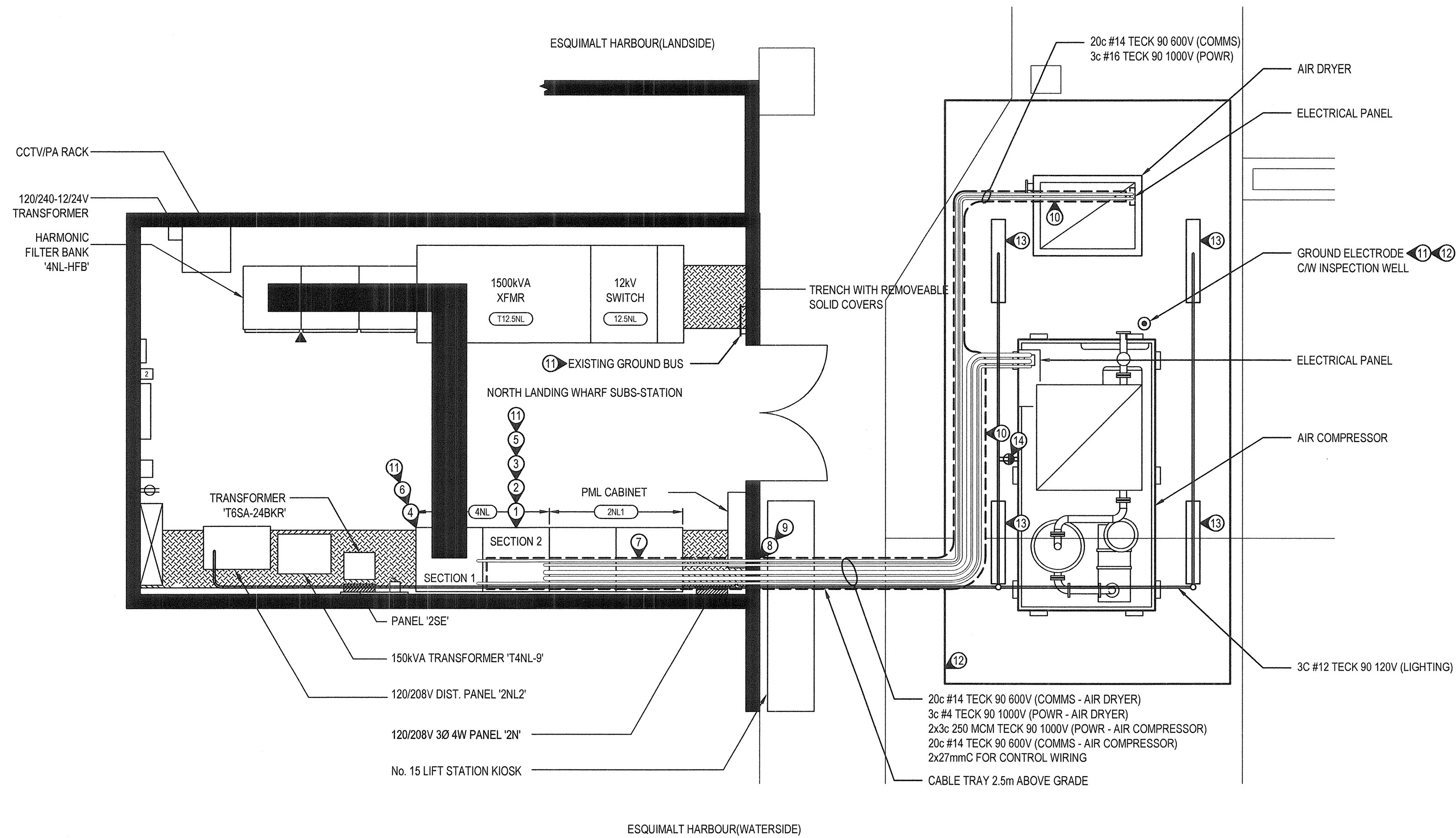


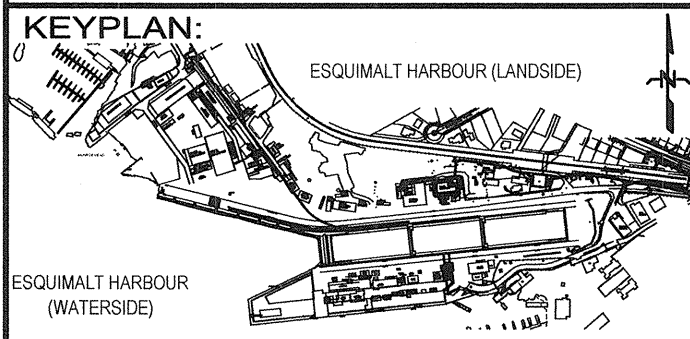
DRAWING LIST	
DRAWING NUMBER	DESCRIPTION
E001	SITE PLAN, LEGEND AND DRAWING LIST
E100	NS21 NORTH LANDING WHARF SUBSTATION SINGLE LINE DIAGRAM
E101	NS21 NORTH LANDING WHARF SUBSTATION ELECTRICAL PLAN
E110	SJ23 SOUTH SIDE SUBSTATION SINGLE LINE DIAGRAM AND ELECTRICAL PLAN



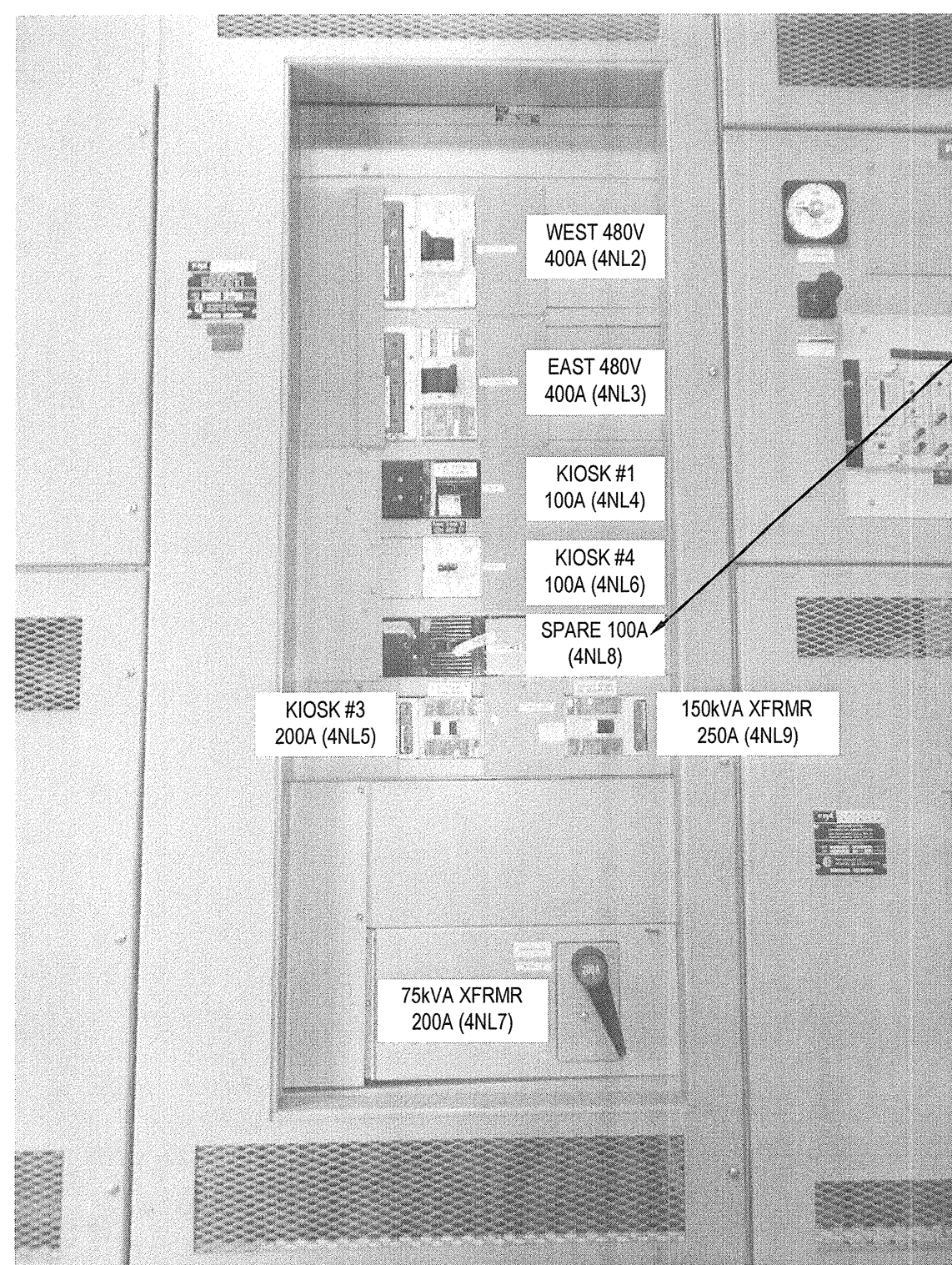




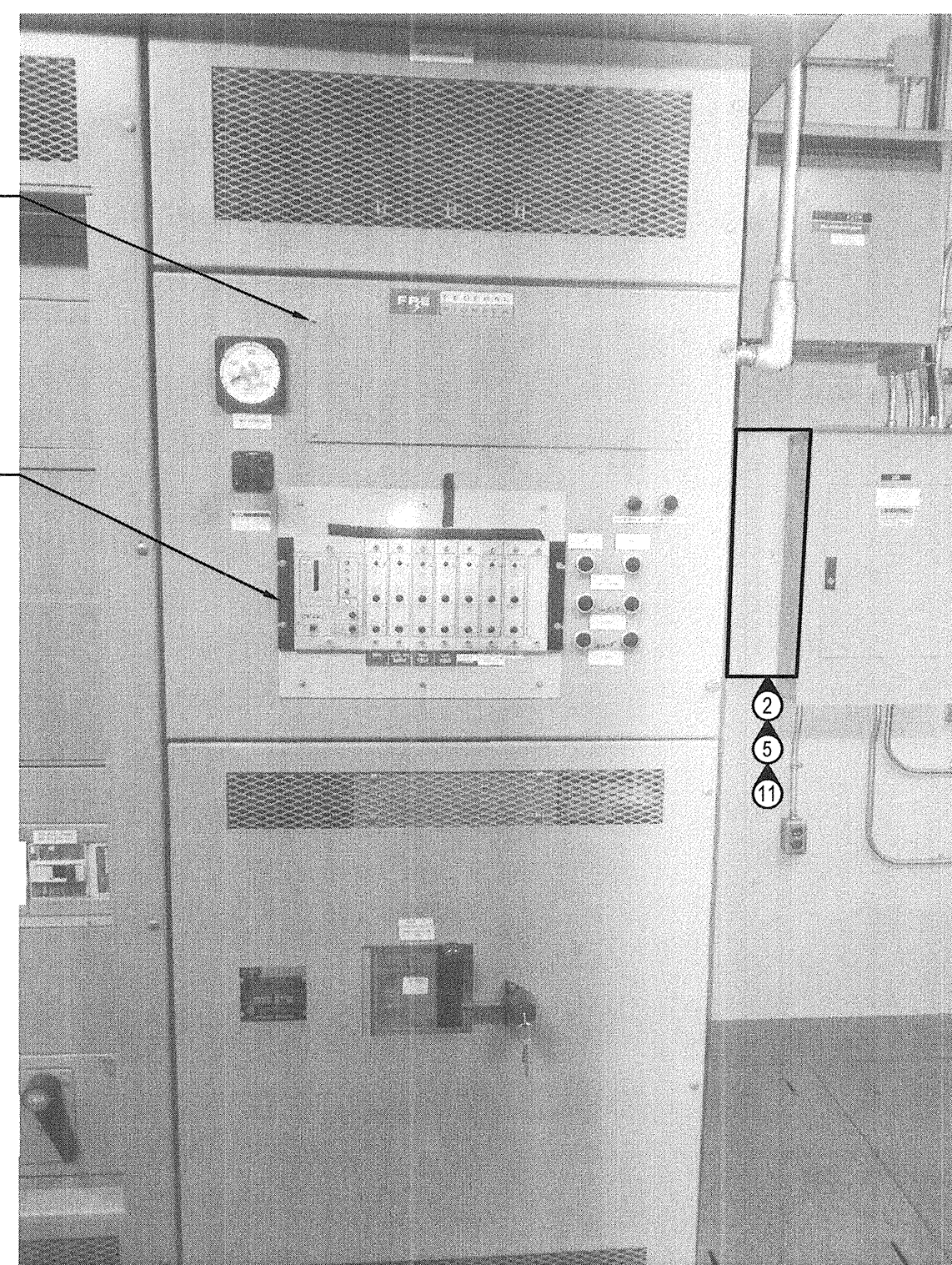
- GENERAL NOTES:**
1. REFER TO DRAWING EMD E46 REV.3 FOR ORIGINAL ELECTRICAL LAYOUT DETAILS.
- KEYNOTES:**
1. REPLACE EXISTING 100A SPARE BREAKER WITH NEW 110A 35KA BREAKER FOR AIR DRYER CIRCUIT. CONNECT AUXILIARY CONTACTS TO EXISTING SCADA SYSTEM.
  2. INSTALL NEW FEEDER CONDUCTORS TO NEW COMPRESSOR IN EXISTING CIRCUIT BREAKER.
  3. CONNECT WIRES FROM EXISTING ZSCT TO GF TRIP SYSTEM.
  4. INSTALL GF RELAY AIR COMPRESSOR IN SWITCHBOARD. CONNECT TO EXISTING DC TRIP POWER SUPPLY. CONNECT TO ZSCT'S AND TO SHUT TRIP ON BREAKER FOR AIR COMPRESSOR
  5. INSTALL MEASUREMENT CT'S AROUND CABLES TO AIR COMPRESSOR AND CABLES TO AIR DRYER. CONNECT SECONDARY WIRES TO NEW DIGITAL METERS.
  6. INSTALL NEW DIGITAL METERS FOR AIR COMPRESSOR AND AIR DRYER IN BLANKED SPACE ABOVE EXISTING GF DEVICES. CONNECT METERS TO EXISTING VOLTAGE SUPPLY AND TO MEASUREMENT CT'S.
  7. CABLE TRAY SUSPENDED FROM CEILING. MAINTAIN PROPER BEND RADIUS OF CABLES FROM CABLE TRAY TO ALL CABINET ENTRIES. BOND CABLE TRAY AT JOINTS AND BOND TO EXISTING GROUND BUS IN NLW SUBSTATION AND TO NEW GROUND ELECTRODE AT AIR COMPRESSOR OUTBUILDING.
  8. CORE THROUGH CONCRETE BLOCK WALL AND WEATHER STOP AROUND CABLES.
  9. SUPPORT CABLE TRAY AT EXTERIOR WALL OF BUILDING. CABLE TRAY 2.5 METERS ABOVE GRADE.
  10. CABLE TRAY SUSPENDED FROM OUTBUILDING STRUCTURAL SUPPORTS AS NECESSARY TO MAINTAIN ALL CLEARANCES, CABLE BEND RADII, AND ACCESS TO AIR COMPRESSOR AND AIR DRYER.
  11. LABEL ALL BREAKERS, GF RELAYS, AND METERS APPROPRIATELY. LABEL ADDITIONAL BOND CONNECTIONS AT GROUND BUS.
  12. INSTALL GROUND ELECTRODE WITH INSPECTION WELL. CONNECT TO REBAR IN CONCRETE SLAB AND GROUND BUS IN AIR COMPRESSOR AND AIR DRYER.
  13. INSTALL 1200mm LED FIXTURE c/w 3200lm OUTPUT, 3500K COLOUR TEMPERATURE, INTEGRATED OCCUPANCY DETECTOR AND IP56 LENS AND BODY. NEW 3c #12TECK CABLE FROM PANEL 2NL2
  14. INSTALL NEW 15A RECEPTACLE ON SIDE OF NEW TRAY. WIRED ON DEDICATED GFCI PROTECTED CIRCUIT FROM PANEL '2NL2'. INSTALL NEW 3c #12TECK.



**1 NORTH LANDING WHARF SUBSTATION ELECTRICAL PLAN**  
SCALE: 1:50



**2 480V PANELBOARD SECTION 2**  
SCALE: N.T.S.

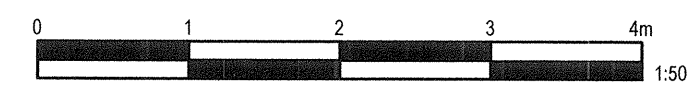


**3 480V PANELBOARD SECTION 1**  
SCALE: N.T.S.



**4 NLW SUBSTATION - EAST WALL**  
SCALE: N.T.S.

DO NOT SCALE DRAWINGS		
Rev/Revision	Description/Description	Date/Date
5		
4	ISSUED FOR TENDER	14/11/20
3	ISSUED FOR 100% REVIEW	14/10/24
2	ISSUED FOR 90% REVIEW	14/10/01
1	ISSUED FOR 75% REVIEW	13/03/01
0	ISSUED FOR 50% REVIEW	13/03/17
Client/client		
Public Works and Government Services Canada		
Project title/Titre du projet Victoria, B.C.		
ESQUIMALT GRAVING DOCK AIR COMPRESSORS AND AIR DRYERS INSTALLATION		
Approved by/Approuvé par GP		
Designed by/Concept par AC/GP		
Drawn by/Dessiné par PP		
PWGSC Project Manager/Administrateur de Projets TPSGC		
PWGSC, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'Ingénierie, TPSGC		
Client/client		
Drawing title/Titre du dessin NS21 NORTH LAND WHARF SUBSTATION ELECTRICAL PLAN		
Project No./No. du projet R.016116.116	Sheet/Fauille E101 OF	Revision no./ La Révision no. 4





1. REFER TO ORIGINAL DRAWING EMD E5 REV.7 FOR COMPLETE SINGLE LINE DIAGRAM.
2. REFER TO DRAWING EMD E48 REV.3 FOR ORIGINAL ELECTRICAL LAYOUT DETAILS.

- ① INSTALL NEW 90A 22KA BREAKER FOR AIR DRYER CIRCUIT IN BLANK SPACE AT LOWER CORNER OF PANELBOARD. CONNECT SHUNT TRIP TO EXISTING GF SYSTEM. CONNECT AUXILIARY CONTACTS TO EXISTING SCADA SYSTEM.
- ② INSTALL ZSCT AROUND CABLES TO AIR DRYER. SECURE TO CABINET. CONNECT SECONDARY WIRES TO GF TRIP SYSTEM.
- ③ INSTALL GF RELAY FOR AIR DRYER IN SWITCHBOARD. CONNECT DC TRIP POWER SUPPLY. CONNECT TO ZSCT AND TO SHUT TRIP ON BREAKER FOR AIR DRYER.
- ④ INSTALL MEASUREMENT CT'S AROUND CABLES TO AIR DRYER. CONNECT SECONDARY WIRES TO NEW DIGITAL METERS.
- ⑤ INSTALL NEW DIGITAL METER FOR AIR DRYER IN UPPER CELL DOOR. RELOCATE EXISTING METERS IN SAME DOOR TO MAKE ROOM. CONNECT METER TO EXISTING VOLTAGE SUPPLY AND TO MEASUREMENT CT'S.
- ⑥ REMOVE AND RE-INSTALL EXISTING CONDUIT AND CABLES FROM PANELBOARD TOP TO AIR COMPRESSOR IN ORDER TO CLEAR AIR DRYER EXHAUST DUCTWORK. INSTALL CONDUIT SUPPORTS ATTACHED TO CEILING, FLOOR AND WALLS AS REQUIRED. MINIMUM HEIGHT OF CONDUIT 2.5M ABOVE WALKWAY.
- ⑦ INSTALL NEW CONDUIT AND CABLES FOR POWER AND COMM FROM PANELBOARD TOP TO TOP OF AIR DRYER. FOLLOW SIMILAR ROUTE AND SECURE TO SAME SUPPORTS AS USED FOR CONDUIT TO AIR COMPRESSOR.
- ⑧ RELOCATE EXISTING REMOTE TRIP ELECTRICAL PANEL TO OPPOSITE CORNER OF ROOM. INSTALL JUNCTION BOX WHERE EXISTING CONDUIT EXITS WALL, EXTEND WITH NEW CONDUIT TO RELOCATED REMOTE TRIP PANEL. SPLICE EXISTING WIRING INSIDE JUNCTION BOX AND RECONNECT TO REMOTE TRIP PANEL.
- ⑨ NOT USED
- ⑩ LABEL ALL BREAKERS, GF RELAYS, AND METERS APPROPRIATELY. LABEL ADDITIONAL BOND CONNECTIONS AT GROUND BUS.
- ⑪ REMOVE EXISTING REDUNDANT METERING CABINET. RELOCATE ALL WIRING TO METERING CABINET IN ADJACENT ELECTRICAL ROOM. INSTALL REMOTE TRIP PANEL IN VACATED SPACE.



5		
4	ISSUED FOR TENDER	14/1020
3	ISSUED FOR 100% REVIEW	14/1024
2	ISSUED FOR 90% REVIEW	14/1001
1	ISSUED FOR 75% REVIEW	13/0331
0	ISSUED FOR 50% REVIEW	13/0317

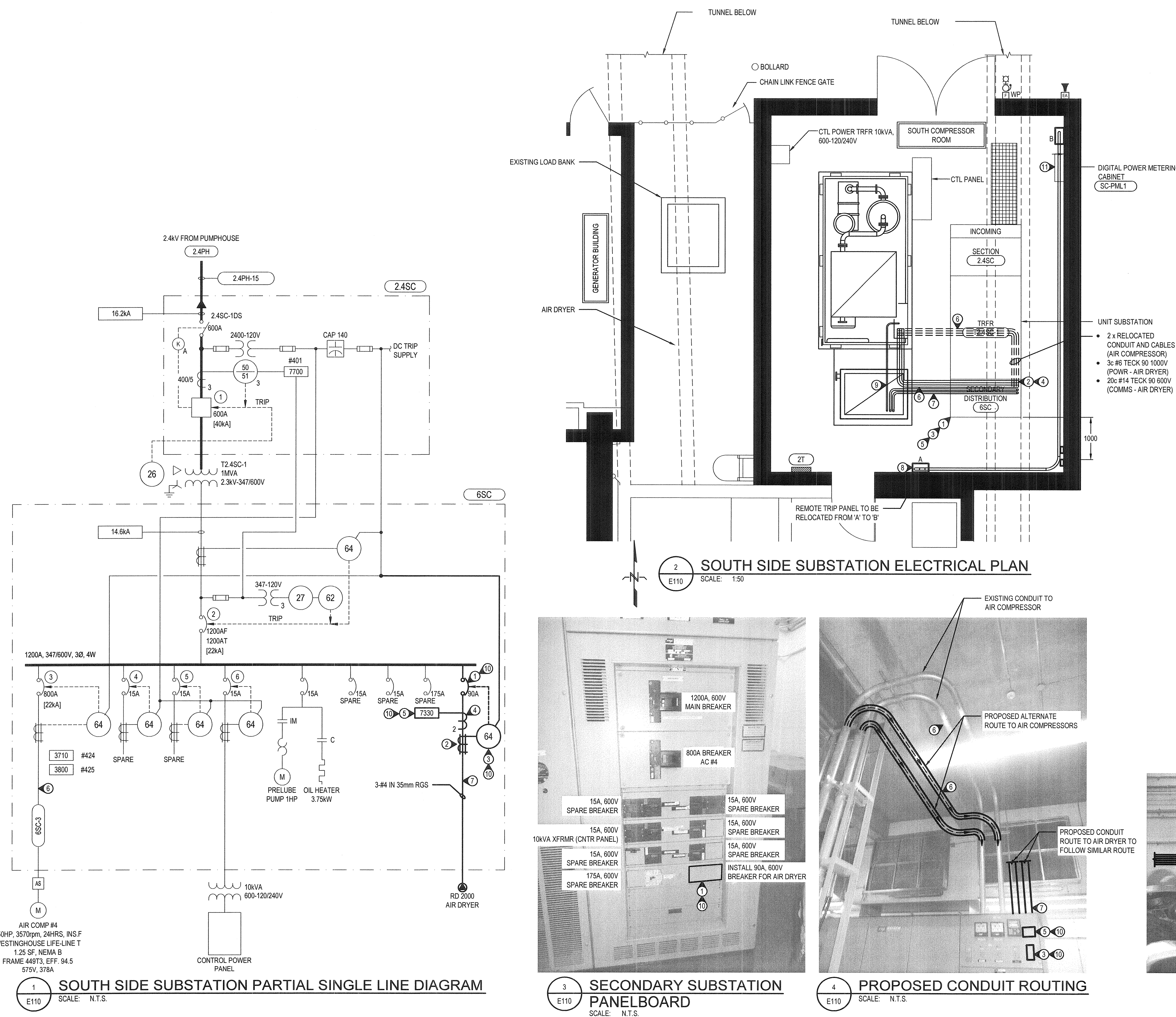
**Public Works and  
Government Services Canada**

## ESQUIMALT GRAVING DOCK AIR COMPRESSORS AND AIR DRYERS INSTALLATION

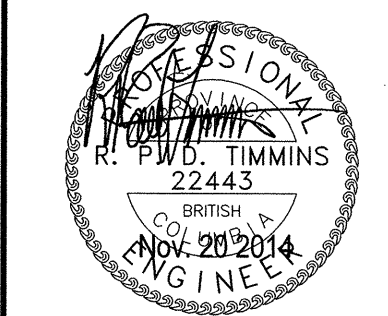
PWGSC Project Manager/Administrateur de Projets TPSGC

Client/client

Project No./No. du projet <b>R.016116.116</b>	Sheet/Feuille <b>E110</b>	Revision no. La Révision no. <b>4</b>
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DO NOT SCALE DRAWINGS

Revision/	Description/Description	Date/Date
4	TENDER	14/10/20
4	100% REVIEW	14/10/24
3	90% REVIEW	14/10/01
2	75% REVIEW	14/03/31
1	50% REVIEW	14/03/17
Revision/	Description/Description	Date/Date
Client/client		

Public Works and  
Government Services Canada

Project title/Titre du projet  
Victoria, B.C.

ESQUIMALT GRAVING DOCK  
AIR COMPRESSOR AND  
AIR DRYERS INSTALLATION

Approved by/Approuvé par  
PDT

Designed by/Concept par  
CH

Drawn by/Dessiné par  
DMM

PWGSC Project Manager/Administrateur de Projets TPSGC  
STEVE WINDL

PWGSC, Architectural and Engineering Resources Manager/  
Ressources Architectural et de Directeur d'ingénierie, TPSGC  
OREST KUFLAS

Client/client  
PWGSC, EGD.

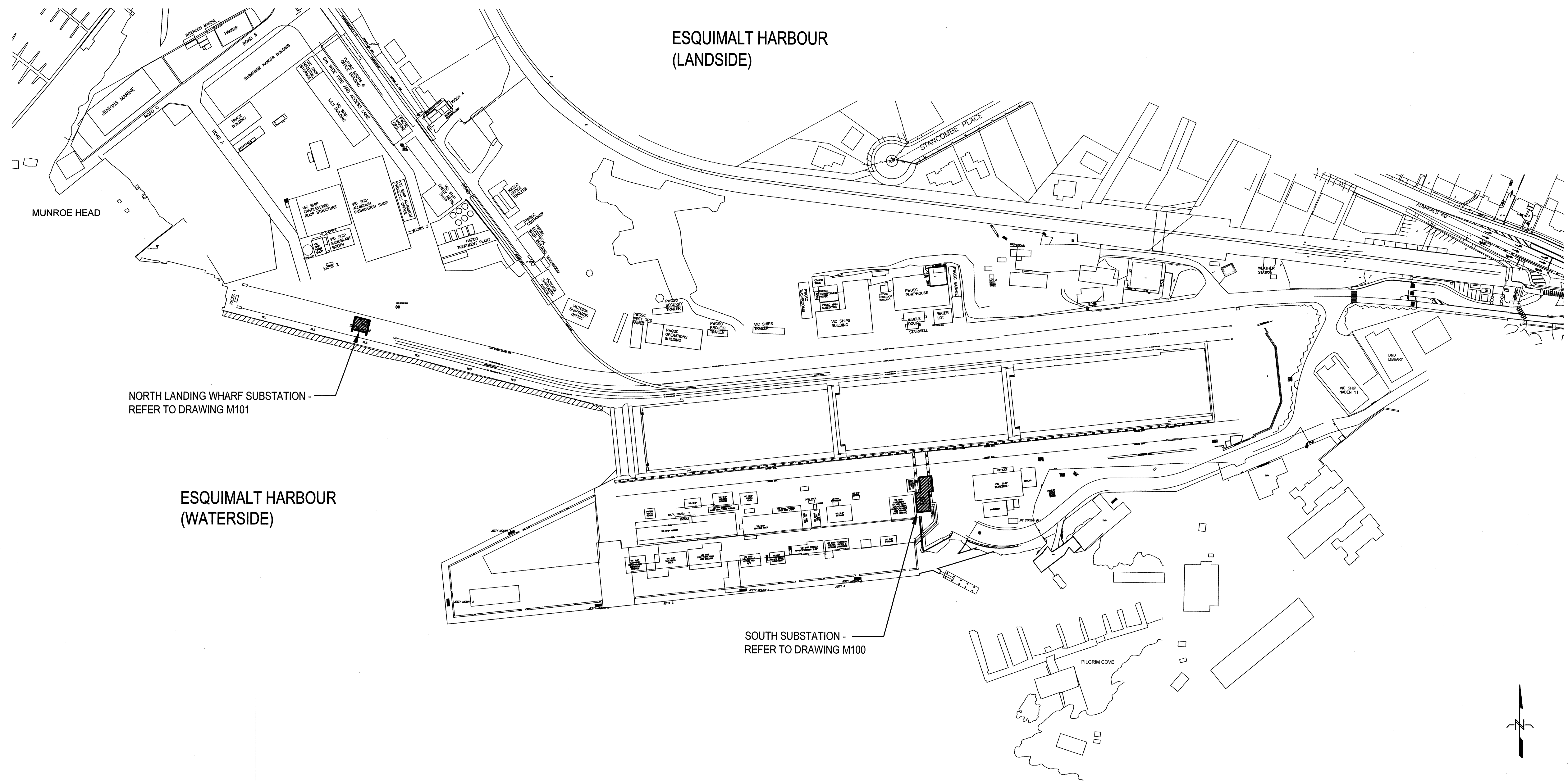
Drawing title/Titre du dessin

LEGEND, SCHEDULES  
KEYPLAN AND DRAWING LIST

Project No./No. du  
projet  
R.016116.116

Sheet/Feuille  
M001  
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no.  
3



LOUVERED PENTHOUSE																		
TAG	SERVICE	MODEL	AIR FLOW		AIR P.D.		THROAT WIDTH		THROAT LENGTH		FREE AREA		OVERALL WIDTH		OVERALL LENGTH		OVERALL HEIGHT	
			L/s	CFM	Pa	in. w.g.	mm	in.	mm	in.	Sq. Metres	Sq. Ft.	mm	in.	mm	in.	mm	in.
LP-AD4	DRYER #4 E/A	WRH	945	2000	25	0.1	1200	48	1200	48	1.5	16.0	1550	62	1550	62	700	28

NOTES:  
UNIT COMPLETE WITH SEISMIC ROOF CURB AND MOTORIZED CONTROL DAMPER.

DRAWING LIST

M001 LEGEND, SCHEDULES, KEYPLAN & DRAWING LIST  
M100 MECHANICAL - SOUTH SUBSTATION - DEMOLITION AND NEW  
M101 MECHANICAL - NORTH LANDING WHARF - NEW

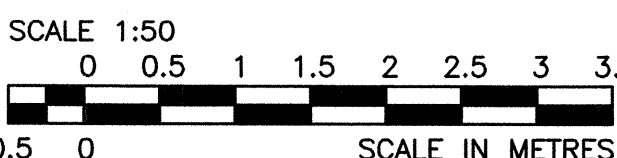
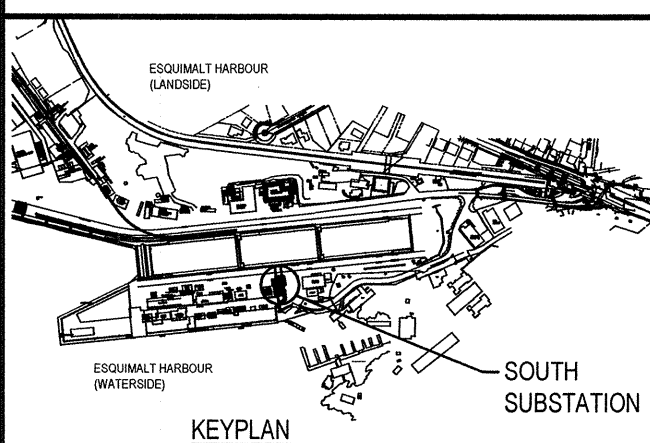
LEGEND

- ===== DEMO COMPRESSED AIR PIPING  
===== NEW COMPRESSED AIR PIPING
- ISOLATION VALVES (TOP & SIDE VIEWS)
- CHECK VALVE
- PRESSURE GAUGE WITH COCK
- PRESSURE GAUGE
- REDUCER
- PIPE BREAK
- AIRFLOW DIRECTION
- EQUIPMENT TAG
- T-SENSOR

ABBREVIATIONS

AC AIR COMPRESSOR  
AD AIR DRYER  
CA COMPRESSED AIR  
CIE CONNECT INTO EXISTING  
COND CONDENSATE  
LP LOUVERED PENTHOUSE  
COMP COMPRESSOR  
Re REMOVE  
TR TO REMAIN





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Revision/	Description/Description	Date/Date
4	TENDER	14/11/20
4	100% REVIEW	14/10/24
3	90% REVIEW	14/10/01
2	70% REVIEW	14/03/31
1	50% REVIEW	14/03/17

Public Works and  
Government Services Canada

Project title/Titre du projet  
Victoria, B.C.

ESQUIMALT GRAVING DOCK  
AIR COMPRESSOR AND  
AIR DRYERS INSTALLATION

Approved by/Approuvé par

PDT

Designed by/Concept par

CH

Drawn by/Dessiné par

DM

PWGSC Project Manager/Administrateur de Projets TPSPC

STEVE WINDL

PWGSC, Architectural and Engineering Resources Manager/  
Ressources Architectural et de Directeur d'Ingénierie, TPSPC

Client/client

PWGSC, EGO.

Drawing title/Titre du dessin

MECHANICAL  
SOUTH SUBSTATION  
DEMOLITION AND NEW

Project No./No. du  
projet  
R.016116.116

Sheet/Feuille  
M100  
2 OF 3

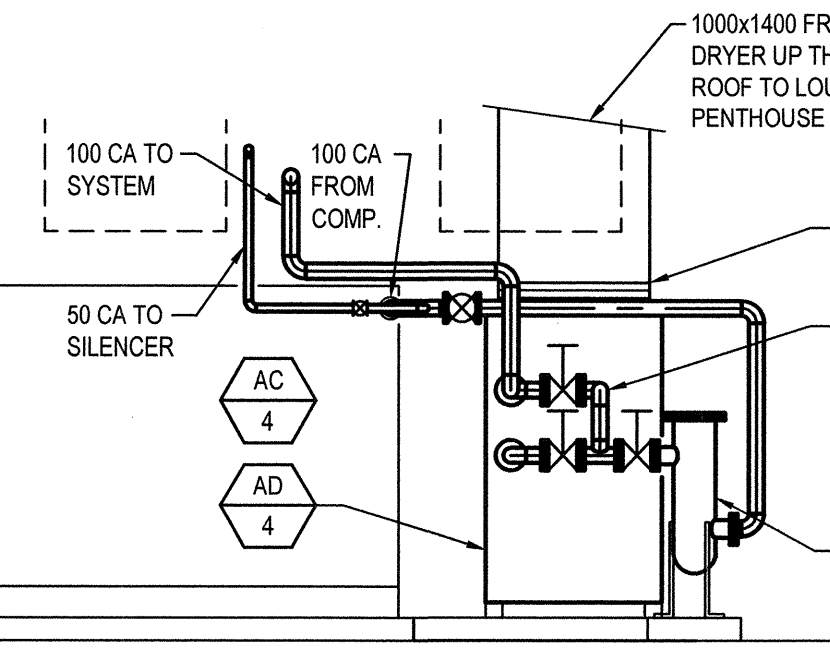
Revision no./  
La Révision  
no.  
3

- EXIST. 75 BRAIDED SS FLEXIBLE CONNECTION
- 100 ISOLATION VALVE
- 50 ISOLATION VALVE
- INSTALL FILTER ON HOUSEKEEPING PAD
- 100 BYPASS VALVE
- 20 COND. DRAIN AND VALVE FROM FILTER
- 40 COND. DRAIN FROM AD-4
- 50 COND. DRAIN PIPED TO EXIST. FLOOR DRAIN
- PRESSURE GAUGE WITH COCK, TYP.
- 50 BLOW OFF VALVE PIPED TO DRAIN
- PROVIDE CAPPED WELD-O-LETS FOR FUTURE PRESSURE SENSOR.

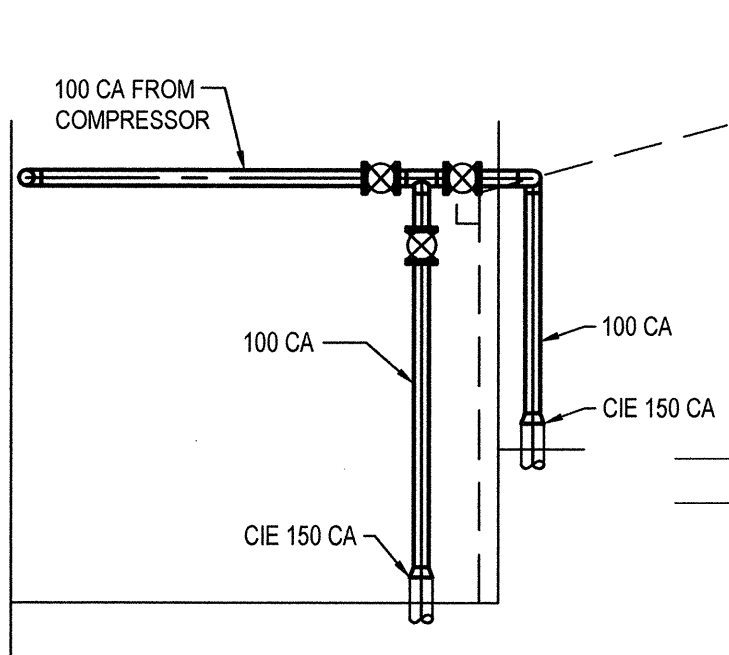
- LOUVERED PENTHOUSE FOR EXHAUST AIR AS SPECIFIED ON PLAN.
- CAULK ALL AROUND.
- GALV. LAG SCREW TO BASE.
- 305mm HEIGHT ROOF CURB (BY PENTHOUSE MANUFACTURER)
- FLASHING & COUNTER - FLASHING.
- ROOF OPENING IN EXISTING ROOF SLAB
- EXHAUST AIR DUCT AS INDICATED ON PLAN. ROOFING CONTRACTOR TO PROVIDE RIGID INSULATION. EXTEND ROOFING MEMBRANE UP SIDE OF CURB.

4 M100 N.T.S.

3 M100 N.T.S.

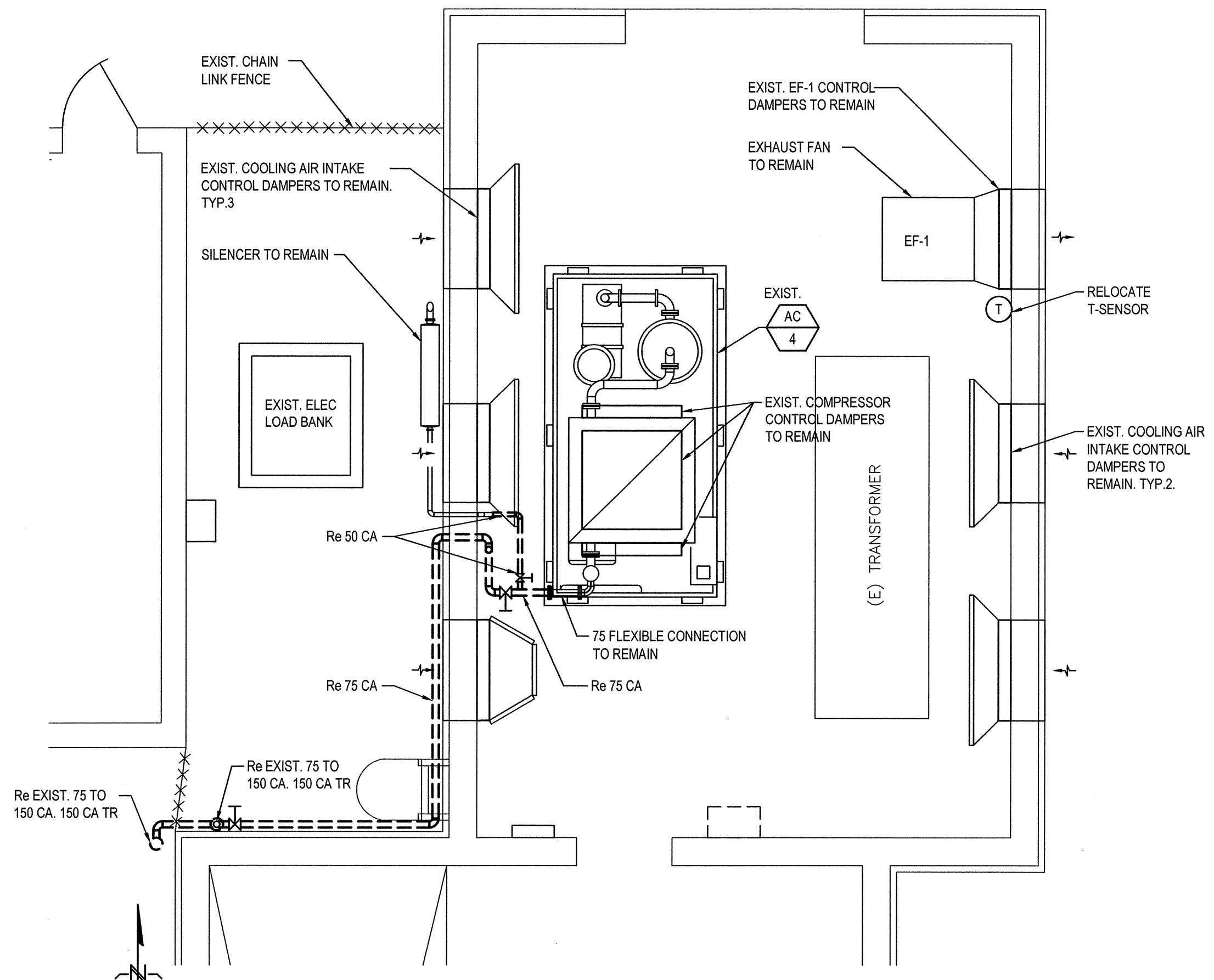
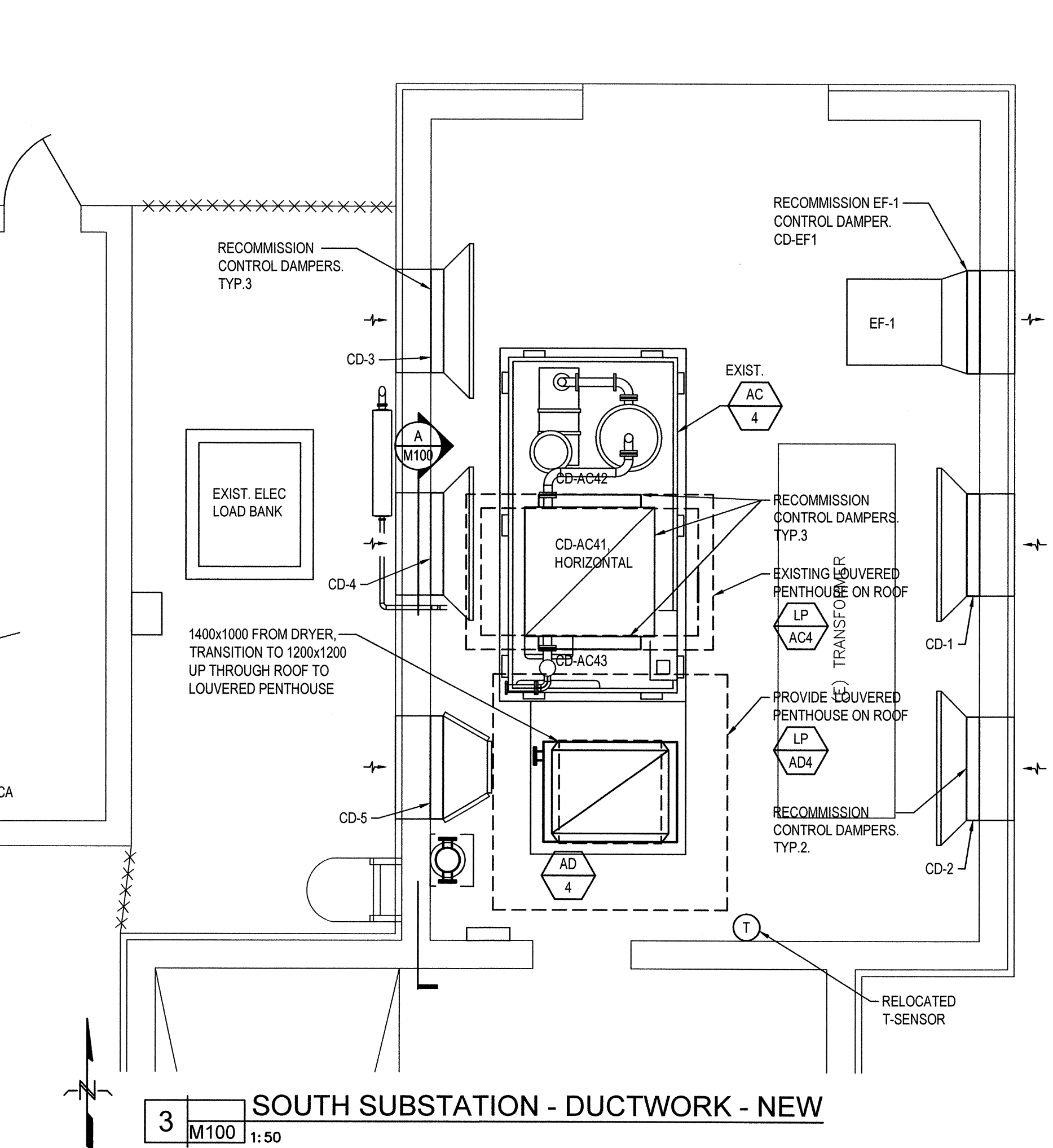


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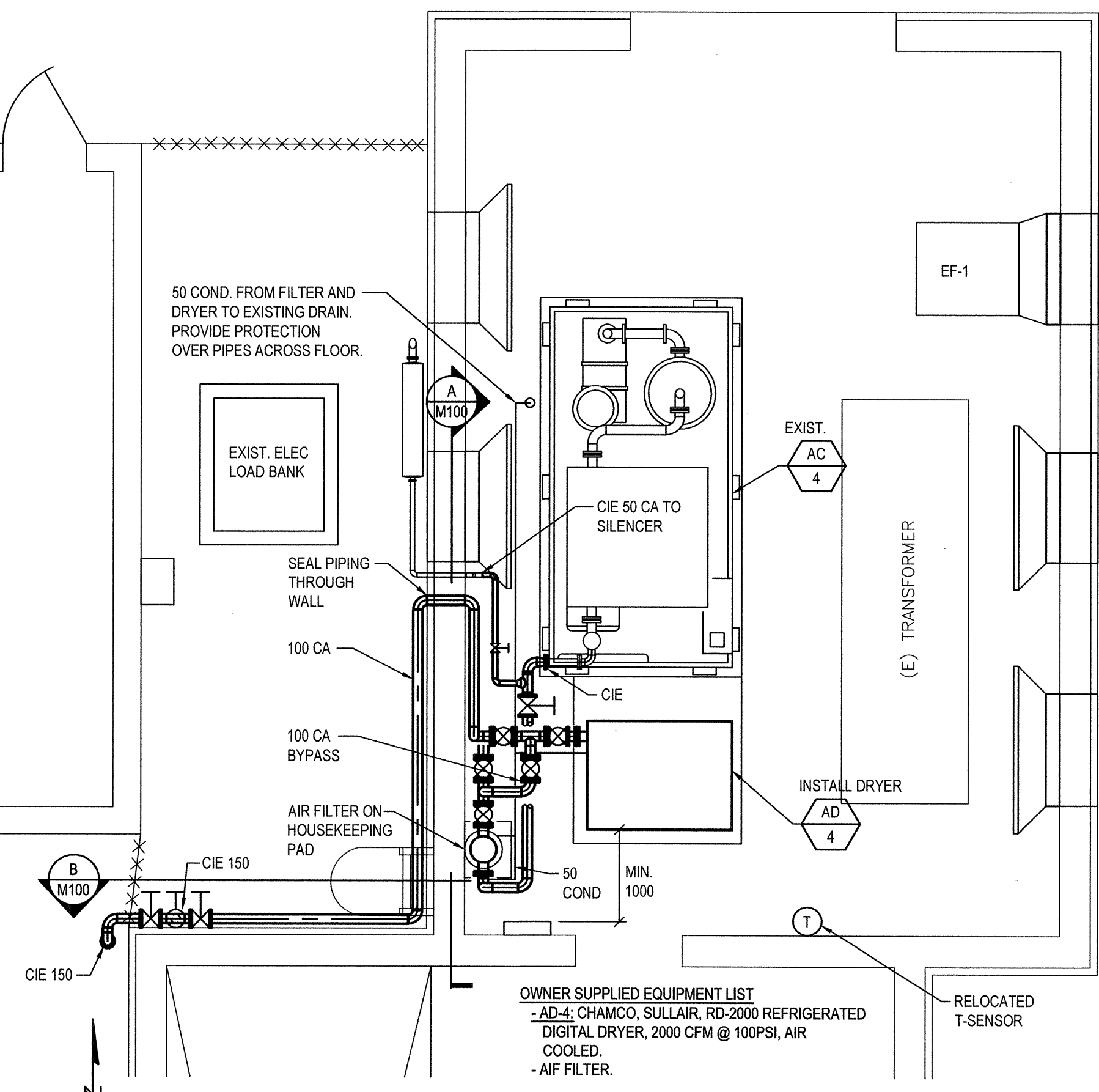


B M100 1:50

3 M100 1:50



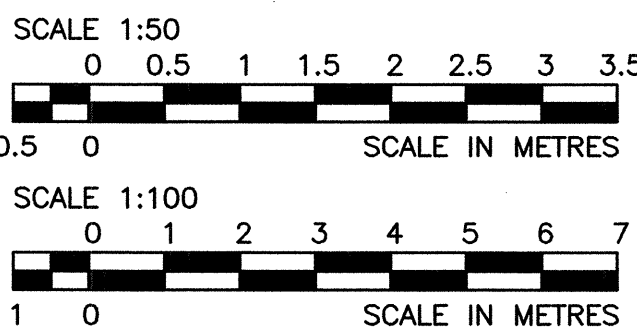
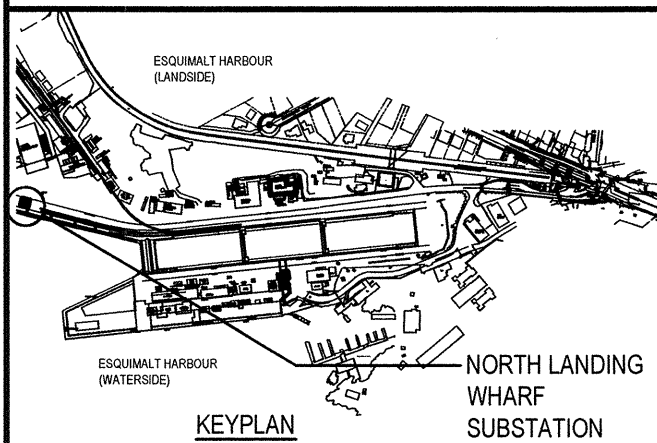
1 M100 1:50



2 M100 1:50

OWNER SUPPLIED EQUIPMENT LIST  
- AD-4: CHAMCO, SULLAIR, RD-2000 REFRIGERATED  
DIGITAL DRYER, 2000 CFM @ 100PSI, AIR  
COOLED  
- AIF FILTER.





DO NOT SCALE DRAWINGS

Revision/Évaluation	Description/Description	Date/Date
4	TENDER	14/11/20
4	100% REVIEW	14/10/24
3	90% REVIEW	14/10/01
2	75% REVIEW	14/05/31
1	50% REVIEW	14/03/17

Client/client

Public Works and  
Government Services Canada

Project title/Titre du projet  
Victoria, B.C.

ESQUIMALT GRAVING DOCK  
AIR COMPRESSOR AND  
AIR DRYERS INSTALLATION

Approved by/Approuvé par

PDT

Designed by/Concept par

CH

Drawn by/Dessiné par

DMM

PWGSC Project Manager/Administrateur de Projets TPSGC

STEVE WINDL

PWGSC, Architectural and Engineering Resources Manager/  
Ressources Architectural et de Directeur d'ingénierie, TPSGC

OREST KUFLAS

Client/client

PWGSC, EGD.

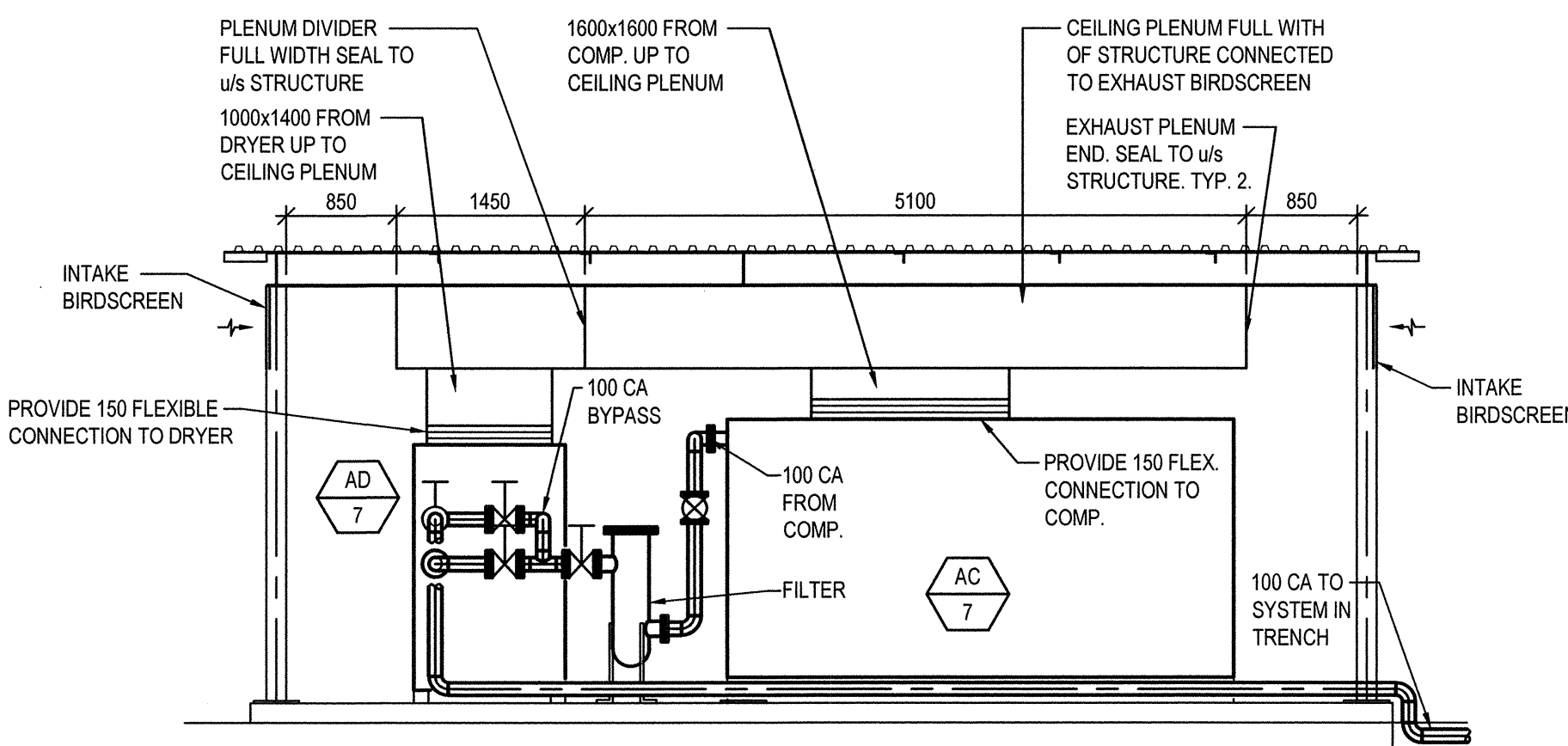
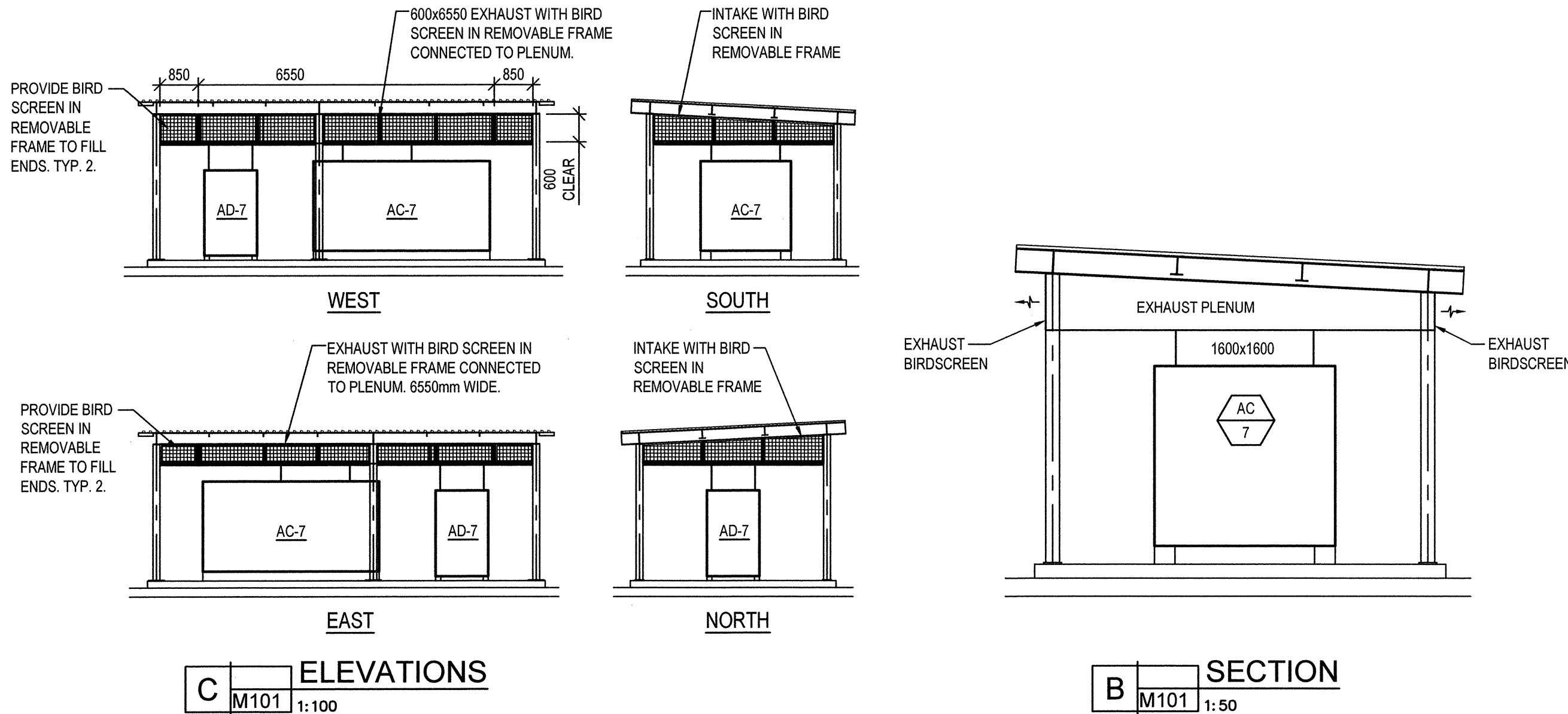
Drawing title/Titre du dessin

MECHANICAL  
NORTH LANDING WHARF  
NEW

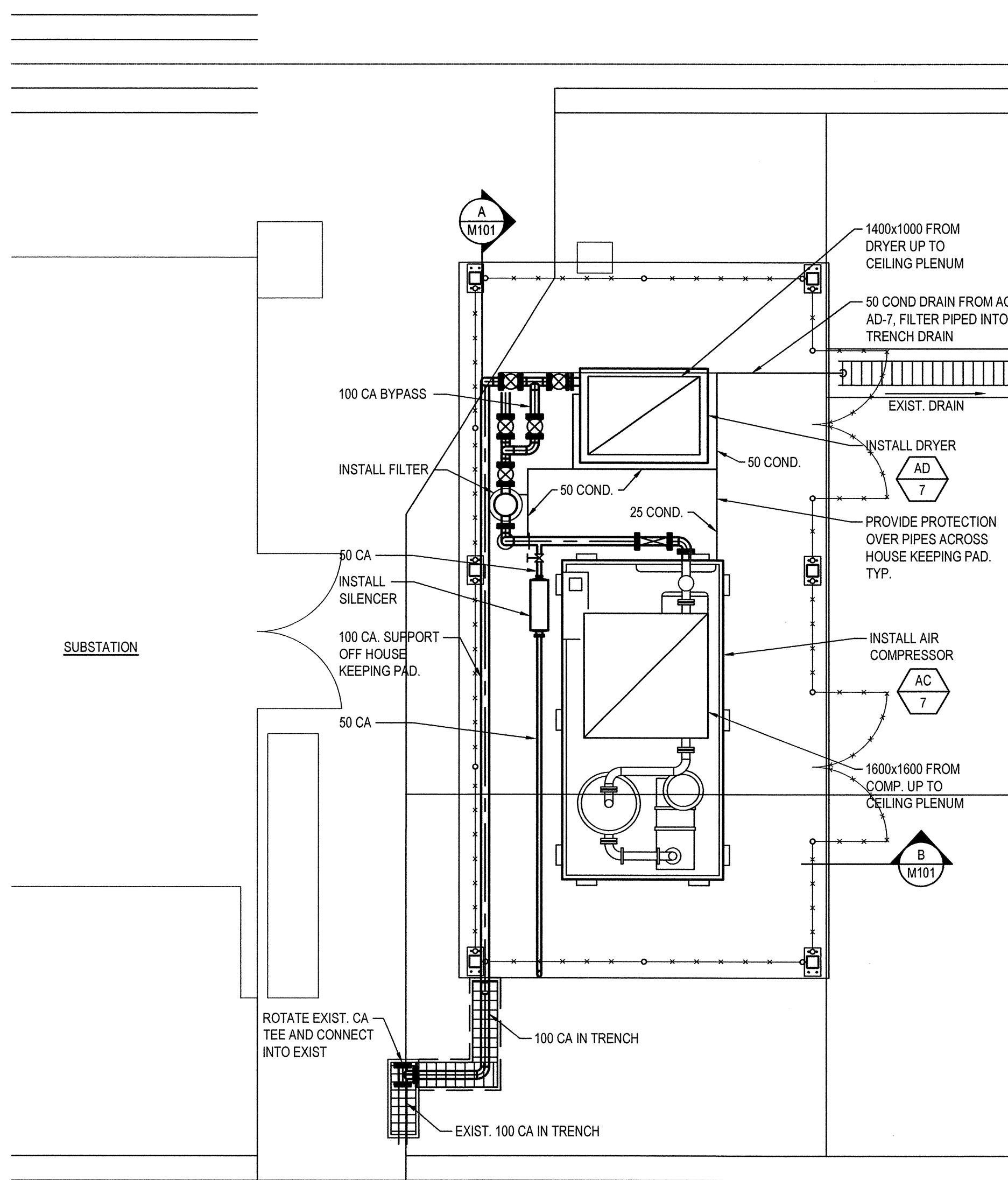
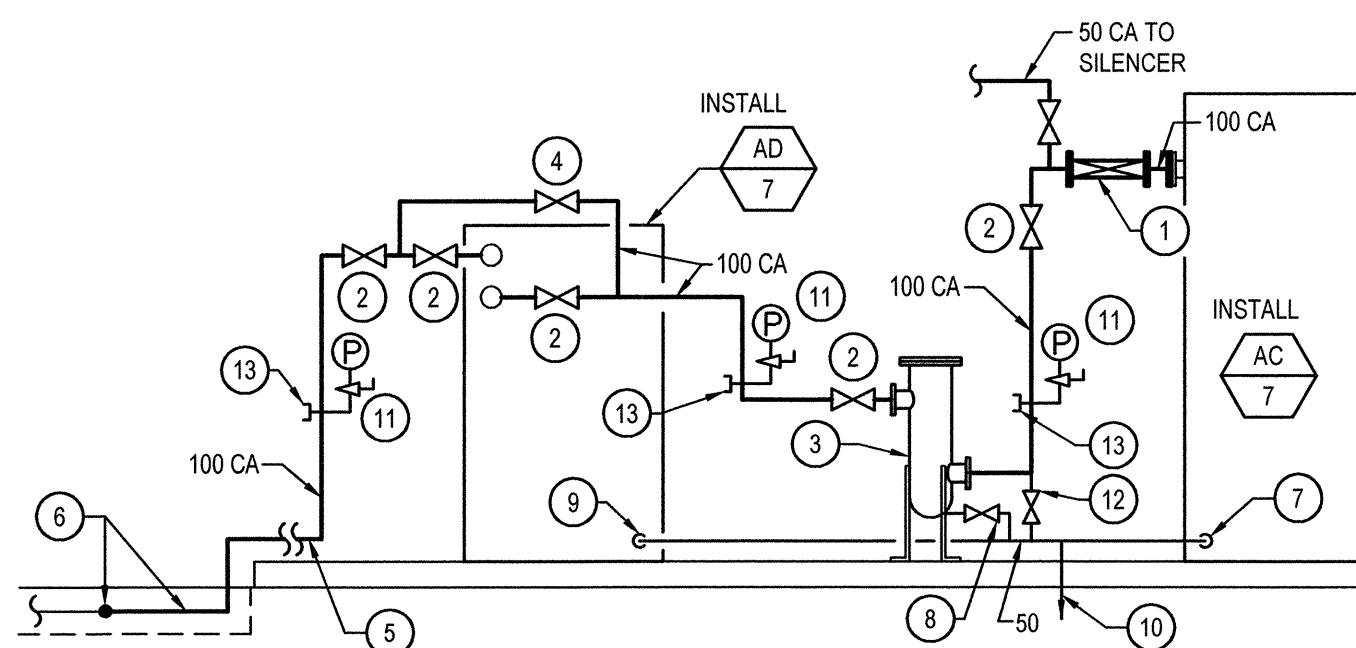
Project No./No. du  
projet  
R.016116.116

Sheet/Feuille  
M101  
3 OF 3

Revision no./  
La Révision  
no.  
3



- 100 BRAIDED SS FLEXIBLE CONNECTION
- 100 ISOLATION VALVE
- INSTALL FILTER
- 100 BYPASS VALVE
- 100 CA TO TRENCH
- 100 CA IN TRENCH, CIE EXIST.
- 25 COND. DRAIN FROM AC-7
- 20 COND. DRAIN FROM FILTER
- 40 COND. DRAIN FROM AD-7
- 50 COND. DRAIN PIPED INTO EXIST. TRENCH DRAIN
- PRESSURE GAUGE WITH COCK, TYP.
- 50 BLOW OFF VALVE PIPED TO DRAIN.
- PROVIDE CAPPED WELD-O-LETS FOR FUTURE PRESSURE SENSOR.



EQUIPMENT LIST  
AC-7: CHAMCO, SULLAIR, TS32-350H TANDEM SCREW AIR COMPRESSOR,  
1,733 CFM@125 PSI, AIR COOLED.

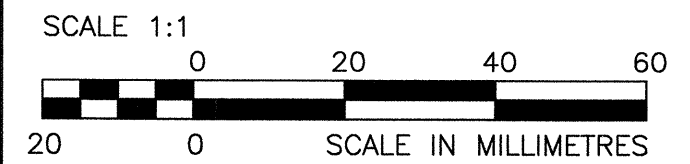
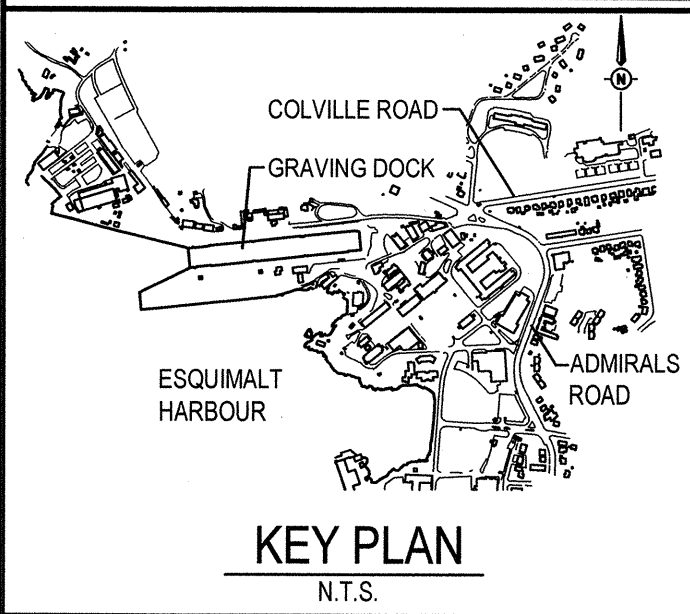
AD-7: CHAMCO, SULLAIR, RD-2000 REFRIGERATED DIGITAL DRYER, 2000  
CFM @ 100PSI, AIR COOLED.

OWNER SUPPLIED EQUIPMENT LIST  
- AC-7: CHAMCO, SULLAIR, TS32-350H TANDEM SCREW AIR COMPRESSOR,  
1,733 CFM@125 PSI, AIR COOLED.  
- AIF FILTER.

OWNER:  
- AD-4:  
2000  
- AIF FI

1 NORTH LANDING WHARF  
M101 1:50





Revision/	Description/Description	Date/Date
5	ISSUED FOR TENDER	14/11/20
4	100% REVIEW	14/10/24
3	99% REVIEW	14/10/01
2	75% REVIEW	14/03/31
1	50% REVIEW	14/03/17
Revision/	Description/Description	Date/Date
Client/client		

Public Works and  
Government Services Canada

Project title/Titre du projet  
Victoria, B.C.

ESQUIMALT GRAVING DOCK  
AIR COMPRESSORS AND  
AIR DRYERS INSTALLATION

Approved by/Approuvé par  
RGE

Designed by/Concept par  
RGE

Drawn by/Dessiné par  
RCM

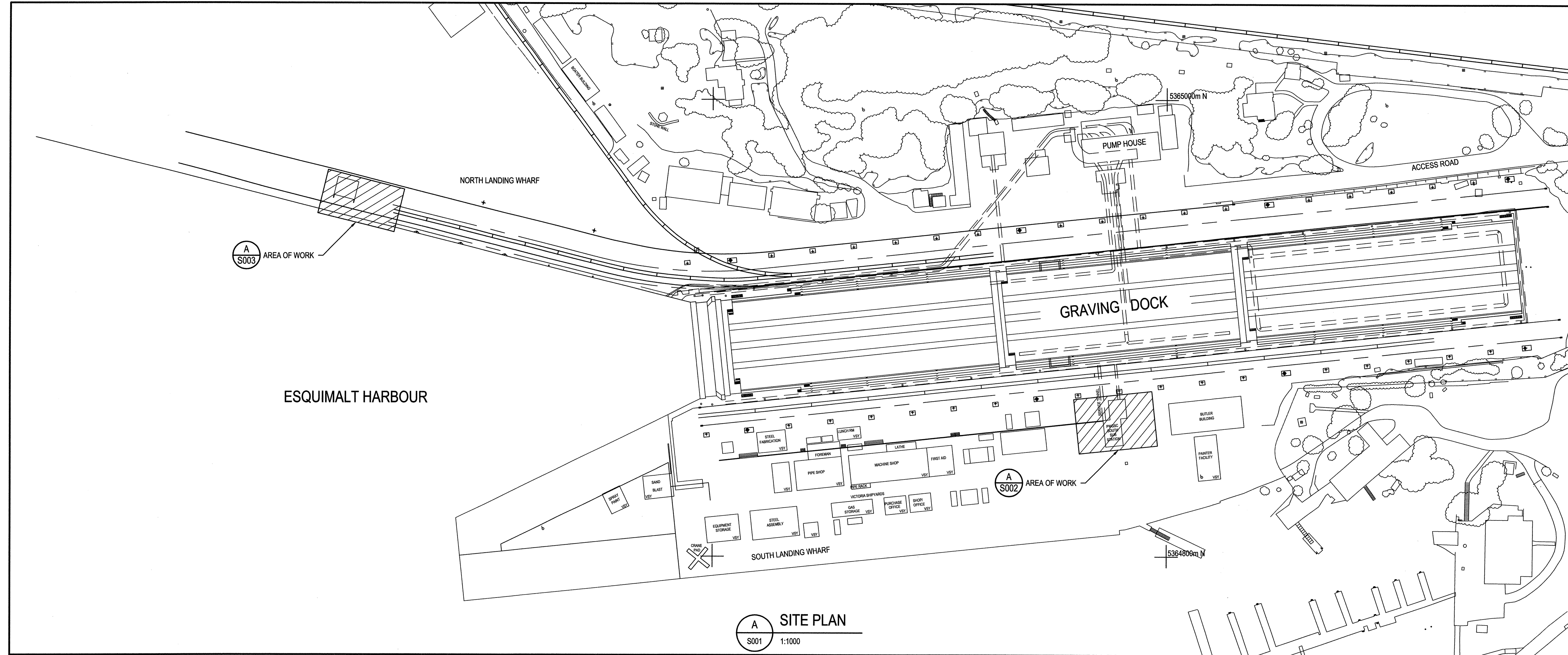
PWGSC Project Manager/Administrateur de Projets TPSGC  
STEVE WINDL

PWGSC, Architectural and Engineering Resources Manager/  
Ressources Architectural et de Directeur d'ingénierie, TPSGC  
OREST KUPLAS

Client/client  
PWGSC, EGD.

Drawing title/Titre du dessin  
STRUCTURAL NOTES  
SITE PLAN

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.016116.116	S001 OF 4	3



GENERAL NOTES

- CONTRACTOR TO VERIFY ALL DIMENSIONS FOR BUILDING (INCLUDING EXISTING STRUCTURAL MEMBER SIZES) PRIOR TO COMMENCEMENT OF WORK AND NOTIFY DEPARTMENTAL REPRESENTATIVE OF ANY DISCREPANCIES.
- STRUCTURAL DRAWINGS SHOW THE COMPLETED PROJECT. THEY DO NOT SHOW COMPONENTS WHICH MAY BE NECESSARY FOR CONSTRUCTION SAFETY. CONTRACTOR IS RESPONSIBLE FOR SAFETY ON AND ABOUT THE JOB SITE DURING CONSTRUCTION.
- CONTRACTOR TO ENSURE THAT ALL WORK IS CARRIED OUT BY THE RULES AND CUSTOMS OF THE BEST TRADE PRACTICES AND THEIR SPECIFICATIONS BY SKILLED TRADES PEOPLE KNOWLEDGEABLE OF THE TYPE OF CONSTRUCTION. THEY ARE TO BE PROPERLY EQUIPPED AND SUPERVISED.
- NOTIFY DEPARTMENTAL REPRESENTATIVE 24 HOURS IN ADVANCE FOR CONSTRUCTION REVIEW OF THE STRUCTURAL PORTION OF THE BUILDING AS SHOWN ON THE STRUCTURAL DRAWINGS IN ACCORDANCE WITH DIVISION C PART 2 OF THE NATIONAL BUILDING CODE OF CANADA 2010.
- SEE ELECTRICAL, AND MECHANICAL DRAWINGS FOR SLEEVES, INSERTS, ETC. TO BE ENCASED IN CONCRETE.
- THESE STRUCTURAL DRAWINGS DO NOT INCLUDE DETAILS FOR BUILDING ENVELOPE, WATER PROOFING AND DRAINAGE. SEE MECHANICAL DRAWINGS AS APPROPRIATE.
- AN ALLOWABLE SOIL BEARING PRESSURE OF 150 kPa HAS BEEN USED FOR THE DESIGN.
- STRUCTURAL DESIGN DATA
  - ENGINEER OF RECORD: RANDALL EMERY, P.ENG.
  - DESIGN CODE - NATIONAL BUILDING CODE OF CANADA 2010 - PART 4.

DESIGN PARAMETERS	ESQUIMALT
BUILDING IMPORTANCE CATEGORY	NORMAL
SNOW LOAD PARAMETERS	
$S_s = 1.6 \text{ kPa}$	$S_r = 0.40 \text{ kPa}$
$I_s [\text{JLS}] = 1.0$	$I_s [\text{SLS}] = 0.9$
WIND LOAD PARAMETERS	
$q_{50} = 0.63 \text{ kPa}$	$I_w [\text{JLS}] = 1.0$
$I_w [\text{SLS}] = 0.75$	
SEISMIC PARAMETERS	
$S_a(0.2) = 1.2$	$S_a(0.5) = 0.82$
$S_a(1.0) = 0.38$	$S_a(2.0) = 0.18$
$P_G A = 0.61$	
$I_e = 1.0$	
SITE CLASS: D [ASSUMED]	
SFRS	CONVENTIONAL CONSTRUCTION
NORTH/SOUTH DIR.	$R_d = 1.5$
$R_o = 1.3$	
SFRS	CONVENTIONAL CONSTRUCTION
EAST/WEST DIR.	$R_d = 1.5$
$R_o = 1.3$	
ANALYSIS METHOD:	EQUIVALENT STATIC ANALYSIS
EQUIPMENT LOAD PARAMETERS	
NORTH LANDING WHARF	
AIR DRYER WEIGHT = 850 kg (1,865 lbs)	
COMPRESSOR WEIGHT = 6,190 kg (13,620 lbs)	
SOUTH SUB-STATION	
AIR DRYER WEIGHT = 1,260 kg (2,780 lbs)	

CONCRETE AND REINFORCING NOTES

- CONCRETE TO BE READY MIX CONCRETE CONFORMING TO THE CSA A23.1/A23.2. CEMENT TO BE NORMAL PORTLAND CEMENT CONFORMING TO CSA A3000-(A5). USE ADMIXTURES ONLY WITH WRITTEN APPROVAL OF THE DEPARTMENTAL REPRESENTATIVE.

28 DAY STRENGTH	MAX AGG	CLASS OF EXPOSURE
MPa	mm	
35	20	C-1

TYPICAL U/N

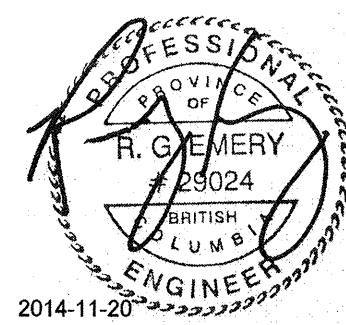
REFER TO PROJECT SPECIFICATIONS FOR MINIMUM CEMENTITIOUS CONTENT, SLUMP, MAXIMUM AGGREGATE SIZE, CLASS OF EXPOSURE AND OTHER REQUIREMENTS
- CONCRETE PROTECTION ON PRINCIPAL REINFORCING SHALL BE AS FOLLOWS:  
FORMED SURFACES: 64mm [2 1/4"]
- A CSA CERTIFIED MATERIALS TESTING LABORATORY SHALL BE APPOINTED TO REVIEW CONCRETE MIXES AND TO GATHER AND TEST CONCRETE CYLINDERS. COPIES OF TEST RESULTS TO BE SENT TO THE DEPARTMENTAL REPRESENTATIVE AND CONTRACTOR.
  - A SUFFICIENT NUMBER OF TESTS SHALL BE MADE TO ENSURE A UNIFORM SLUMP OF CONCRETE. A SLUMP TEST SHALL BE MADE WITH EVERY STRENGTH TEST AND EVERY SECOND OR THIRD AIR TEST.
  - AN AIR CONTENT DETERMINATION SHALL BE MADE WITH EVERY STRENGTH TEST.
  - NOT LESS THAN ONE STRENGTH TEST (SET OF THREE CYLINDERS) SHALL BE MADE FOR EACH 100 CUBIC METERS OF CONCRETE PLACED, AND IN NO CASE SHALL THERE BE FEWER THAN ONE TEST FOR EACH CLASS OF CONCRETE PLACED ON ANY ONE DAY, AS DESIGNATED BY THE OWNER. WHEN HIGH-PERFORMANCE OR HIGH-STRENGTH CONCRETE IS INVOLVED, OR WHERE STRUCTURAL REQUIREMENTS ARE CRITICAL, THE OWNER MAY REQUIRE A HIGHER FREQUENCY OF TESTING, WHICH SHALL BE DEFINED IN THE CONTRACT DOCUMENTS.
- REINFORCING BARS SHALL BE ACCURATELY PLACED, ADEQUATELY SUPPORTED, AND SECURED AGAINST DISPLACEMENT PRIOR TO PLACING OF CONCRETE.
- FOR ADHESIVE SET REINFORCING BAR SUBMIT MANUFACTURER'S DATA SHEETS FOR APPROVAL. INSTALL STRICTLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- FOR ADHESIVE SET THREADED ANCHORS SUBMIT MANUFACTURER'S DATA SHEETS FOR APPROVAL. THREADED RODS SHALL BE ASTM A307 OR APPROVED EQUAL. INSTALL STRICTLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

STRUCTURAL STEEL NOTES

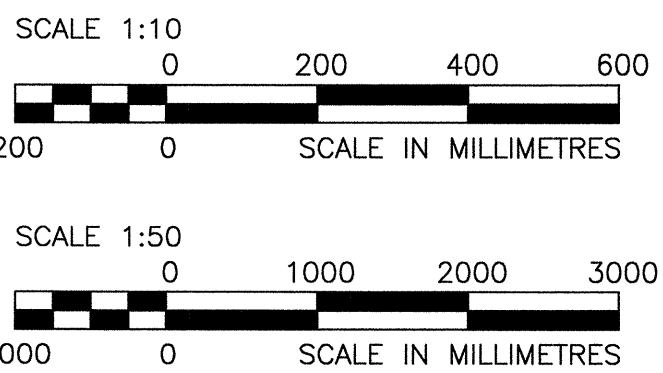
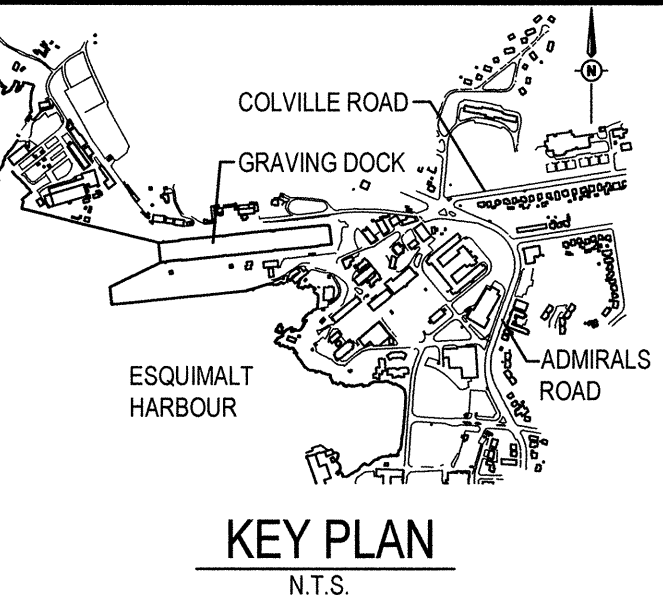
- STRUCTURAL STEEL TO CONFORM TO THE REQUIREMENTS OF THE FOLLOWING STANDARDS:  
ROLLED SECTIONS & PLATES: G40.21 350W  
HSS & LIGHT GAUGE SECTIONS: G40.21 300W  
ANGLES & CHANNELS: G40.21 300W  
BOLTS: ASTM A325  
ANCHOR BOLTS: ASTM A307
- ALL WELDING TO CONFORM TO CSA W59 AND BE PERFORMED BY FABRICATORS "FULLY APPROVED" BY THE CANADIAN WELDING BUREAU UNDER CSA W47. FABRICATING SHOP TO HAVE A DIVISION 2.1 CERTIFICATION BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA W47.1 AND SUBMIT PROOF OF CERTIFICATION PRIOR TO START OF WORK.
- ALL FIELD WELDS TO BE CLEANED AND PAINTED.
- ALL STRUCTURAL STEEL TO RECEIVE PRIMER PAINT (IN ACCORDANCE WITH MPI EXT. 5.1G) EXCEPT THAT PARTS OF MEMBERS TO BE EMBEDDED IN CONCRETE ARE NOT TO BE PAINTED.
- ALL STRUCTURAL STEEL TO BE PAINTED IN ACCORDANCE WITH MPI EXT. 5.1G (COLOUR: BLUE)

STEEL DECKING NOTES

- DECKING TO BE PRE-FINISHED VIC-WEST RD938 SCREWED SIDE-LAP PROFILE OR APPROVED EQUAL. COLOR TO BE BLUE. INSTALL DECK INVERTED SO THAT SIDE-LAPS ARE LOCATED ON HIGH FLUTE.
- DESIGN AND FABRICATION SHALL BE IN ACCORDANCE WITH CSA S136.1 AND THE MANUFACTURER'S SPECIFICATIONS. DECKING TO SPAN MINIMUM 3 SUPPORTS.
- FASTEN DECK TO ALL SUPPORTING STEEL BY MEANS OF #12 HWH SELF-DRILLING SCREWS EVERY FLUTE AND 150mm [6"] ON CENTER ON SIDE SUPPORTS, TYPICAL UNLESS NOTED OTHERWISE.
- SCREW SIDE LAPS AT 150mm [6"] ON CENTER WITH #12 HWH SELF DRILLING SCREWS c/w NEOPRENE WASHERS UNLESS NOTED OTHERWISE.
- LAP DECK MIN 50mm [2"] AT SUPPORTS.
- INSTALL 150 WIDE x 1.22 THICK PLATE WHERE DECK CHANGES DIRECTION CONNECT WITH #12 HWH SCREWS @ 300mm [12"] ON CENTER BOTH SIDES.
- INSTALL 1.22 CLOSURE STRIPS AS REQUIRED ALONG SIDE SUPPORTS. CONNECT AS NOTE 6.
- DECK OPENINGS UP TO 300mmx300mm [12"x12"] SHALL BE REINFORCED WITH L 65x65x4.8 EXTENDING 2 FLUTES PAST OPENING BOTH SIDES OF OPENING. OPENINGS GREATER THAN 450x450 [18"x18"] SHALL BE REINFORCED AS PER DRAWINGS.







Revision/ Évaluation	Description/Description	Date/Date
5	ISSUED FOR TENDER	14/11/20
4	100% REVIEW	14/10/24
3	99% REVIEW	14/10/01
2	75% REVIEW	14/03/21
1	50% REVIEW	14/03/17

**Public Works and  
Government Services Canada**

Project title/Titre du projet  
**Victoria, B.C.**

**ESQUIMALT GRAVING DOCK  
AIR COMPRESSORS AND  
AIR DRYERS INSTALLATION**

Approved by/Approuvé par  
RGE

Designed by/Concept par  
RGE

Drawn by/Dessiné par  
RCM

PWGSC Project Manager/Administrateur de Projets TPSSC  
STEVE WINDL

PWGSC Architectural and Engineering Resources Manager/  
Ressources Architectural et de Directeur d'Ingénierie, TPSSC  
OREST KUFLAS

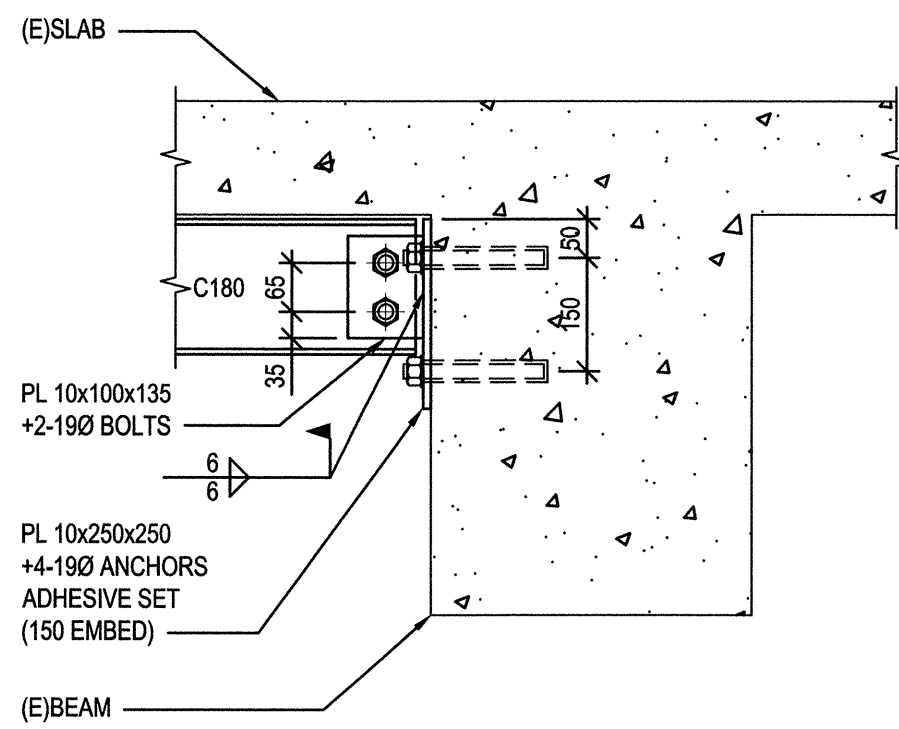
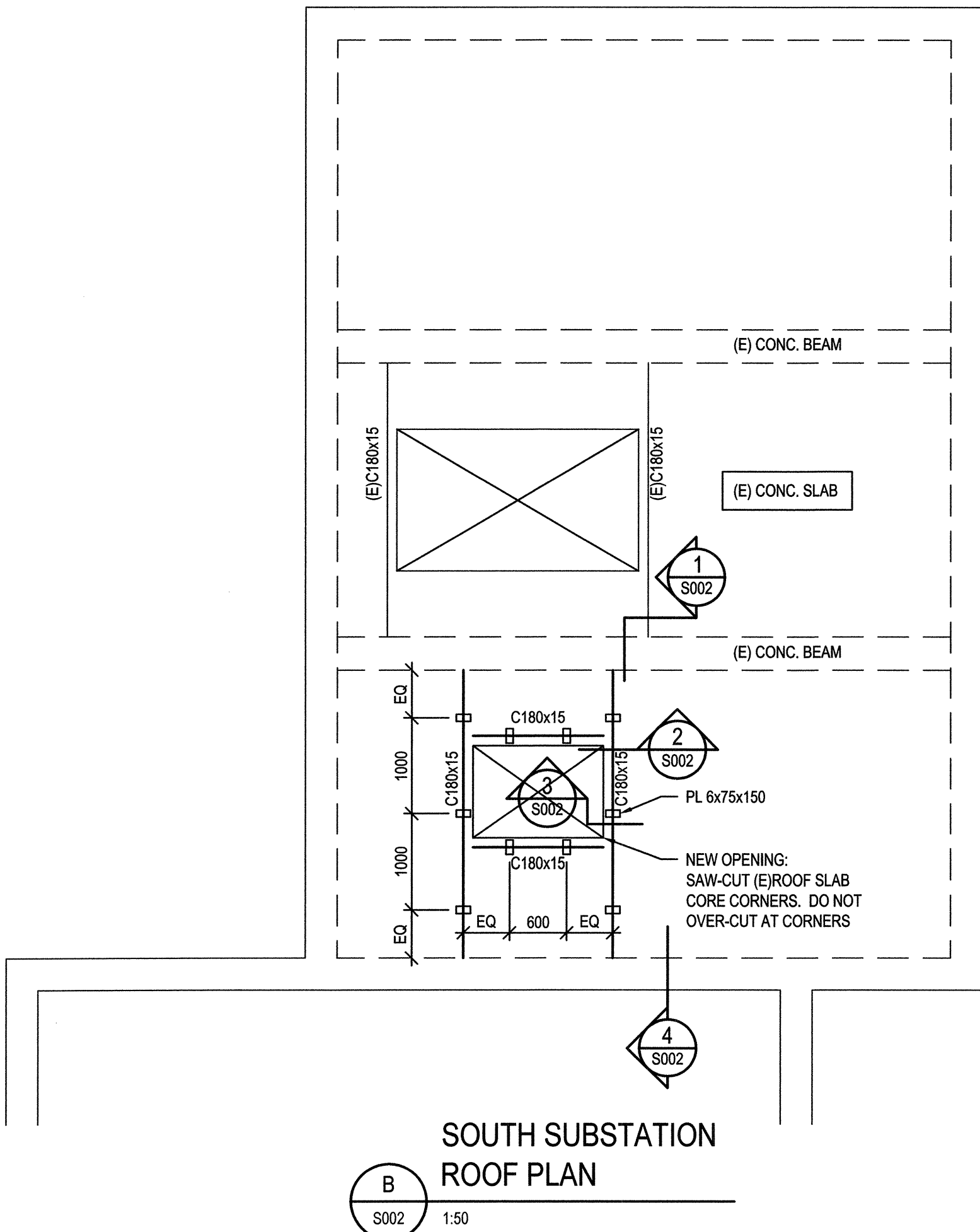
Client/client  
PWGSC, EGD.

Drawing title/Titre du dessin  
**SOUTH SUBSTATION  
PLANS AND SECTIONS**

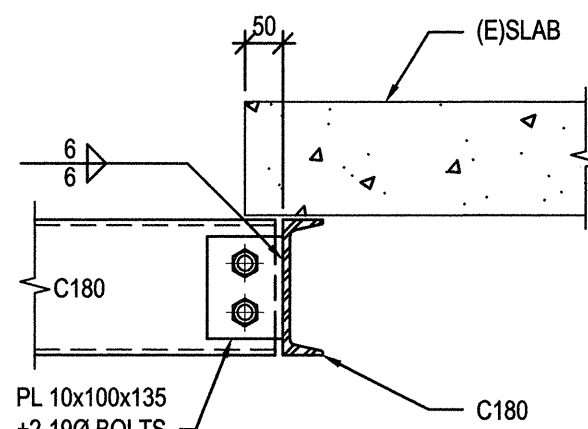
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projet  
**R.016116.116**

Sheet/Fauille  
**S002**  
OF 4

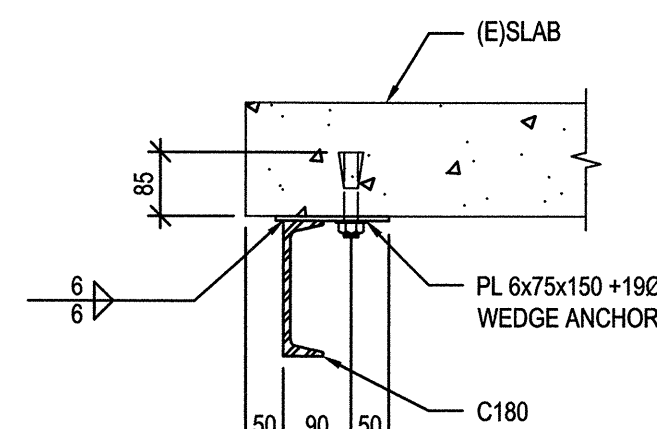
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no.  
**3**



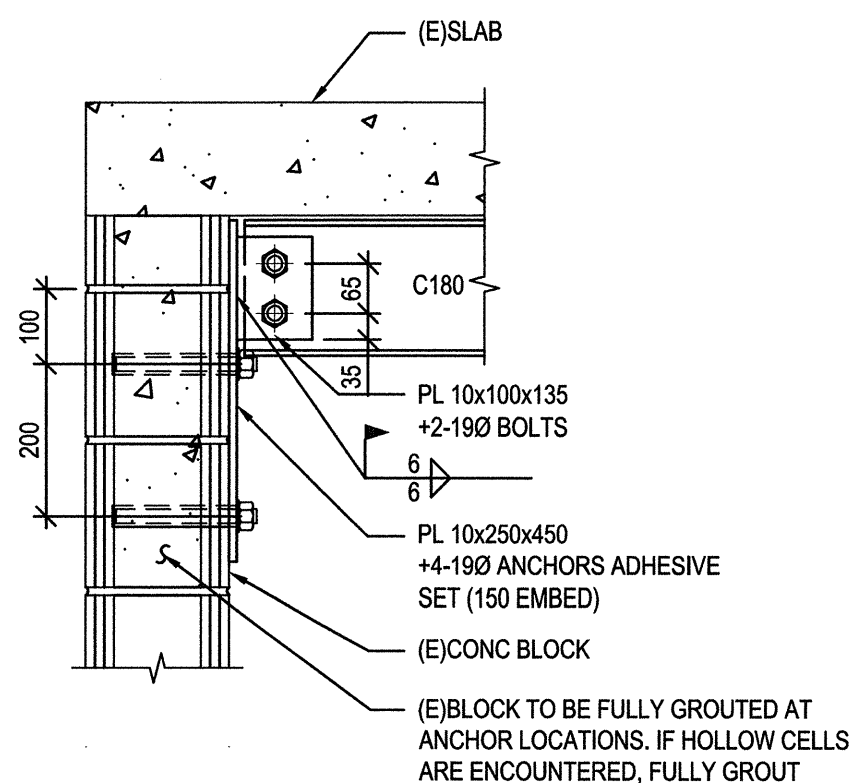
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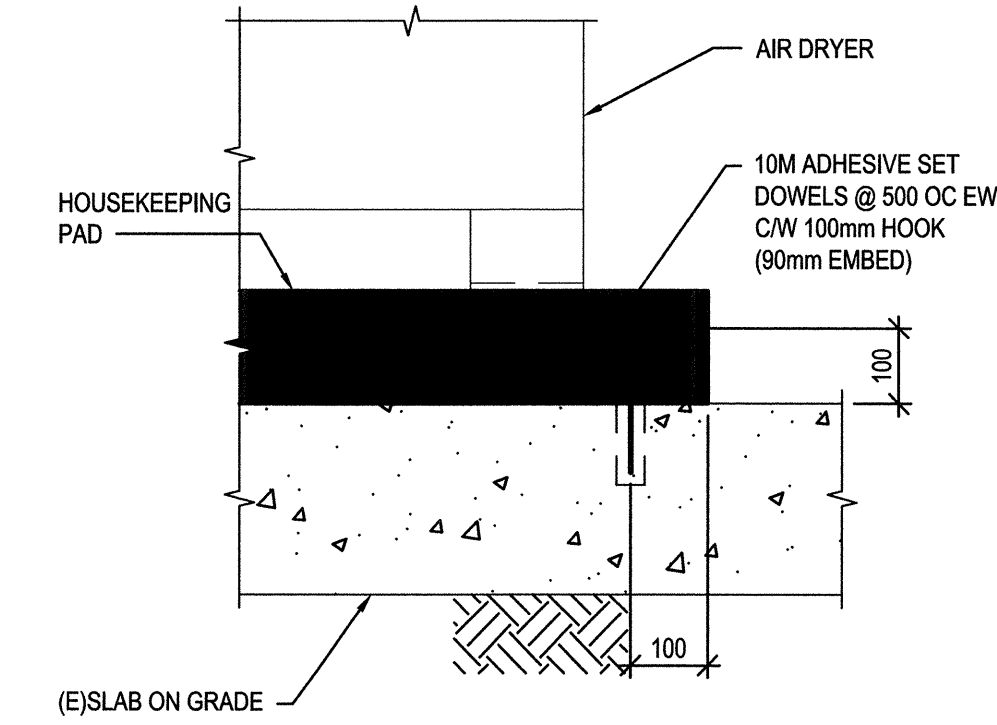
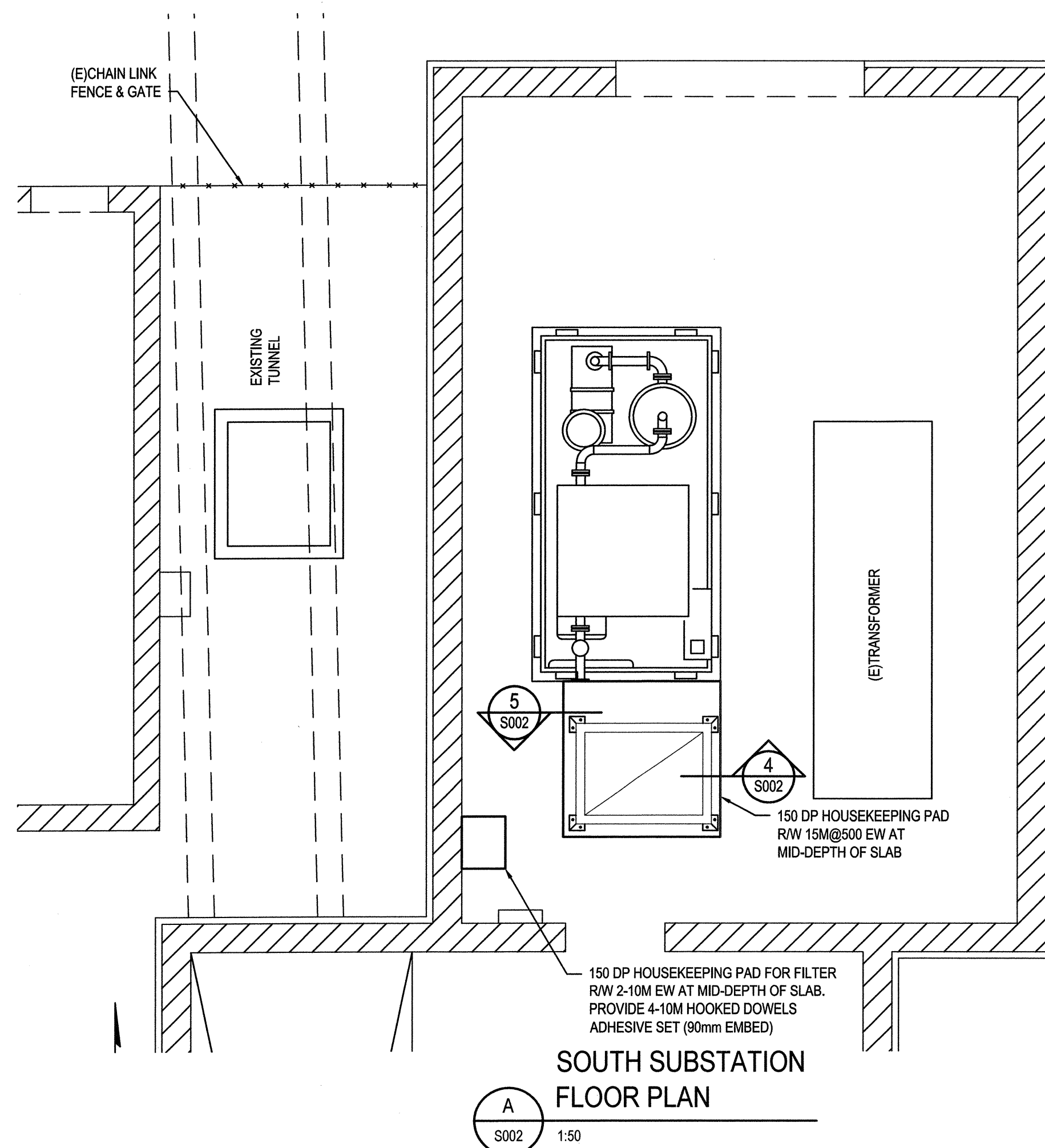
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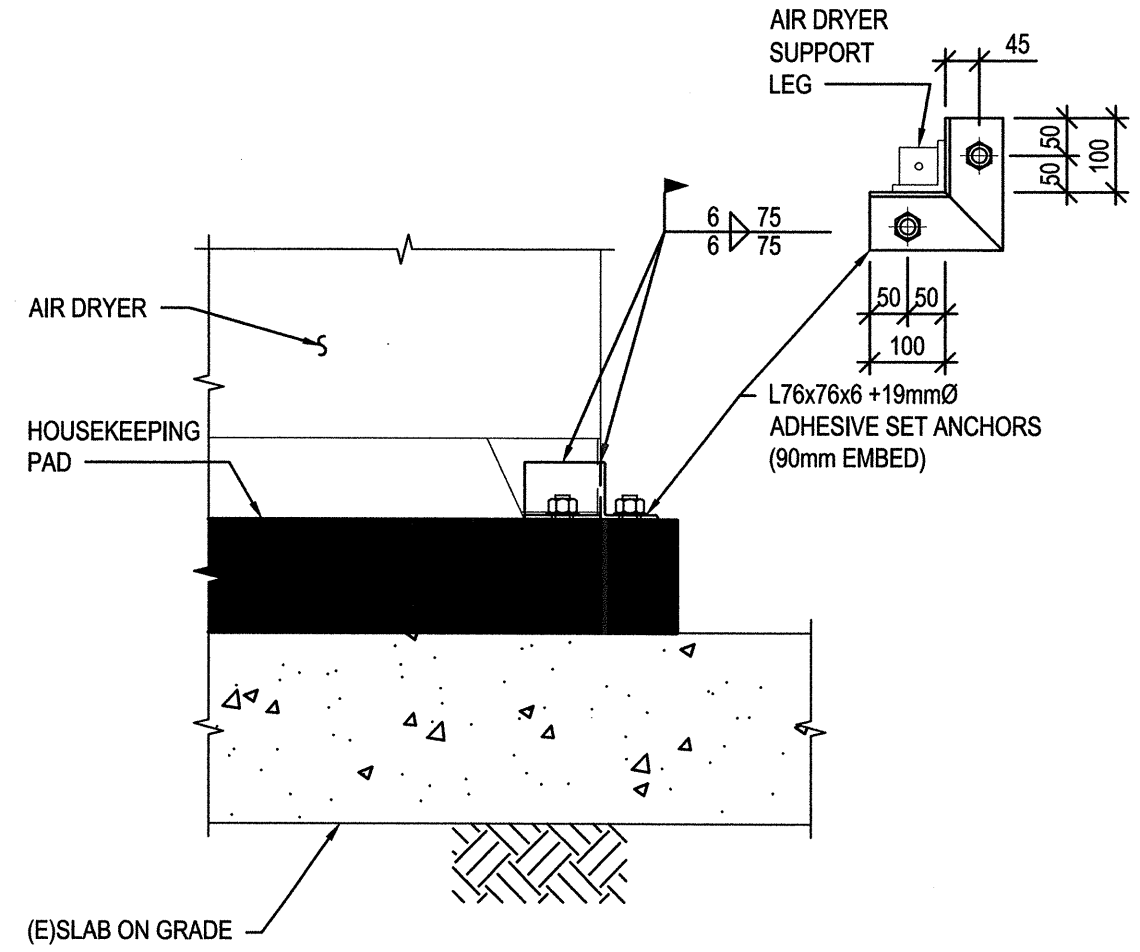
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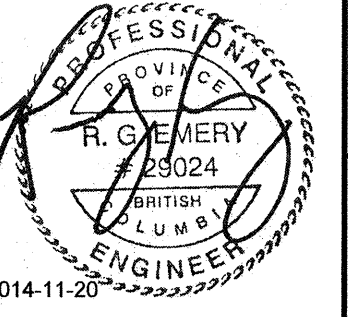
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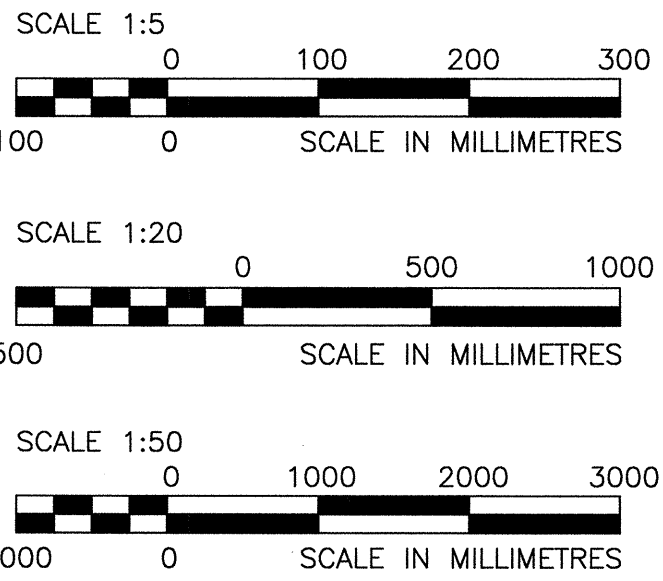
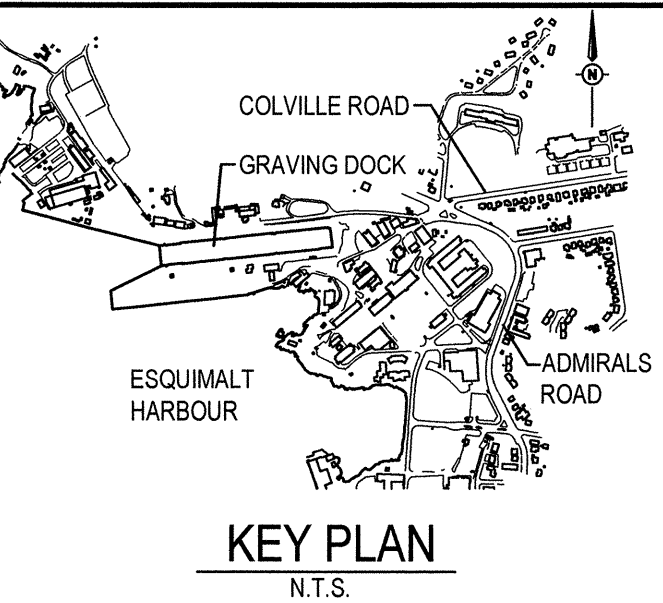
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**5 SECTION**  
S002 1:10







Revision/Modification	Description/Description	Date/Date
5	ISSUED FOR TENDER	14/11/20
4	100% REVIEW	14/10/24
3	99% REVIEW	14/10/01
2	75% REVIEW	14/03/31
1	50% REVIEW	14/03/17

Client/client  
**Public Works and  
Government Services Canada**

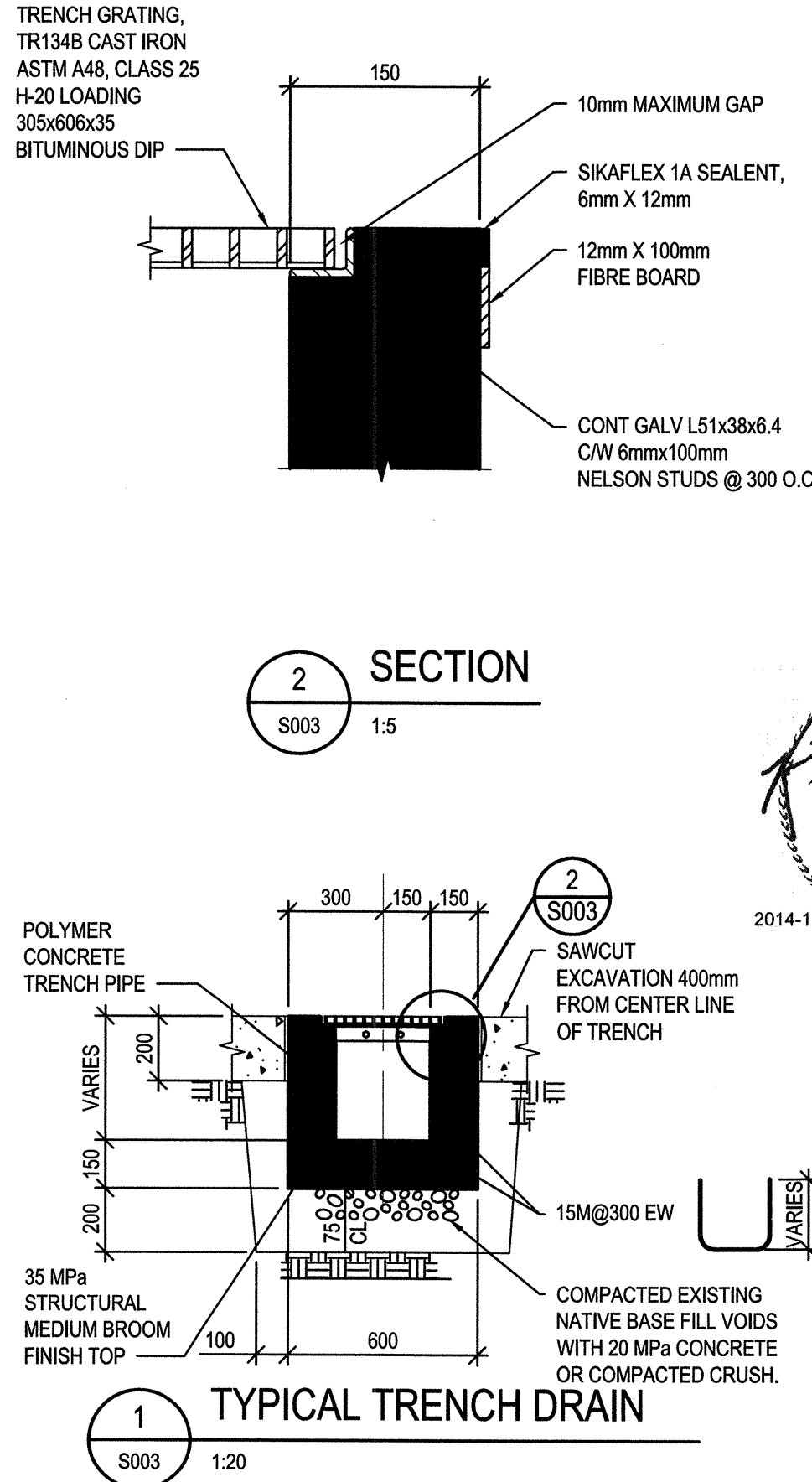
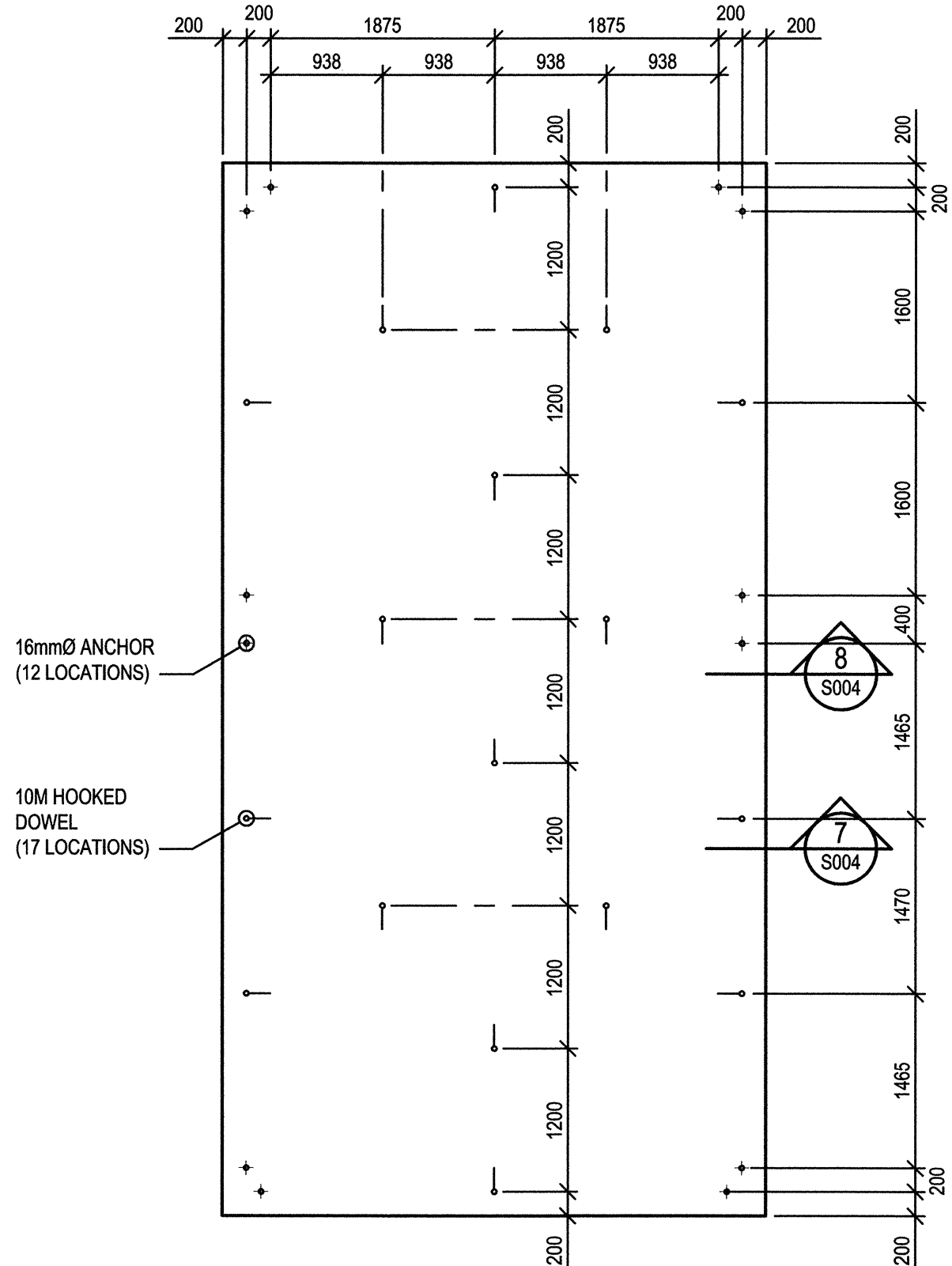
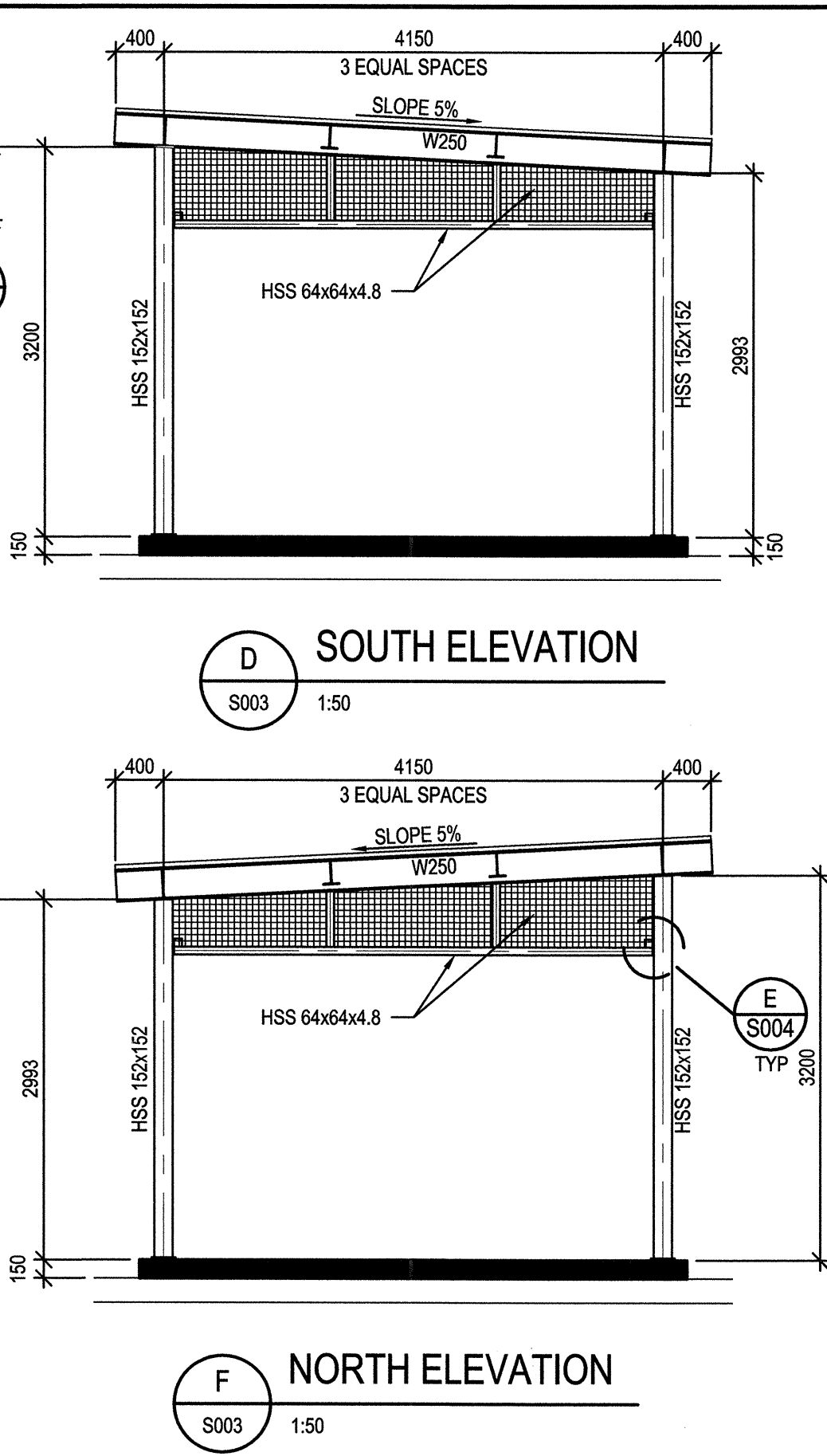
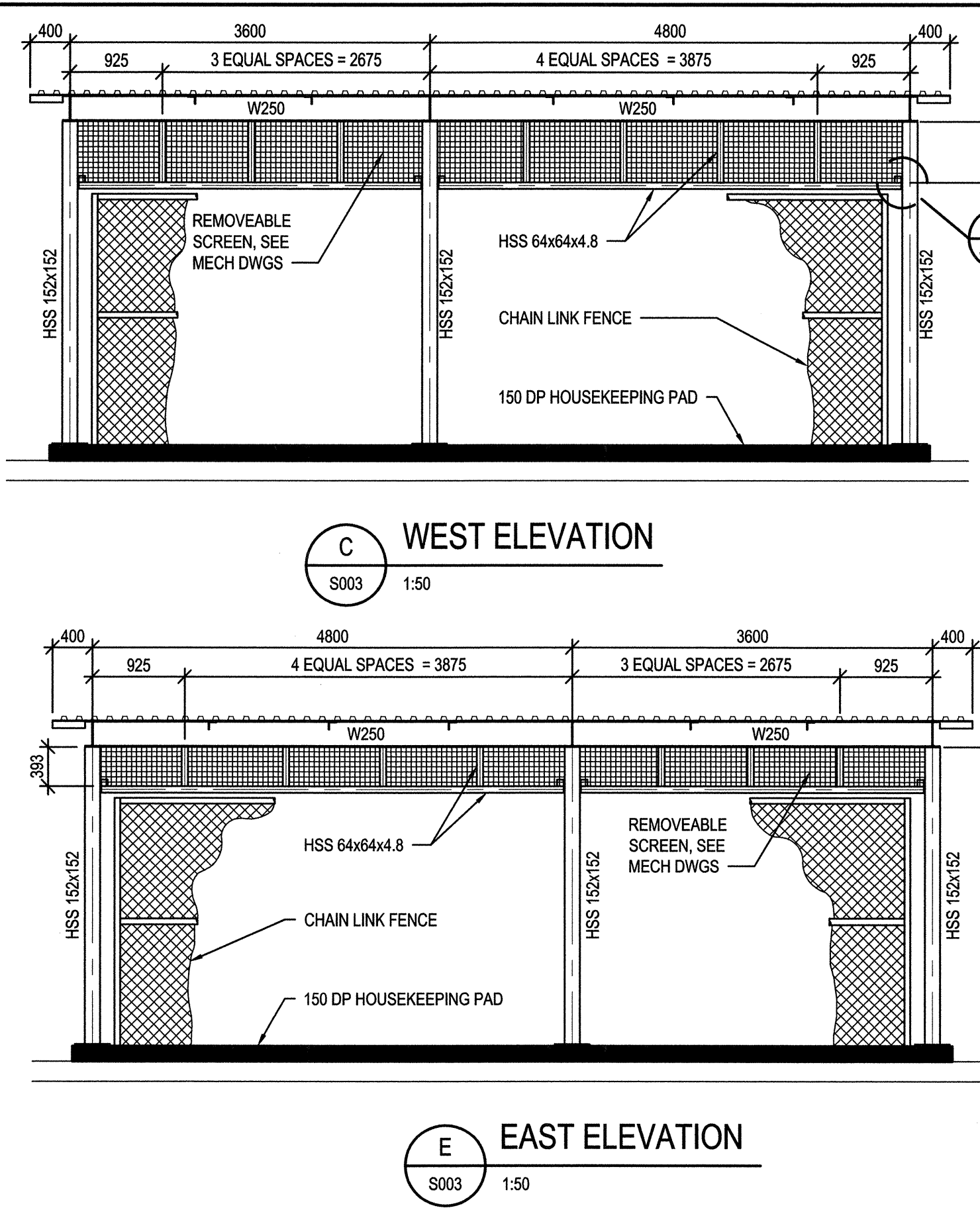
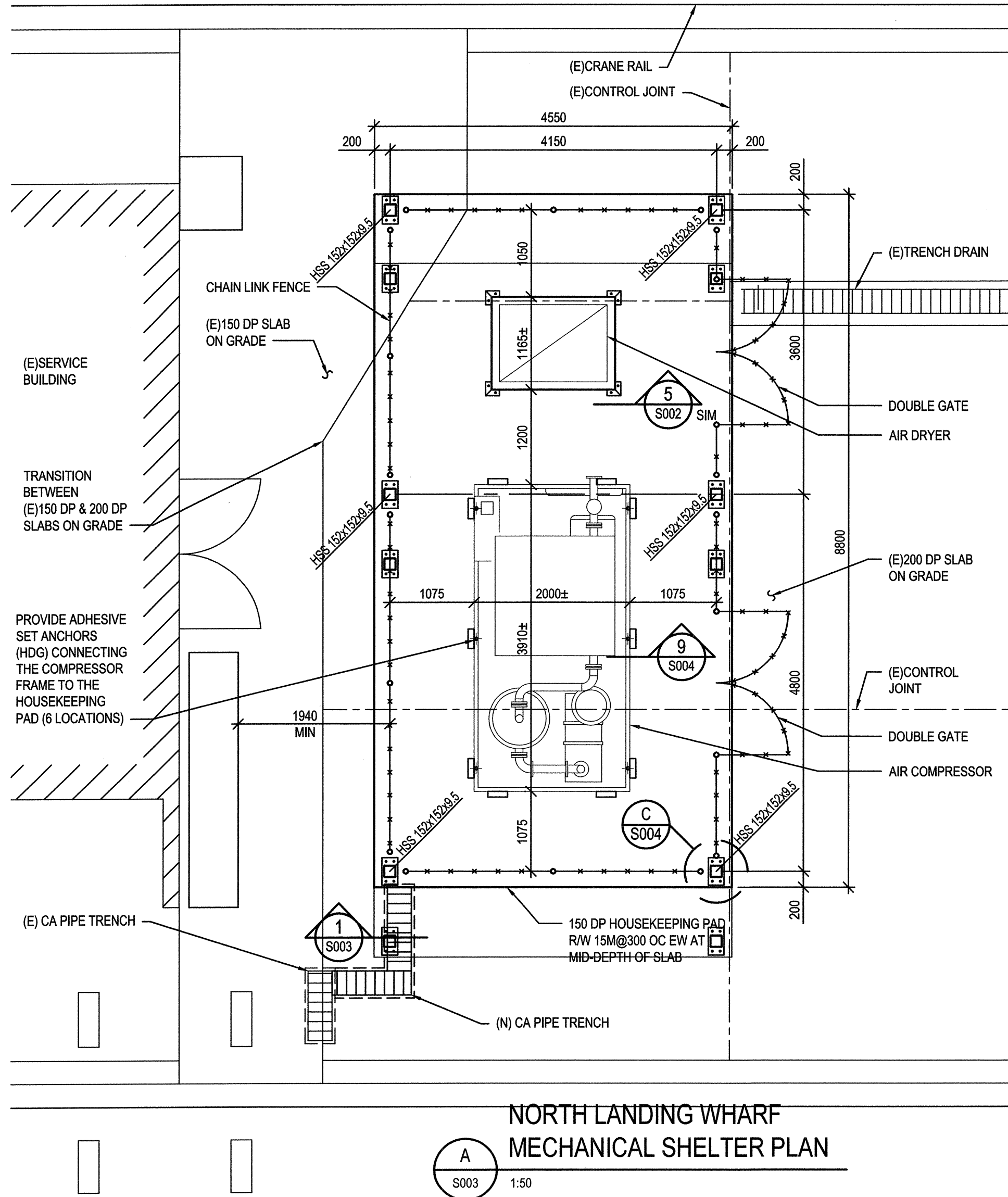
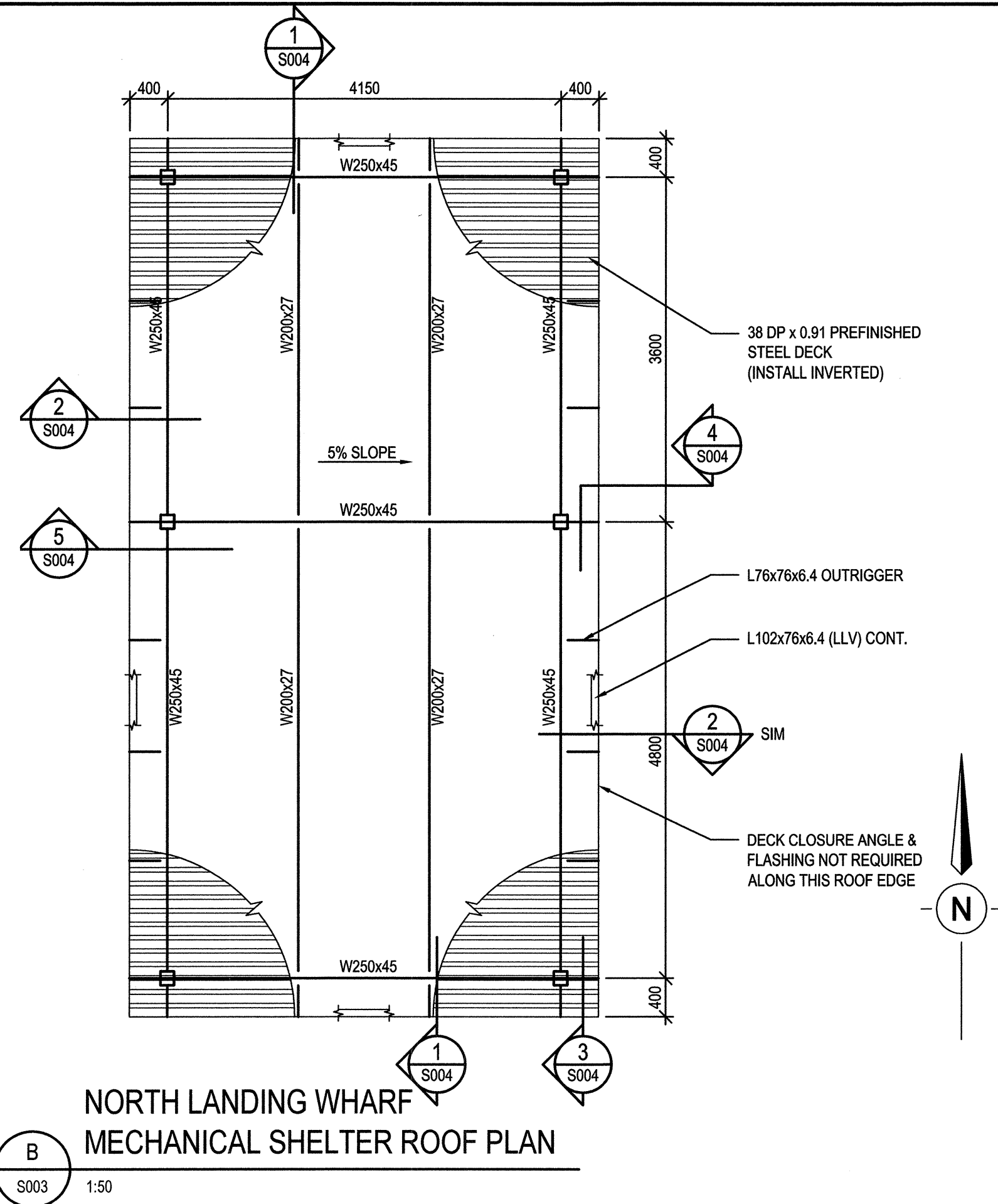
Project title/Titre du projet  
**Victoria, B.C.**

**ESQUIMALT GRAVING DOCK  
AIR COMPRESSORS AND  
AIR DRYERS INSTALLATION**

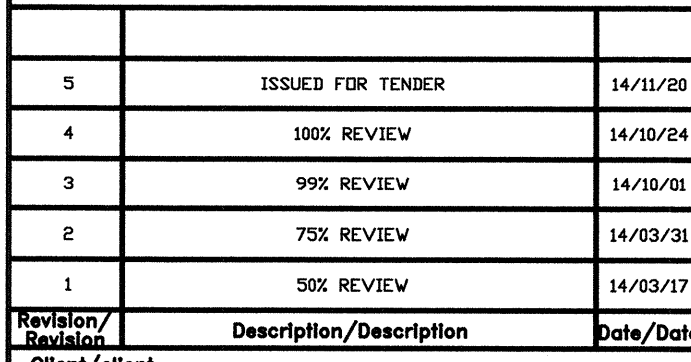
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Drawn by/Dessiné par RCM	
PWGSC Project Manager/Administrateur de Projets TP5GC STEVE WINDL	
PWGSC, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'ingénierie, TP5GC OREST KUFLAS	
Client/client PWGSC, EGD.	

Drawing title/Titre du dessin  
**NORTH LANDING WHARF  
PLANS, ELEVATIONS, AND  
TRENCH DETAILS**

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Project title/Titre du projet  
Victoria, B.C.

## ESQUIMALT GRAVING DOCK AIR COMPRESSORS AND AIR DRYERS INSTALLATION

**Client/client**  
PWGSC, EGD

## SOUTH SUBSTATION & NORTH LANDING WHARF SECTIONS AND DETAILS

Project No./No. du projet <b>R.016116.116</b>	Sheet/Feuille <b>S004</b>	Revision no./La Révision no. <b>3</b>
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