



Public Works and
Government Services
Canada

Travaux publics et
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Canada

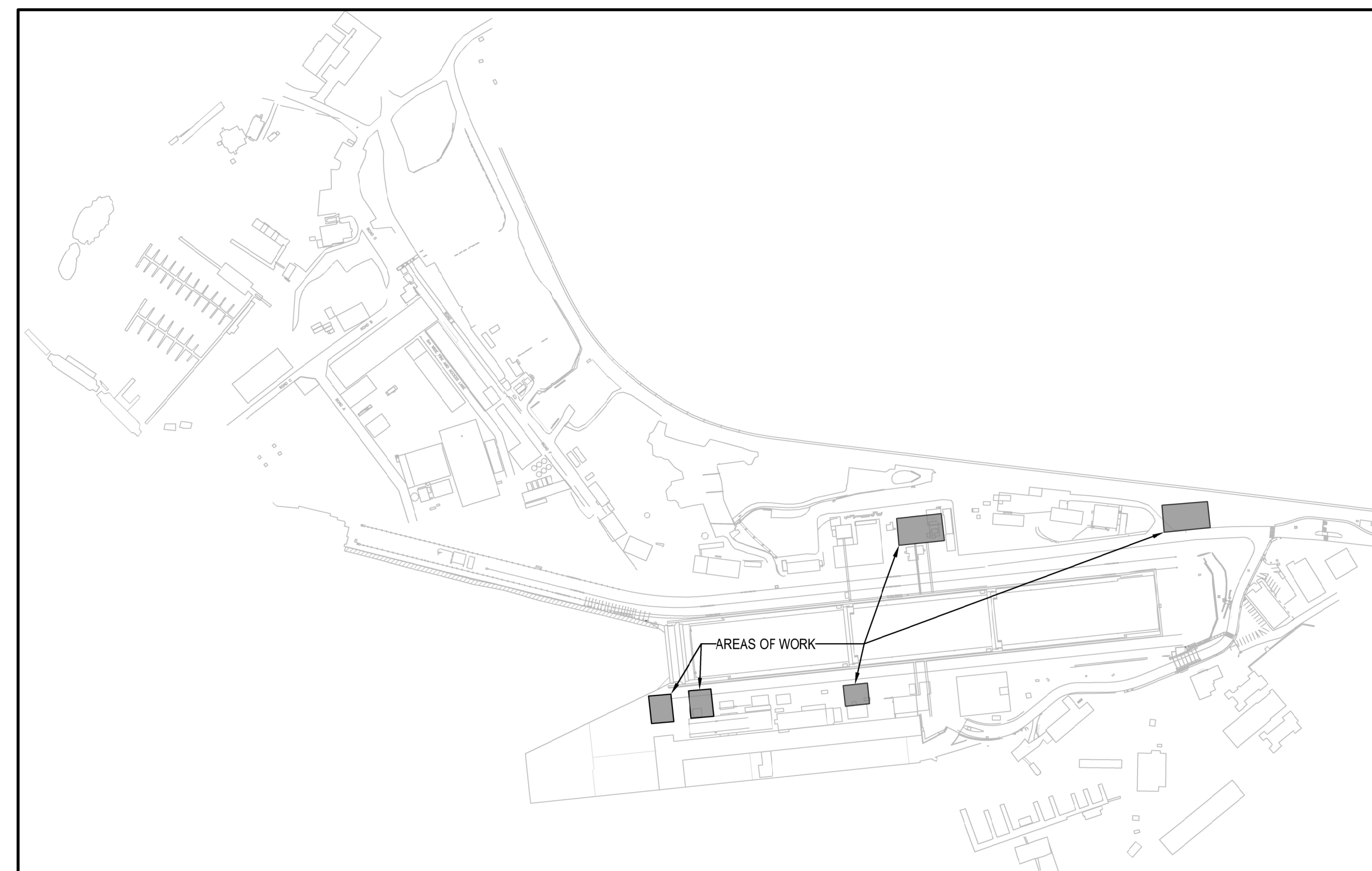
REAL PROPERTY SERVICES
Pacific Region

SERVICES IMMOBILIERS
Région de Pacifique

ESQUIMALT GRAVING DOCK
CAPSTAN UPGRADES
R.109207.001

LIST OF DRAWINGS

- G000 - KEY PLAN AND LIST OF DRAWINGS
- M100 - 12.5 TON ELECTRIC CAPSTAN EXISTING ASSEMBLIES FOR REMOVAL
- M101 - CAPSTAN GENERAL ASSEMBLY AND DETAILS
- M102 - EXISTING CABLE REELS FOR REMOVAL
- E100 - ELECTRICAL SITE PLAN - DEMOLITION
- E101 - NEW ELECTRICAL SITE PLAN AND DETAILS
- E102 - SSSR BUILDING FIRST FLOOR PLAN AND SINGLE LINE DIAGRAMS
- S100 - STRUCTURAL DETAILS



KEY PLAN



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STANTEC PROJECT NO.: 133432036



Revision/ Révision	Description/Description	Date/Date
0	ISSUED FOR TENDER	2021/03/31

Client / client
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title / Titre du projet
**ESQUIMALT GRAVING DOCK
825 ADMIRALS ROAD
VICTORIA, BRITISH COLUMBIA**

CAPSTAN UPGRADES

Consultant Signature Box Only

Designed by/Concept par
AS INDICATED

Drawn by/Dessiné par
AS INDICATED

PWSSC Project Manager/Administrateur de Projets TPSSC
JON SISKKA

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Gestionnaire régional, Services d'architecture et de génie, TPSSC
PREETIPAL PAUL

Drawing title/Titre du dessin

KEY PLAN AND LIST OF DRAWINGS

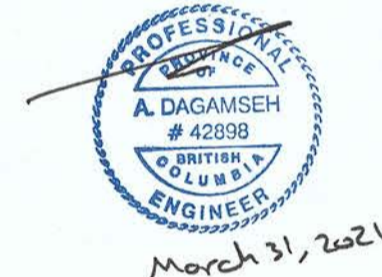
Project No./No. du projet R.109207.001	Sheet/Feuille G000 1 OF 8	Revision no./ La Révision no. 0
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GENERAL NOTES:
 1. ALL CAPSTAN COMPONENTS AND ASSEMBLIES SHOWN FOR REMOVAL, SALVAGE, AND REUSE REMAIN THE PROPERTY OF PWGSC. REFER TO SPECIFICATIONS.



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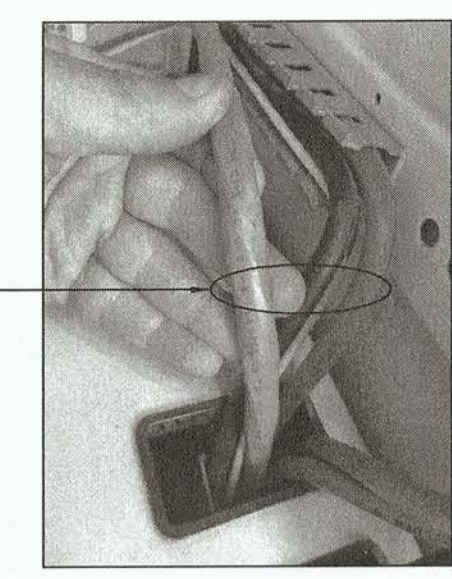
CAPSTAN UPGRADES

Consultant Signature Box Only
 Designed by/Concept par
A. DAGAMSEH
 Drawn by/Dessiné par
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 PWGSC Project Manager/Administrateur de Projets TPSCG
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PREETIPAL PAUL

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ELECTRICAL SITE PLAN - DEMOLITION

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R.109207.001	E100	0
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RED, BLACK, AND WHITE ELECTRICAL WIRING AND CONTROL CABLES TO BE PULLED BACK AND DISPOSED.



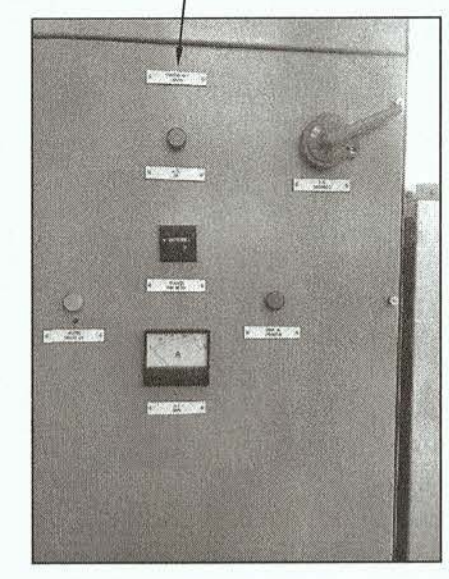
EXISTING ELECTRICAL WIRING AND CONTROL CABLES

EXISTING DISCONNECTS FOR CAPSTANS NO. 1 AND NO. 2



PARTIAL VIEW OF EXISTING MCC

MARK DISCONNECT AS SPARE.



EXISTING DISCONNECT FOR CAPSTAN NO. 1

MARK DISCONNECT AS SPARE.



EXISTING DISCONNECT FOR CAPSTAN NO. 2

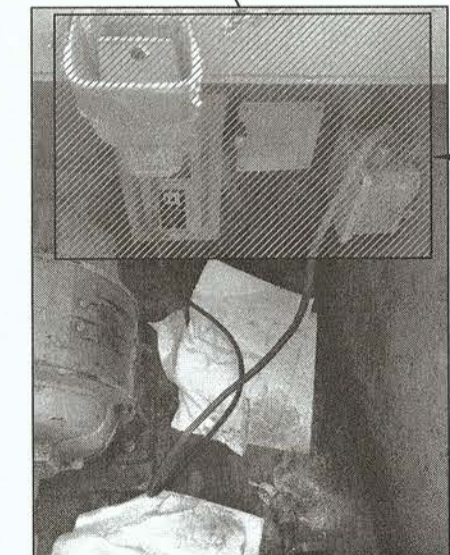
EXISTING CAPSTAN MCC BUCKETS TO BE DECOMMISSIONED AND CABLES TO BE PULLED BACK AND DISPOSED. CAP-OFF OLD CONDUITS BELOW MCC AND MARK AS DECOMMISSIONED. MCC TO REMAIN.

EXISTING CABLES IN THE TUNNEL FROM THE MCC TO THE CAPSTANS TO BE PULLED BACK AND DISPOSED.

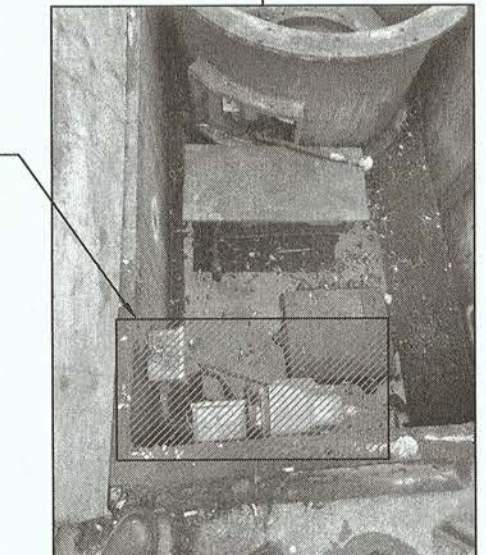
APPROXIMATE LOCATION OF CAPSTAN NO. 1 SOUTH

EXISTING CABLE REELS TO BE REMOVED. REFER TO DRAWING M102 FOR DEMOLITION REQUIREMENTS.

APPROXIMATE LOCATION OF CAPSTAN NO. 2 SOUTH

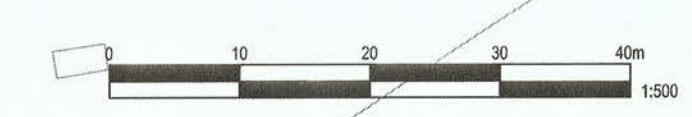


EXISTING ELECTRICAL DEVICES INSTALLED IN PIT FOR CAPSTAN NO. 1



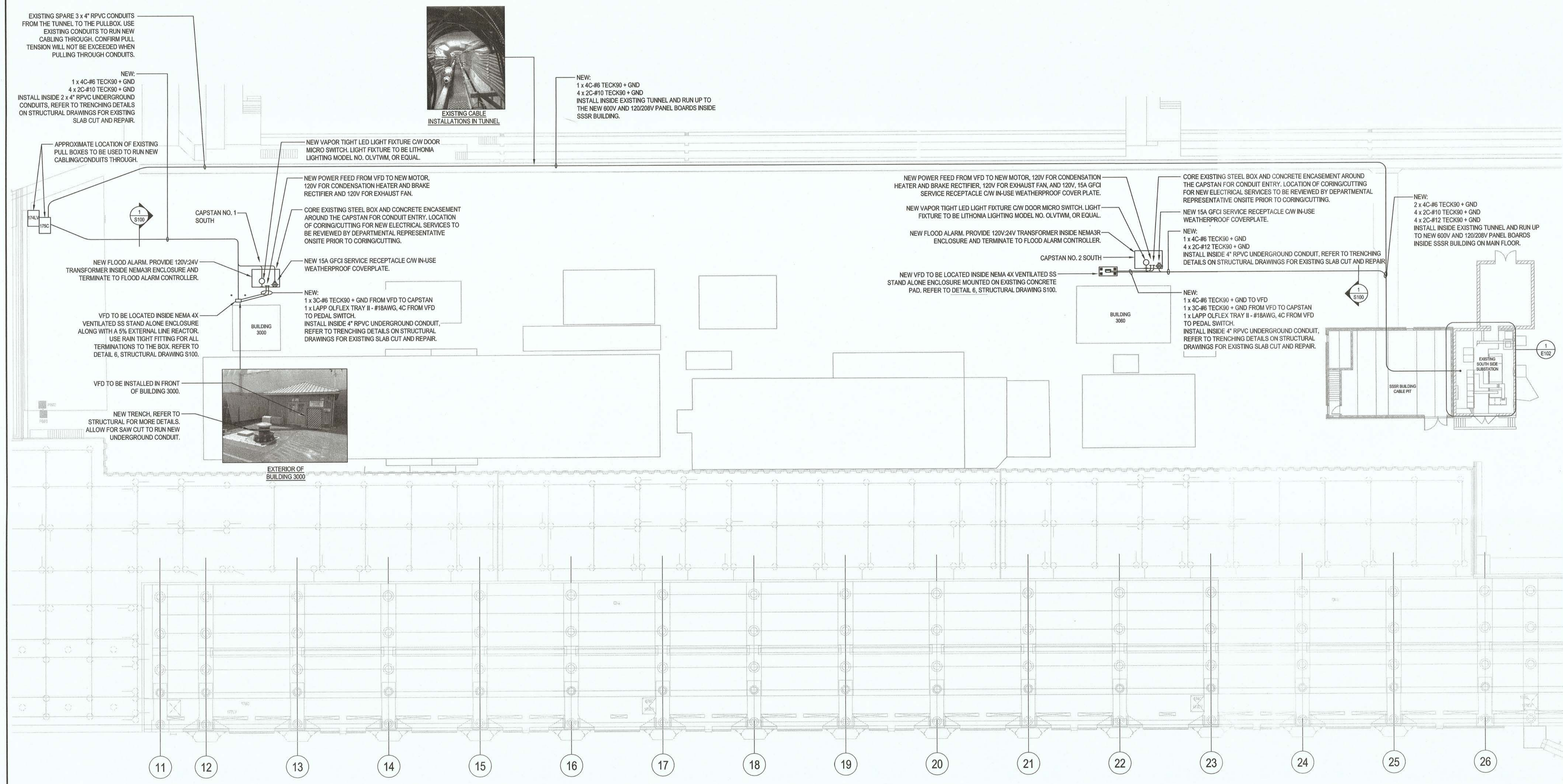
EXISTING ELECTRICAL DEVICES INSTALLED IN PIT FOR CAPSTAN NO. 2

1 ELECTRICAL SITE PLAN - DEMOLITION
 E100 1:500





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825 ADMIRALS ROAD
VICTORIA, BRITISH COLUMBIA**

CAPSTAN UPGRADES

Consultant Signature Box Only

Designed by/Conçeut par
A. DAGAMSEH

Drawn by/Dessiné par
M. GREENING

PWSC Project Manager/Administrateur de Projets TPSC
JON SISKKA

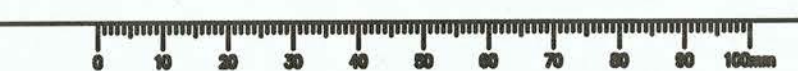
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NEW ELECTRICAL SITE PLAN AND DETAILS

Project No./No. du projet R.109207.001	Sheet/Feuille E101 6 OF 8	Revision no./ La Révision no. 0
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1 ELECTRICAL SITE PLAN - NEW INSTALLATIONS
E101 1:250

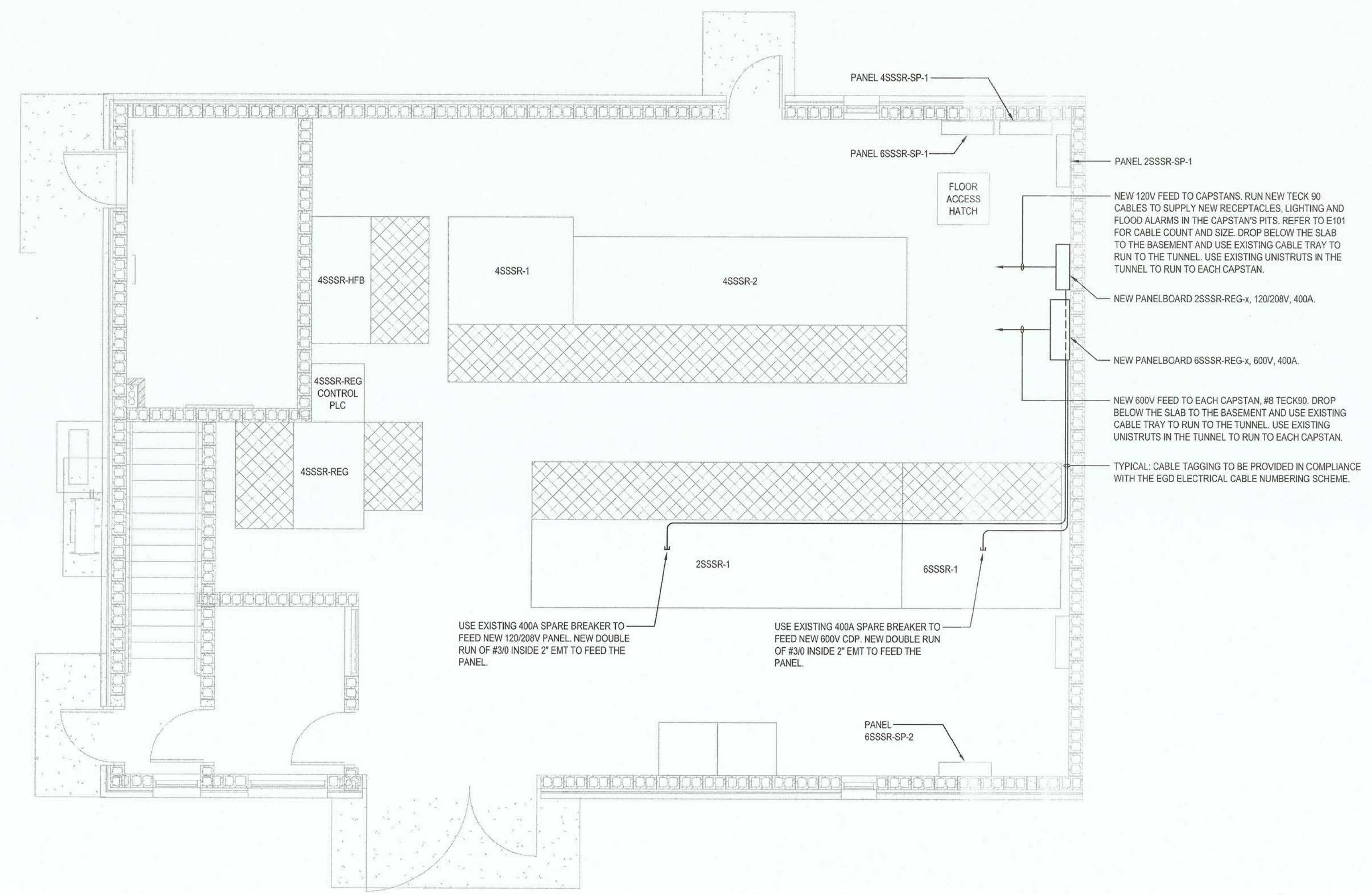




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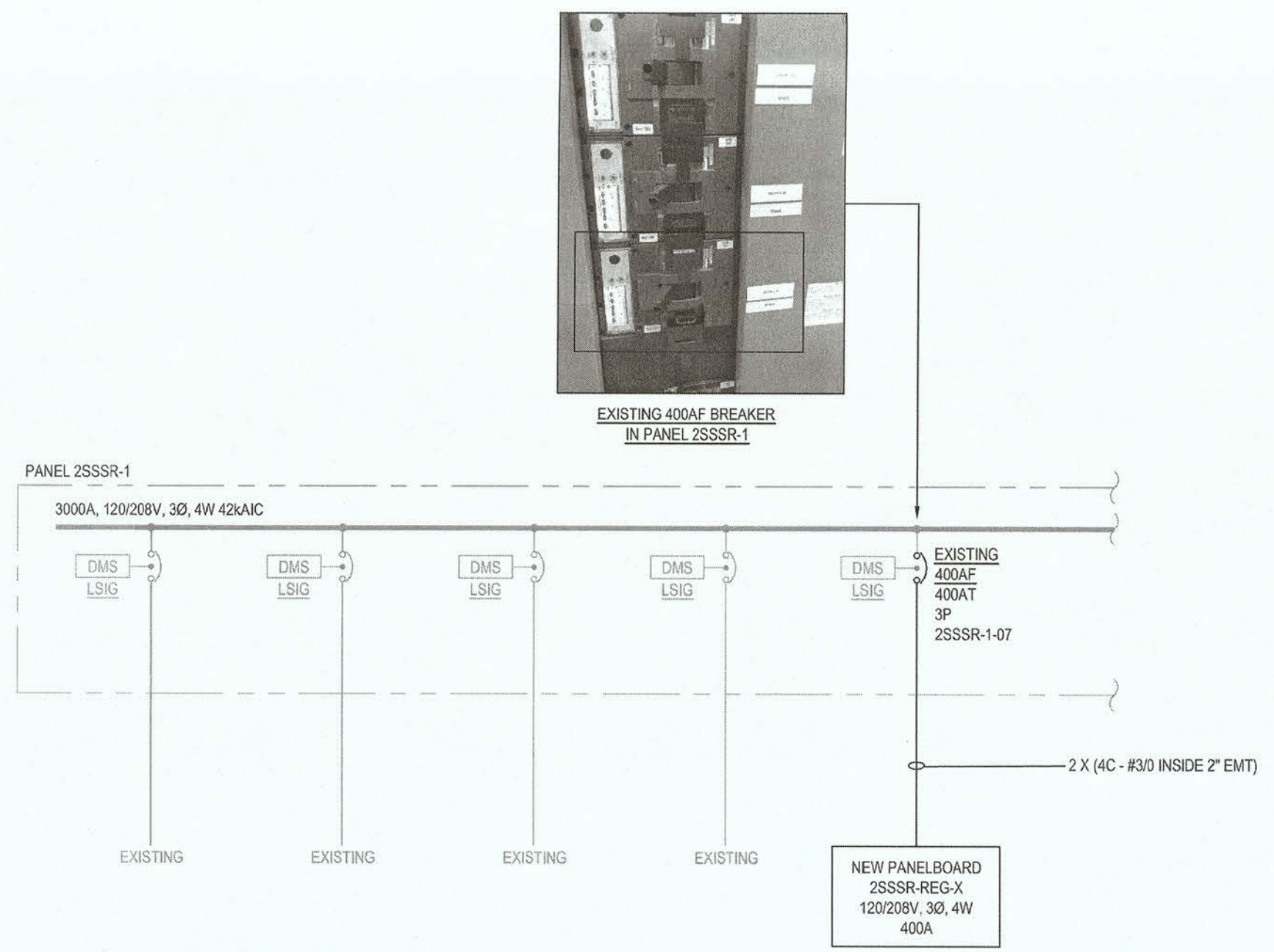
PROFESSIONAL ENGINEER
 A. DAGAMSEH
 # 42898
 B.C. SOCIETY OF ENGINEERS
 March 31, 2021

PANELBOARD SCHEDULE						
JOB NO./NAME	EGD CAPSTAN REPLACEMENT					
PANEL	2SSSR-REG-x					
SYSTEM	120/208V 3Ø 4W					
TYPE	COP					
LOCATION	SOUTH SIDE SUBSTATION - FIRST FLOOR					
MOUNTING	SURFACE					
NO. CIRCUITS	72					
BUS SIZE	400A					
BUS	TINNED COPPER					
SYM. FAULT RATING	35KAIC					
MANUFACTURER	SQUARE D, NO ALTERNATIVES ACCEPTED					
DESCRIPTION	BRK	POLE	CCT	CCT	POLE	DESCRIPTION
RECEPT. & LIGHT - CAPSTAN #2	15	1	01	02	1	EXHAUST FAN - CAPSTAN NO. 1
RECEPT. & LIGHT - CAPSTAN #1	15	1	03	04	1	SPARE
SPARE	15	1	05	06	1	SPARE
SPARE	20	1	07	08	1	EXHAUST FAN - CAPSTAN NO. 2
FLOOD ALARM	15	1	09	10	1	FLOOD ALARM
SPACE			11	12		SPACE
			13	14		
			15	16		
			17	18		
			19	20		
			21	22		
			23	24		
			25	26		
			27	28		
			29	30		
			31	32		
			33	34		
			35	36		
			37	38		
			39	40		
			41	42		

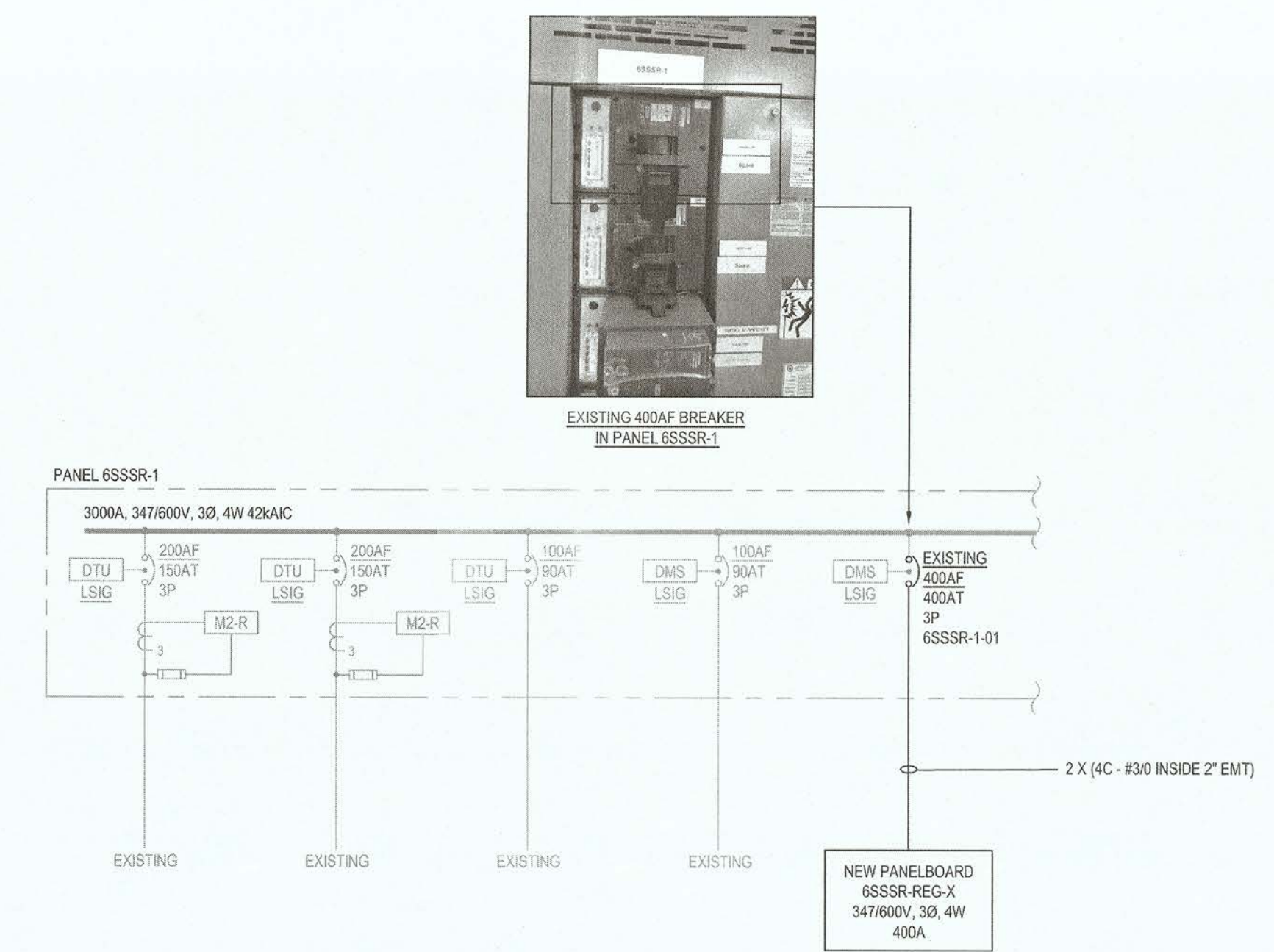


1 SSSR EXISTING FIRST FLOOR DETAILS
 E102 1:50

PANELBOARD SCHEDULE						
JOB NO./NAME	EGD CAPSTAN REPLACEMENT					
PANEL	6SSSR-REG-x					
SYSTEM	347/600V 3Ø 4W					
TYPE	COP					
LOCATION	SOUTH SIDE SUBSTATION - FIRST FLOOR					
MOUNTING	SURFACE					
NO. CIRCUITS	60					
BUS SIZE	400A					
BUS	TINNED COPPER					
SYM. FAULT RATING	35KAIC					
MANUFACTURER	SQUARE D, NO ALTERNATIVES ACCEPTED					
DESCRIPTION	BRK	POLE	CCT	CCT	POLE	DESCRIPTION
POWER - CAPSTAN NO. 2	30	3	03	04	3	POWER - CAPSTAN NO. 1
POWER - FUTURE CAPSTAN	30	3	05	06	3	POWER - FUTURE CAPSTAN
HEATER - CAPSTAN NO. 2	15	2	13	14	2	HEATER - CAPSTAN NO. 1
SPACE			15	16		SPACE
			17	18		
			19	20		
			21	22		
			23	24		
			25	26		
			27	28		
			29	30		
			31	32		
			33	34		
			35	36		
			37	38		
			39	40		
			41	42		



NOTE:
 1. LABELLING TO BE CONFIRMED ON SITE PRIOR TO ORDERING LAMACOID LABELS.



NOTE:
 1. LABELLING TO BE CONFIRMED ON SITE PRIOR TO ORDERING LAMACOID LABELS.

2 PANEL SCHEDULES
 E102 N.T.S.

3 120/208V EXISTING SSSR SINGLE LINE - PARTIAL DETAIL
 E102 N.T.S.

4 347/600V EXISTING SSSR SINGLE LINE - PARTIAL DETAIL
 E102 N.T.S.

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 825 ADMIRALS ROAD
 VICTORIA, BRITISH COLUMBIA**

CAPSTAN UPGRADES

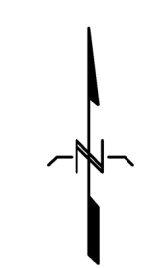
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 Drawn by/Dessiné par
 M. GREENING
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 JON SISKA
 PWSSC Regional Manager, Architectural and Engineering Services/
 Gestionnaire régionale, Services d'architecture et de génie, TPSGC
 PREETIPAL PAUL

Drawing title/Titre du dessin
**SSSR BUILDING
 FIRST FLOOR PLAN AND
 SINGLE LINE DIAGRAMS**

Project No./No. du projet R.109207.001	Sheet/Feuille E102	Revision no./ La Révision no. 0
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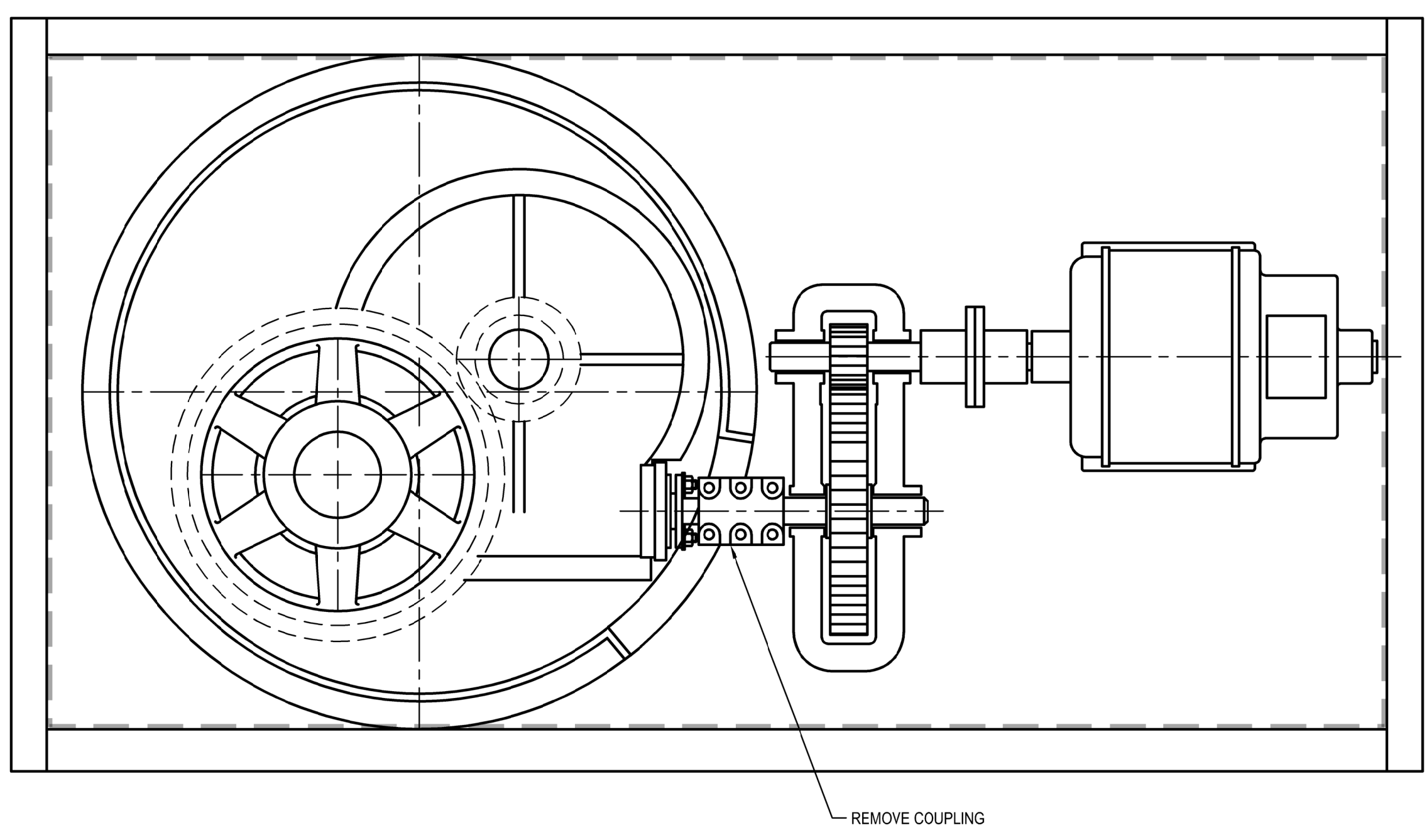
7 OF 8



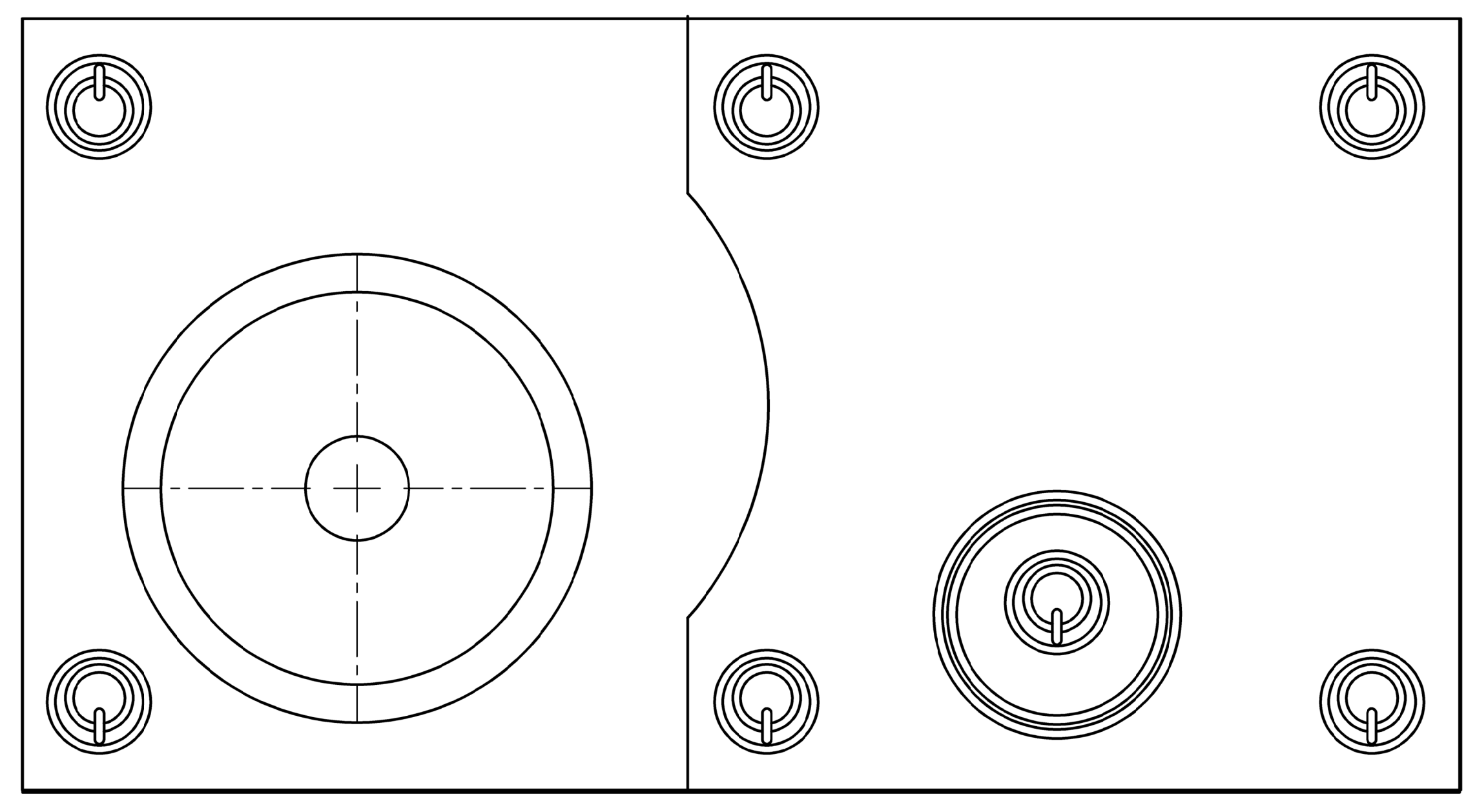


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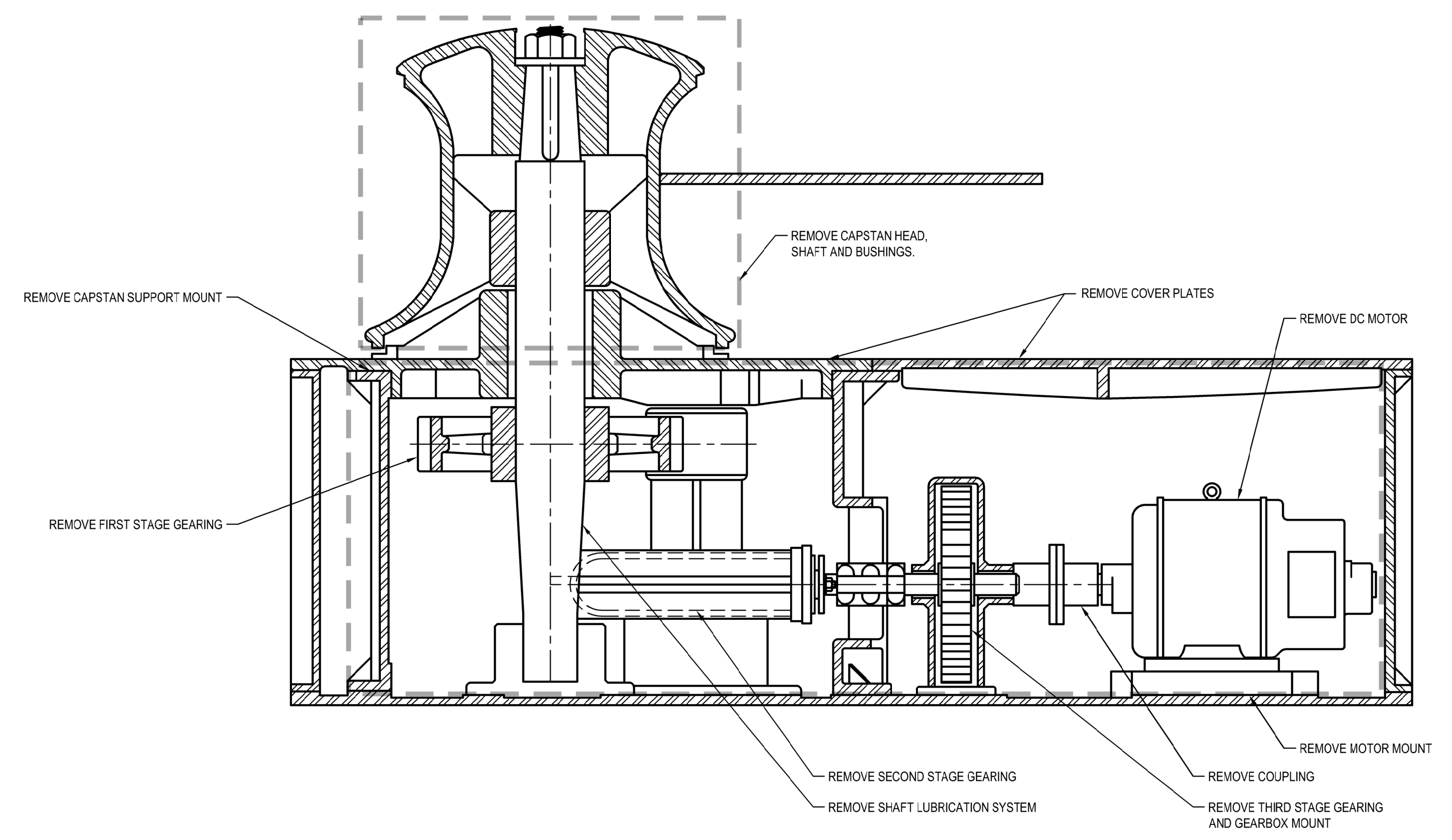
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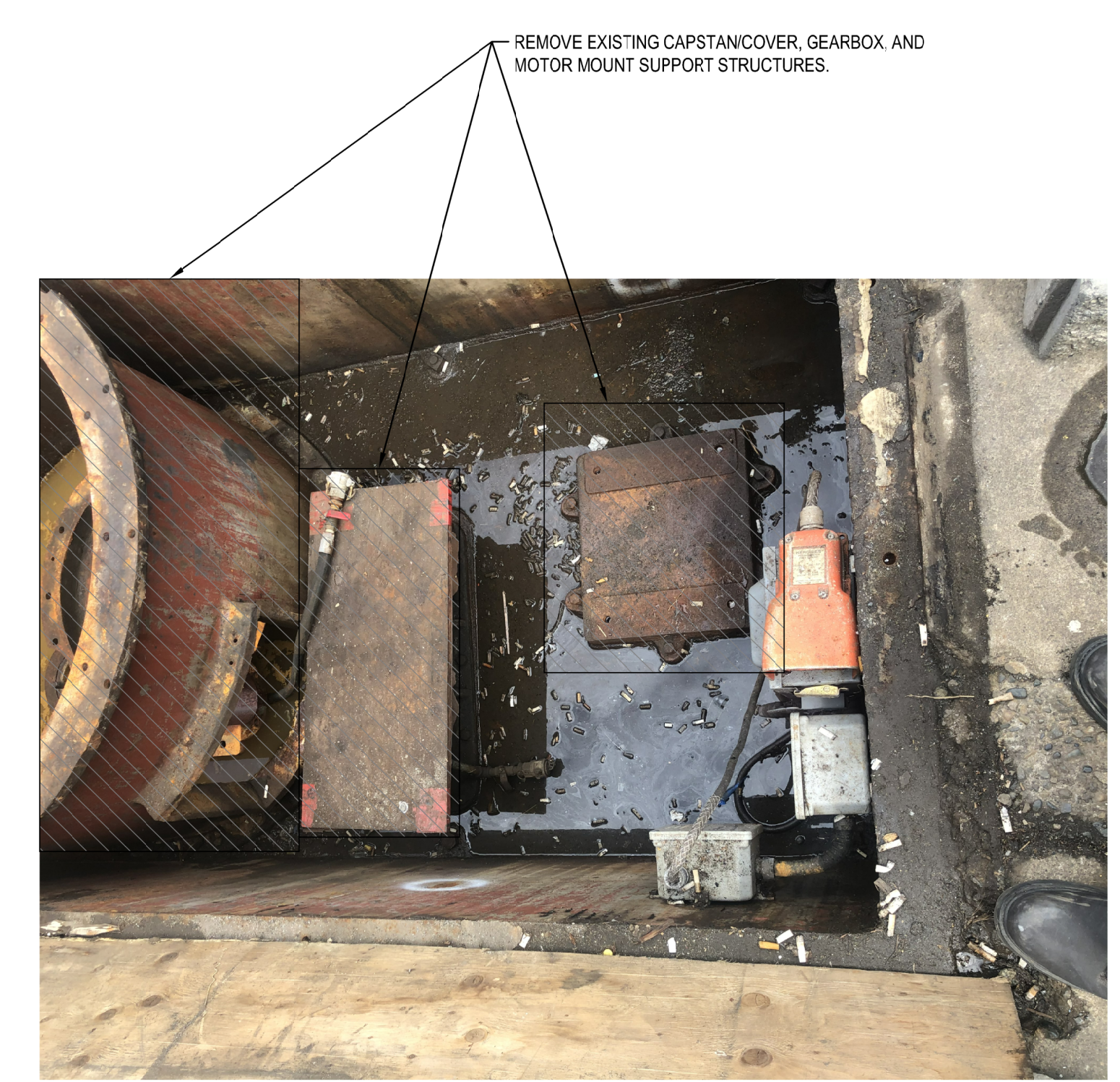
1 PLAN VIEW - COVERS REMOVED
 M100 1:10



2 PLAN VIEW
 M100 1:10



3 ELEVATION SECTION VIEW
 M100 1:10



4 EXISTING MECHANICAL SUPPORT STRUCTURES INSTALLED IN PIT FOR CAPSTAN NO. 2
 M100 1:10



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**ESQUIMALT GRAVING DOCK
 825 ADMIRALS ROAD
 VICTORIA, BRITISH COLUMBIA**

CAPSTAN UPGRADES

Consultant Signature Box Only

Designed by/Concept par
 S. MELVIN

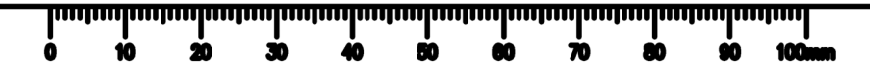
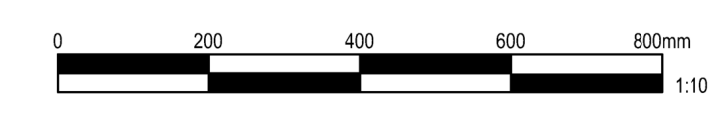
Drawn by/Dessiné par
 T. BELL

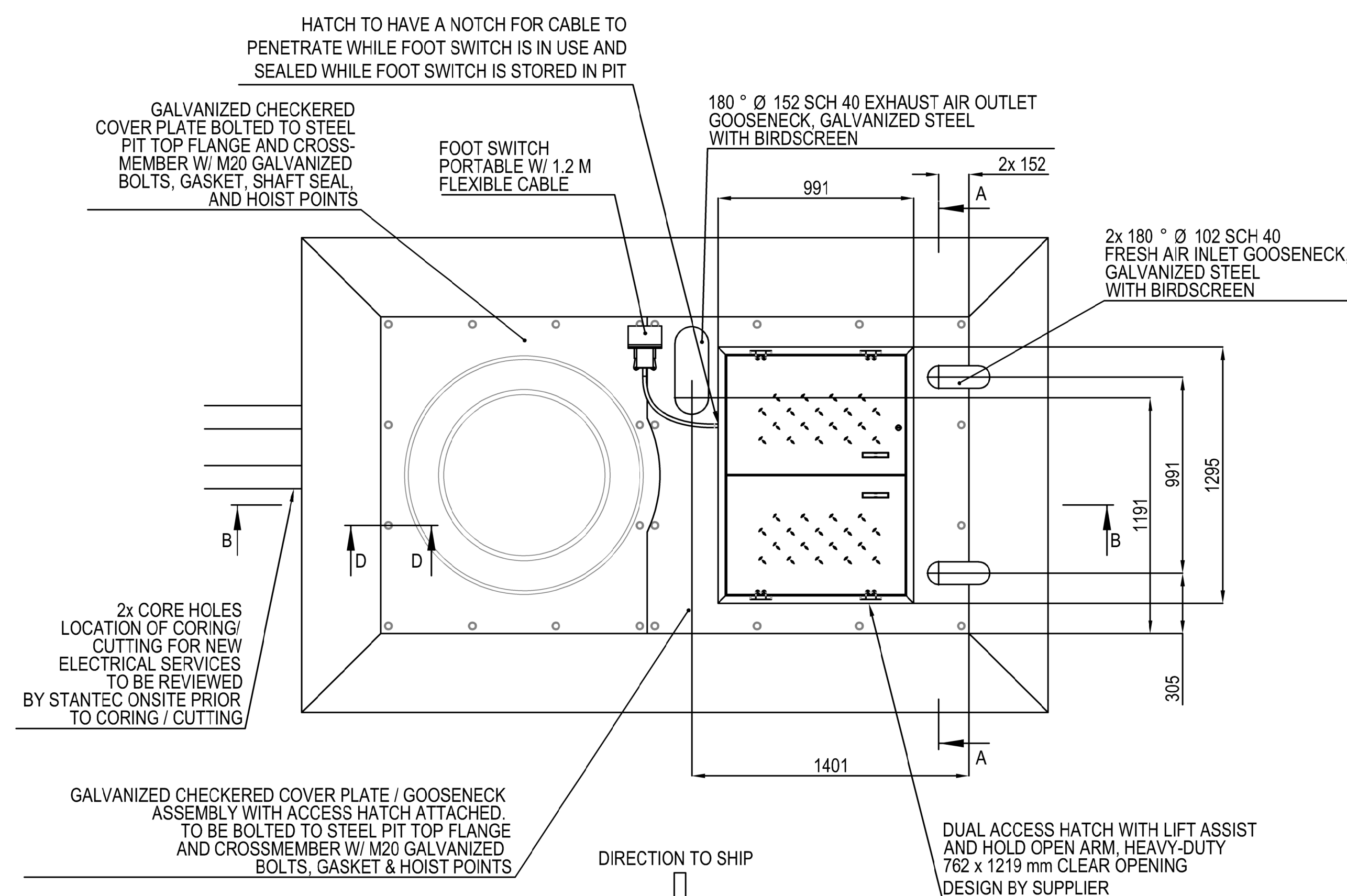
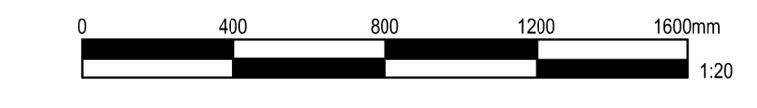
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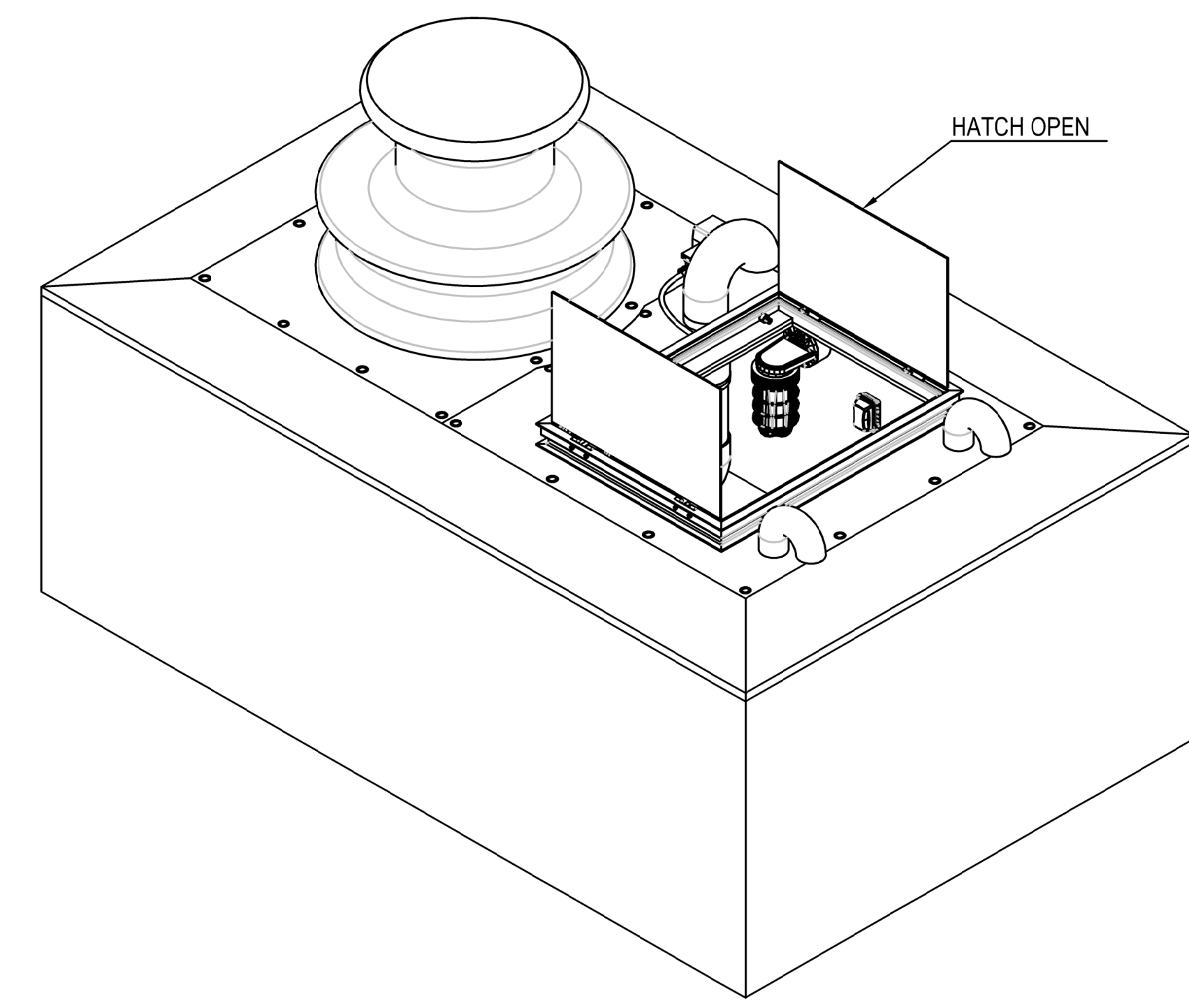
Drawing title / Titre du dessin
**12.5 TON ELECTRIC CAPSTAN
 EXISTING ASSEMBLIES
 FOR REMOVAL**

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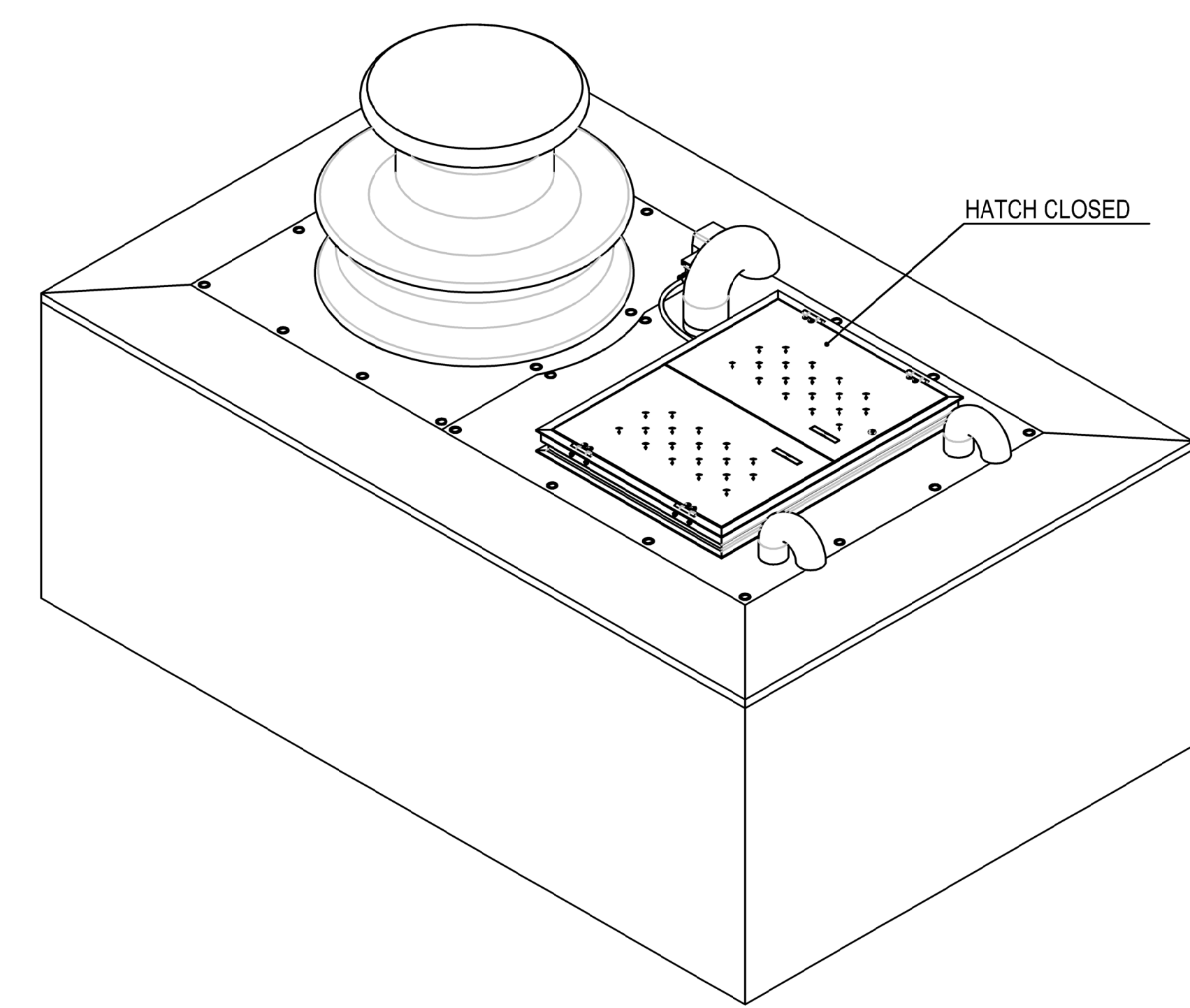




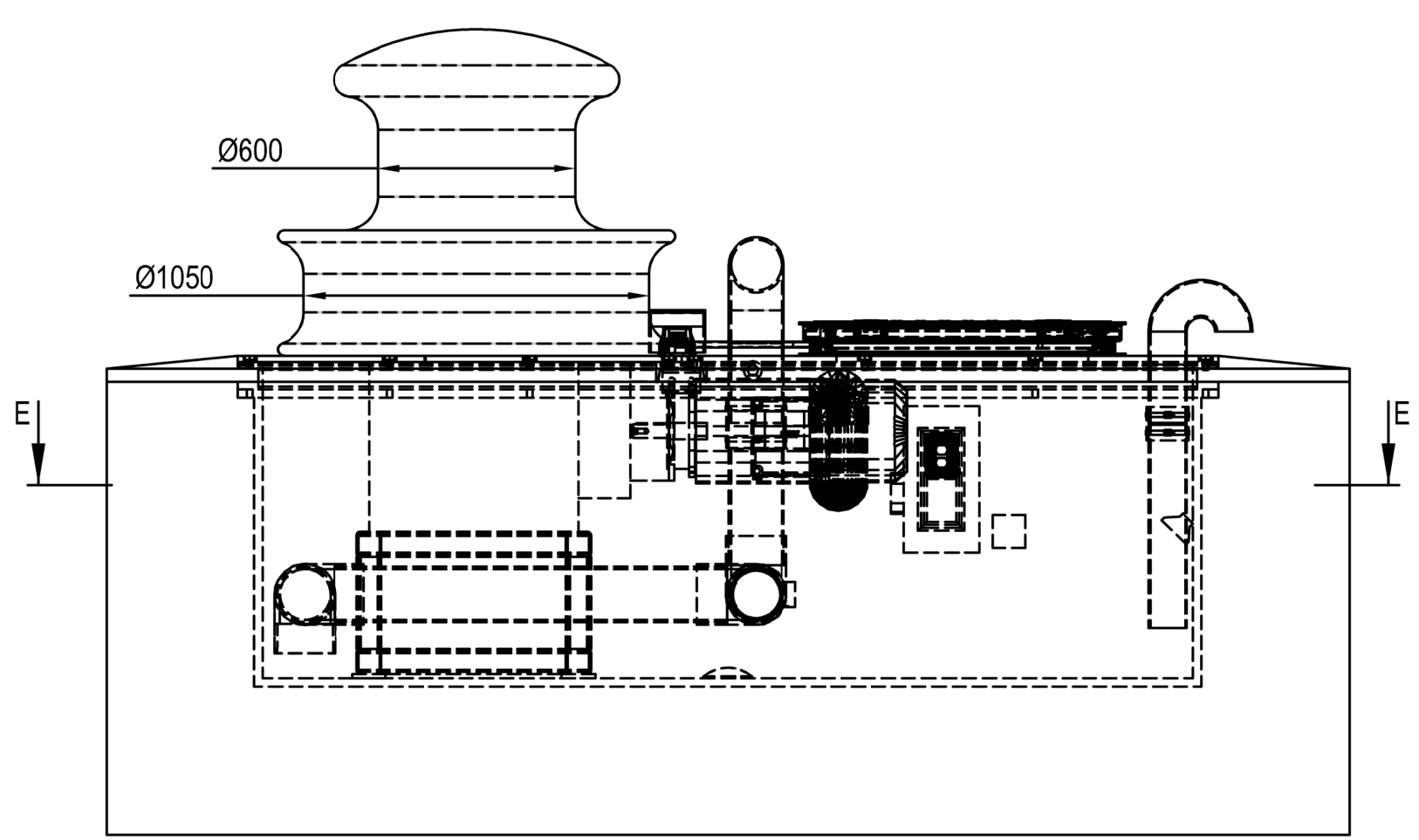
1 CAPSTAN PLAN
M101 1:20



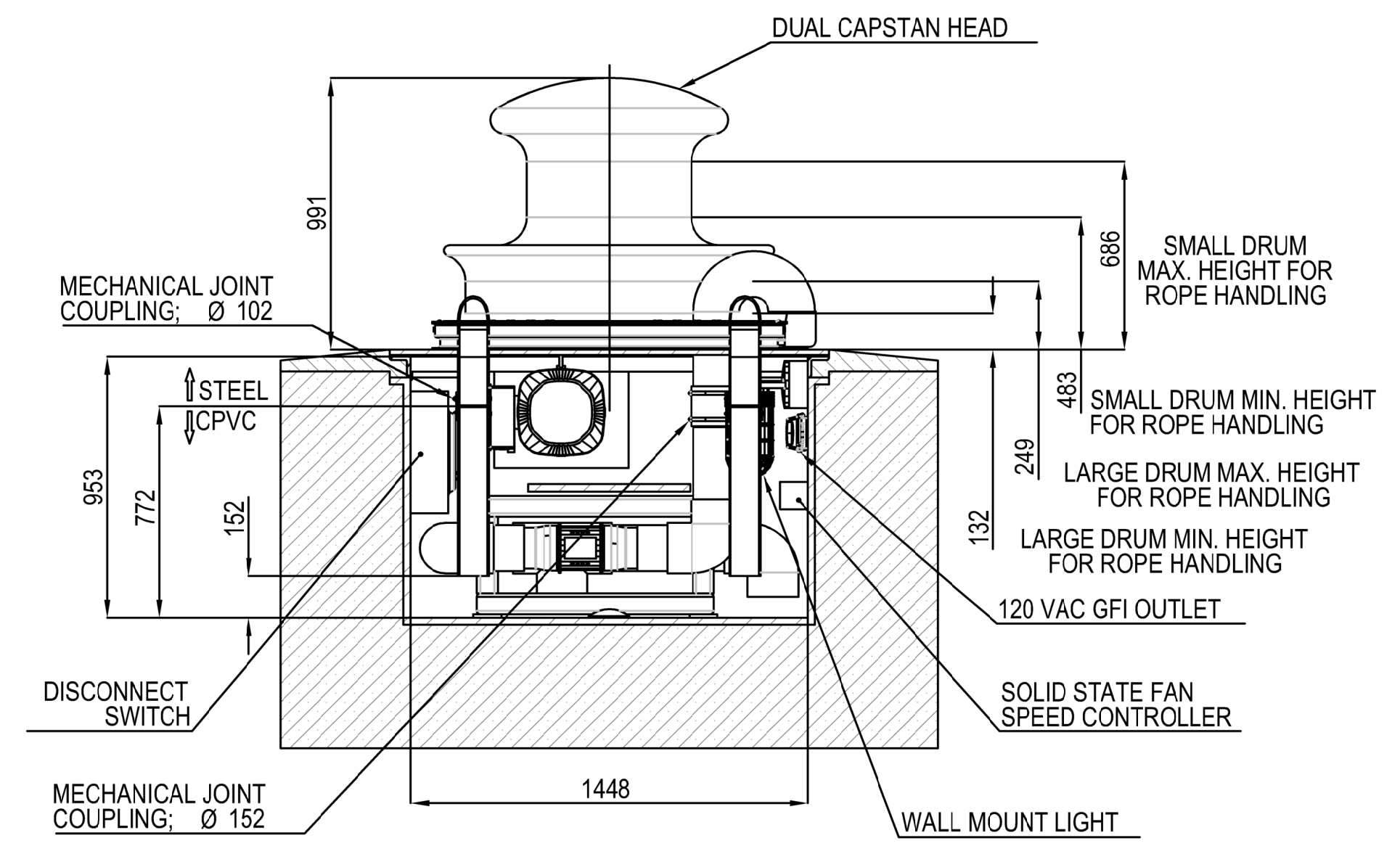
2 CAPSTAN ARRANGEMENT 3D VIEW - HATCH OPEN
M101 1:20



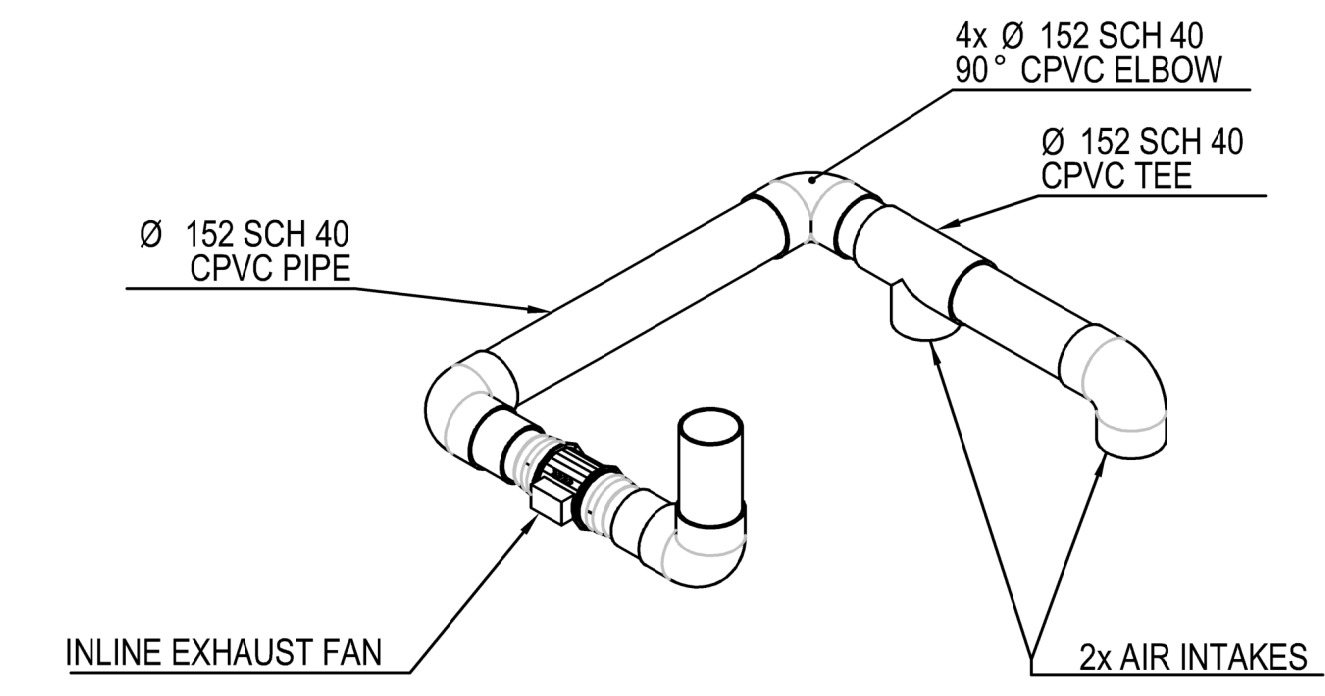
3 CAPSTAN ARRANGEMENT 3D VIEW - HATCH CLOSED
M101 1:20



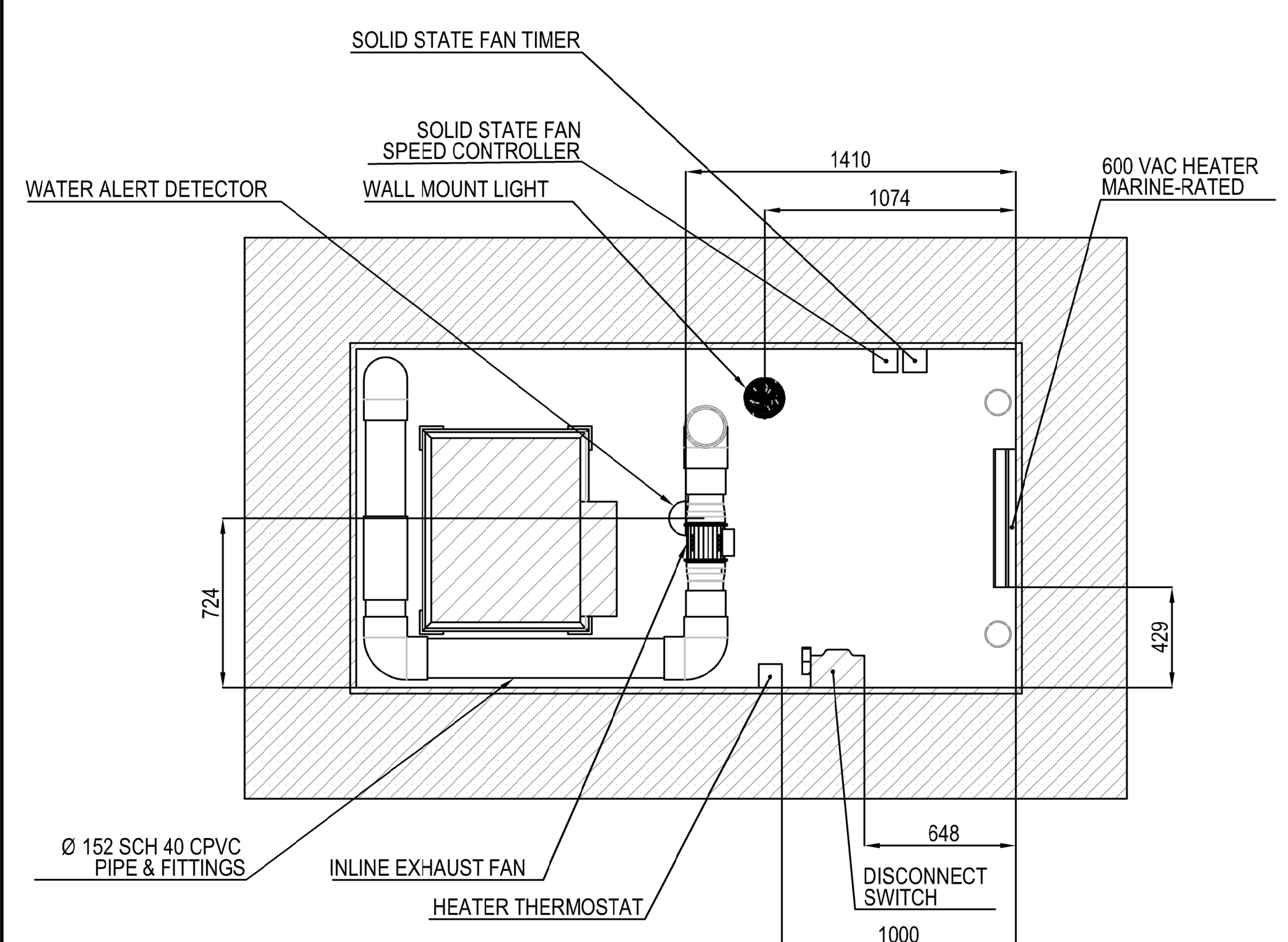
4 CAPSTAN ELEVATION
M101 1:20



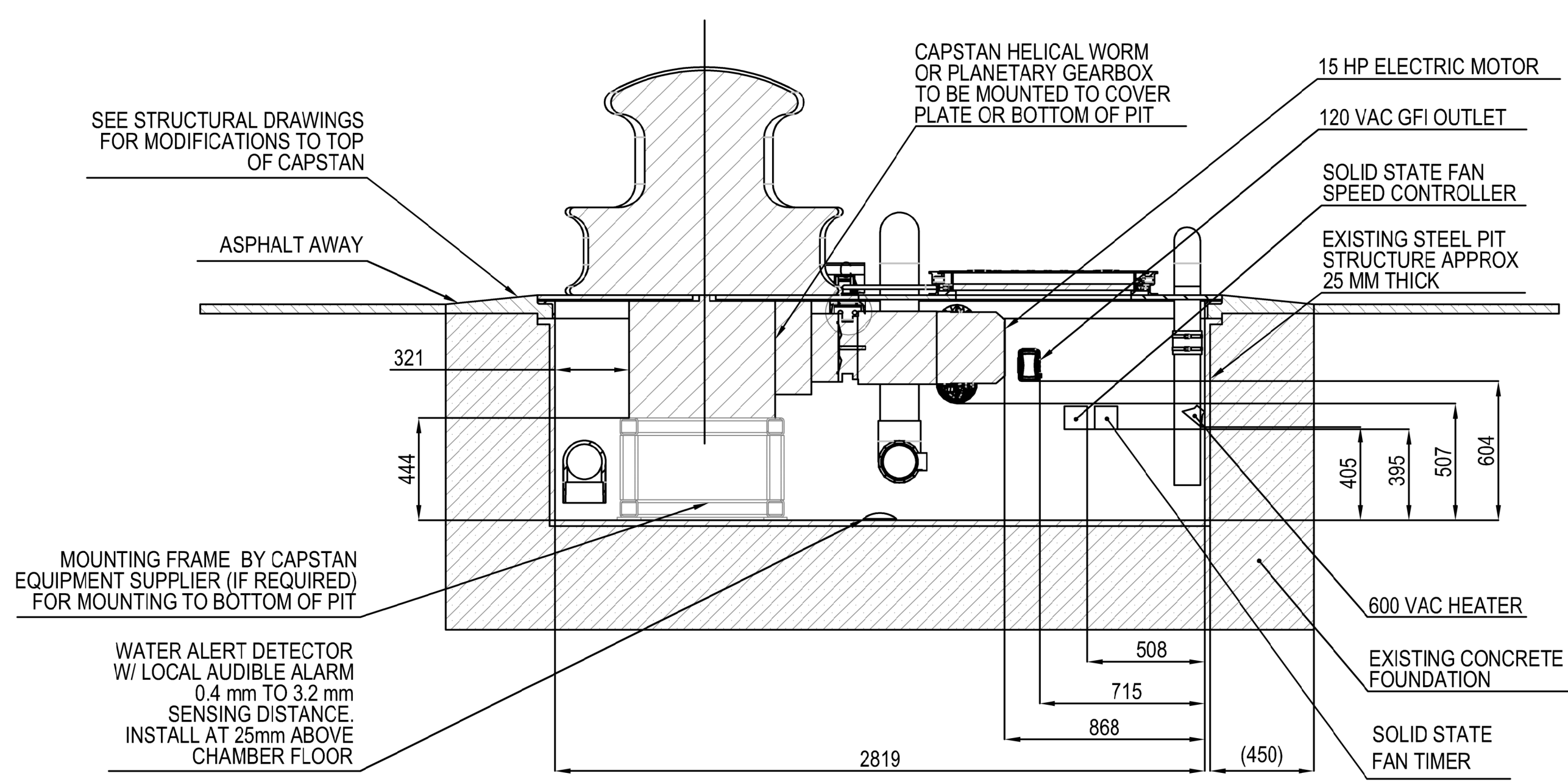
5 CAPSTAN PIT ELEVATION - SECTION A-A
M101 1:20



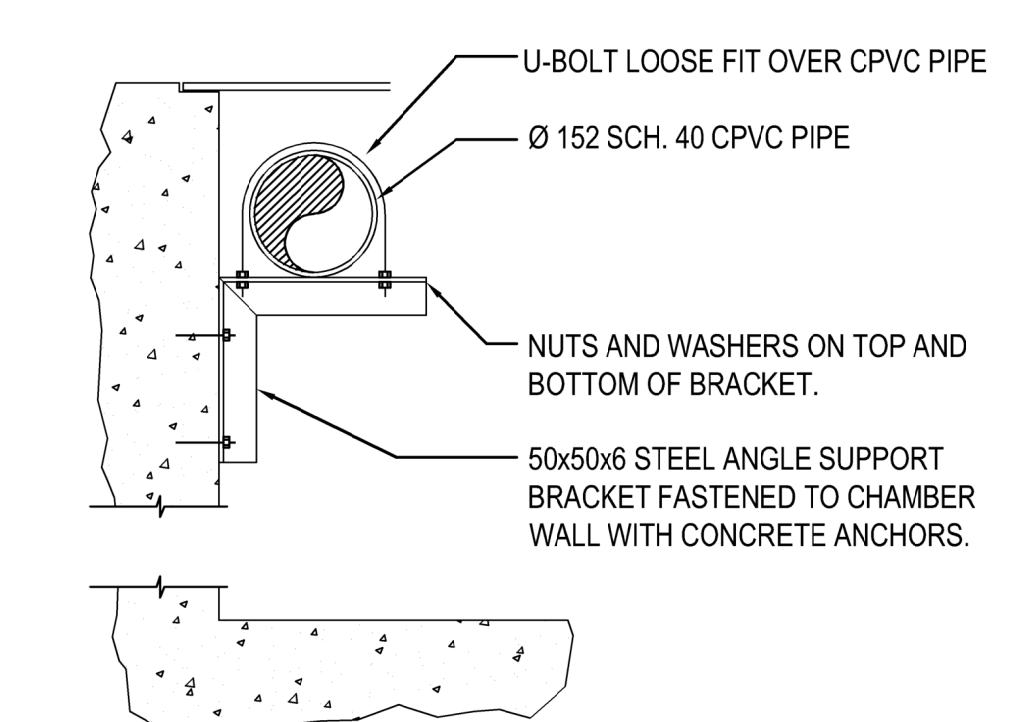
6 VENTILATION ISOMETRIC DETAIL
M101 1:20



7 CAPSTAN PIT PLAN - SECTION E-E
M101 1:20



8 CAPSTAN PIT ELEVATION - SECTION B-B
M101 1:20



9 PIPE SUPPORT DETAIL
M101 1:10

DESIGN	VALUE	COMMENT
MAXIMUM LINE PULL (UPPER DRUM)	11,340 kg	
RATED LINE SPEED (UPPER DRUM)	3.66 m/min (1.95 RPM)	AT MAX. LINE PULL
MAXIMUM LINE SPEED (UPPER DRUM)	6.71 m/min (3.58 RPM)	@ 1/4 LOAD
MAXIMUM LINE PULL (LOWER DRUM)	11,340 kg	
RATED LINE SPEED (LOWER DRUM)	3.66 m/min (1.95 RPM)	AT MAX. LINE PULL
MAXIMUM SWL OF MOORING LINES	5443 kg	BASED ON 5:1 SF
SPACE AVAILABLE FOR CAPSTAN EQUIPMENT	1.45m W x 2.82m L x 0.88m D	
ORIENTATION	VERTICAL	
CAPSTAN DIAMETER (UPPER DRUM)	600mm +/- 50mm	
CAPSTAN DIAMETER (LOWER DRUM)	1050mm +/- 50mm	

10 TABLE 1 DESIGN CRITERIA
M101 N.T.S.

Revision/Revisions	Description/Description	Date/Date
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825 ADMIRALS ROAD
VICTORIA, BRITISH COLUMBIA**

CAPSTAN UPGRADES

Consultant Signature Box Only
Designed by/Concept par
S. MELVIN
Drawn by/Dessiné par
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JON SISKA
PWSSC, Regional Manager, Architectural and Engineering Services/
Gestionnaire régional, Services d'architecture et de génie, TPSSC
PREETIPAL PAUL

CAPSTAN GENERAL ASSEMBLY AND DETAILS

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R.109207.001
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S. MELVIN

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PWGSC Project Manager / Administrateur de Projets TPSCG
JON SISKKA

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EXISTING CABLE REELS FOR REMOVAL

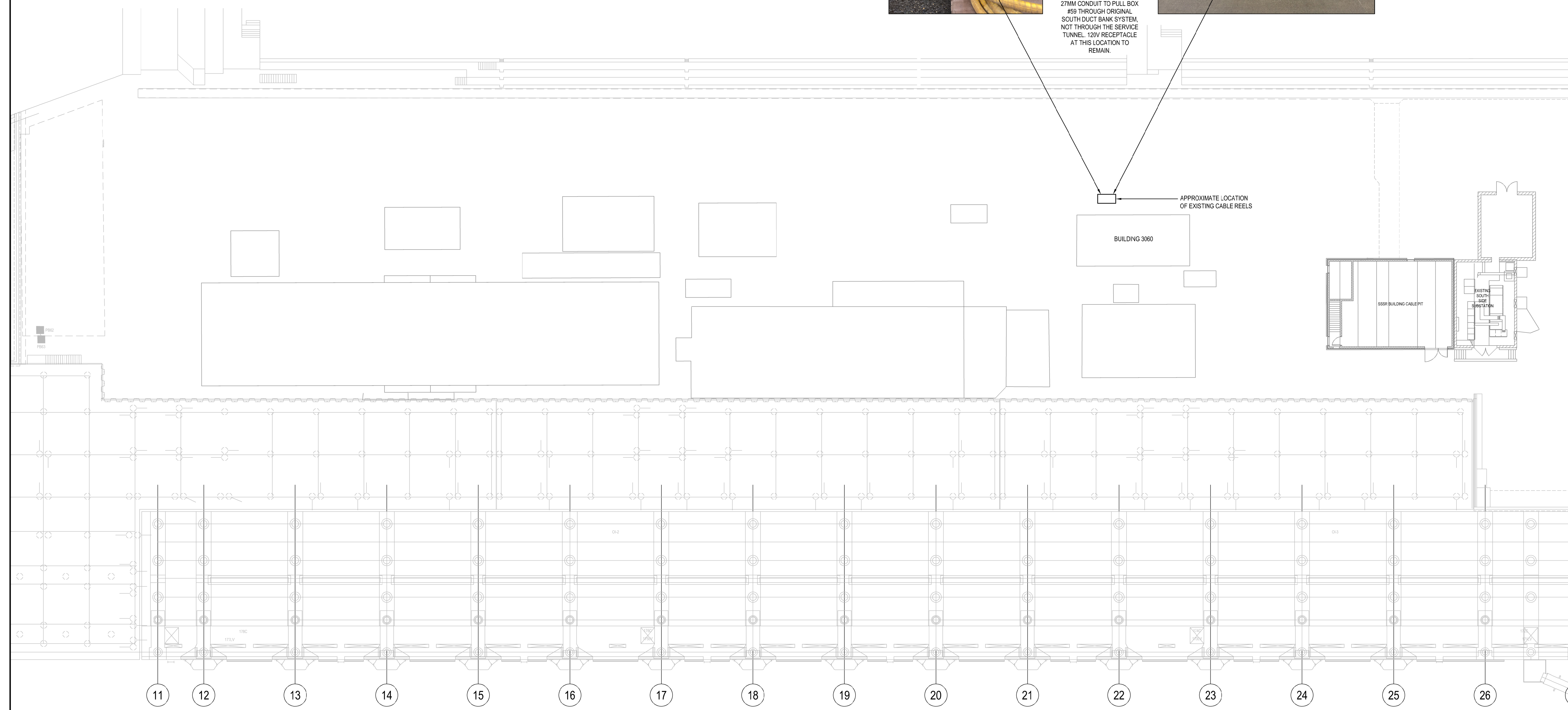
Project No. / No. du projet R.109207.001	Sheet / Feuille M102 4 OF 8	Revision no. / La Révision no. 0
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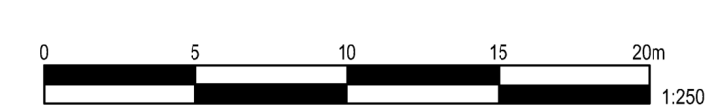
REMOVE EXISTING CABLE REELS AND PROVIDE TO PWGSC FOR SALVAGE AND RE-USE.

EXISTING ELECTRICAL CONNECTION TO WINCHES TO BE DISCONNECTED AND REMOVED PRIOR TO CABLE REEL REMOVAL. REMOVE WIRING IN EXISTING 27MM CONDUIT BACK TO PULL BOX #59. WIRING IS ROUTED IN 27MM CONDUIT TO PULL BOX #59 THROUGH ORIGINAL SOUTH DUCT BANK SYSTEM, NOT THROUGH THE SERVICE TUNNEL. 120V RECEPTACLE AT THIS LOCATION TO REMAIN.

APPROXIMATE LOCATION OF EXISTING CABLE REELS



1 DEMOLITION PLAN - CABLE REELS
M102 1:250





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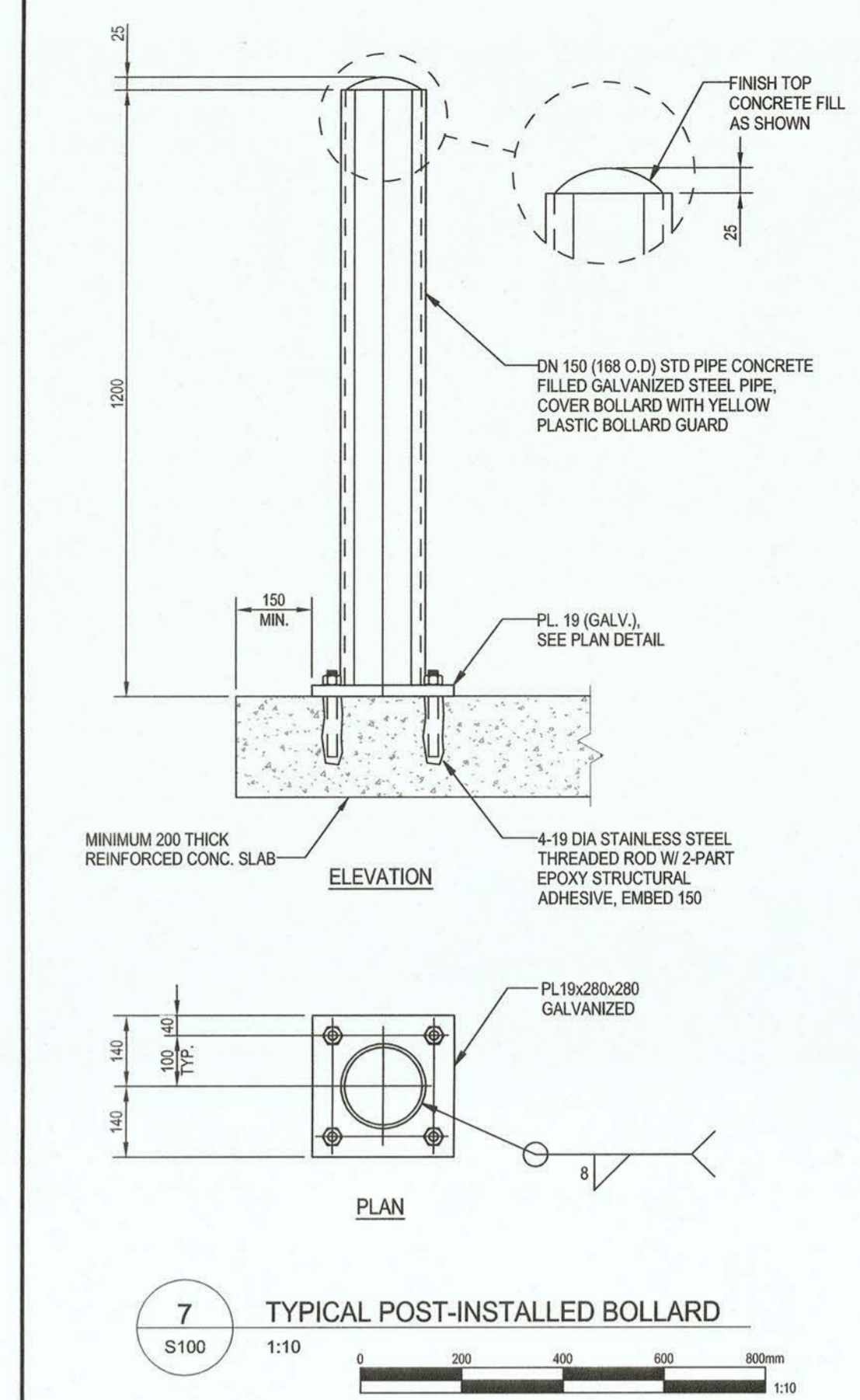
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Gestionnaire Régional, Services d'architecture et de génie, TPSGC
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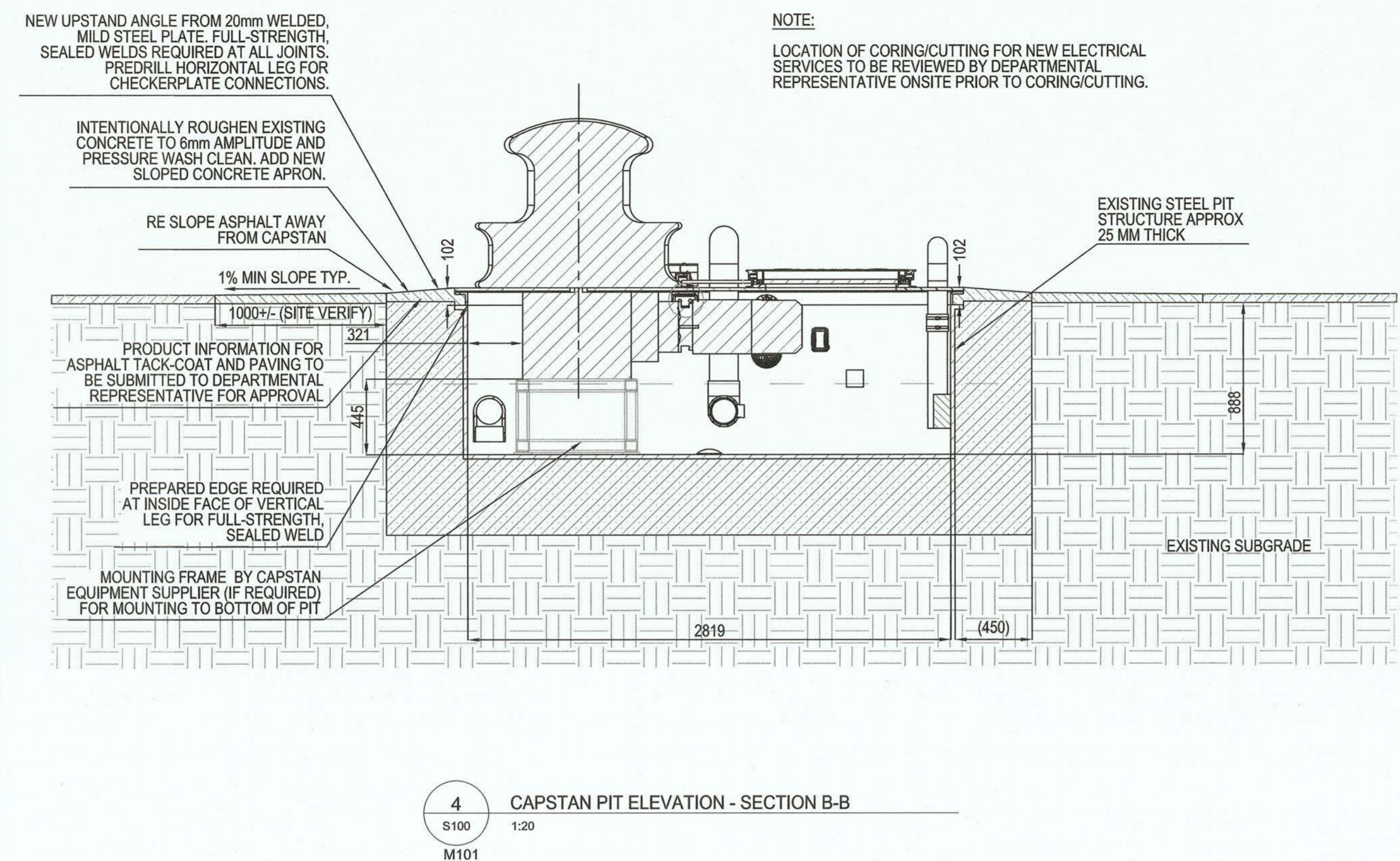
STRUCTURAL DETAILS

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R.109207.001	S100	0

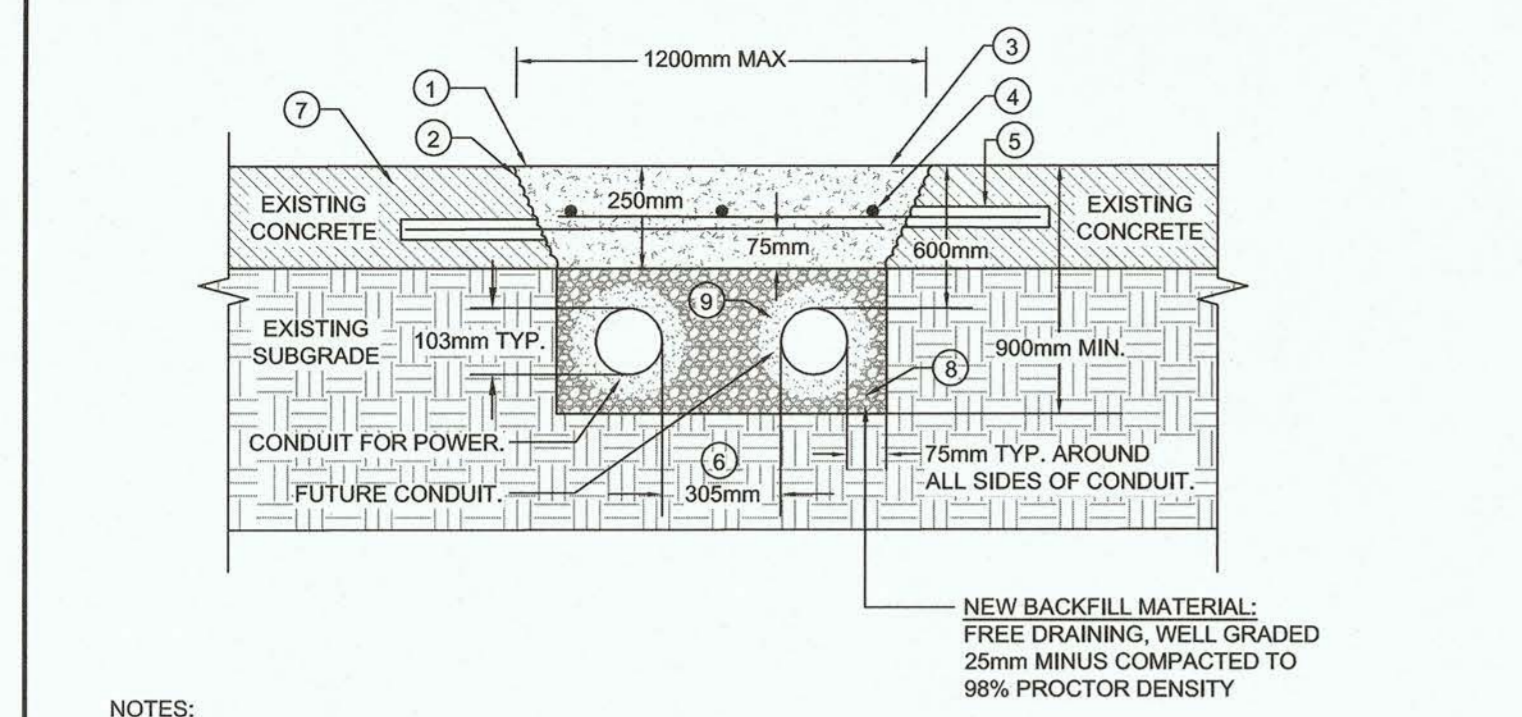
8 OF 8



7 TYPICAL POST-INSTALLED BOLLARD
S100 1:10



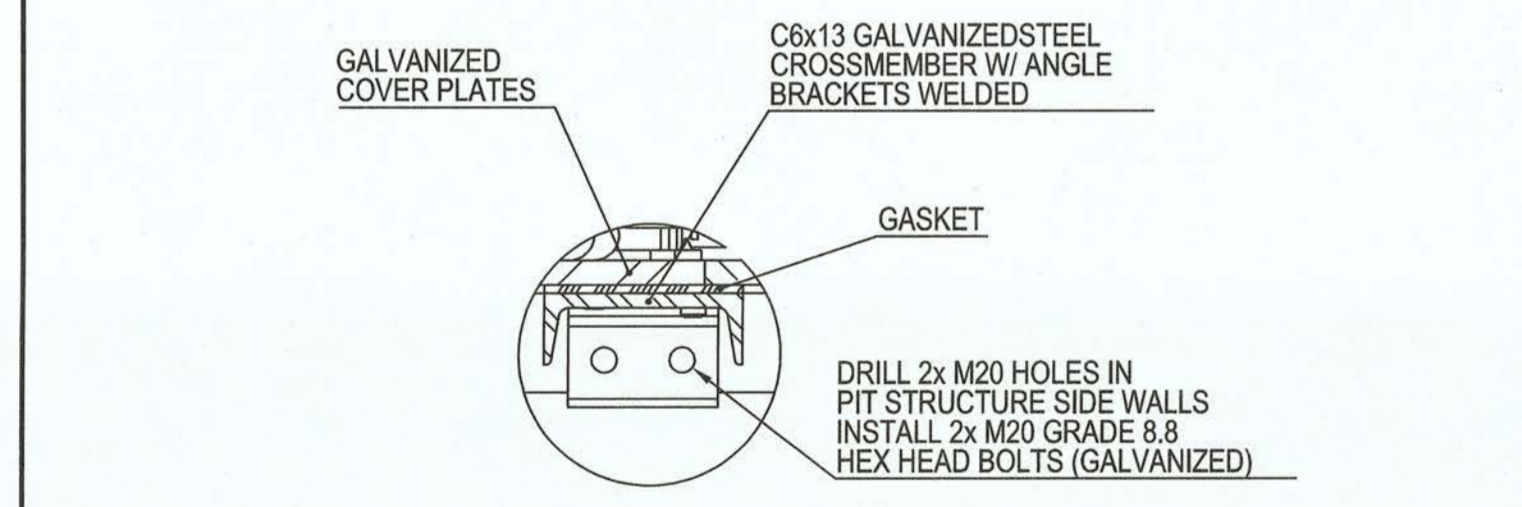
4 CAPSTAN PIT ELEVATION - SECTION B-B
S100 1:20
M101



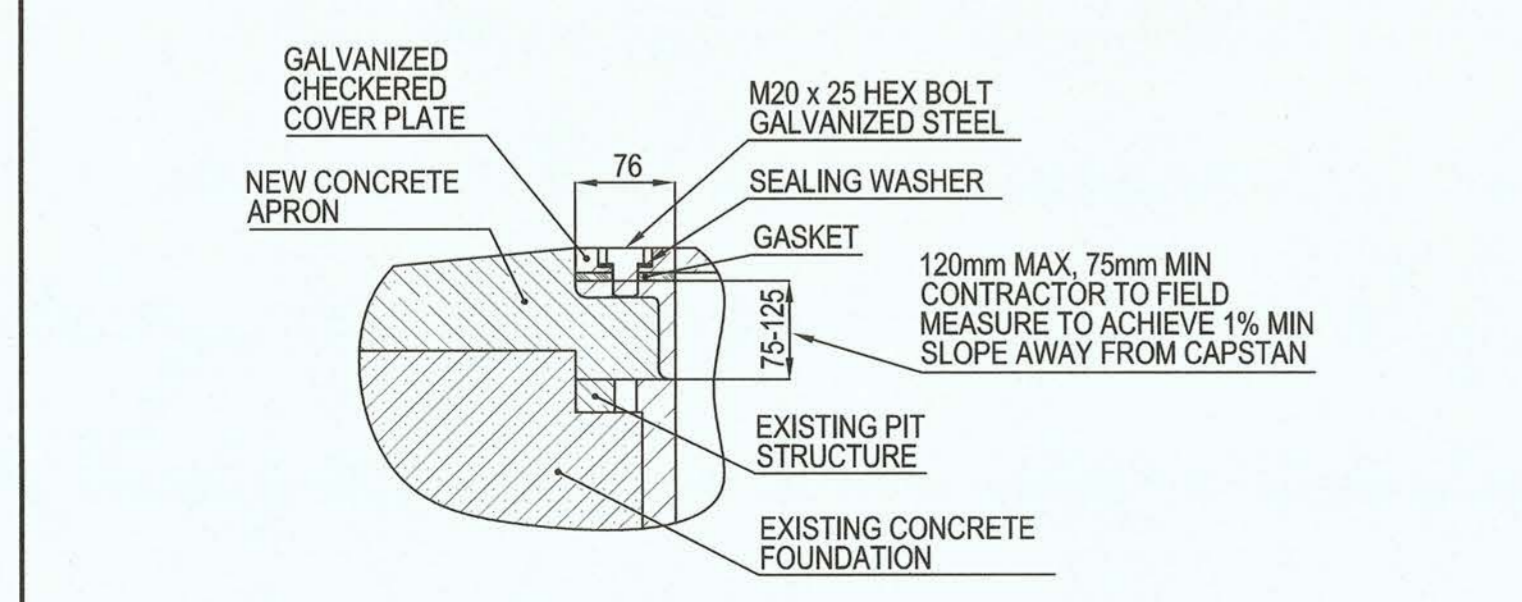
- NOTES:**
- PERFORM GROUND PENETRATING RADAR (GPR) PRIOR TO ANY SAW CUTTING, CORING OR EXCAVATIONS. REFER TO SPECIFICATIONS FOR MORE DETAILS.
 - TRENCH TO BE REVIEWED BY DEPARTMENTAL REPRESENTATIVE PRIOR TO PLACING CONDUIT AND POURING FINAL CONCRETE COVER.
 - ALLOW FOR HYDROVAC AROUND EXISTING SERVICES WHERE CONFLICT ARISE. ANY SHUTDOWN OR ISOLATION OF SERVICES THAT IMPACT OPERATIONS SHALL BE COORDINATED WITH THE DEPARTMENTAL REPRESENTATIVE MINIMUM 3 WEEKS BEFORE THE SHUTDOWN.

- KEY NOTES:**
- SAW-CUT/CHIP-OUT 1200x500dp TRENCH IN EXISTING BULK CONCRETE. REMOVE AND DISPOSE OF WASTE MATERIAL. PLACE NEW ELECTRICAL & COMMUNICATIONS CONDUITS IN A FREE-DRAINING WELL.
 - CLEAN AND INTENTIONALLY ROUGHEN CONCRETE (5mm AMPLITUDE), 2 VERTICAL TO 1 HORIZONTAL, PRIOR TO PLACING NEW CONCRETE.
 - MIN 250mm THICK CONCRETE OVER TRENCH AS PER SPECIFICATION SECTION 03 30 00 CAST-IN-PLACE CONCRETE. CONTROL JOINTS AS PER SPECIFICATION.
 - 3-15M CONT.
 - 15M @ 300mm O.C. DRILL AND DOWEL TO EXISTING CONCRETE WITH APPROVED ADHESIVE, MIN. 150mm EMBED. NOT REQUIRED AT ASPHALT PAVING.
 - MAINTAIN MIN. 305mm DISTANCE BETWEEN POWER & COMM. CONDUITS.
 - EXISTING CONCRETE SURFACE.
 - FREE-DRAINING, ENGINEERED BACKFILL (19mm MINUS), COMPACTED TO 98% PROCTOR DENSITY.
 - SCREENED SAND, MINIMUM 50mm ALL AROUND THE CONDUITS.

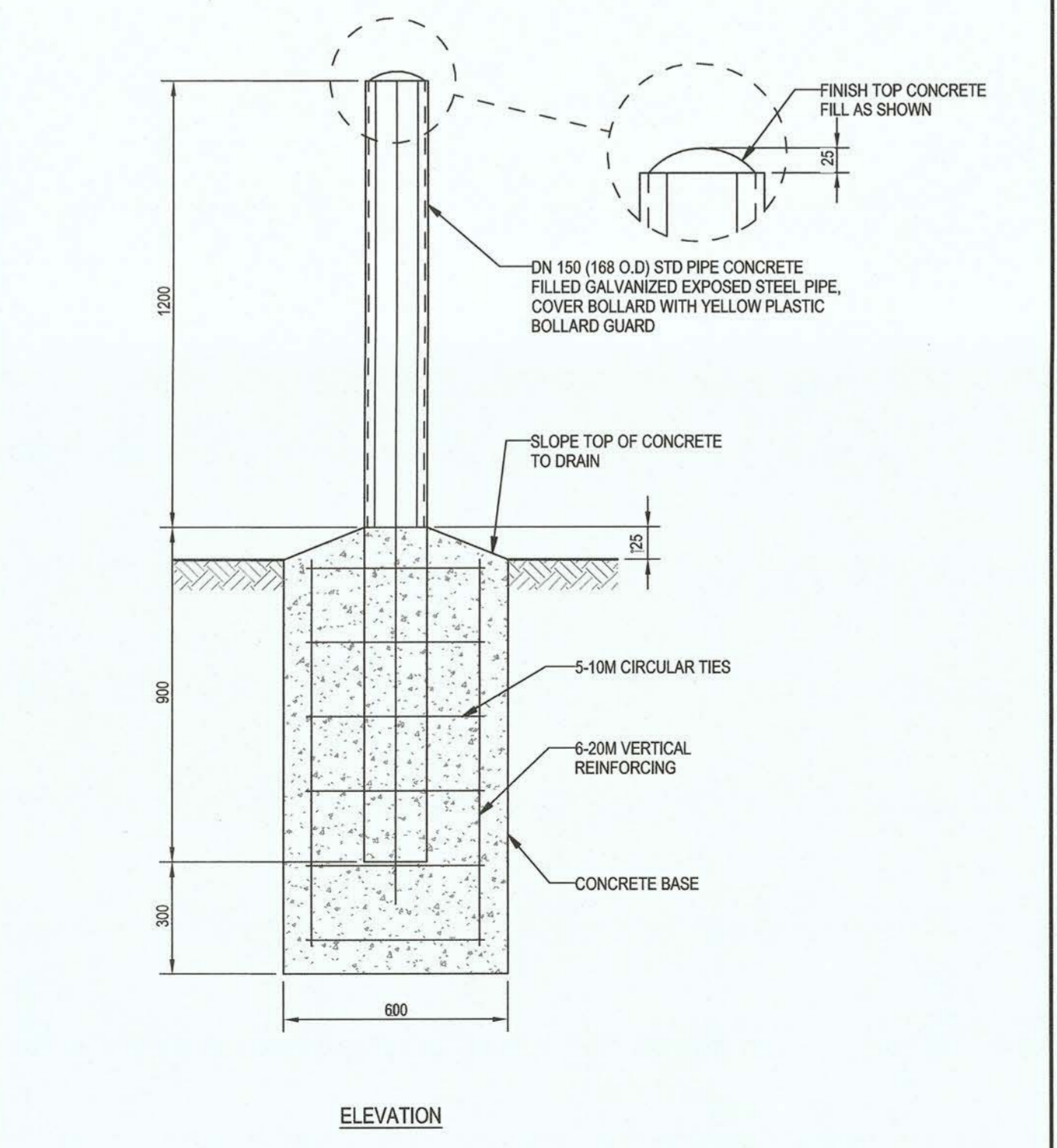
1 TRENCH DETAIL
S100 N.T.S.
E101



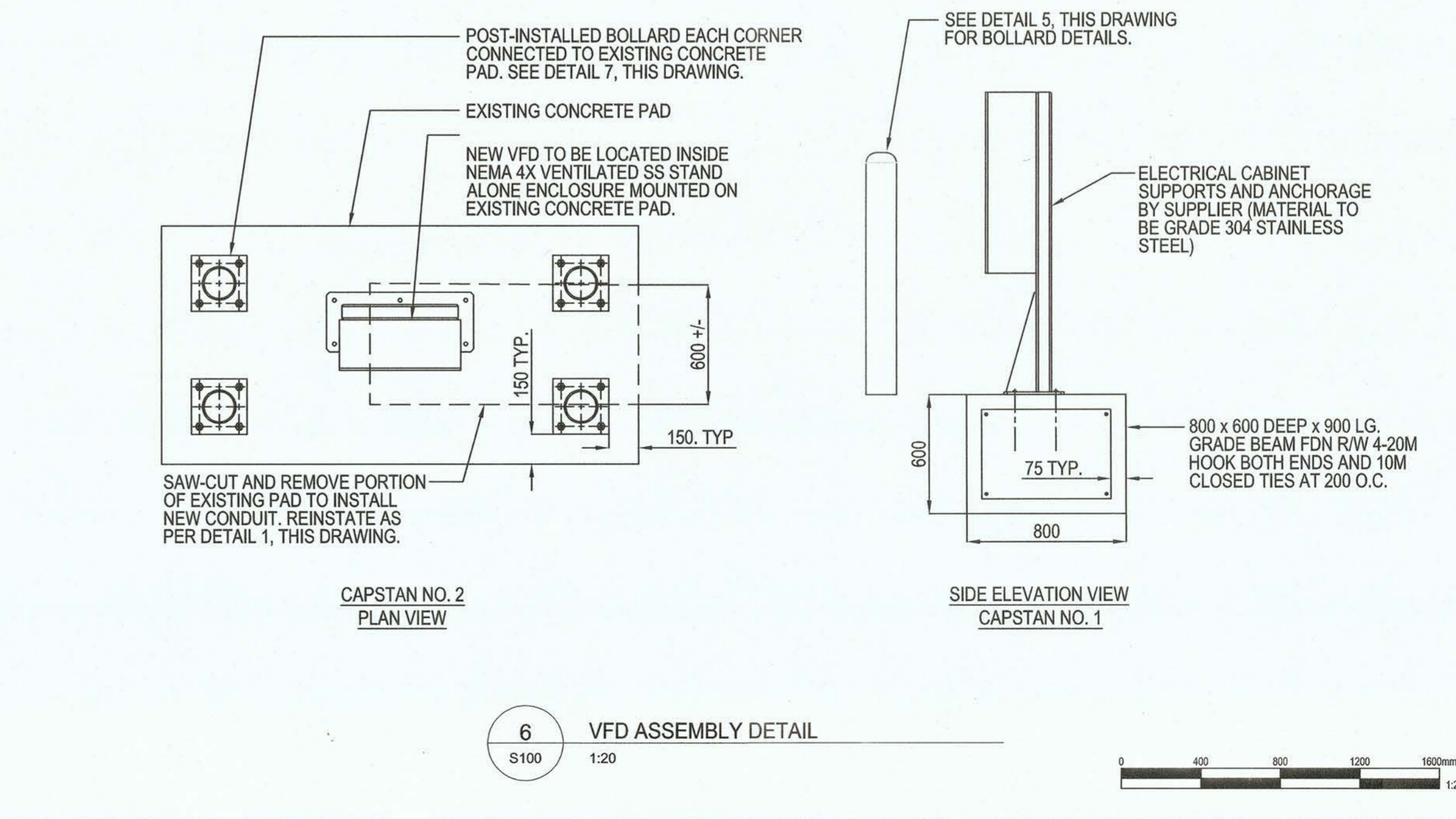
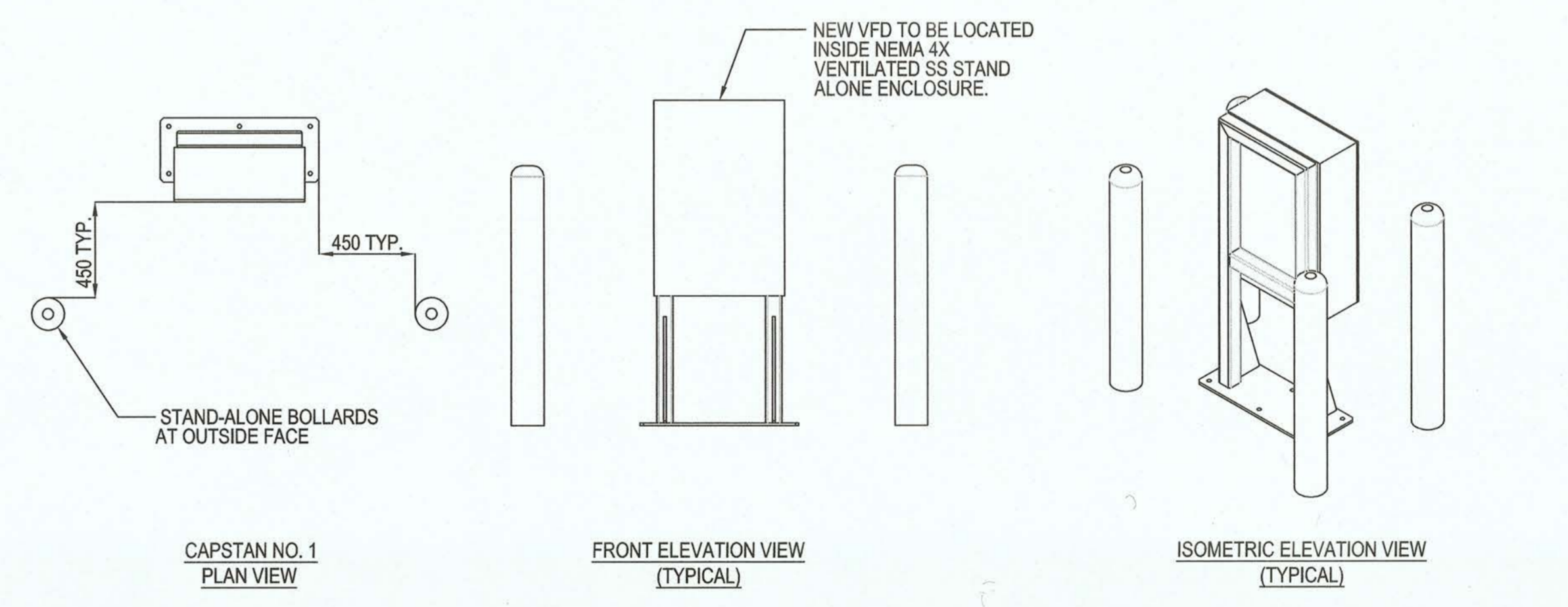
2 COVER PLATE SUPPORT DETAIL
S100 1:20
M101



3 COVER PLATE BOLT DETAIL - SECTION D-D
S100 1:20
M101



5 TYPICAL SELF-SUPPORTED BOLLARD DETAIL
S100 N.T.S.



6 VFD ASSEMBLY DETAIL
S100 1:20

