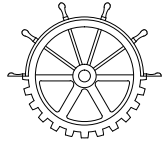




Public Works and Government Services  
Canada

Ontario Region  
Professional and Technical Services

Heritage Canals and Engineering Works



Travaux publics et Services gouvernementaux  
Canada

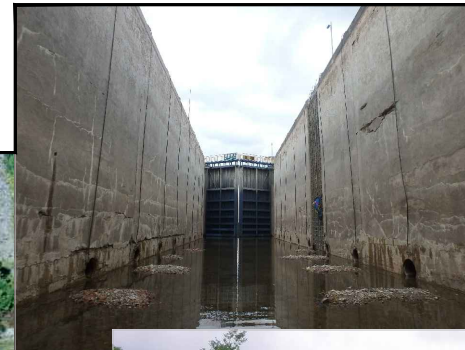
Région de l'Ontario  
Services professionnels et techniques

Canaux historiques et travaux d'ingénierie



Parks  
Canada

Parcs  
Canada



# TRENT-SEVERN WATERWAY HEALEY FALLS LOCKS 16-17 CHAMBER AND APPROACH WALL REPLACEMENT



## LIST OF DRAWINGS

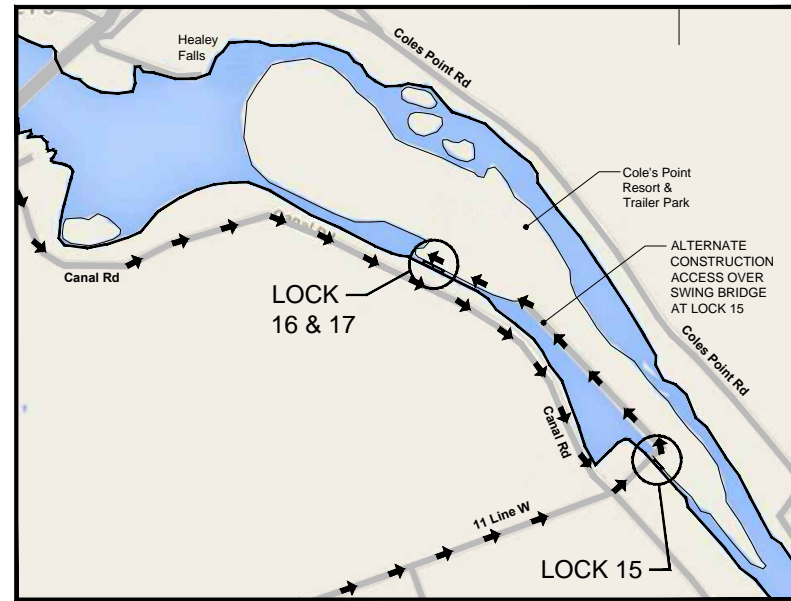
SHEET No.	DRAWING No.	DRAWING TITLE
1	-	COVER SHEET
2	100	SITE PLAN
3	101	REMOVALS AND DEMOLITION I
4	102	REMOVALS AND DEMOLITION II
5	103	GENERAL ARRANGEMENT
6	104	CHAMBER WALLS REPLACEMENT I
7	105	CHAMBER WALLS REPLACEMENT II
8	106	HYDRAULIC TRENCHES
9	107	MISCELLANEOUS DETAILS
10	108	LOWER WEST APPROACH WALL REPLACEMENT
11	109	REFERENCE DRAWING I
12	110	REFERENCE DRAWING II
13	111	REFERENCE DRAWING III

ISSUED FOR TENDER

AUG. 10, 2015

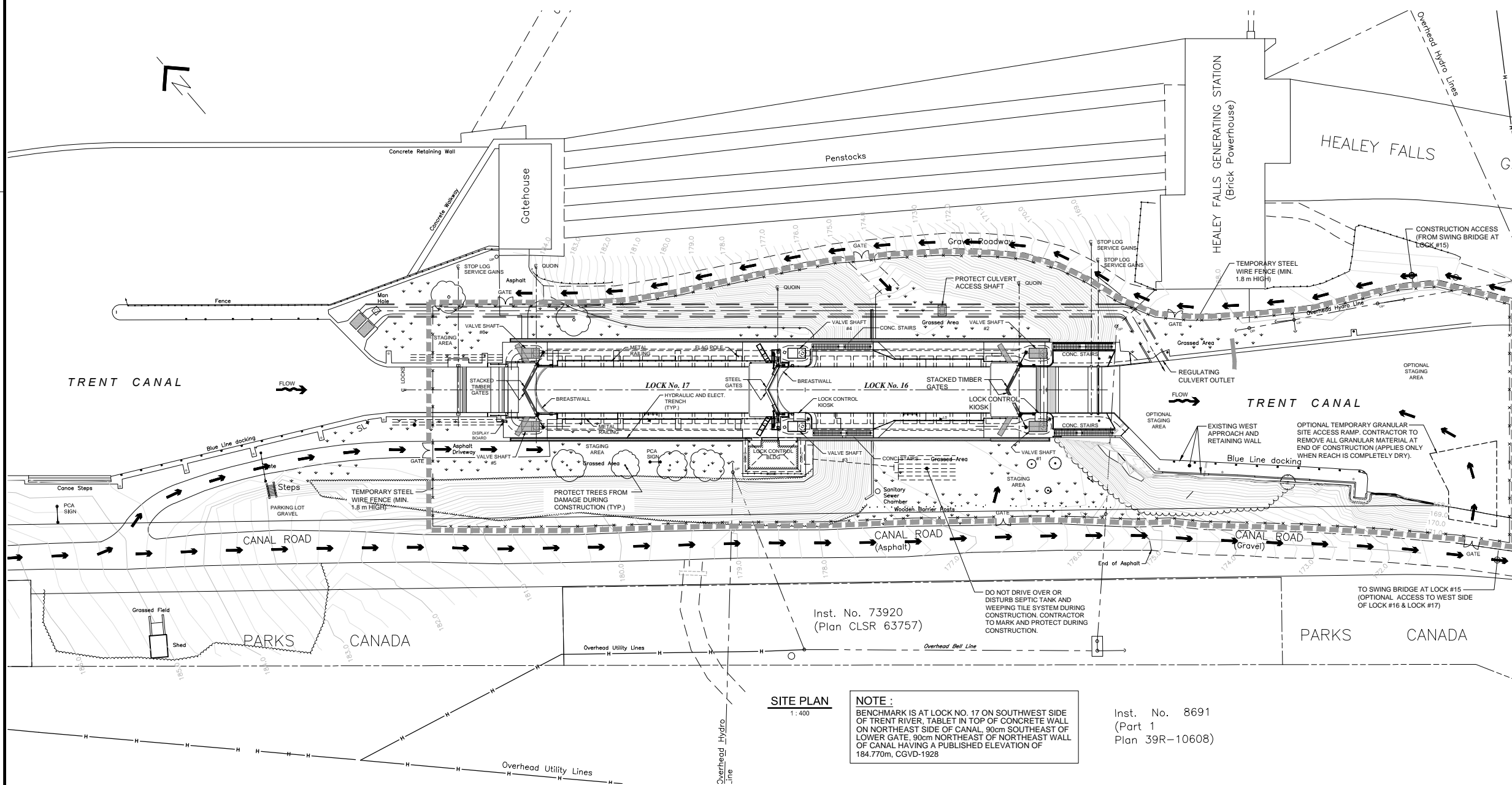
Canada

PWGSC PROJECT NUMBER  
R.073921.001



**SITE ACCESS PLAN**  
N.T.S.

- LEGEND:**
- LIMITS OF CONSTRUCTION AND STAGING AREAS
  - ◆◆◆ ALTERNATE STAGING AREA
  - ➔ CONSTRUCTION ACCESS
  - ➔ LIMITED CONSTRUCTION ACCESS
  - TRESS
  - TEMPORARY STEEL WIRE FENCING (MIN. 1.8 m HIGH)
  - EXIST CHAIN LINK FENCE
  - UP UTILITY POST
  - ✱ LS LIGHT STANDARD



**SITE PLAN**  
1:400

Inst. No. 8691  
(Part 1  
Plan 39R-10608)

1	ISSUED FOR TENDER	10-08-2015
No.	Description	Date

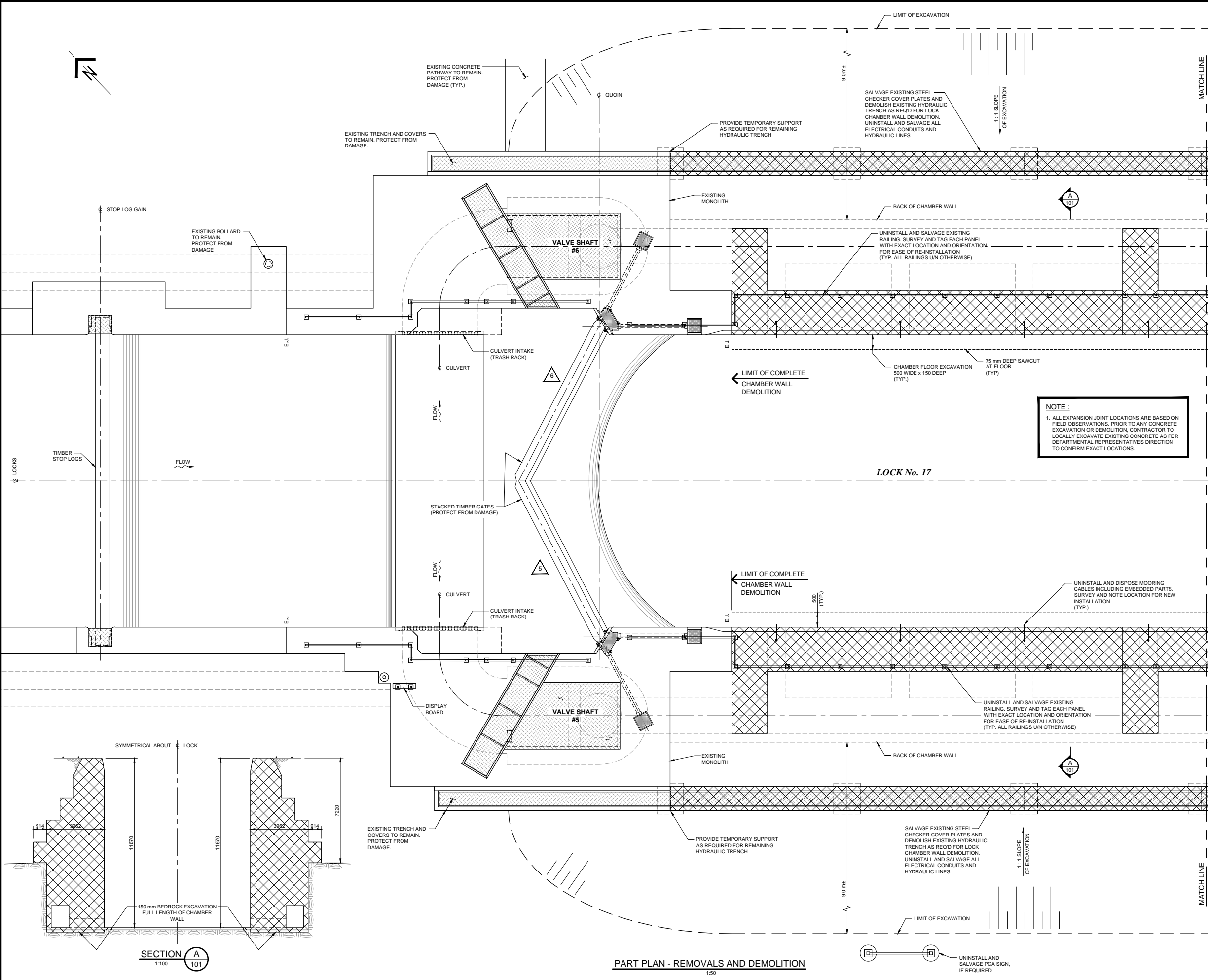
Revision / Révision	

- A Detail number  
Numéro du détail
- B Location dwg. number  
Numéro sur dessin

**HEALEY FALLS  
LOCKS 16-17  
CHAMBER AND APPROACH  
WALL REPLACEMENT**

**SITE PLAN**

Drawn by / Dessiné par HENRYK CHRZANOWSKI	Designed by / Conçu par CZESLAW CUDOWSKI, P.Eng CHRIS UCHWAT, P.Eng
Approved by / Approuvé par LUC BÉRIAL, P.Eng	Drawing Date / Date du dessin JAN. 2015
Drawing Number / Numéro du Dessin <b>100</b>	
Project Number / Numéro du projet R.073921.001	



**LEGEND:**

- DENOTES EXISTING COVER PLATES TO REMAIN AND BE PROTECTED FROM DAMAGE
- DENOTES COMPLETE DEMOLITION
- C.J. CONSTRUCTION JOINT
- E.J. EXPANSION JOINT
- DENOTES GATE NUMBER
- LUMINAIRE

**NOTE:**  
1. ALL EXPANSION JOINT LOCATIONS ARE BASED ON FIELD OBSERVATIONS. PRIOR TO ANY CONCRETE EXCAVATION OR DEMOLITION, CONTRACTOR TO LOCALLY EXCAVATE EXISTING CONCRETE AS PER DEPARTMENTAL REPRESENTATIVE'S DIRECTION TO CONFIRM EXACT LOCATIONS.

1	ISSUED FOR TENDER	10-08-2015
No.	Description	Des. By / Des. Par. / Date
Revision / Révision		

	A Detail number Numéro du détail
	B Location dwg. number Numéro sur dessin

Project title / Titre du projet  
**HEALEY FALLS LOCKS 16-17 CHAMBER AND APPROACH WALL REPLACEMENT**

Drawing title / Titre du dessin  
**REMOVALS AND DEMOLITION I**

Drawn by / Dessiné par  
HENRYK CHRZANOWSKI

Designed by / Conçu par  
CZESLAW CUDOWSKI, P.Eng.  
CHRIS UCHWAT, P.Eng.

Approved by / Approuvé par  
LUC BÉRIALTY, P.Eng.

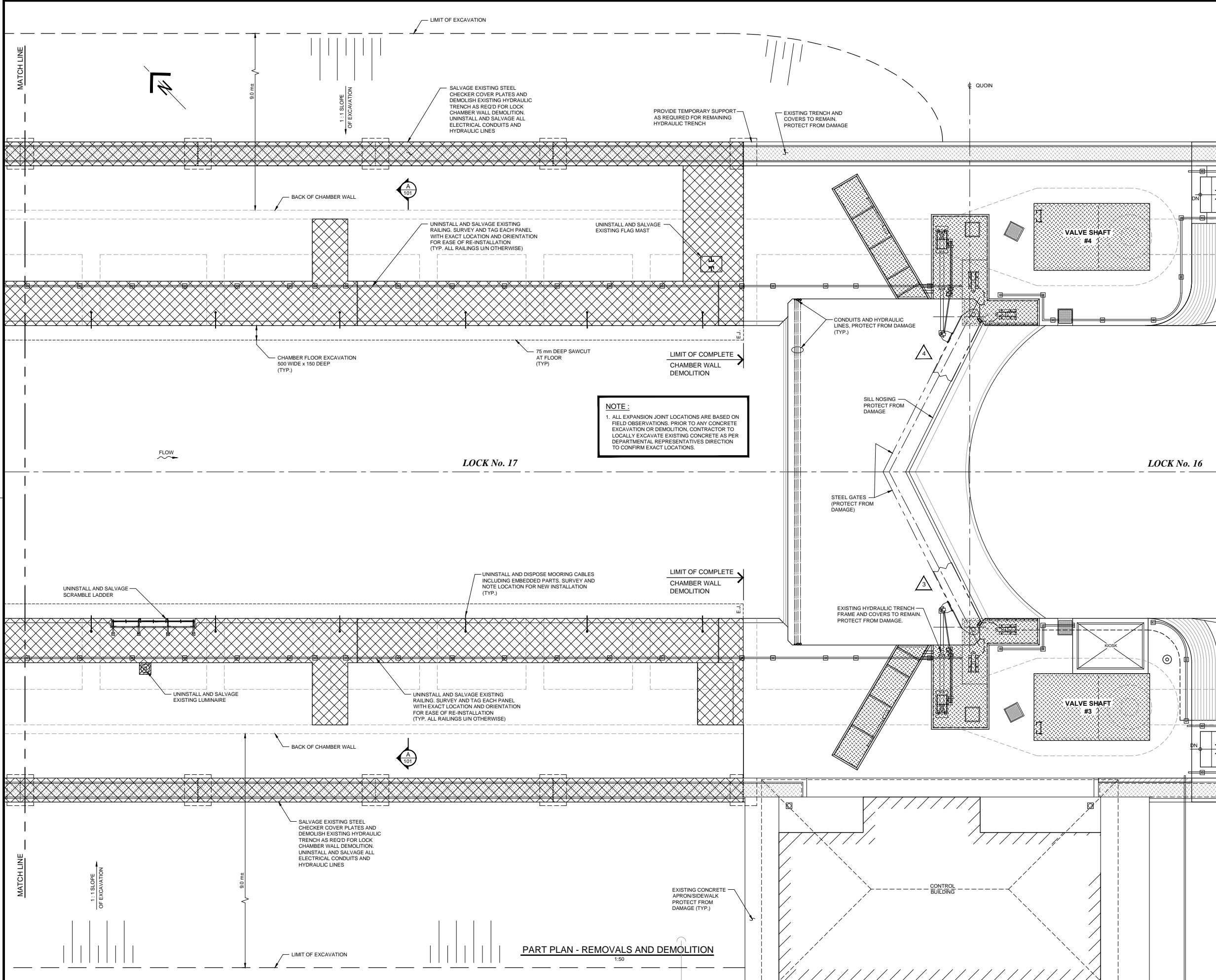
Drawing Date / Date du dessin  
JAN. 2015

Drawing Number / Numéro du Dessin  
**101**

Project Number / Numéro du projet  
R.073921.001

Sheet  
9 of 13

**PART PLAN - REMOVALS AND DEMOLITION**  
1:50



**NOTE:**  
1. ALL EXPANSION JOINT LOCATIONS ARE BASED ON FIELD OBSERVATIONS. PRIOR TO ANY CONCRETE EXCAVATION OR DEMOLITION, CONTRACTOR TO LOCALLY EXCAVATE EXISTING CONCRETE AS PER DEPARTMENTAL REPRESENTATIVES DIRECTION TO CONFIRM EXACT LOCATIONS.

- LEGEND:**
- DENOTES EXISTING COVER PLATES TO REMAIN AND BE PROTECTED FROM DAMAGE
  - DENOTES COMPLETE DEMOLITION
  - C.J. CONSTRUCTION JOINT
  - E.J. EXPANSION JOINT
  - DENOTES GATE NUMBER
  - LUMINAIRE

No.	Description	Des. By / Des. Par	Date
1	ISSUED FOR TENDER		10-08-2015
Revision / Révision			

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

- A Detail number / Numéro du détail
- B Location dwg. number / Numéro sur dessin

Project title / Titre du projet

**HEALEY FALLS  
LOCKS 16-17  
CHAMBER AND APPROACH  
WALL REPLACEMENT**

Drawing title / Titre du dessin

**REMOVALS AND  
DEMOLITION II**

Drawn by / Dessiné par  
HENRYK CHRZANOWSKI

Designed by / Conçu par  
CZEŚLAW CUDOWSKI, P.Eng  
CHRIS UCHWAT, P.Eng

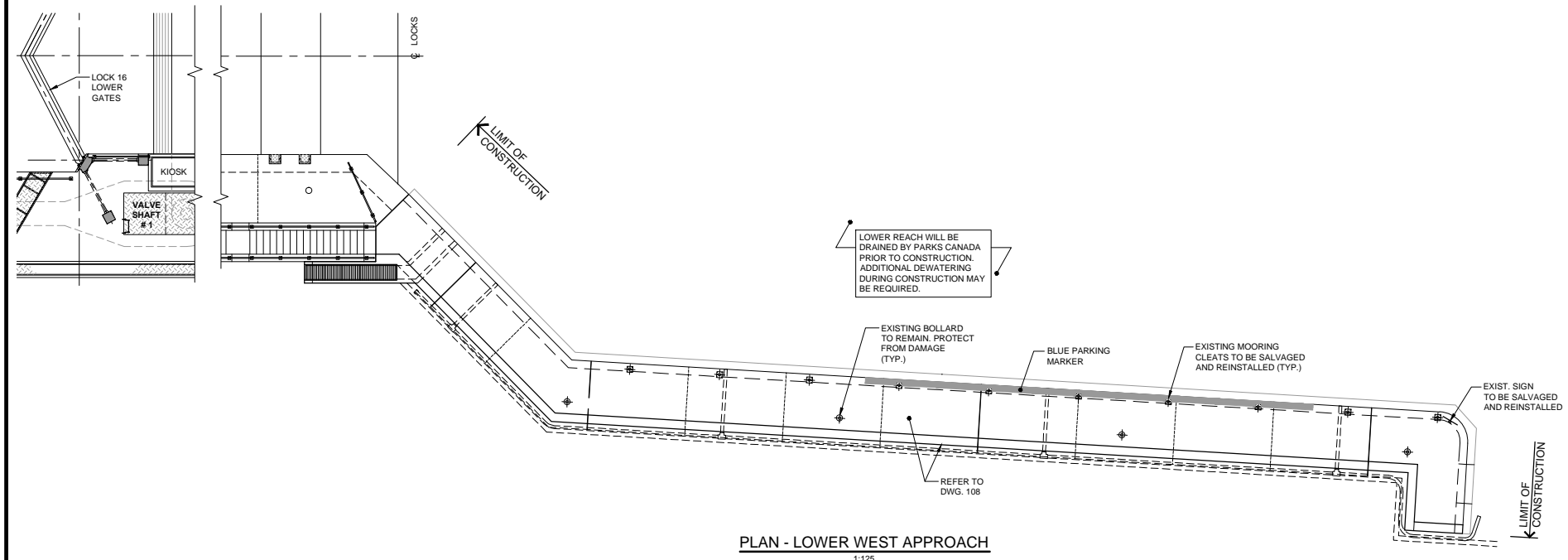
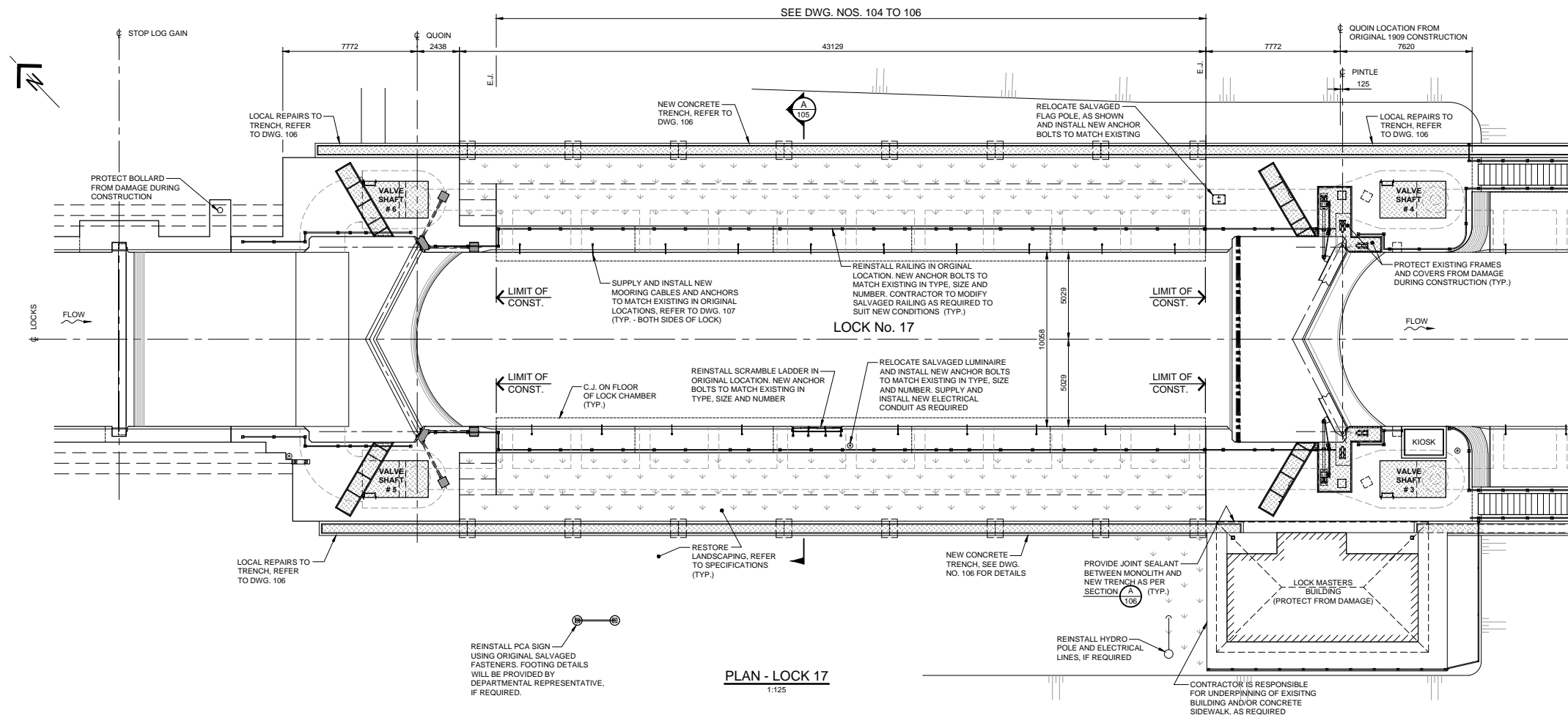
Approved by / Approuvé par  
LUC BÉRIAL, P.Eng

Drawing Date / Date du dessin  
JAN. 2015

Drawing Number / Numéro du Dessin  
**102**

Project Number / Numéro du projet  
R.073921.001

Sheet  
4 of 13

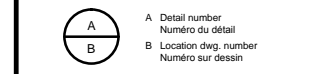


- NOTES:
1. ALL NEW STEEL TO BE HOT-DIP GALVANIZED.
  2. ALL NEW ANCHORS FOR REINSTALLATION OF REMOVALS SHALL BE STAINLESS STEEL, UNLESS NOTED OTHERWISE.
  3. ALL LIFE RINGS TO BE REINSTALLED IN ORIGINAL LOCATIONS.

No.	Description	Des. By Des. Par.	Date
1	ISSUED FOR TENDER		10-08-2015

Revision / Révision

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



- GENERAL NOTES:**
1. ALL ELEVATIONS SHOWN ARE RELATED TO REFERENCE DRAWING T20-194.21 ON DWG. NO. 109 AND GIVEN IN METRES.
  2. CLEAR CONCRETE COVER TO ALL REINFORCING STEEL AND ANCHORS SHALL BE 100 ± 10mm UNLESS NOTED OTHERWISE.
  3. ALL EXPOSED EDGES OF CONCRETE TO HAVE 20mm CHAMFER UNLESS NOTED OTHERWISE.
  4. ALL REINFORCING STEEL LAP SPLICES ARE CLASS 'B' UNLESS NOTED OTHERWISE.
  5. ALL DIMENSIONS ARE GIVEN IN MILLIMETRES.
  6. ALL REINFORCING STEEL HOOKS ARE STANDARD UNLESS NOTED OTHERWISE.
  7. ALL SAWCUTS 75mm DEEP UNLESS NOTED OTHERWISE.
  8. REINFORCING BARS TO EXTEND THRU CONSTRUCTION JOINTS UNLESS NOTED OTHERWISE.
  9. ANCHORS TO BE PLACED A MINIMUM OF 300 mm FROM ALL CONSTRUCTION JOINTS AND EXPANSION JOINTS.
  10. EXISTING LANDSCAPING (SHRUBS, TREES, ETC.) NOT SHOWN ON THIS DWG. FOR CLARITY, SEE SITE PLAN ON DWG. NO. 100.
  11. THE CONTRACTOR SHALL EXAMINE AND VERIFY ALL EXISTING SITE CONDITIONS, DIMENSIONS AND ELEVATIONS, BEFORE COMMENCING PRELIMINARY WORK, INCLUDING SHOP DRAWINGS AND/OR FABRICATION OF NEW ELEMENTS. REPORT DISCREPANCIES AND/OR OMISSIONS, IF ANY, IMMEDIATELY IN WRITING TO THE DEPARTMENTAL REPRESENTATIVE.
  12. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATIONS AND ALL OTHER DRAWINGS.
  13. ALL DETAILS AND SECTIONS SHOWN ON STRUCTURAL DRAWINGS ARE INTENDED TO BE STANDARDIZED AND SHALL BE CONSTRUED TO APPLY TO ANY SIMILAR SITUATION AT OTHER LOCATIONS, UNLESS A DIFFERENT DETAIL OR SECTION IS SHOWN. IN THE EVENT OF DISCREPANCY BETWEEN TWO OR MORE DETAILS OR SECTIONS, THE MORE STRINGENT AND DEMANDING ONE SHALL GOVERN.
  14. THE CONTRACTOR SHALL MAKE NO DEVIATION FROM TENDER DOCUMENTS WITHOUT PRIOR WRITTEN APPROVAL OF THE DEPARTMENTAL REPRESENTATIVE.
  15. THE CONTRACTOR IS RESPONSIBLE TO REPAIR ALL DAMAGES TO THE EXISTING STRUCTURES, SERVICES, INFRASTRUCTURE AND LANDSCAPING CAUSED BY THE WORK. REPAIR ALL SUCH DAMAGES AT NO COST TO THE OWNER.

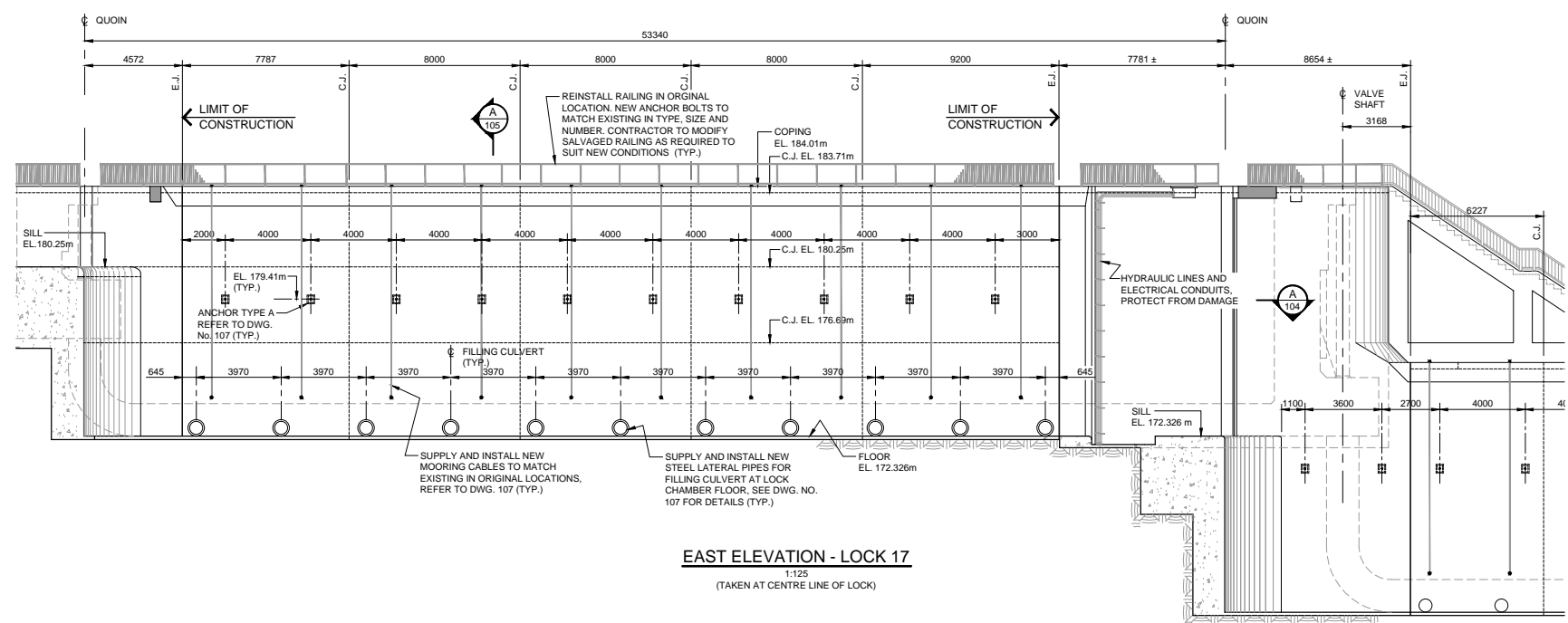
Project title / Titre du projet

**HEALEY FALLS  
LOCKS 16-17  
CHAMBER AND APPROACH  
WALL REPLACEMENT**

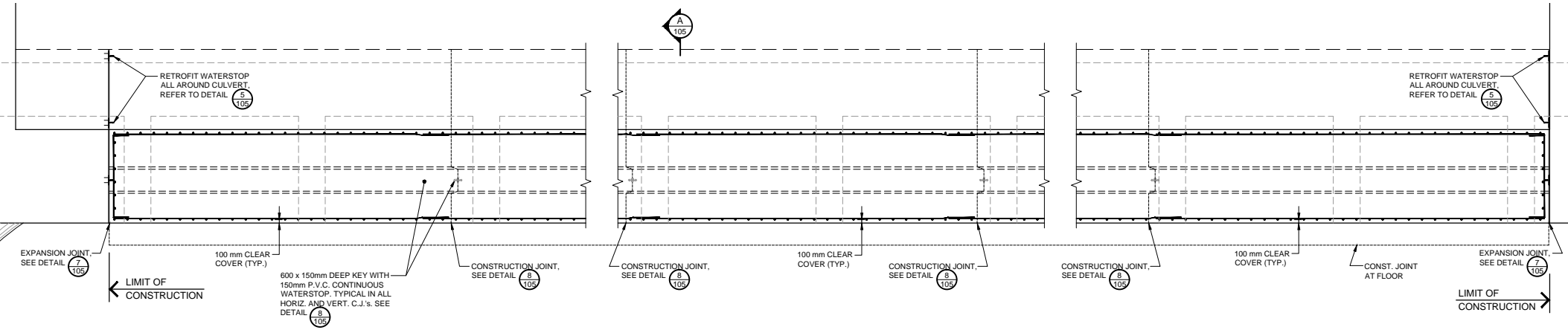
Drawing title / Titre du dessin

**GENERAL ARRANGEMENT**

Drawn by / Dessiné par DAVID ROWAN	Designed by / Conçu par CZESLAW CUDOWSKI, P.Eng CHRIS UCHWAT, P.Eng
Approved by / Approuvé par LUC BÉRIAL, P.Eng	Drawing Date / Date du dessin JAN. 2015
Drawing Number / Numéro du Dessin <b>103</b>	
Project Number / Numéro du projet R.073921.001	
Sheet / Feuille 5 of 13	

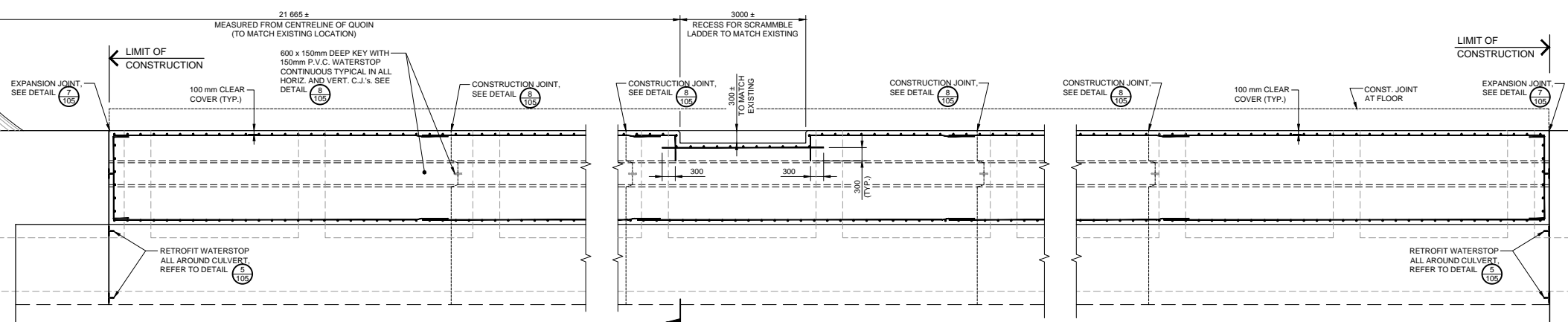


**EAST ELEVATION - LOCK 17**  
1:125  
(TAKEN AT CENTRE LINE OF LOCK)



**LOCK No. 17**

NOTE:  
ALL REINFORCING STEEL  
IS 19M @ 300 EACH WAY  
UNLESS NOTED OTHERWISE



**SECTION - LOCK 17 CHAMBER** A  
1:50

No.	Description	Des. By Des. Par.	Date
1	ISSUED FOR TENDER		10-08-2015
Revision / Révision			

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

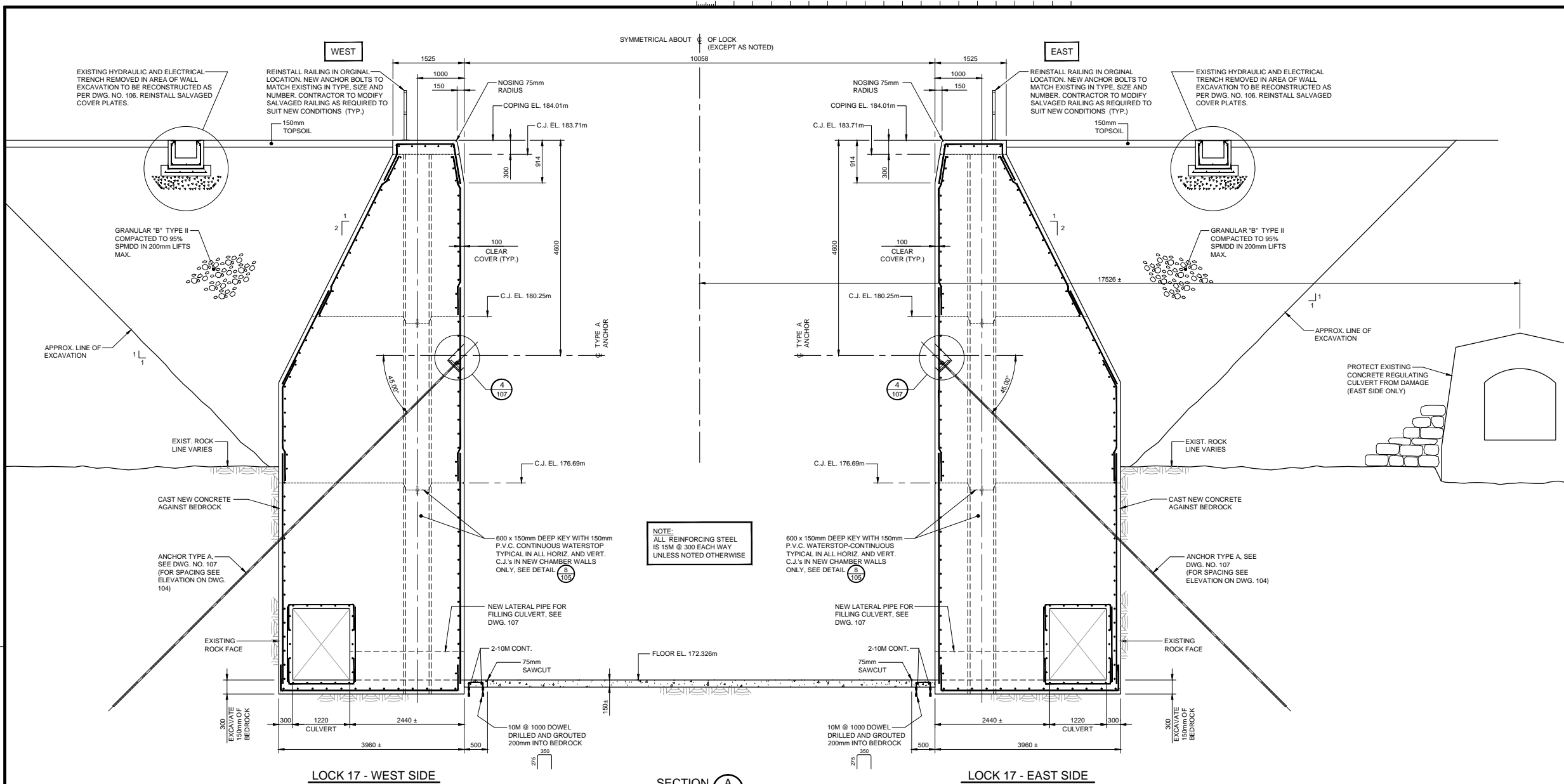
A	A Detail number Numéro du détail
B	B Location dwg. number Numéro sur dessin

Project title / Titre du projet  
**HEALEY FALLS  
LOCKS 16-17  
CHAMBER AND APPROACH  
WALL REPLACEMENT**

Drawing title / Titre du dessin  
**CHAMBER WALLS  
REPLACEMENT I**

Drawn by / Dessiné par DAVID ROWAN	Designed by / Conçu par CZESLAW CUDOWSKI, P.Eng
Approved by / Approuvé par LUC BÉRIALTY, P.Eng.	Drawing Date / Date du dessin JAN. 2015

Project Number / Numéro du projet R.073921.001	Drawing Number / Numéro du Dessin <b>104</b> Sheet 6 of 13
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LOCK 17 - WEST SIDE

LOCK 17 - EAST SIDE

SECTION A  
1:40

- NOTES:**
1. ALL REINFORCING STEEL HOOKS ARE STANDARD UNLESS NOTED OTHERWISE.
  2. ALL REINFORCING STEEL LAP SPICES ARE CLASS 'B' UNLESS NOTED OTHERWISE.
  3. CLEAR CONCRETE COVER TO ALL REINFORCING STEEL SHALL BE 100 ± 10mm UNLESS NOTED OTHERWISE.
  4. PROVIDE 20mm CHAMFER AT ALL EXPOSED CONCRETE EDGES UNLESS NOTED OTHERWISE.

No.	Description	Des. By / Des. Par.	Date
1	ISSUED FOR TENDER		10-08-2015

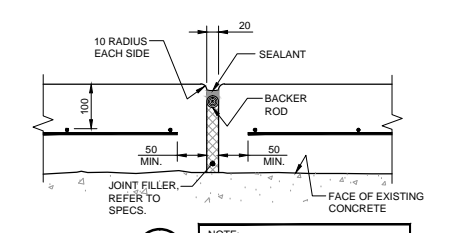
Revision / Révision	

Detail Legend	
<b>A</b>	A Detail number / Numéro du détail
<b>B</b>	B Location dwg. number / Numéro sur dessin

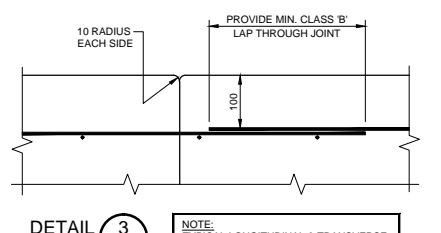
Project title / Titre du projet  
**HEALEY FALLS LOCKS 16-17 CHAMBER AND APPROACH WALL REPLACEMENT**

Drawing title / Titre du dessin  
**CHAMBER WALLS REPLACEMENT II**

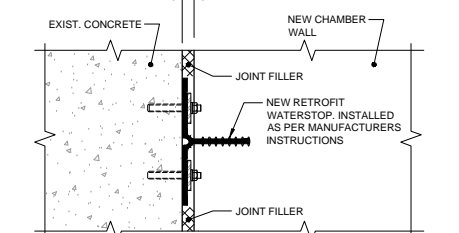
Drawn by / Dessiné par DAVID ROWAN	Designed by / Conçu par CZESLAW CUDOWSKI, P.Eng
Approved by / Approuvé par LUC BÉRIALUET, P.Eng	CHRIS UCHWAT, P.Eng
Drawing Date / Date du dessin JAN. 2015	
Drawing Number / Numéro du Dessin <b>105</b>	
Sheet / Feuille 7 of 13	



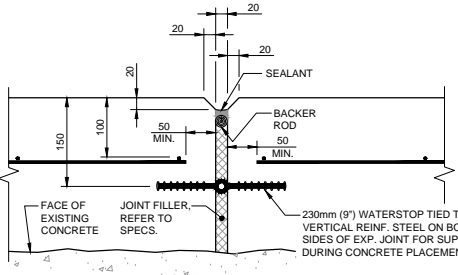
DETAIL 1  
1:5



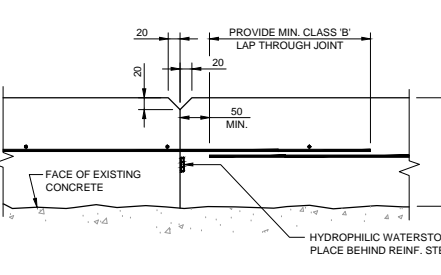
DETAIL 3  
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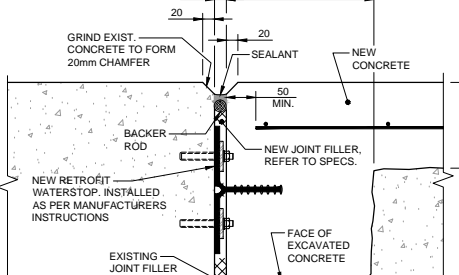
DETAIL 5  
1:5



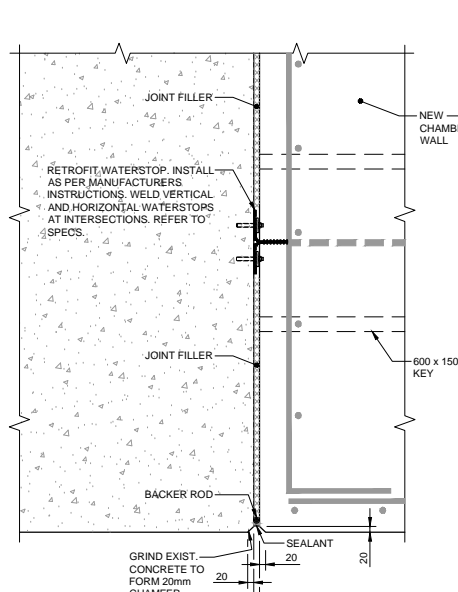
DETAIL 2  
1:5



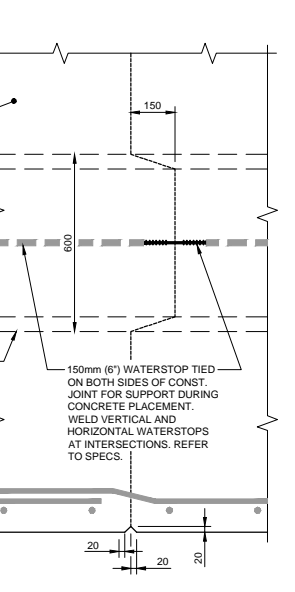
DETAIL 4  
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DETAIL 6  
1:5



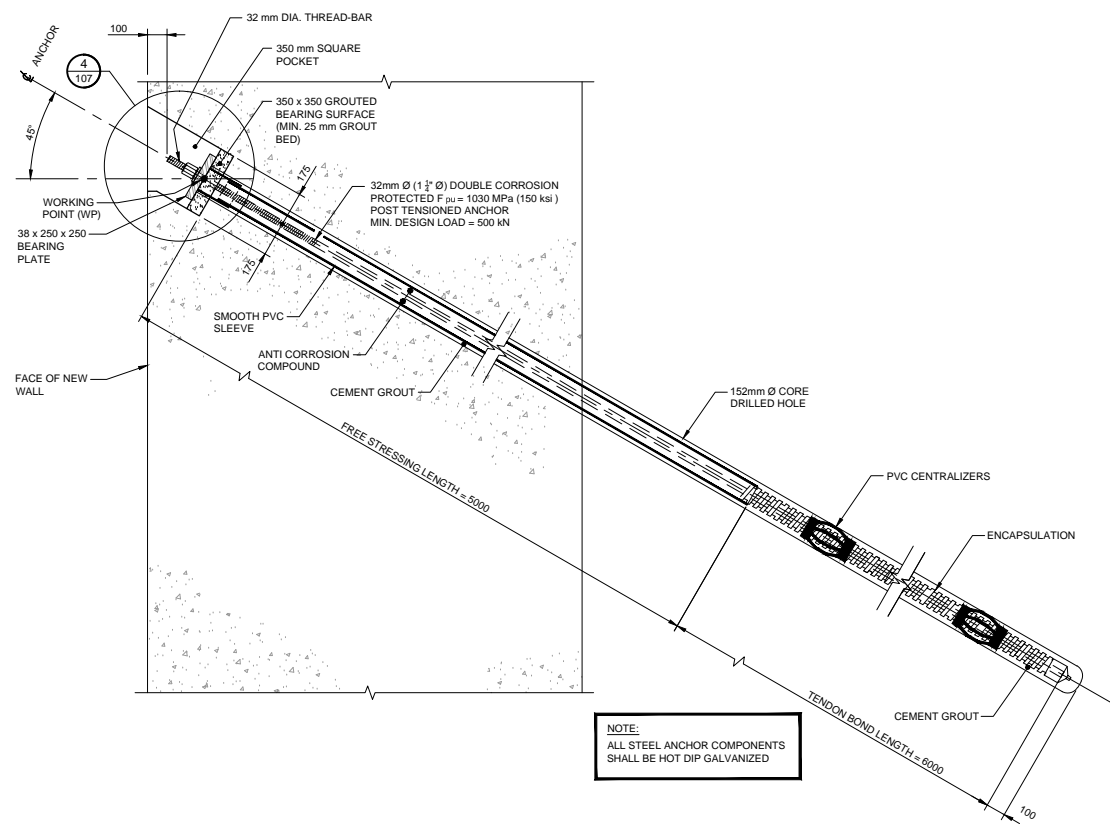
DETAIL 7  
N.T.S.



DETAIL 8  
N.T.S.

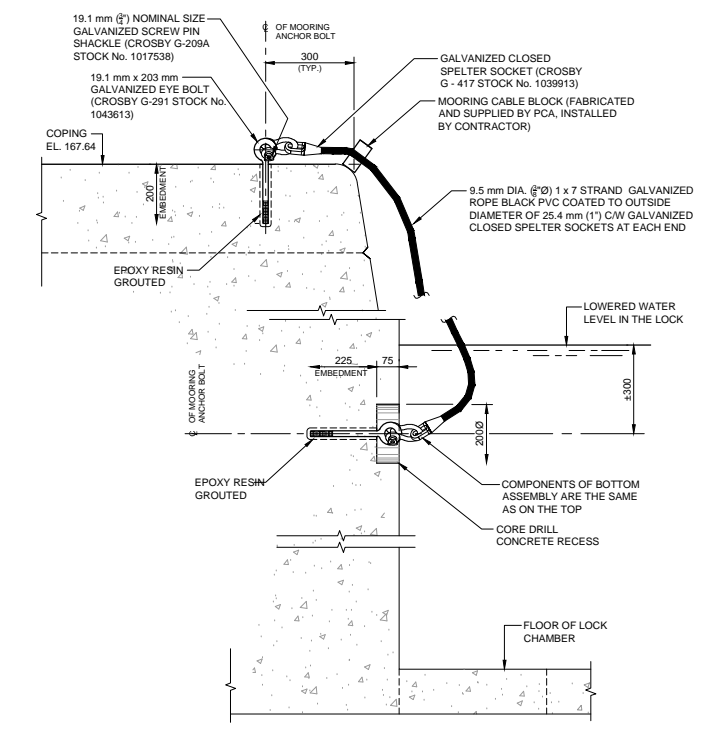






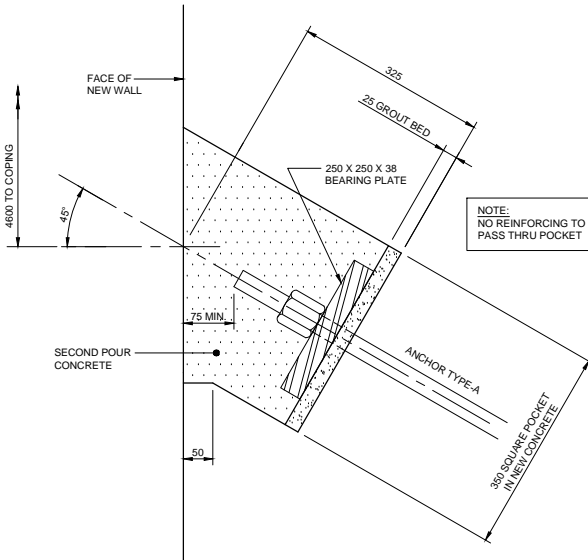
**DETAIL - ANCHOR TYPE A**  
1:15

NOTE:  
ALL STEEL ANCHOR COMPONENTS  
SHALL BE HOT DIP GALVANIZED

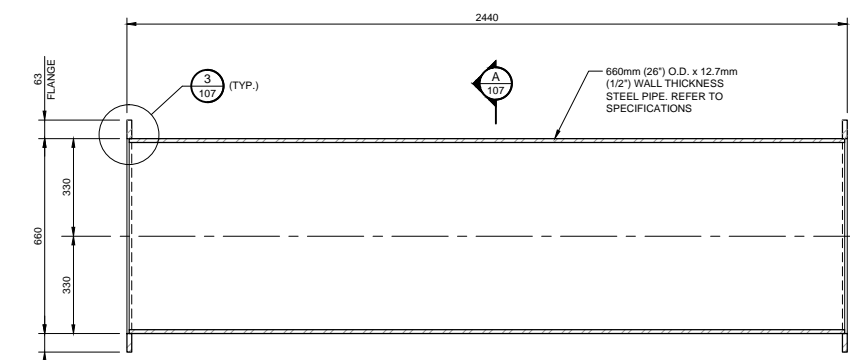


**MOORING CABLE ANCHORAGE DETAIL**  
1:10

- NOTES:
- EPOXY FOR ANCHOR SHALL BE PRE-PACKAGED, TWO COMPONENTS ADHESIVE CONSISTING OF VINYL URETHANE METHACRYLATE RESIN AND SLOW SET HARDENER, MIXED WHEN DISPENSED FROM DUAL CHAMBER CARTRIDGE.
  - USE WINTER GRADE EPOXY GROUT WHEN TEMPERATURES ARE BELOW FREEZING.
  - SUBMIT EPOXY PRODUCT DATA TO DEPARTMENTAL REPRESENTATIVE FOR APPROVAL.

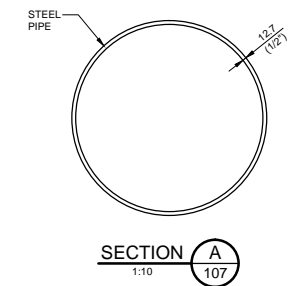


**DETAIL 4**  
N.T.S.

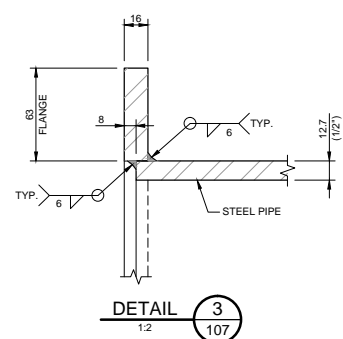


**DETAIL - LATERAL PIPE FOR FILLING CULVERT**  
1:10

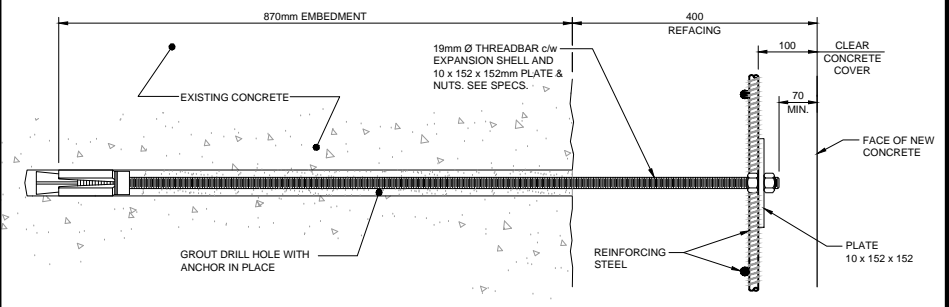
NOTE:  
ALL NEW STEEL TO BE  
HOT-DIP GALVANIZED



**SECTION A**  
1:10

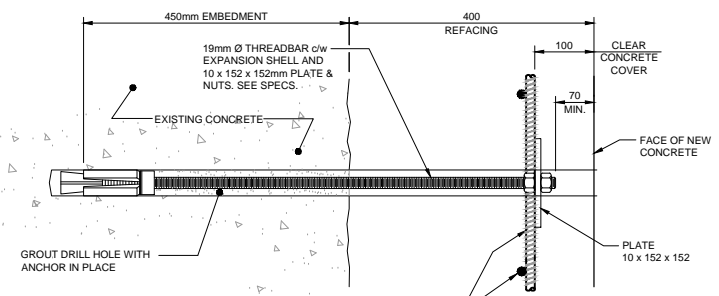


**DETAIL 3**  
1:2



**TYPE B1 ANCHOR**  
1:5

NOTE:  
LOCATED AT ALL REFACING,  
UNLESS OTHERWISE NOTED



**TYPE B2 ANCHOR**  
1:5

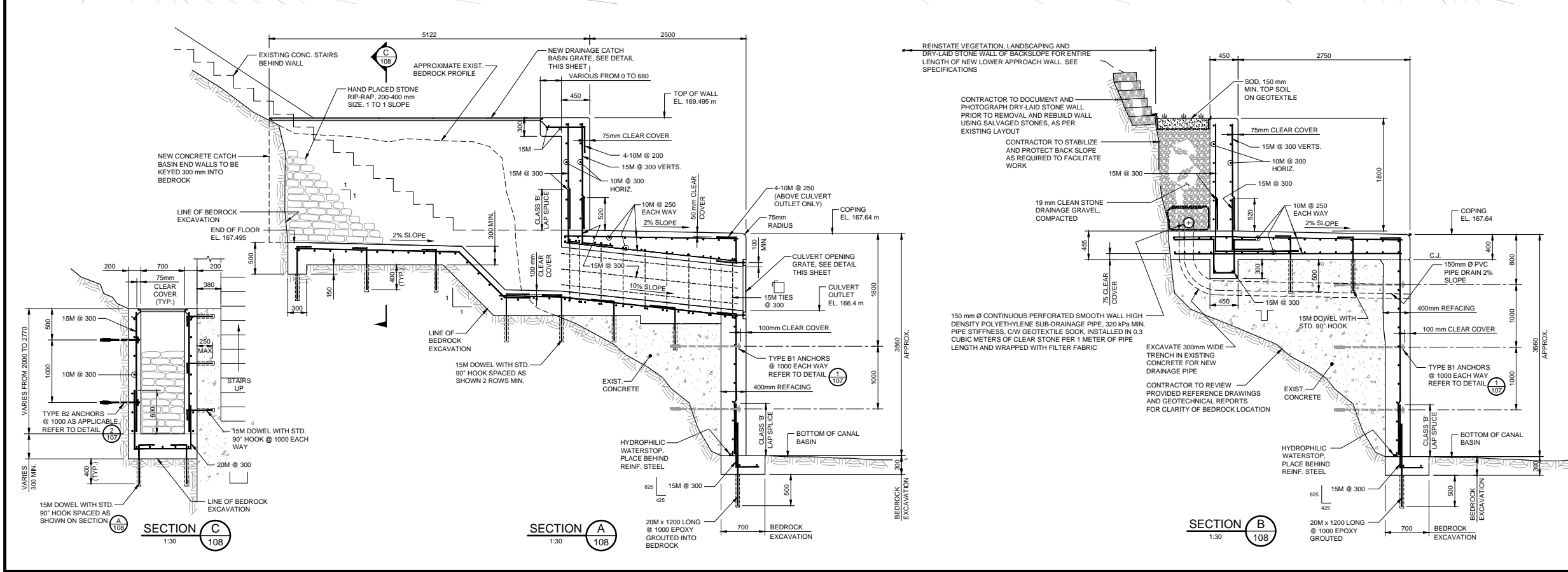
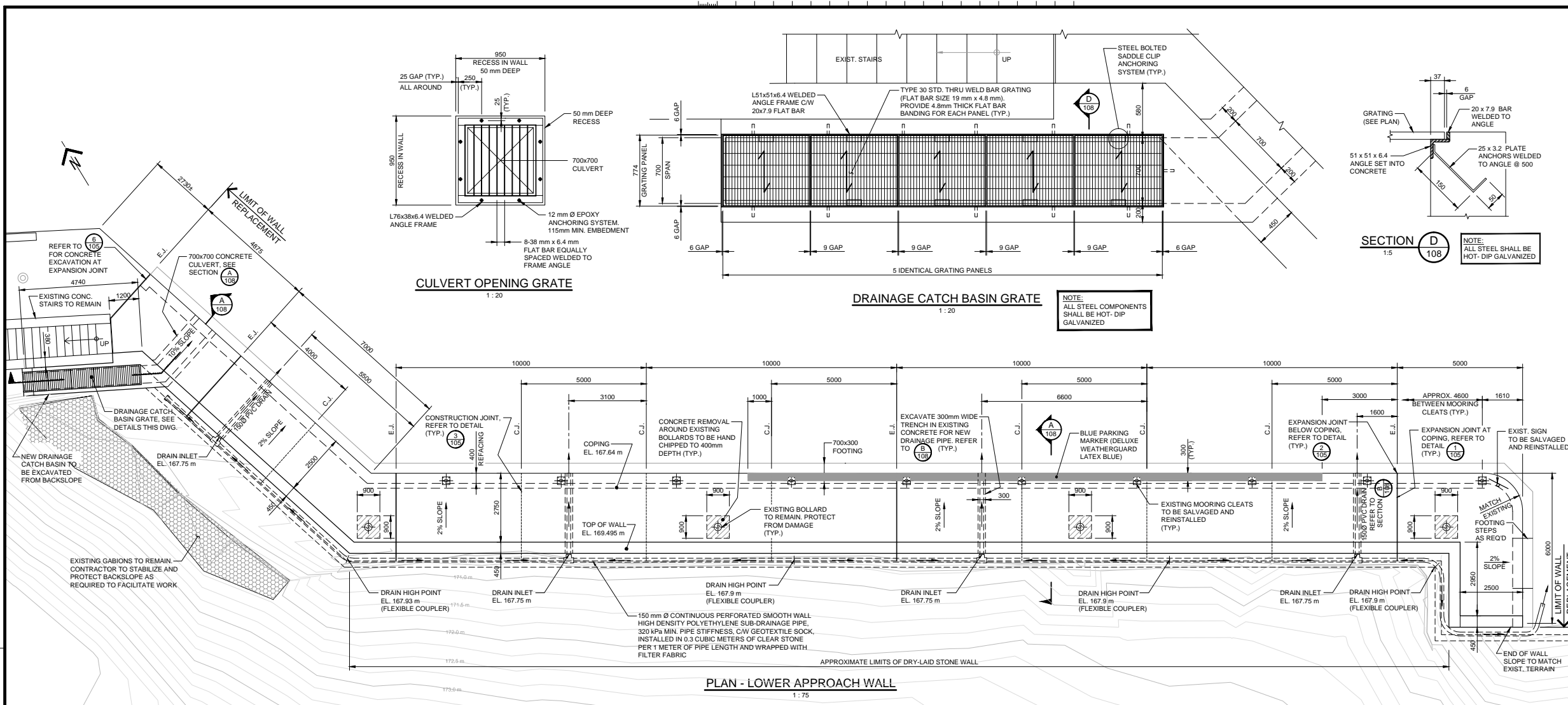
No.	Description	Des. By Des. Par.	Date
1	ISSUED FOR TENDER		10-08-2015

Revision / Révision	
A	Detail number Numéro du détail
B	Location dwg. number Numéro sur dessin

Project title / Titre du projet  
**HEALEY FALLS  
LOCKS 16-17  
CHAMBER AND APPROACH  
WALL REPLACEMENT**

Drawing title / Titre du dessin  
**MISCELLANEOUS  
DETAILS**

Drawn by / Dessiné par DAVID ROWAN	Designed by / Conçu par CZEŚLAW CUDOWSKI, P.Eng
Approved by / Approuvé par LUC BÉRIAL, P.Eng.	Drawing Date / Date du dessin JAN. 2015
Drawing Number / Numéro du Dessin <b>107</b>	
Project Number / Numéro du projet R.073921.001	
Sheet / Feuille 9 of 13	



- NOTES:**
1. ALL REINFORCEMENT TO BE 15M @ 300 EACH WAY UNLESS NOTED OTHERWISE.
  2. ALL CONCRETE CLEAR COVER TO BE 100 mm UNLESS NOTED OTHERWISE.
  3. ALL CONCRETE EDGES TO HAVE 20 mm CHAMFER UNLESS NOTED OTHERWISE.
  4. ALL LAP SPLICES TO BE CLASS "B" UNLESS NOTED OTHERWISE.
  5. 75 mm SAW CUT TO BE COMPLETED AT ALL CONCRETE REMOVAL LIMITS.
  6. CONTRACTOR TO GRIND/REMOVE ANY OVERLAPPING LAITANCE BETWEEN EXISTING CONCRETE AND NEW CONCRETE.
  7. FOR DEMOLITION REFER TO DWG. NO. 111

No.	Description	Des. By Des. Par.	Date
1	ISSUED FOR TENDER		10-08-2015

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

**A** Detail number  
Numéro du détail

**B** Location dwg. number  
Numéro sur dessin

Project title / Titre du projet

**HEALEY FALLS  
LOCKS 16-17  
CHAMBER AND APPROACH  
WALL REPLACEMENT**

Drawing title / Titre du dessin

**LOWER WEST  
APPROACH WALL  
REPLACEMENT**

Drawn by / Dessiné par  
HENRYK CHRZANOWSKI

Designed by / Conçu par  
CZESLAW CUDOWSKI, P.Eng  
CHRIS UCHWAT, P.Eng

Approved by / Approuvé par  
LUC BÉRIEAULT, P.Eng

Drawing Date / Date du dessin  
JAN. 2015

Drawing Number / Numéro du Dessin  
**108**

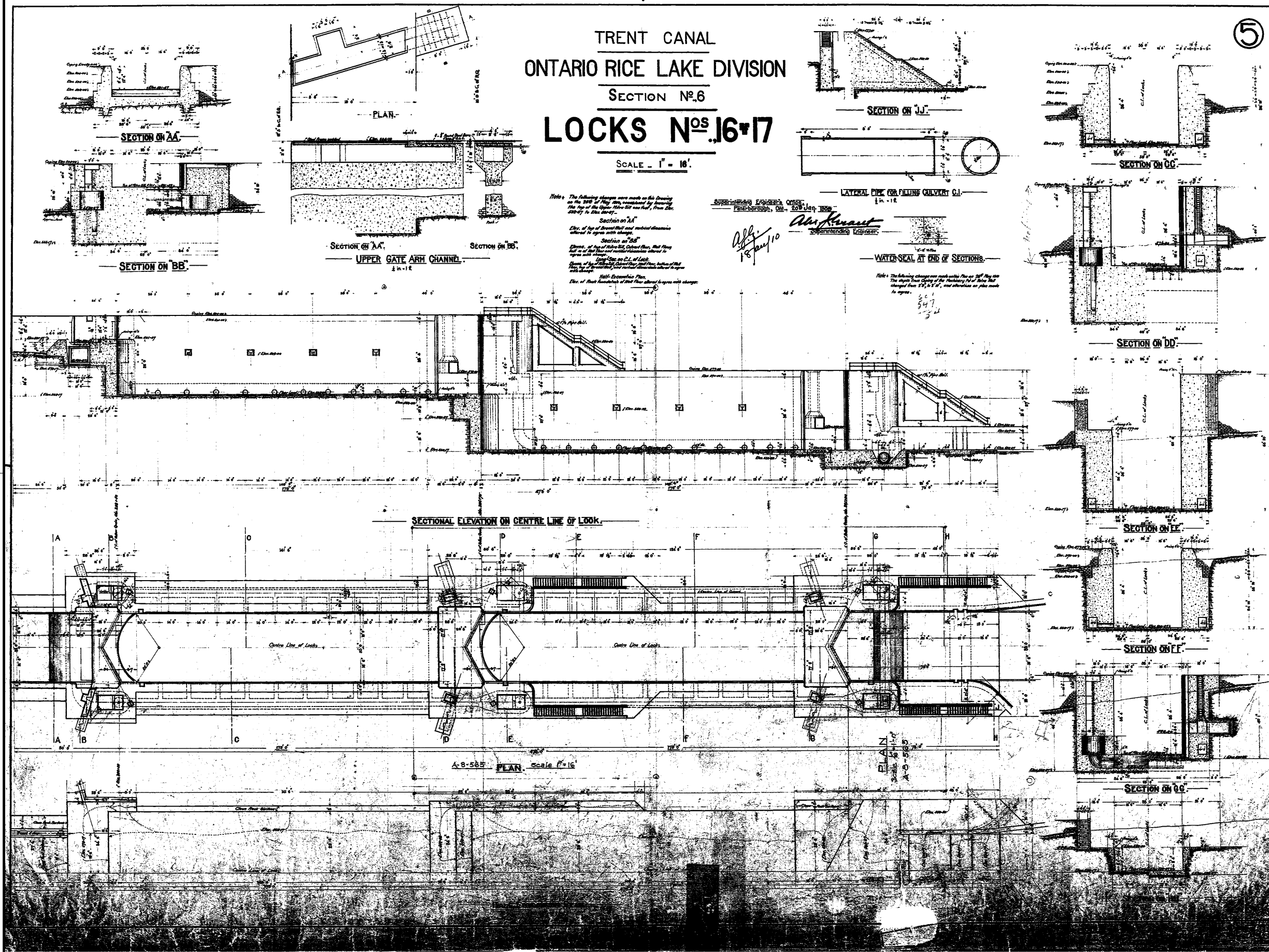
Project Number / Numéro du projet  
R.073921.001

Sheet  
10 of 13

# TRENT CANAL ONTARIO RICE LAKE DIVISION SECTION No. 6 LOCKS Nos. 16 & 17

SCALE - 1" = 16'

5



Note: The following changes were made on this drawing on the 20th of May 1955, when the top of the Upper Gate was raised, from the original to the new height.

Section on AA  
Elev. of top of Breast Wall and vertical dimension altered to agree with change.

Section on BB  
Elev. of top of Upper Gate Breast Wall, that floor full on of that floor and vertical dimension altered to agree with change.

Section on CC  
Elev. of top of Breast Wall and vertical dimension altered to agree with change.

Section on DD  
Elev. of top of Breast Wall and vertical dimension altered to agree with change.

Section on EE  
Elev. of top of Breast Wall and vertical dimension altered to agree with change.

Section on FF  
Elev. of top of Breast Wall and vertical dimension altered to agree with change.

Section on GG  
Elev. of top of Breast Wall and vertical dimension altered to agree with change.

Section on JJ  
Elev. of top of Breast Wall and vertical dimension altered to agree with change.

Supervising Engineer's Office  
Peterborough, Ont. 20th May 1955

*Al. Kraut*  
Supervising Engineer

18 May 1955

WATER-SEAL AT END OF SECTIONS.

Note: The following changes were made on this drawing on the 20th of May 1955, when the top of the Upper Gate was raised, from the original to the new height.

1	ISSUED FOR TENDER	10-08-2015
No.	Description	Des. By Des. Par. Date
Revision / Révision		

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

A Detail number  
Numéro du détail  
B Location dwg. number  
Numéro sur dessin

HEALEY FALLS  
LOCKS 16-17  
CHAMBER AND APPROACH  
WALL REPLACEMENT

REFERENCE DRAWING I

Drawn by / Dessiné par  
DAVID ROWAN

Designed by / Conçu par  
CZESLAW CUDOWSKI, P.Eng  
CHRIS UCHWAT, P.Eng

Approved by / Approuvé par  
LUC BÉRIAL, P.Eng

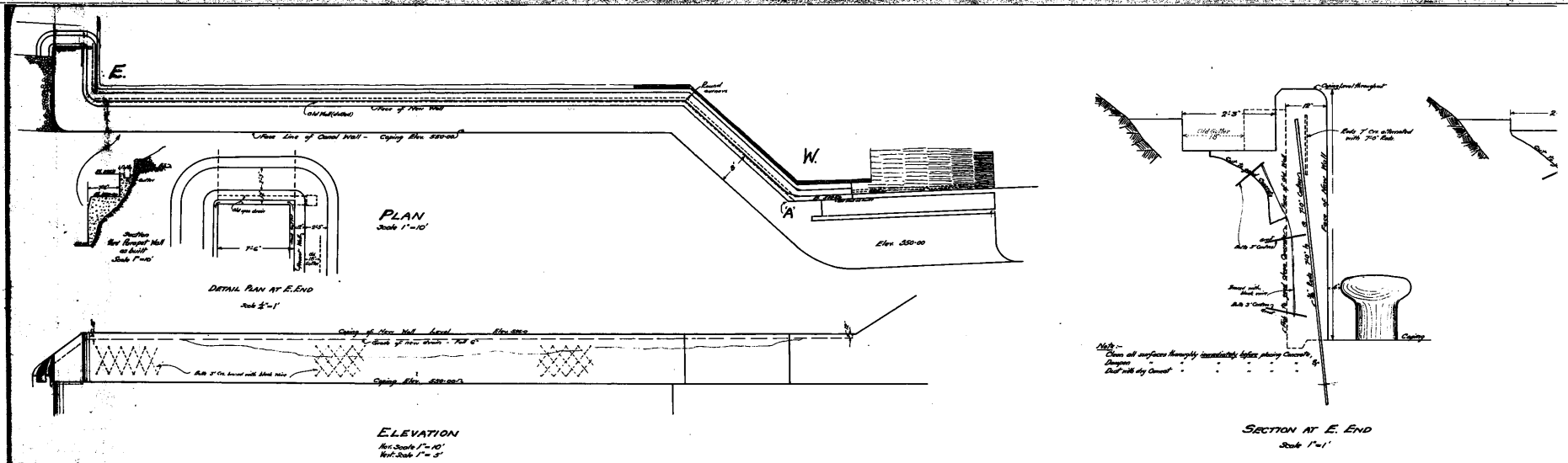
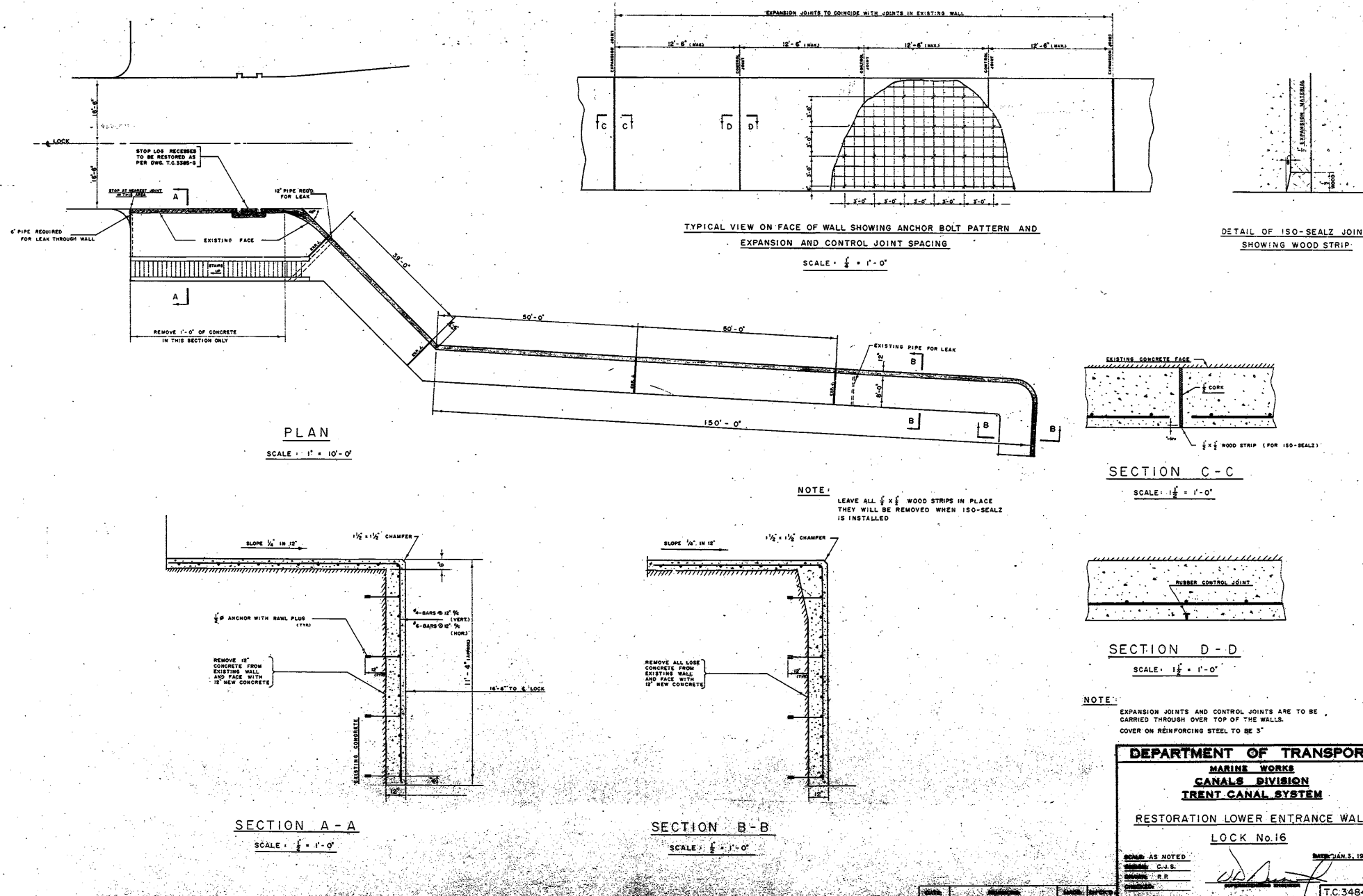
Drawing Date / Date du dessin  
JAN. 2015

Project Number / Numéro du projet  
R.073921.001

Drawing Number / Numéro du Dessin  
109

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No.	Description	Des. By	Date
1	ISSUED FOR TENDER		10-08-2015

Revision / Révision	
A	Detail number / Numéro du détail
B	Location dwg. number / Numéro sur dessin

Project title / Titre du projet  
**HEALEY FALLS LOCKS 16-17 CHAMBER AND APPROACH WALL REPLACEMENT**

Drawing title / Titre du dessin  
**REFERENCE DRAWING III**

Drawn by / Dessiné par DAVID ROWAN	Designed by / Conçu par CZEŚLAW CUDOWSKI, P.Eng
Approved by / Approuvé par LUC BÉRIALTY, P.Eng	Drawing Date / Date du dessin JAN. 2015
Drawing Number / Numéro du Dessin <b>111</b>	
Project Number / Numéro du projet R.073921.001	
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