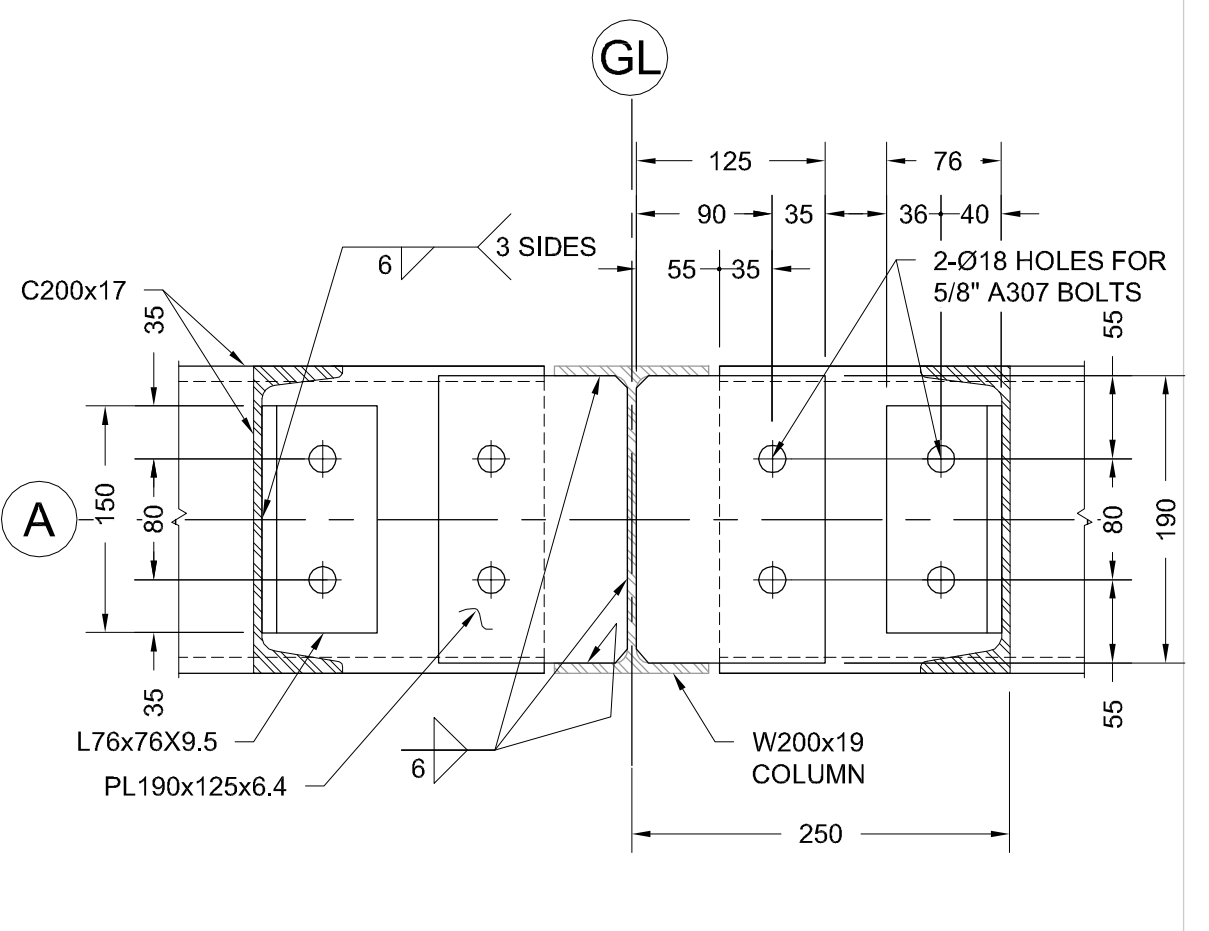
455-458 Secondary Structural Steel_working.dwg PLOT DATE: May/28/17 05:00 PM SAVE DATE: May/26/17 02:47 PM AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE



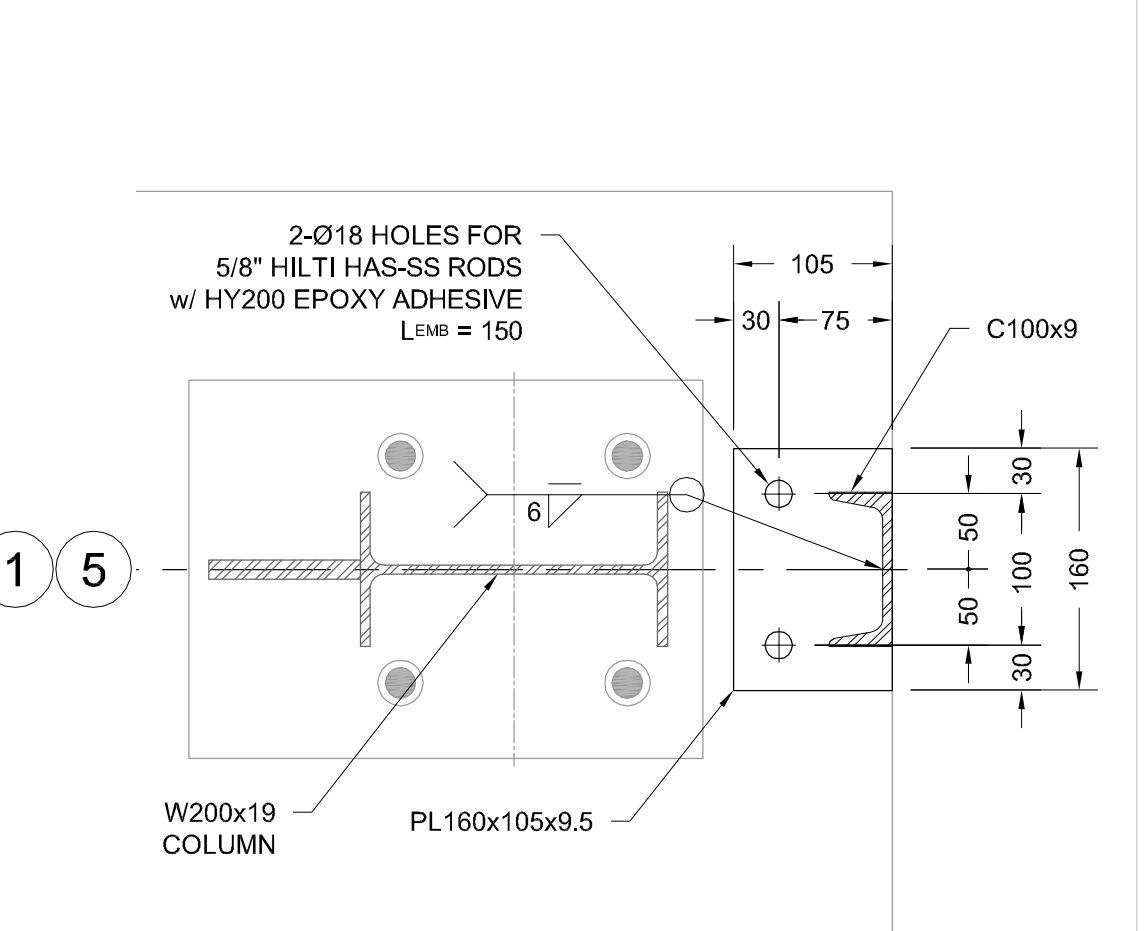
1 DETAIL
456 SCALE: 1:5



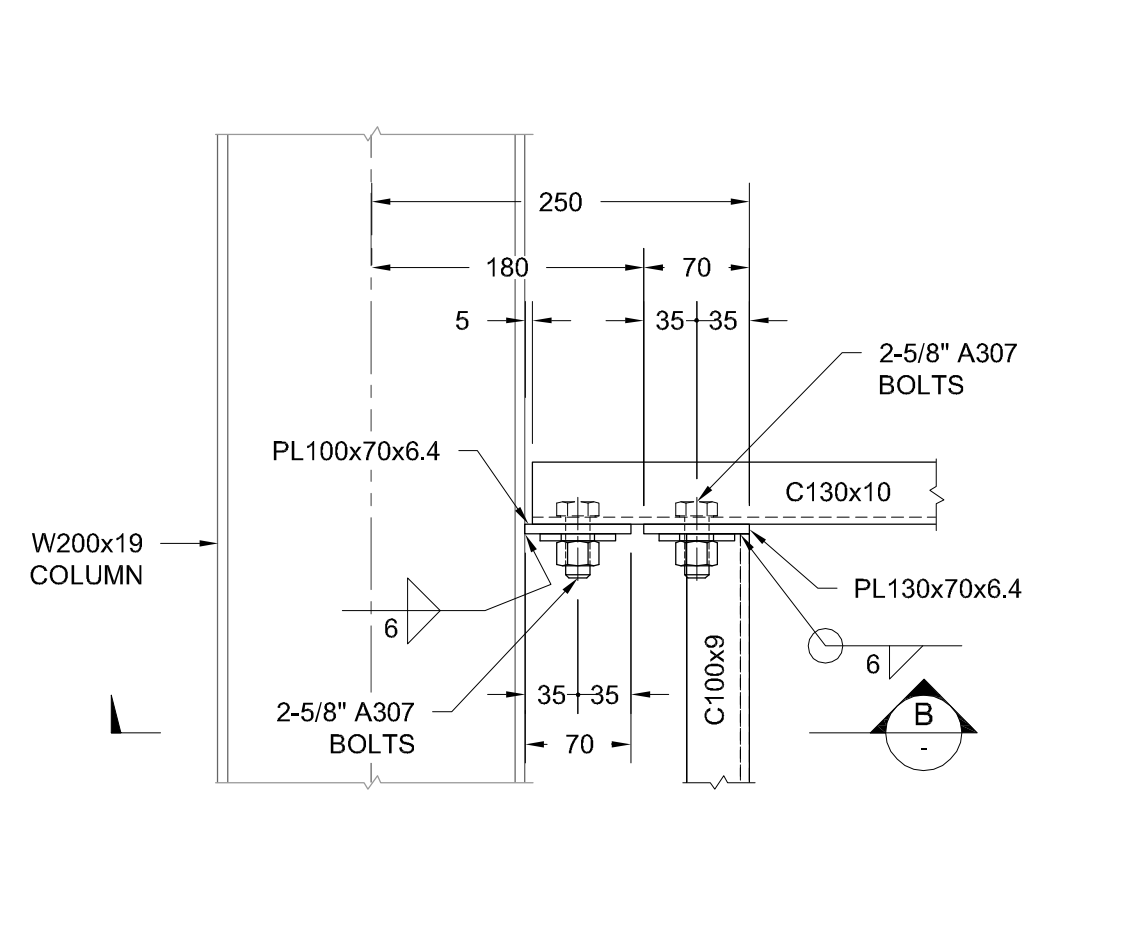
2 DETAIL
456 SCALE: 1:5



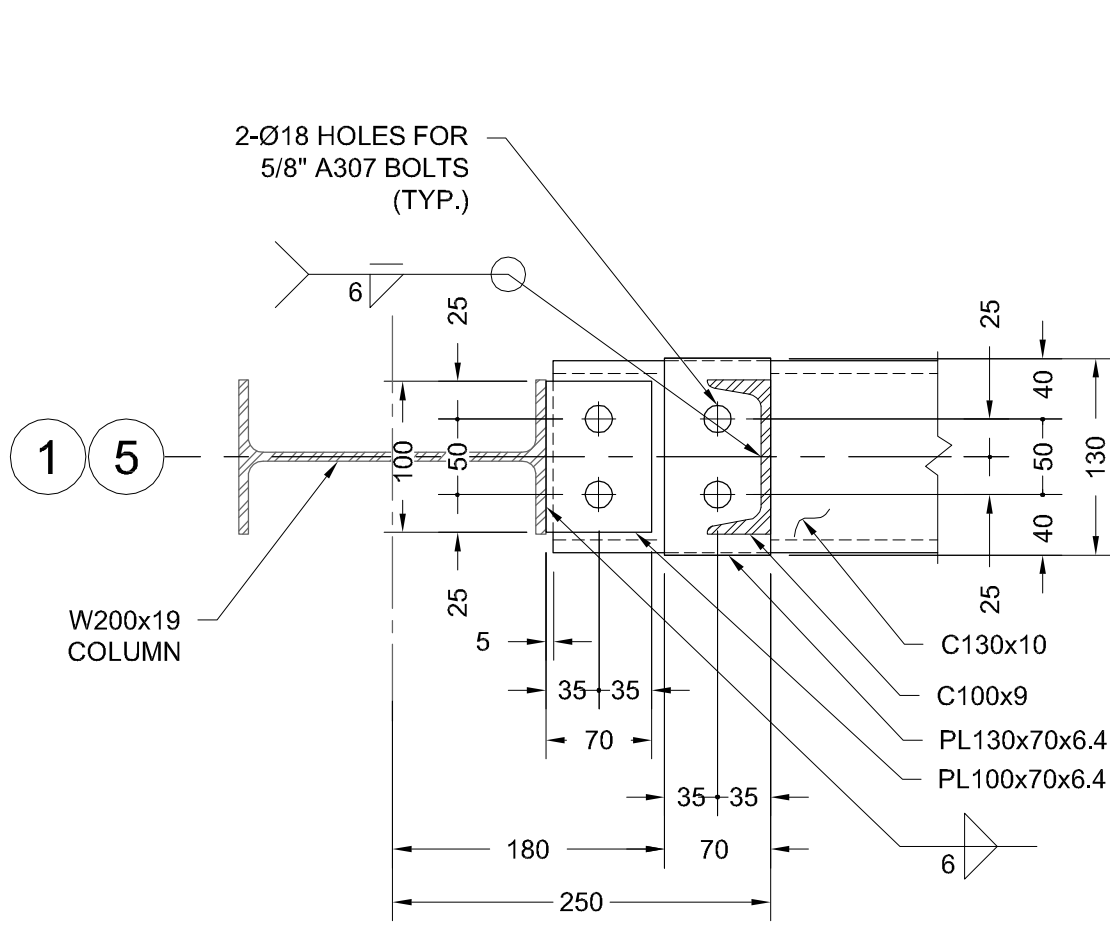
A SECTION
SCALE: 1:5



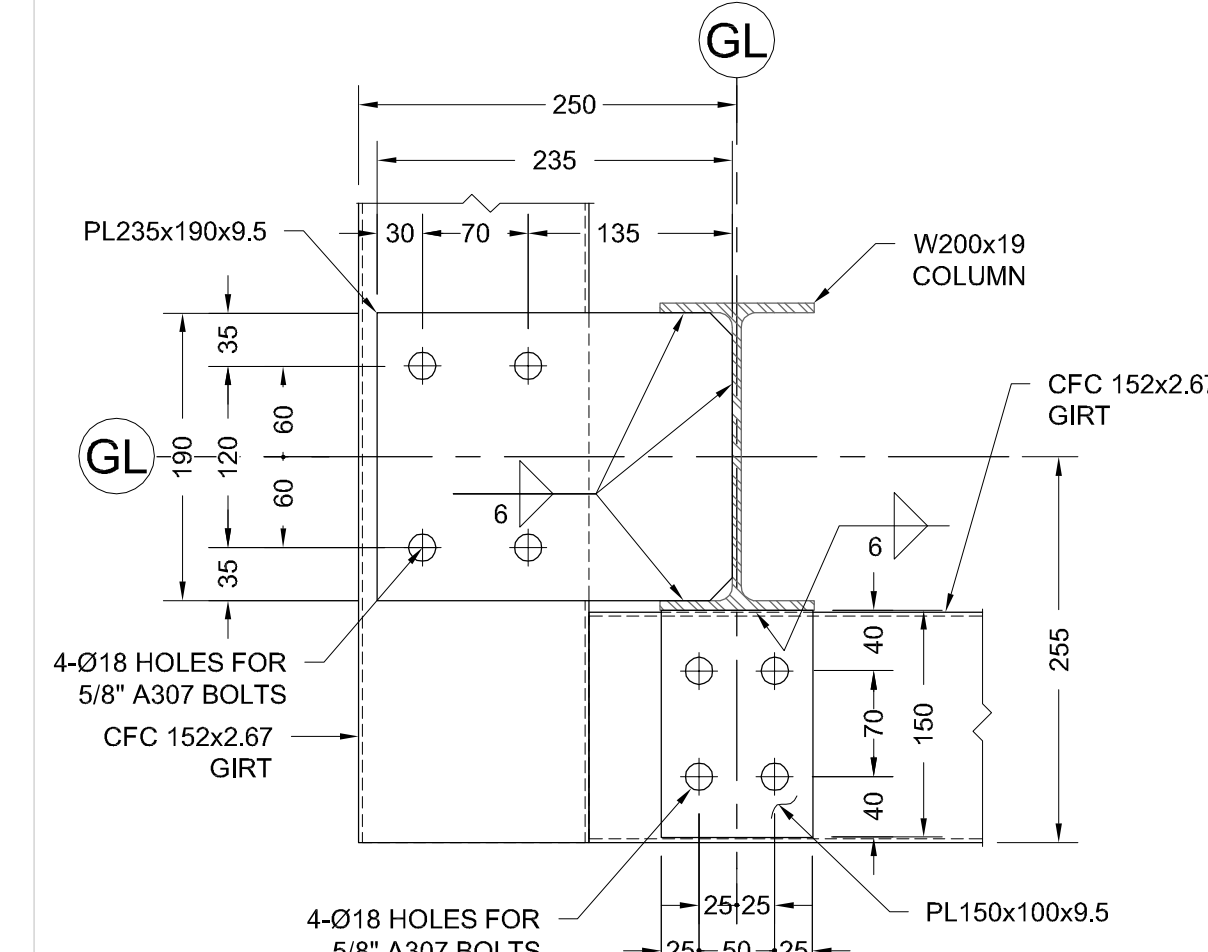
3 DETAIL
457 SCALE: 1:5



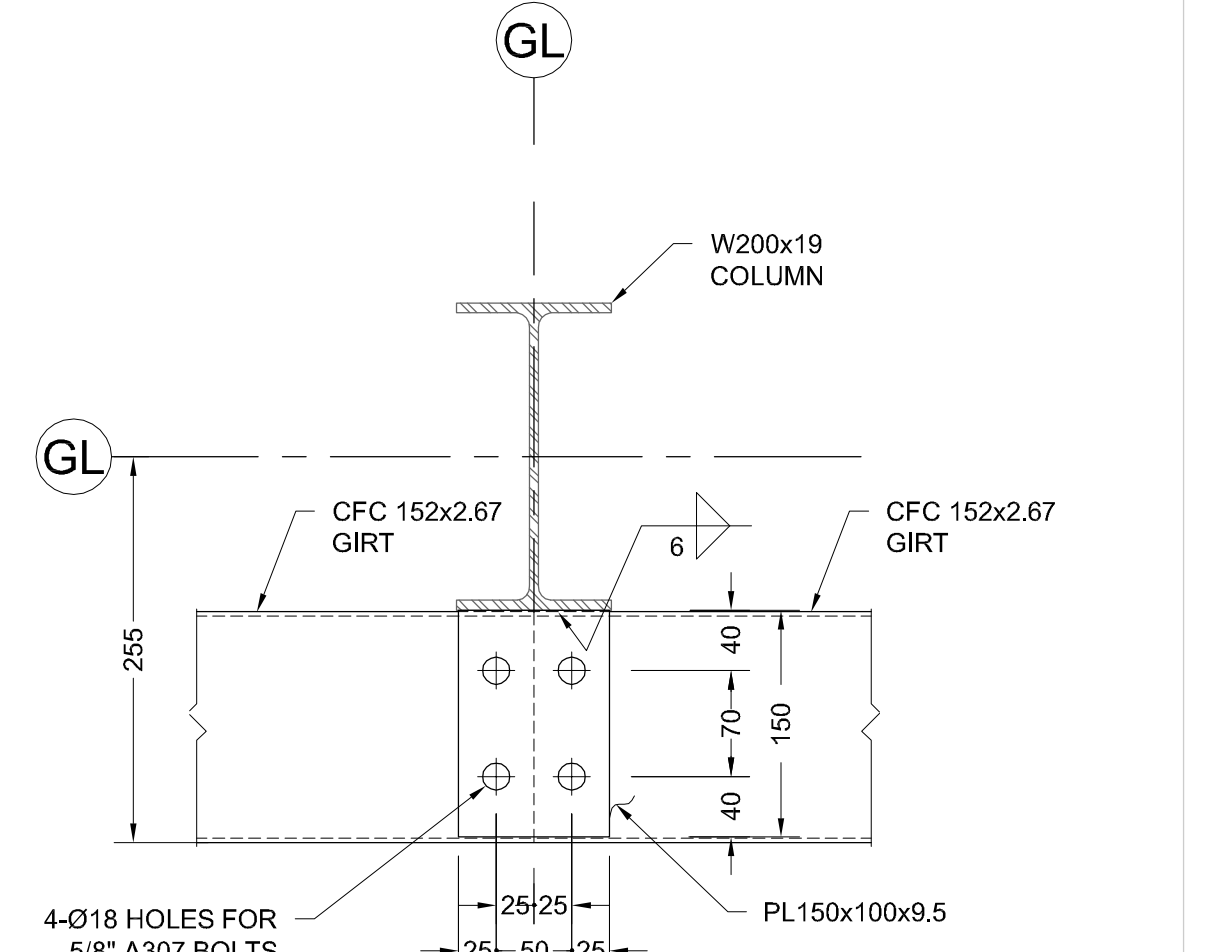
4 DETAIL
457 SCALE: 1:5



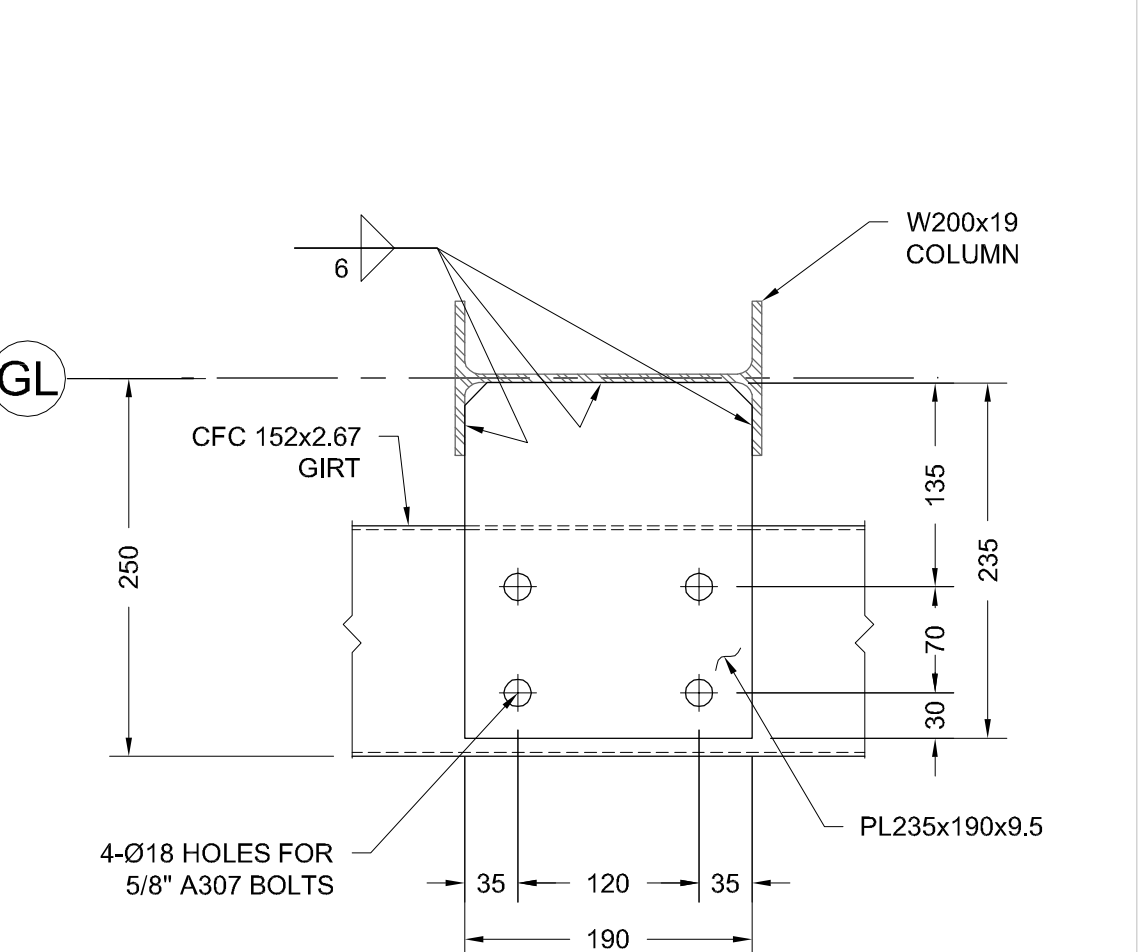
B SECTION
SCALE: 1:5



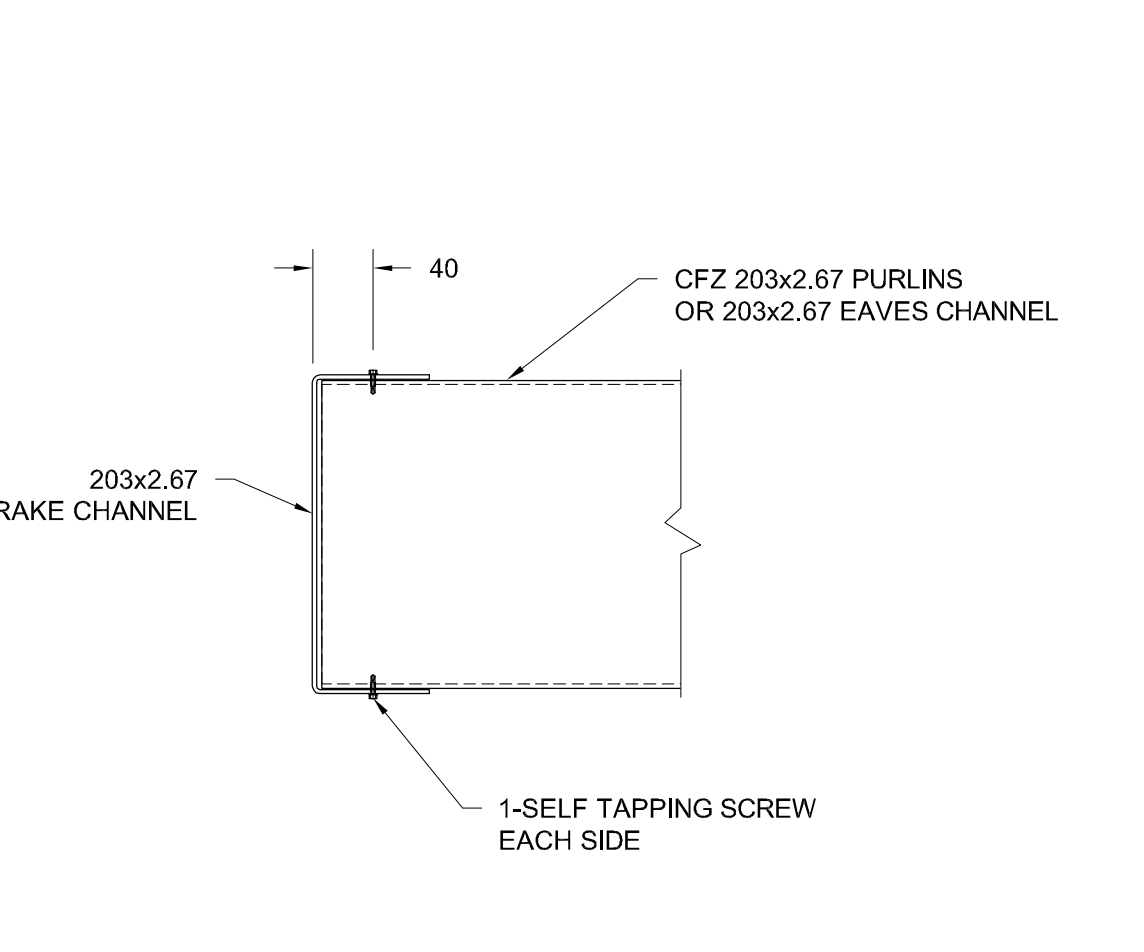
5 DETAIL - CORNER GIRT TABS
456 SCALE: 1:15



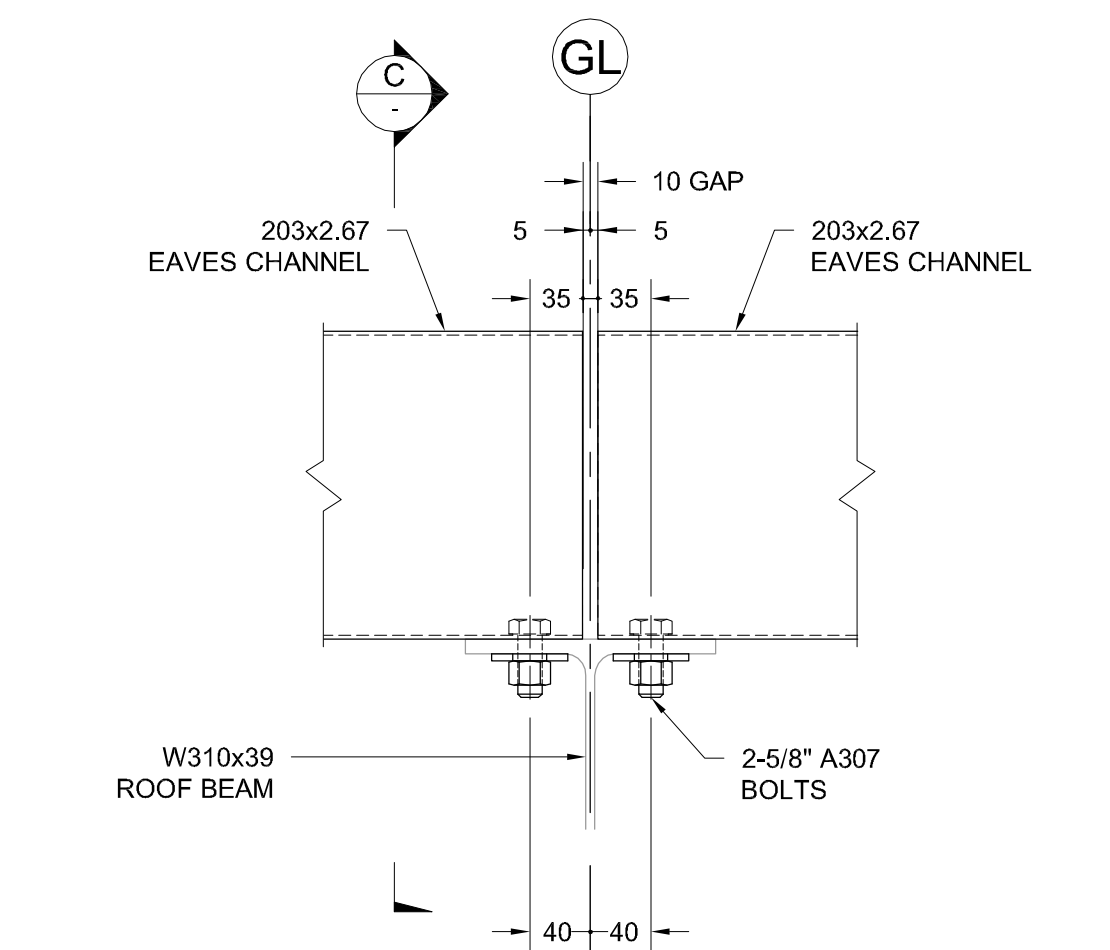
6 DETAIL - INTERIOR GIRT TAB
456 SCALE: 1:15



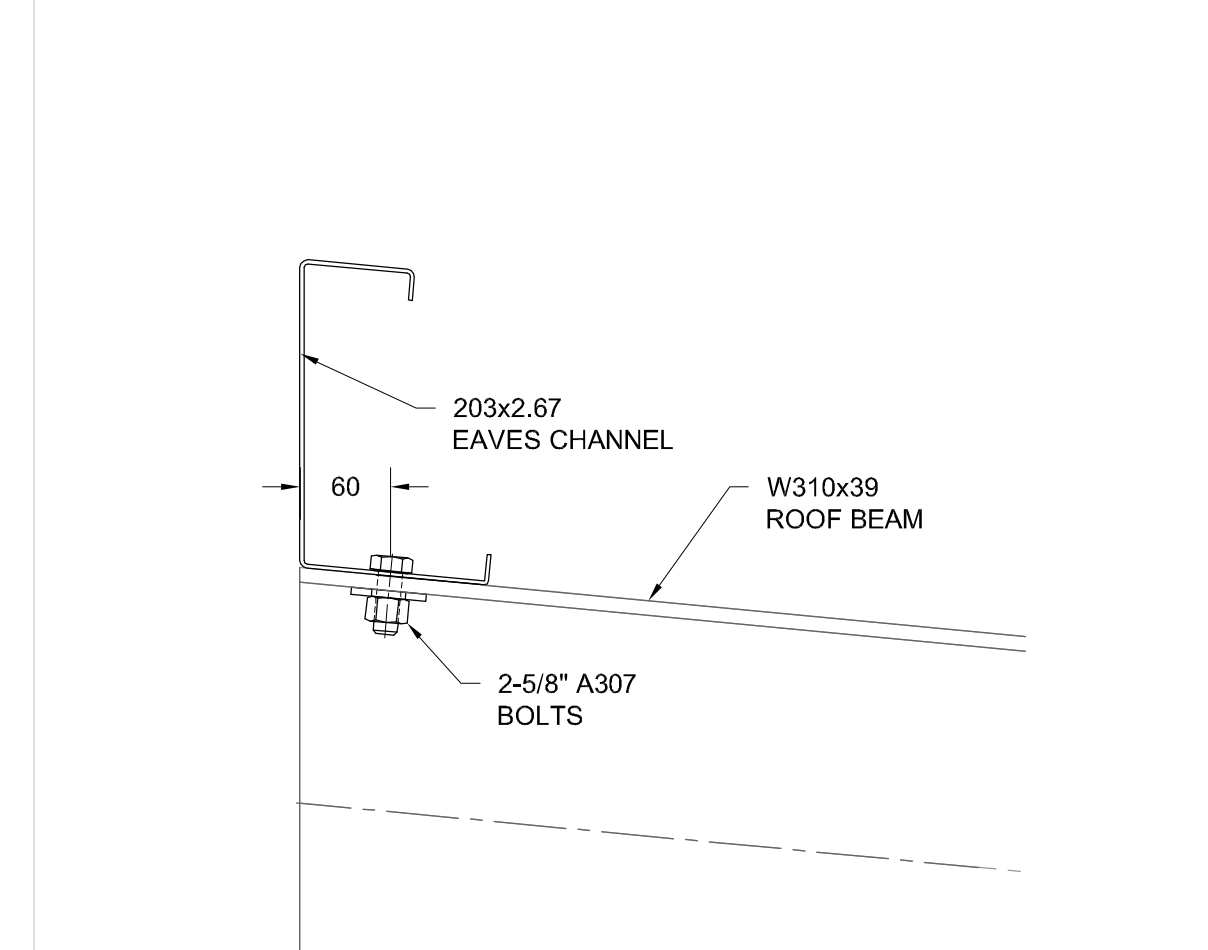
7 DETAIL - INTERIOR GIRT TAB
456 SCALE: 1:15



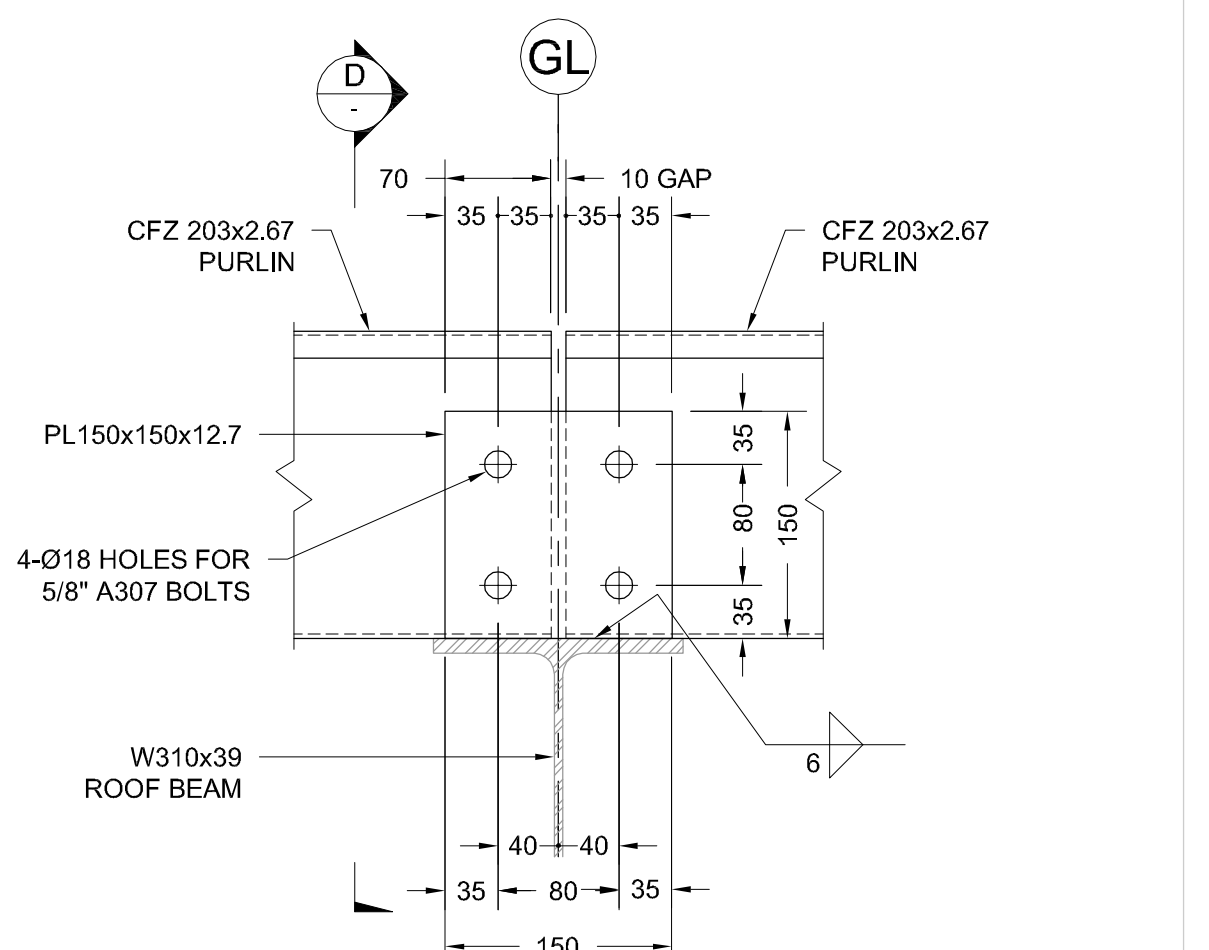
8 DETAIL - RAKE CHANNEL
456 SCALE: 1:15



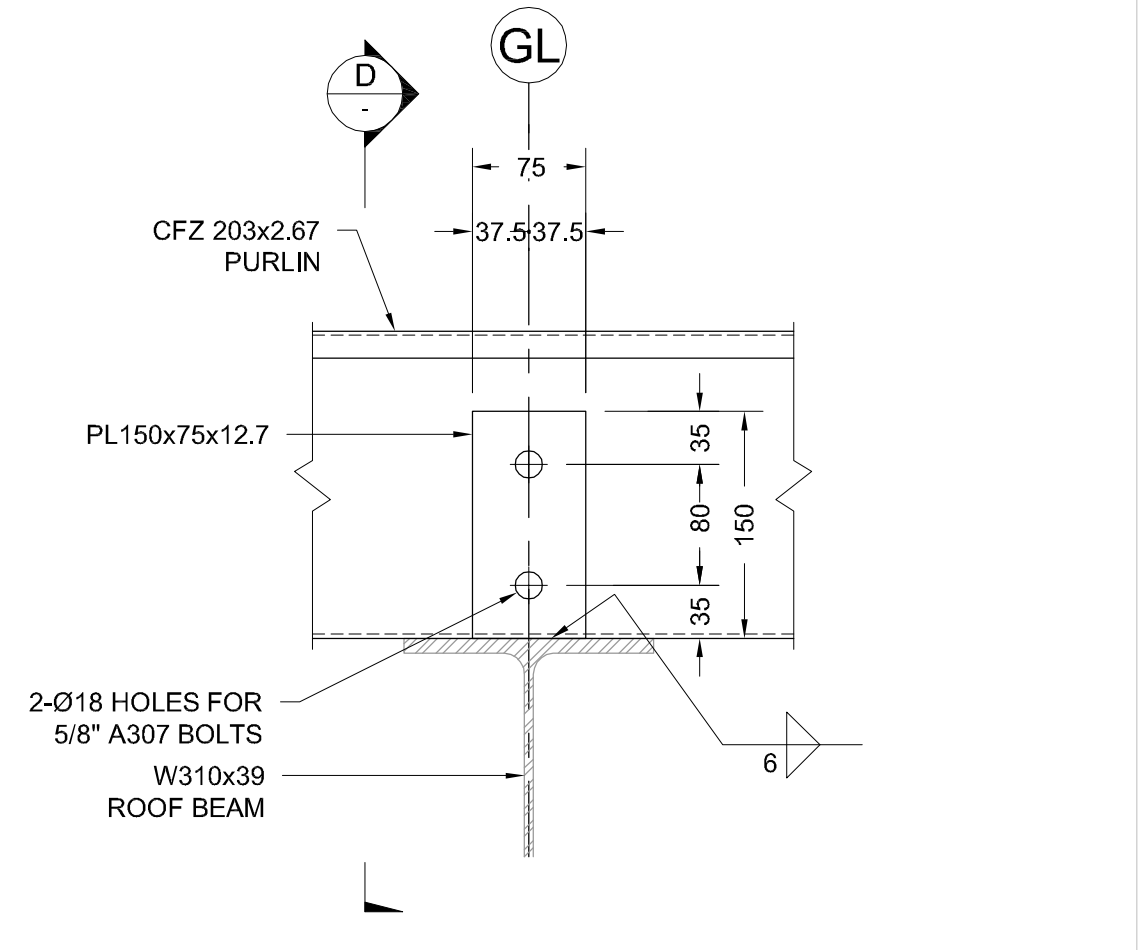
9 DETAIL - EAVES CHANNEL
456 SCALE: 1:5



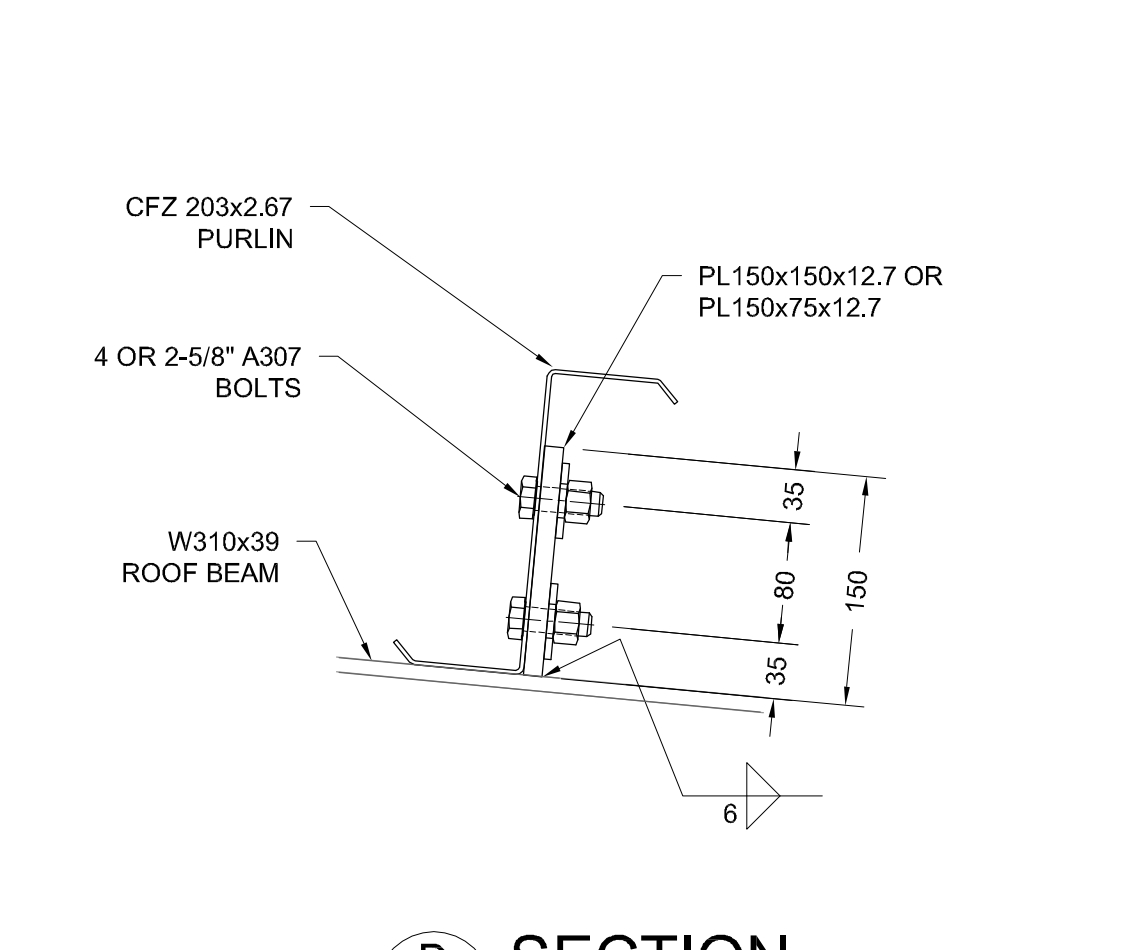
C SECTION
SCALE: 1:5



10 DETAIL - Z PURLIN TAB (INTERIOR)
455 SCALE: 1:5



11 DETAIL - Z PURLIN TAB (EXTERIOR)
455 SCALE: 1:5



D SECTION
SCALE: 1:5

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REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
SECONDARY STRUCTURAL STEEL
DETAILS

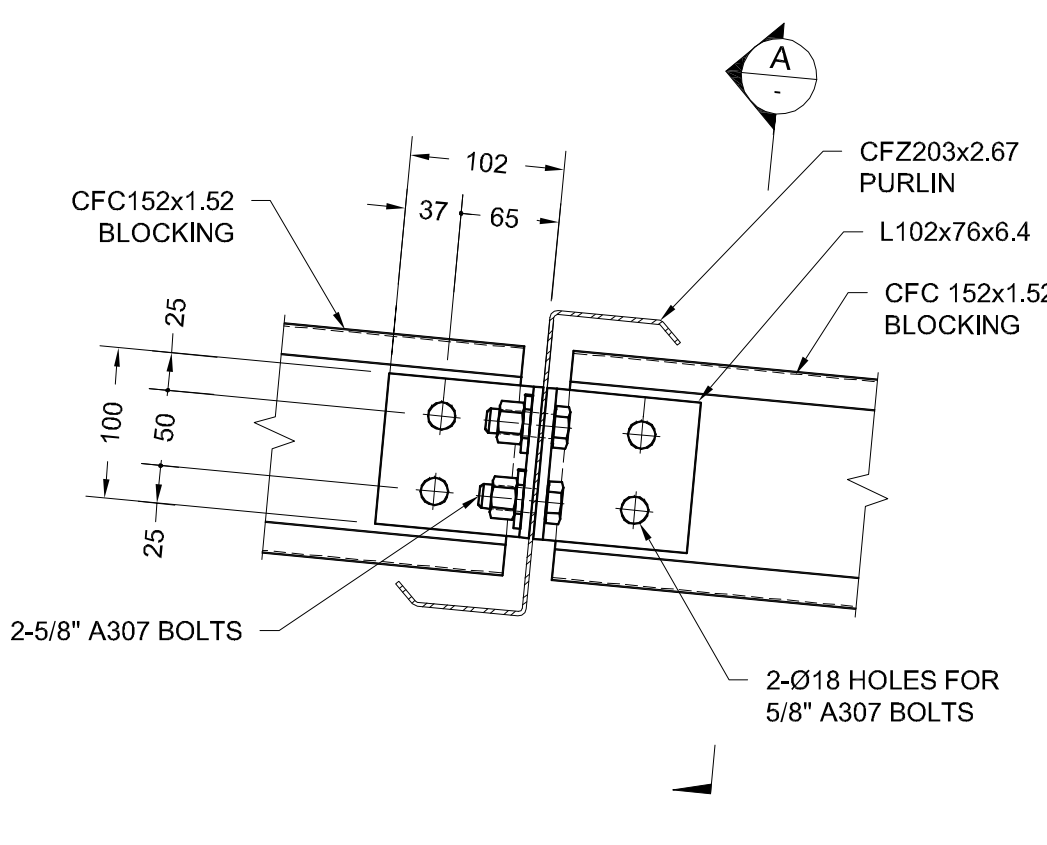
Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	AGO	PB	GY	ISSUED FOR TENDER

Notes:

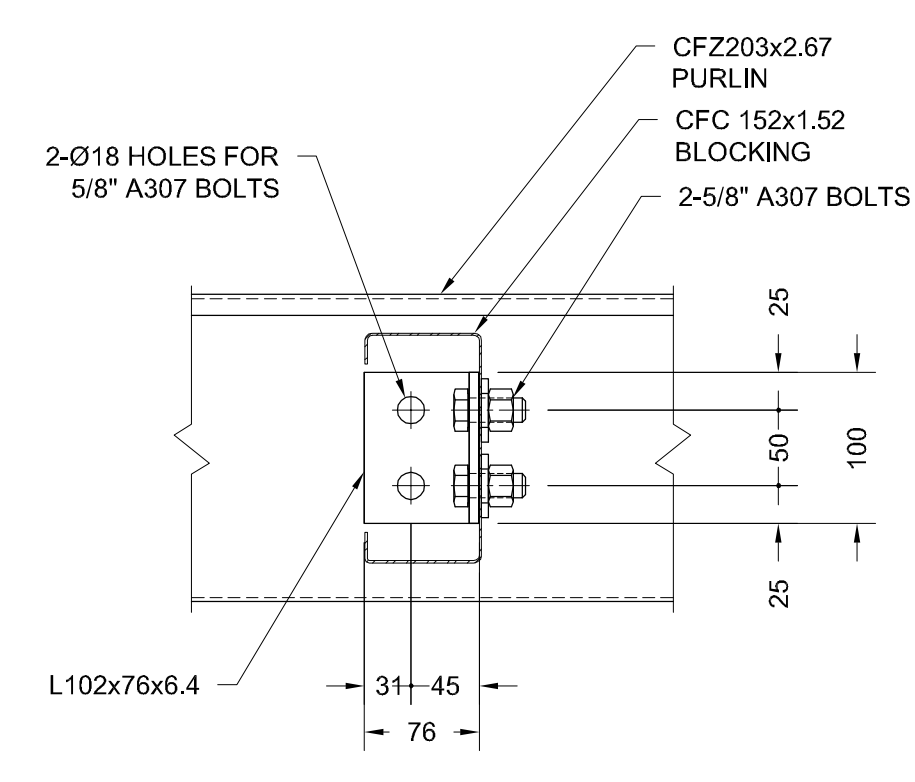
GEA Gygax Engineering Associates Ltd.
103 - 1718 Commercial Drive, Vancouver BC V5N 4A3 Tel: 1 604 254 3914 Fax: 1 604 254 3928 Email: info@gea.ca

Scale 1:5 Drawing Number **11-31-457** Rev. **0**

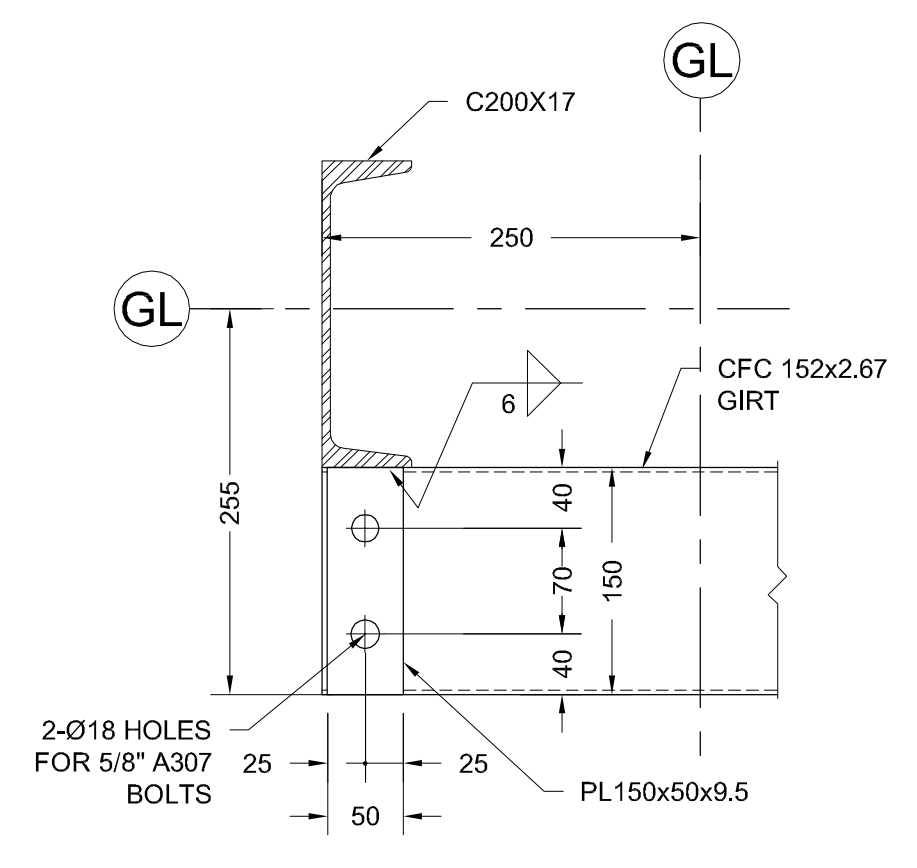
455-458 Secondary Structural Steel_working.dwg
 PLOT DATE: May/26/17 05:00 PM
 SAVE DATE: May/26/17 02:47 PM
 AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE



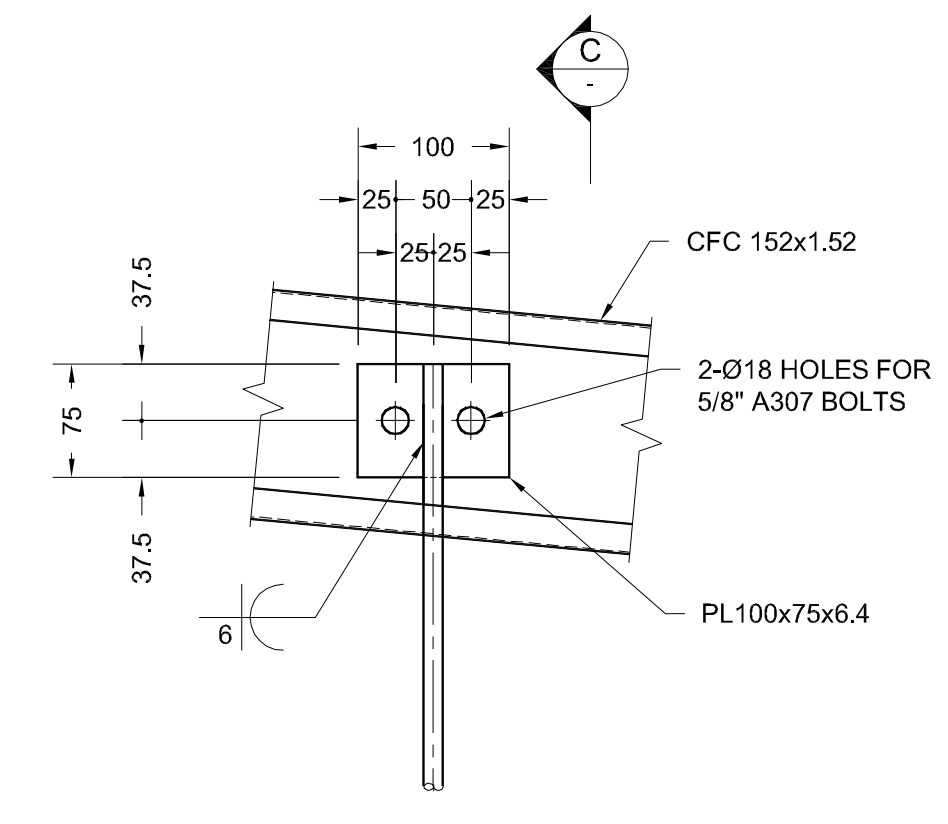
12 DETAIL - BLOCKING
456 SCALE: 1:5



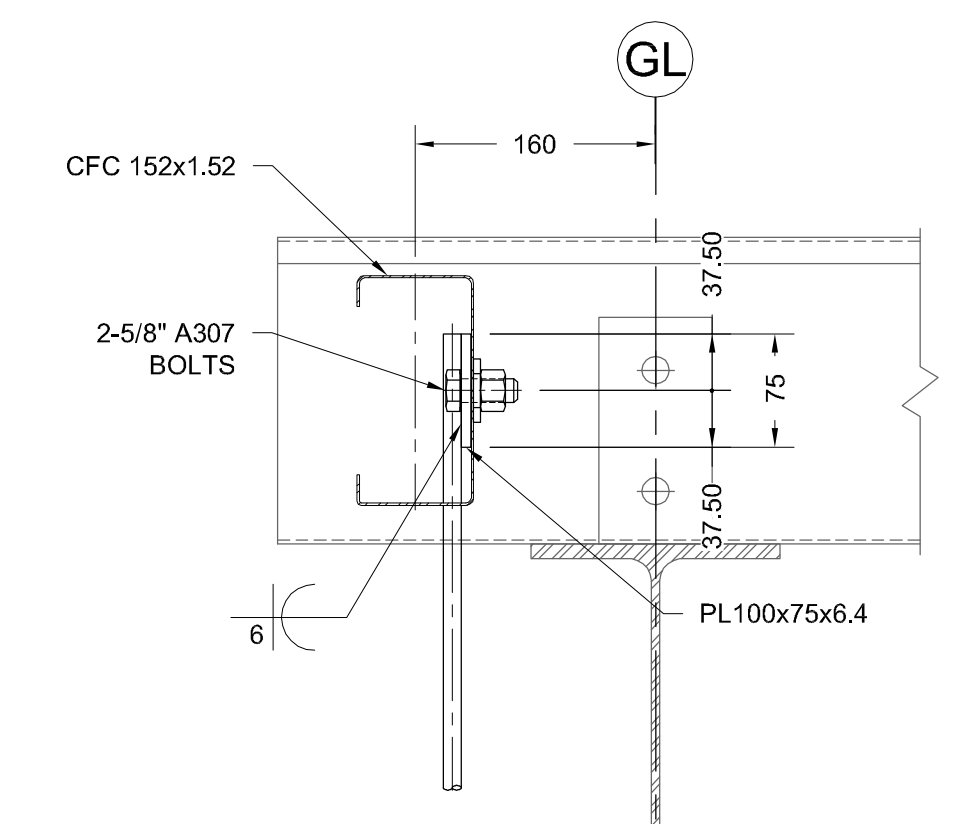
A SECTION
SCALE: 1:5



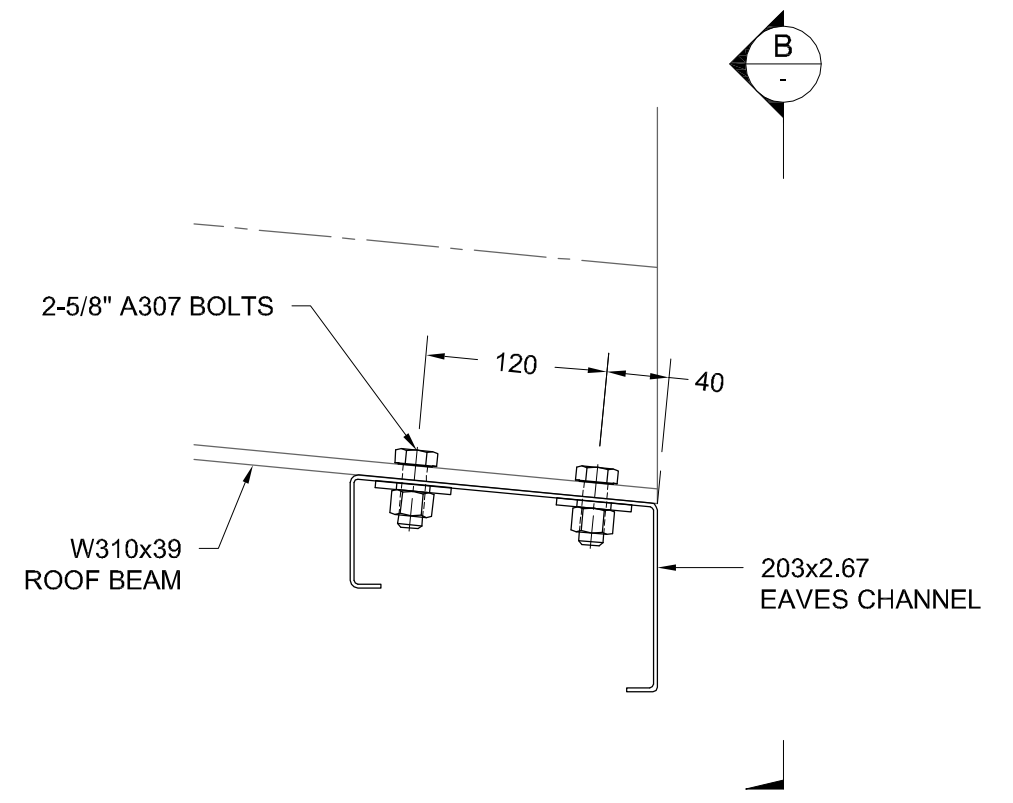
14 DETAIL
456 SCALE: 1:5



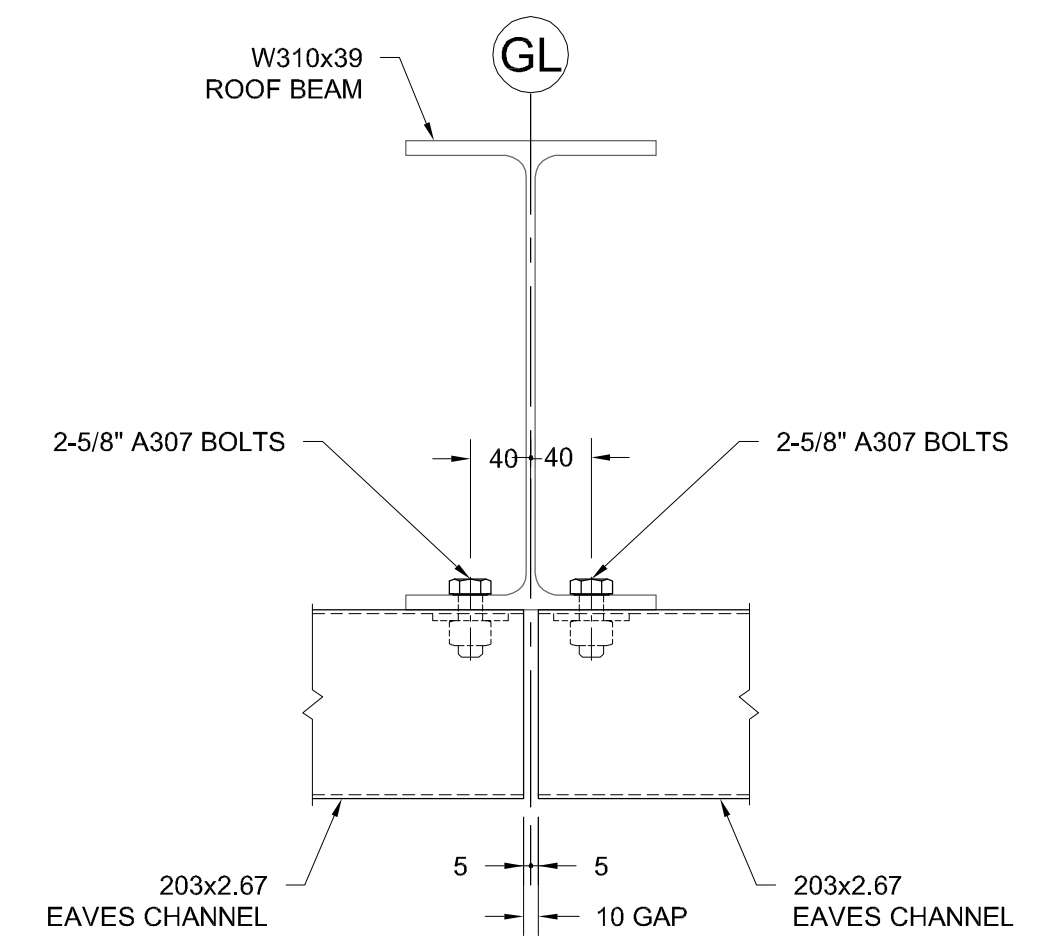
15 DETAIL - SAG ROD
456 SCALE: 1:5



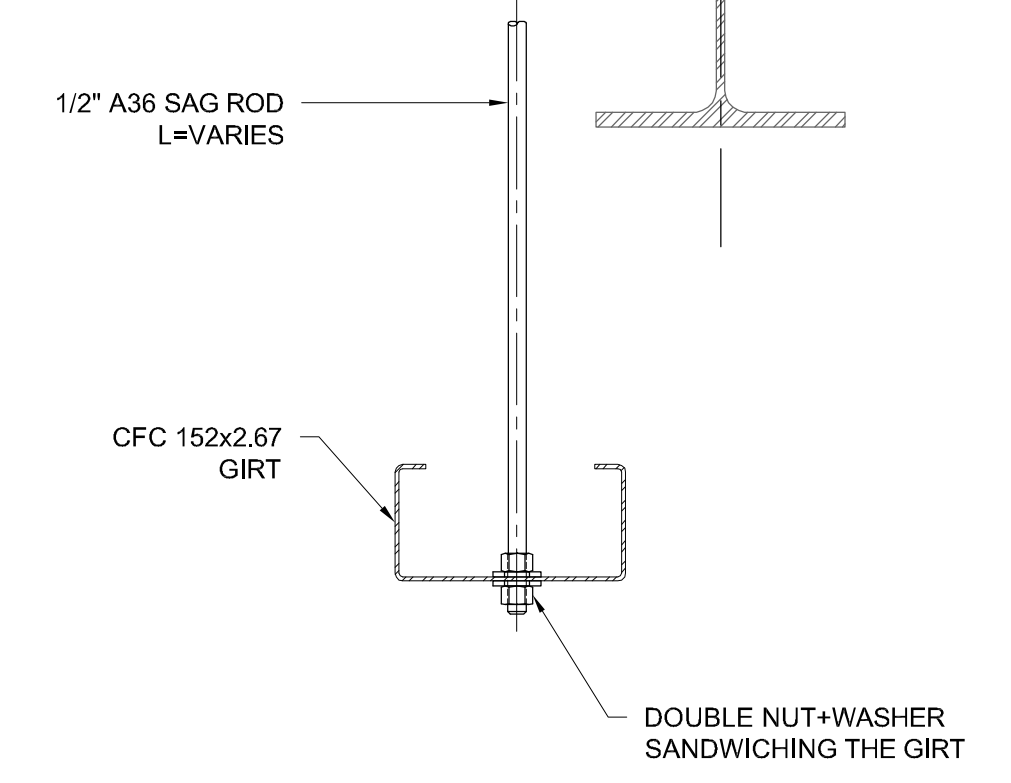
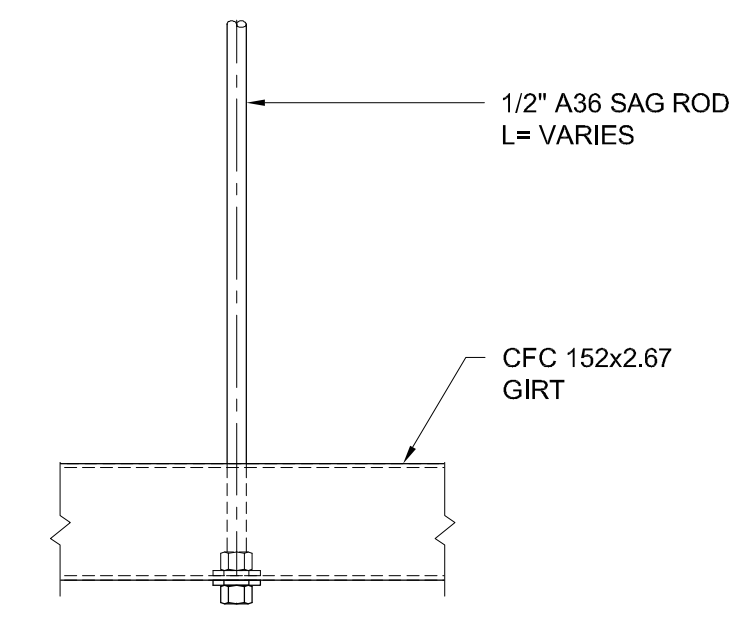
C SECTION
SCALE: 1:5



13 DETAIL
456 SCALE: 1:5



B SECTION
SCALE: 1:5



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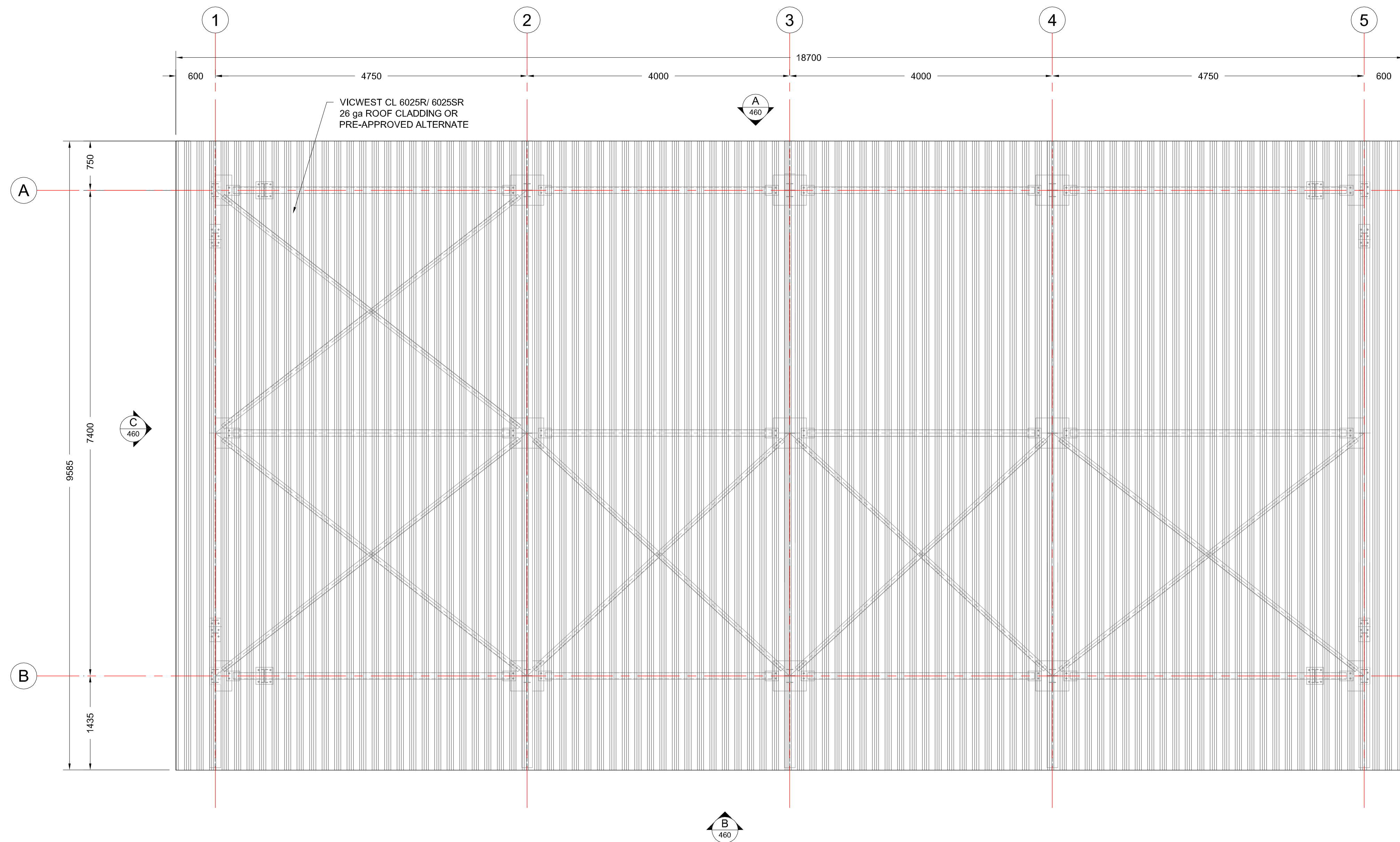
DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
SECONDARY STRUCTURAL STEEL
DETAILS

Scale 1:5 Drawing Number **11-31-458** Rev. **0**

AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE

SAVE DATE: May/26/17 01:44 PM

PLOT DATE: May/26/17 01:46 PM



PLAN - ROOF
SCALE: 1:40

NOTES:

1. GENERAL

- 1.1. REFER DRAWING 11-31-439 FOR COMPLETE STRUCTURAL NOTES.
- 1.2. OPENING DIMENSIONS ARE ROUGH DIMENSIONS.
- 1.3. ENVELOPE DESIGN LOADS:

1.3.1. WALL CLADDING	
-MAXIMUM PRESSURE	1.08 kPa
-MAXIMUM SUCTION	1.16 kPa
1.3.2. ROOF DECKING DESIGN LOADS:	
-MAXIMUM ROOF SNOW LOAD	2.2 kPa
-MAXIMUM ROOF WIND SUCTION	1.7 kPa
1.3.3. ROLL-UP DOOR WIND LOAD	±1.1 kPa

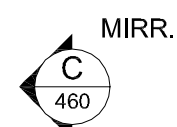
- 1.4. THE INFORMATION SHOWN ON THIS DRAWING SHOWS THE INTENDED CONCEPT. BUILDING CLADDING SUPPLIER TO PROVIDE ADDITIONAL DETAILS TO SUIT PRODUCT LINE USED.

2. MATERIALS

- 2.1. WALL CLADDING AND ROOF DECK: VICWEST CL 6025R/ 6025SR, Ga 26 OR PRE-APPROVED ALTERNATE.
- 2.2. FASTENERS: HILTI S-MD 12-14 1" HWH #3 KWIK SEAL SCREWS OR APPROVED ALTERNATES
- 2.3. ROLL-UP DOORS: NON-INSULATED HEAVY-DUTY STORMTITE 610 SERIES ROLLING DOORS MANUFACTURED BY OVERHEAD DOOR CORPORATION OR PRE-APPROVED ALTERNATE. SUPPLY WITH MANUAL CHAIN HOIST. THE DOORS MUST BE CAPABLE OF RECEIVING ELECTRIC MOTOR AT LATER DATE.

3. EXECUTION

- 3.1. DETAILS NOT EXPLICITLY SHOWN ARE TO CLADDING MANUFACTURER'S STANDARDS.
- 3.2. WALL CLADDING: FASTEN WALL CLADDING WITH HILTI S-MD 12-14 1" HWH #3 KWIK SEAL SCREWS
-EVERY SECOND FLUTE INTO WALL GIRTS (300 C/C SPACING)
-SIDE LAPS @ 450 O/C
- 3.3. ROOF CLADDING: FASTEN ROOF CLADDING WITH HILTI S-MD 12-14 1" HWH #3 KWIK SEAL SCREWS
-EVERY FLUTE INTO PURLINS (150 C/C SPACING)
- 3.4. ENSURE ALL EXPOSED CUT PANEL EDGES ARE CAPPED WITH FLASHING.
- 3.5. INSTALL DOORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.



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DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
BUILDING ENVELOPE
PLAN

Scale 1:40 Drawing Number **11-31-459** Rev. **0**

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Notes:

Seal

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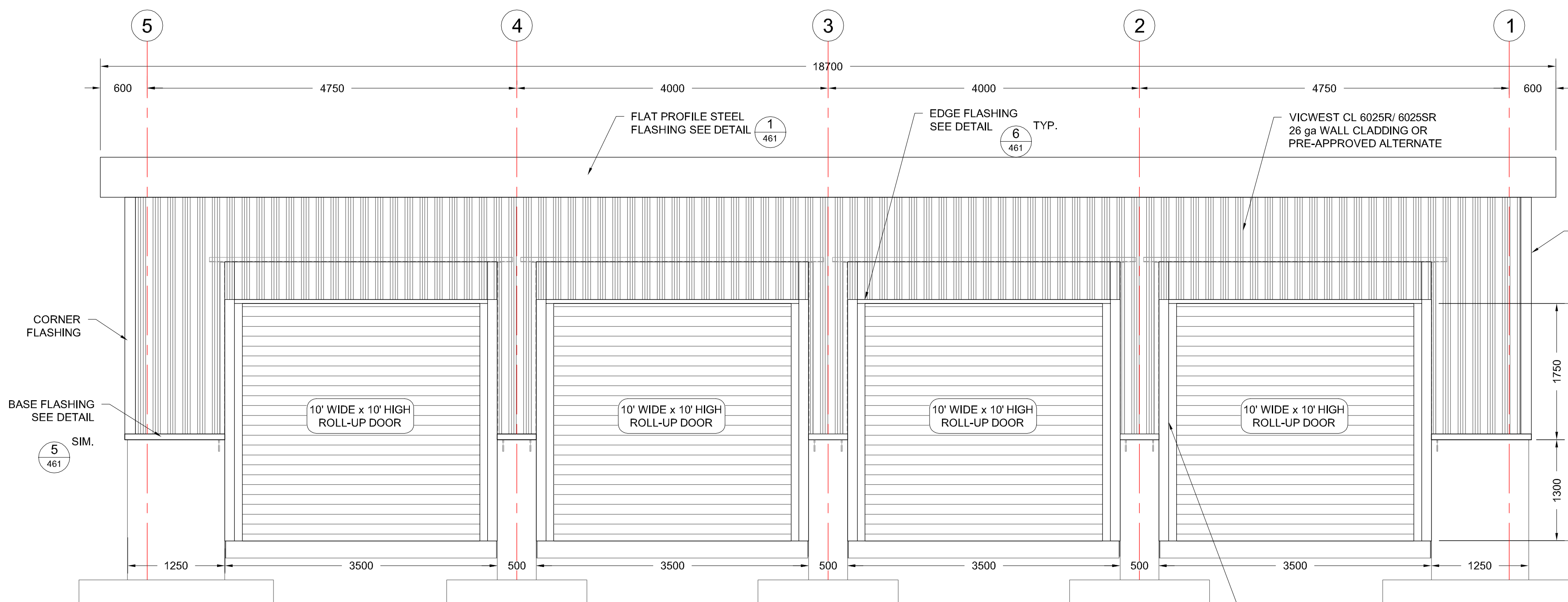
459-461 Cladding_working.dwg

AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE

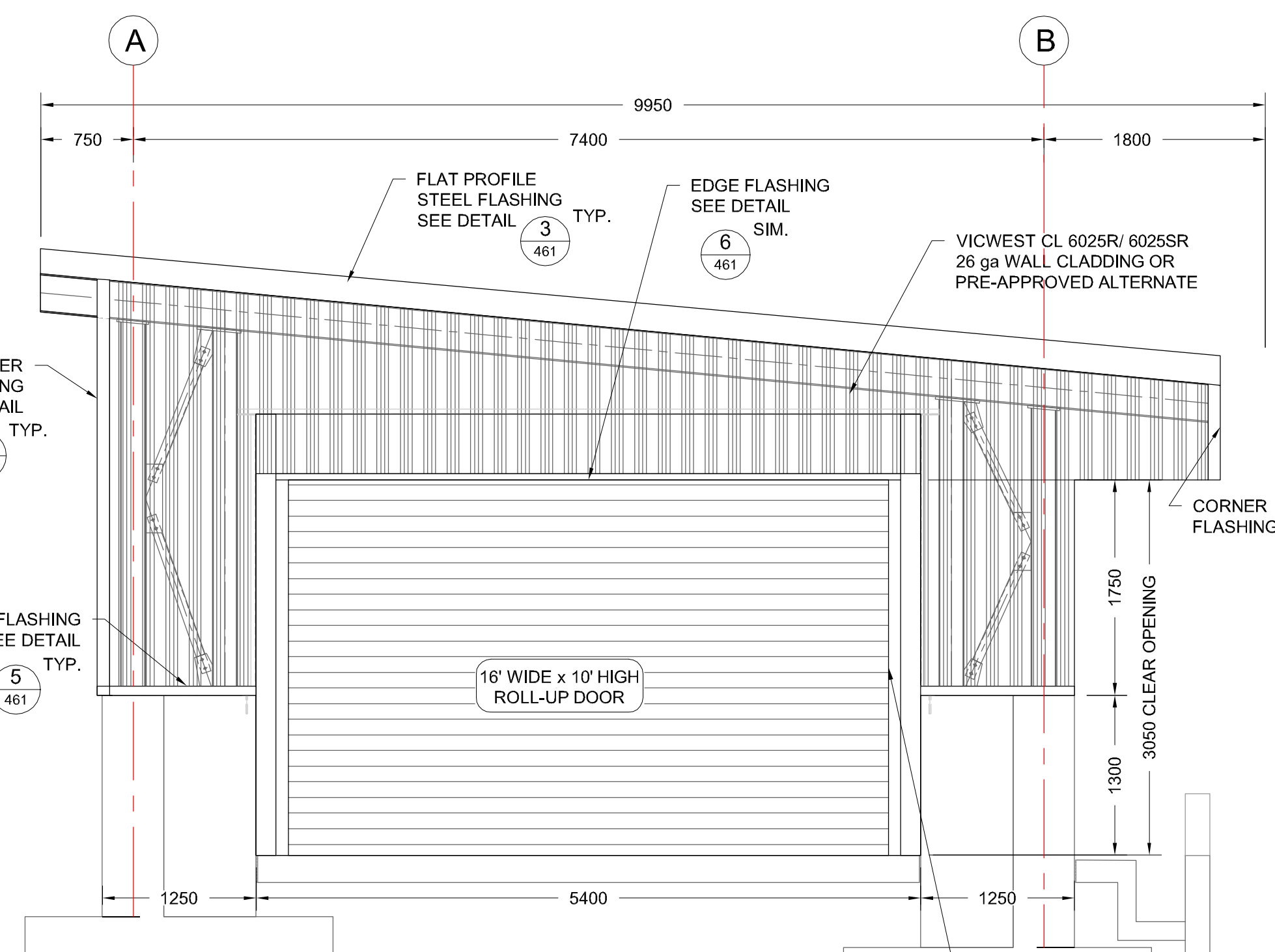
SAVE DATE: May/26/17 01:44 PM

PLOT DATE: May/26/17 01:47 PM

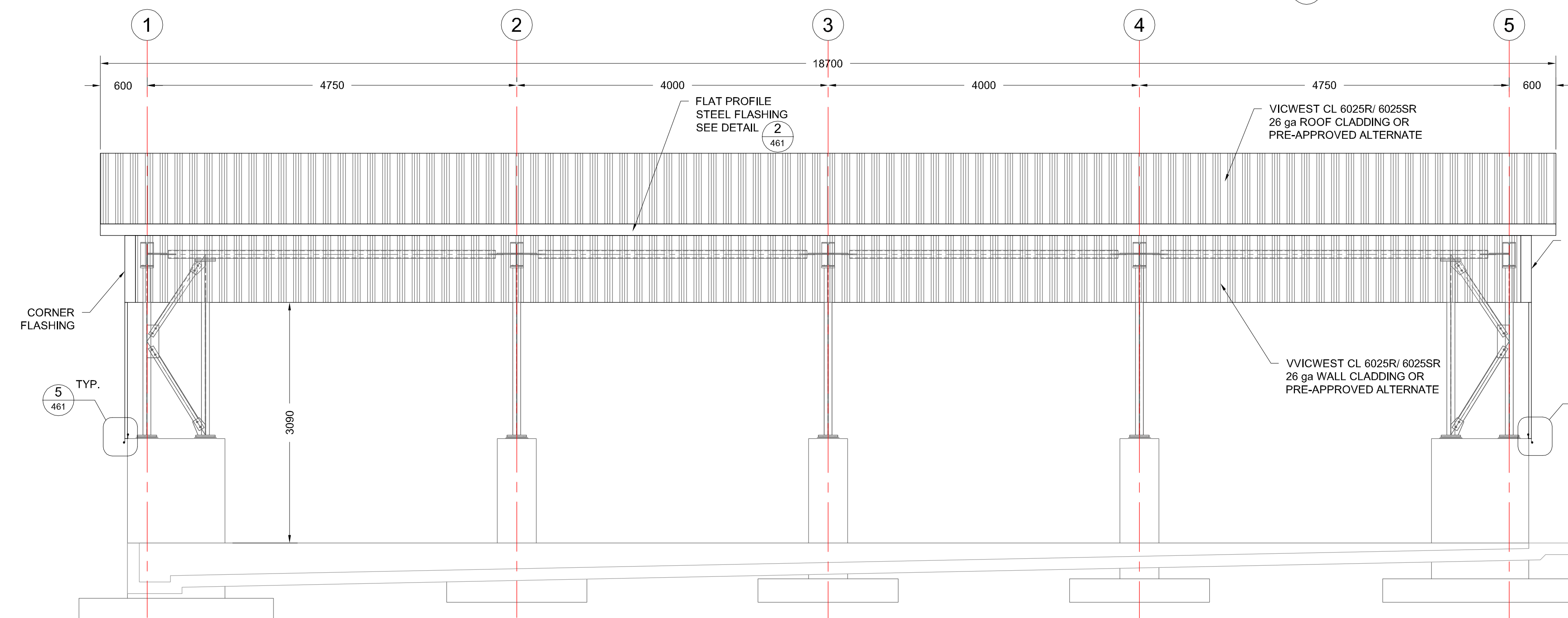
459-461 Cladding_working.dwg



A ELEVATION
459 SCALE: 1:40



C ELEVATION
459 SCALE: 1:40



B ELEVATION
459 SCALE: 1:40

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FISHERIES AND OCEANS CANADA
REAL PROPERTY AND TECHNICAL SUPPORT

DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
BUILDING ENVELOPE
ELEVATIONS

Rev. No.	Date	Designed	Drawn	Checked	Approved	Description of Revision
0	26 MAY 17	PB	PB	GY	GY	ISSUED FOR TENDER

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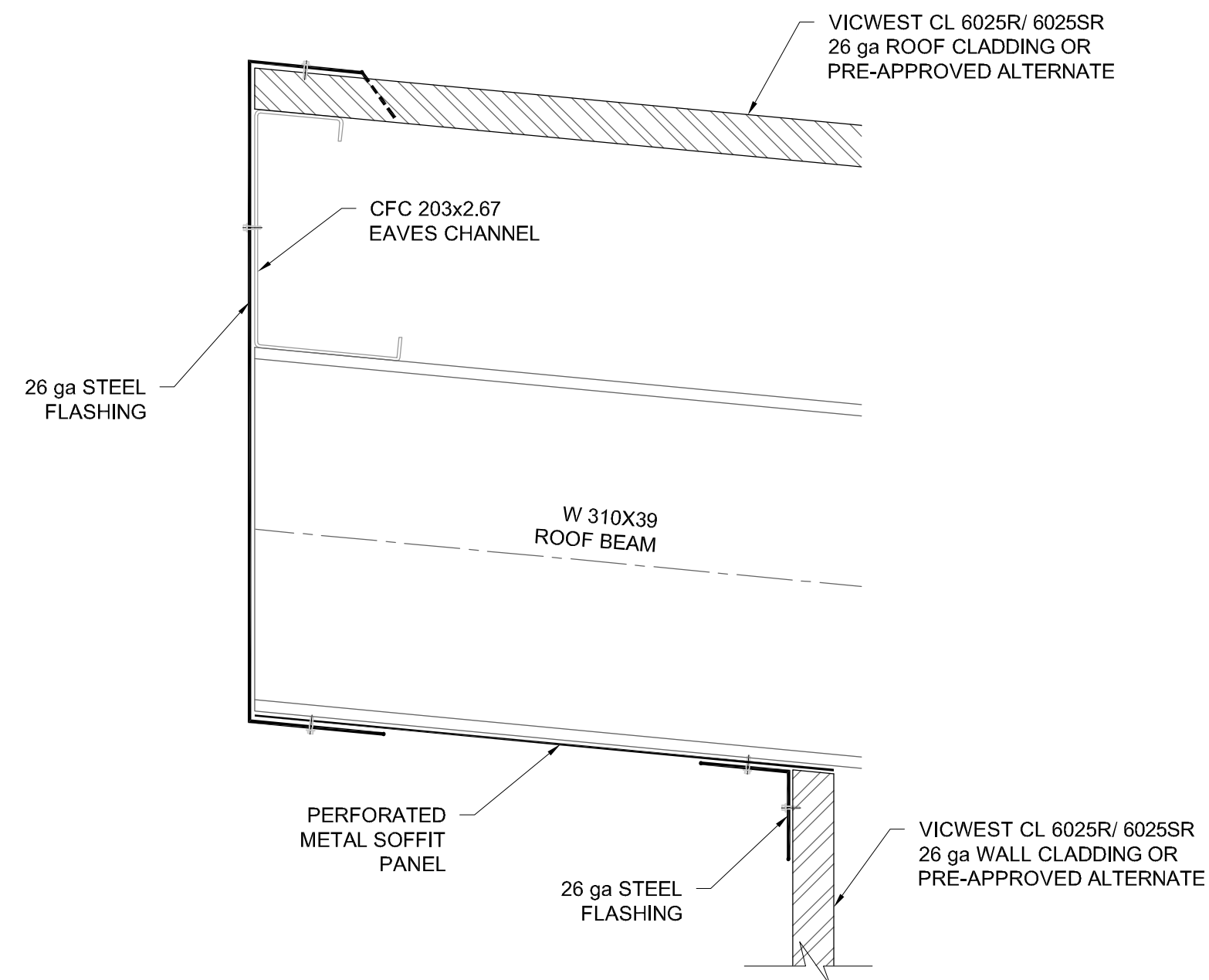
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Scale 1:40 Drawing Number **11-31-460** Rev. **0**

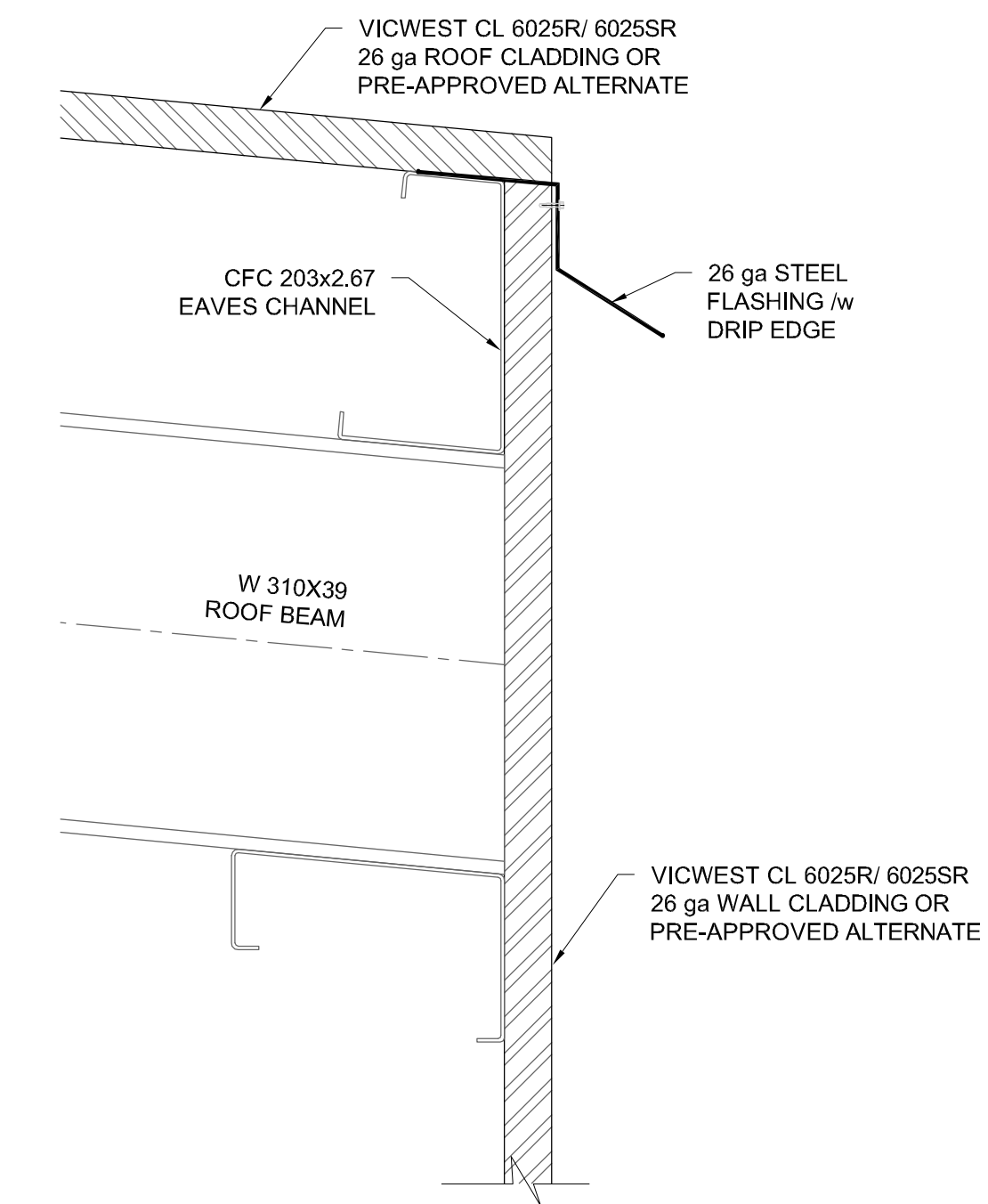
AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES REFERENCED TO FULL SIZE

SAVE DATE: May/26/17 01:44 PM

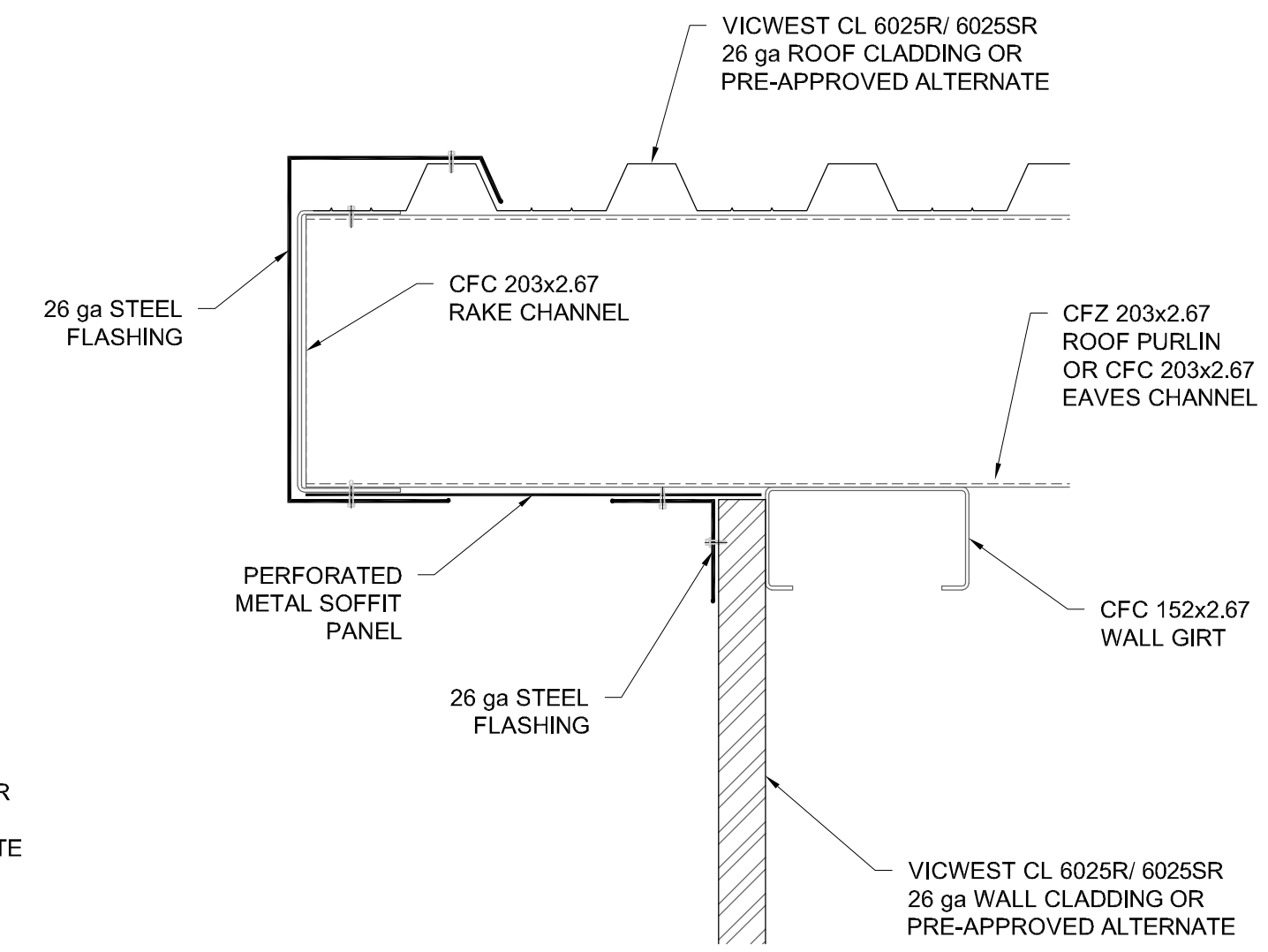
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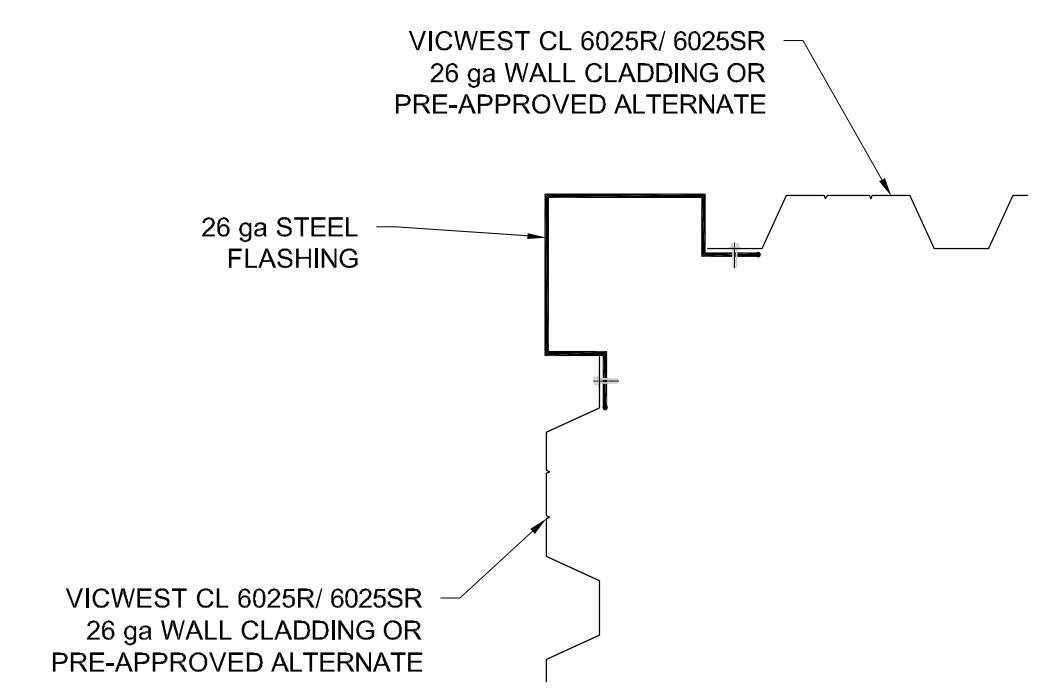
1 DETAIL - ROOF FLASHING
460 SCALE: 1:5



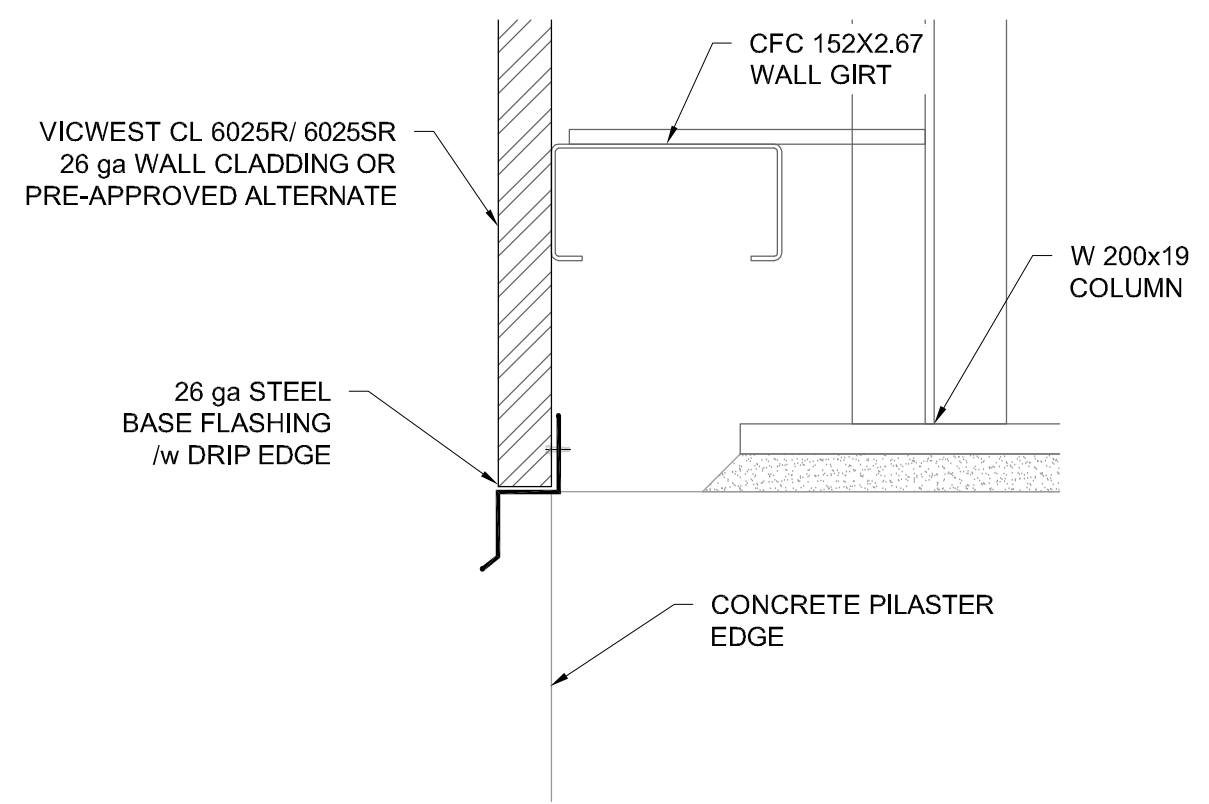
2 DETAIL - ROOF FLASHING
460 SCALE: 1:5



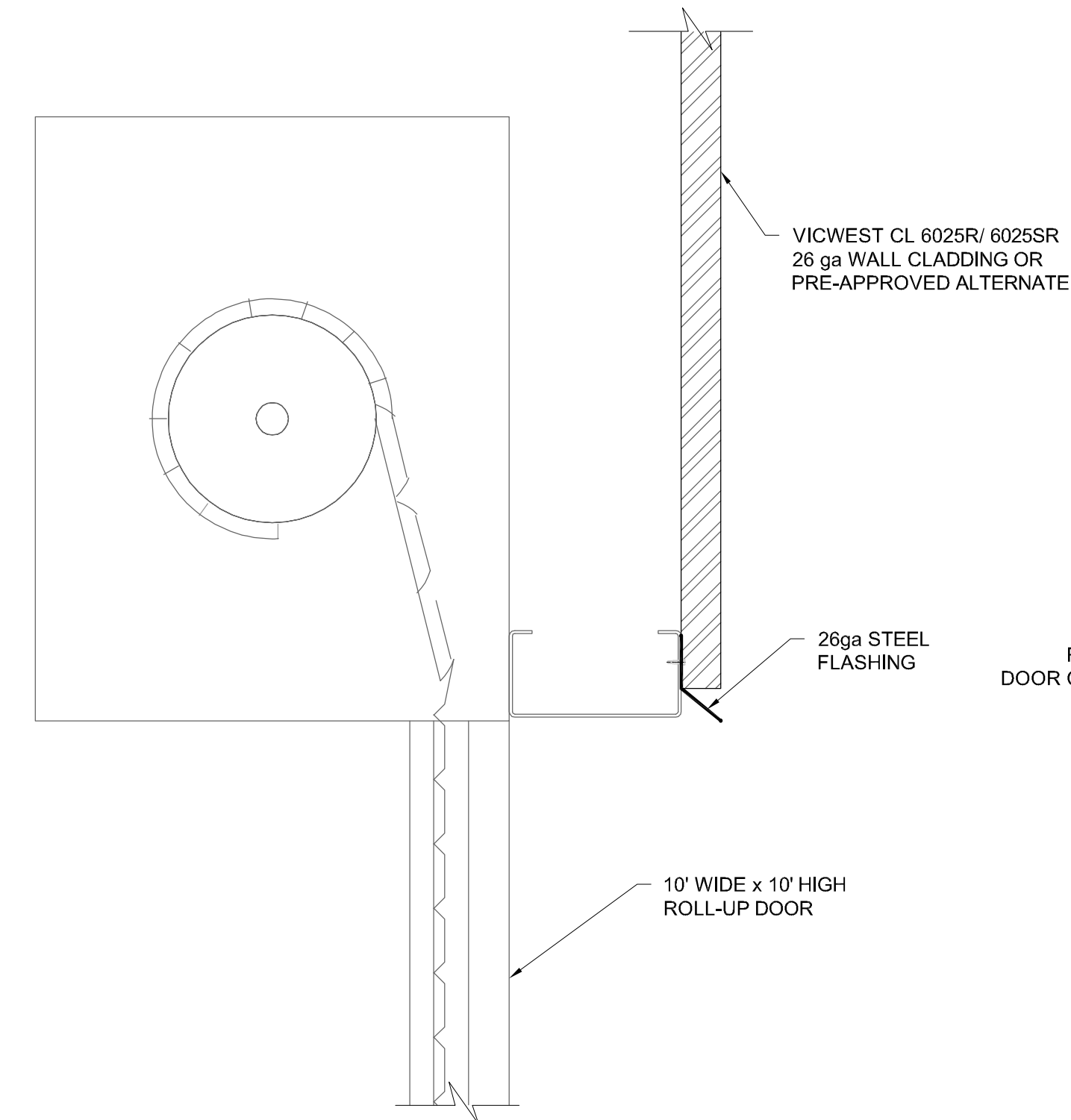
3 DETAIL - ROOF FLASHING
460 SCALE: 1:5



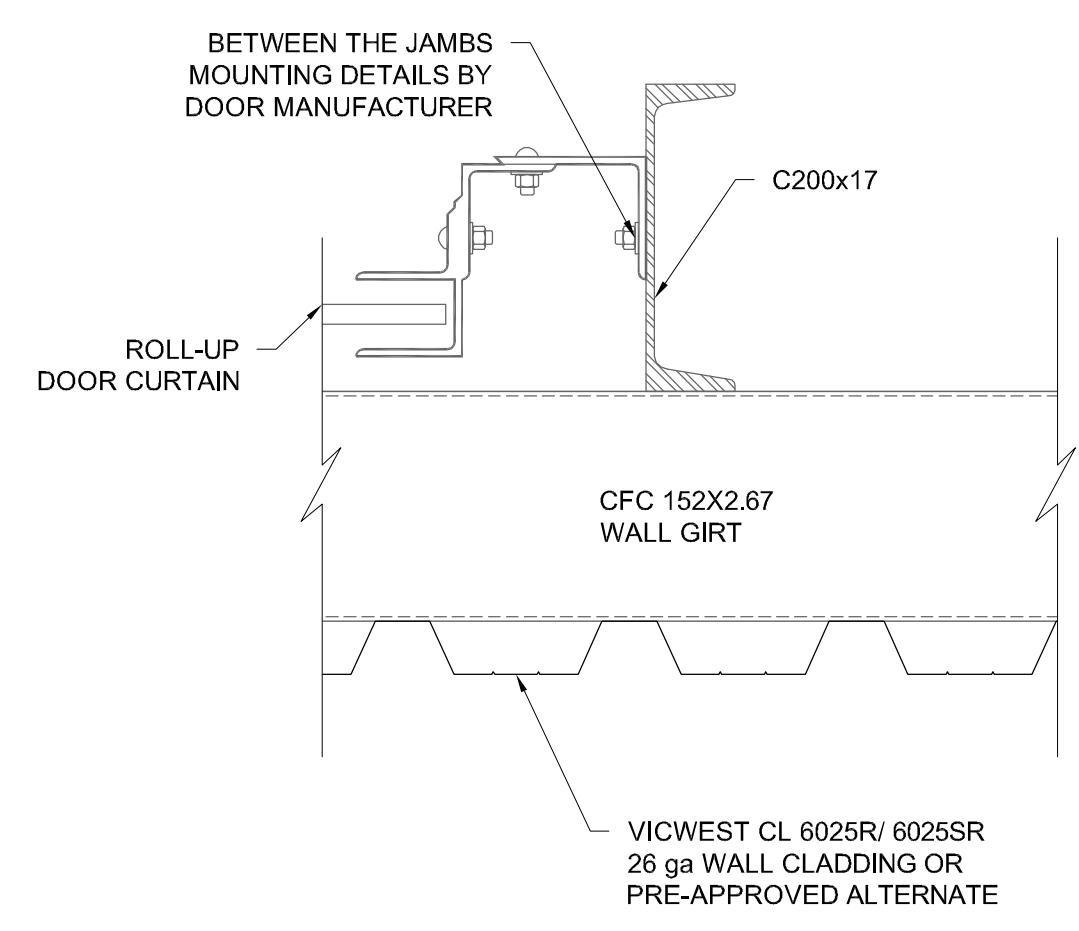
4 DETAIL - CORNER FLASHING
460 SCALE: 1:5



5 DETAIL - BASE FLASHING
460 SCALE: 1:5



6 DETAIL - EDGE FLASHING
460 SCALE: 1:5



7 DETAIL - DOOR MOUNTING
460 SCALE: 1:5

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DFO INCH CREEK HATCHERY
ADULT HANDLING BUILDING
BUILDING ENVELOPE
DETAILS

Scale 1:5 Drawing Number **11-31-461** Rev. **0**

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459-461 Cladding_working.dwg