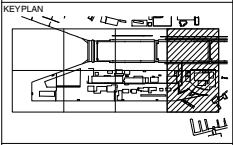


# GENERAL NOTES

- DURING CONSTRUCTION ALL SEVEN DOLPHIN PILES ARE TO BE EQUIPPED WITH 2 NAUTICAL MILE VISIBLE YELLOW FLASHING AID TO NAVIGATION LIGHT NEAR 4X RATED. THIS FLASH CHARACTER (F1 5.5 6.3 5.5) LIGHT SHALL COMPLY WITH THE CANADIAN AID TO NAVIGATION SYSTEM (TP 300E) AND THE 2008 OWNERS GUIDE TO PRIVATE AID TO NAVIGATION LIGHTS TO BE SUPPLIED WITH SOLAR PANELS AND BATTERIES SUFFICIENT FOR MINIMUM 7 HOURS OF OPERATION.
- DURING CONSTRUCTION A FIXED SLOW YELLOW FLASHING BARRICADE IS TO BE PLACED AND MAINTAINED ON THE OUT ED OF THE WORK LIGHTS ARE TO BE IN OPERATION DURING ALL HOURS OF DARKNESS AND ANY PERIODS OF REDUCED VISIBILITY.



Rev.	Description/Description	Date/Date
3	ISSUED FOR ELECTRICAL ADDENDUM Mgt	2017/07/12
2	ISSUED FOR TENDER	2017/03/06
1	ISSUED FOR 90% REVIEW	16/08/15

Client/client

## ESQUIMALT GRAVING DOCK

825 ADMIRALS ROAD,  
VICTORIA, BC, V8A 2P1

Projet titre/Titre du projet  
825 ADMIRALS ROAD, VICTORIA, BC  
ESQUIMALT GRAVING DOCK  
ELECTRICAL SAFETY UPGRADE  
SOUTH JETTY  
RECONSTRUCTION

Consultant Approval Box Only

Designed by/Conçu par  
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Drawn by/Dessiné par  
J. BIELING, S. BEYBOMUR

PMSC Project Manager/Administrateur de Projets PMSC  
PATRICK TRELOUGH

Project Engineer/Ingénieur et Engineering Services  
Ingénierie, Services d'ingénierie et Services  
PREEETIPAL PAUL

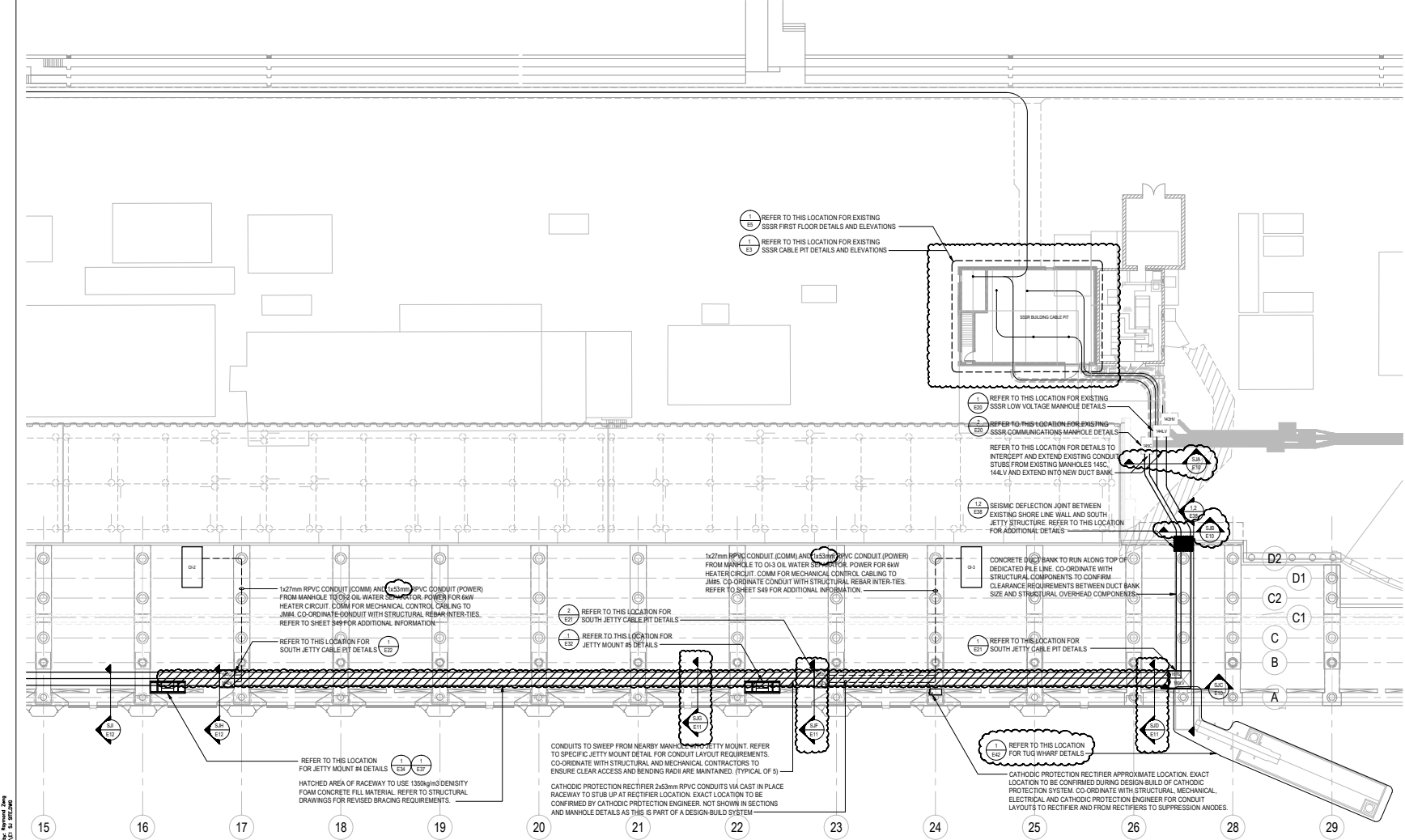
Drawing title/Titre du dessin

SOUTH JETTY SITE  
1 OF 2  
EAST SIDE

Project No./No. du projet  
R.026729.002

Sheet/Feuille  
E1

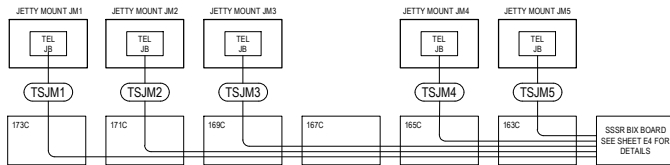
Revision no./  
Révision  
3



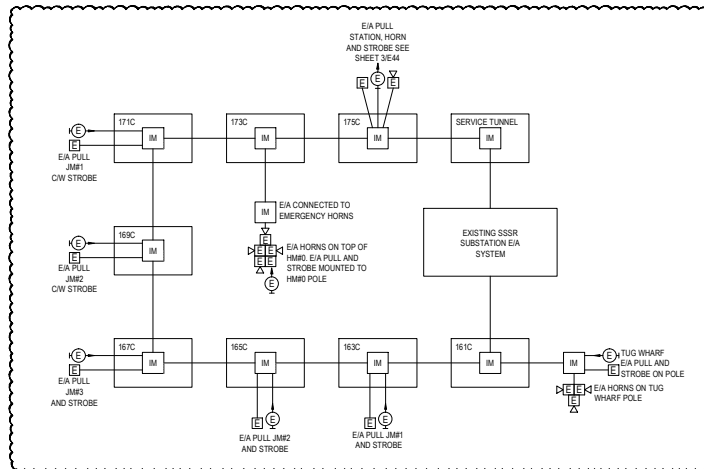








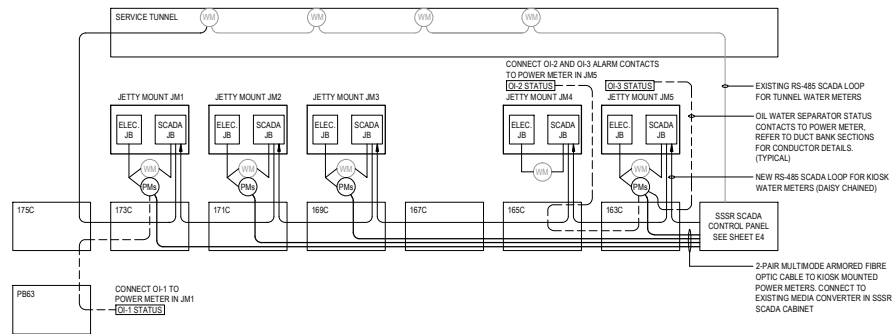
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NTS  
NEW JETTY MOUNT TELECOM SERVICE RISER



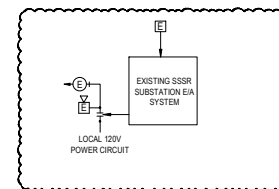
2  
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NTS  
NEW SOUTH JETTY EMERGENCY ALARM RISER

GENERAL NOTES FOR EGD NEW EMERGENCY ALARM SYSTEM:

1. PROVIDE 35mm RPVC RACEWAYS AND 25x25x25x150RPVC PULL BOXES IN EACH MANHOLE TO SEPARATE EMERGENCY ALARM SYSTEM WIRING FROM OTHER COMMS SYSTEMS WIRING.
2. REPROGRAM EXISTING DEVICES TO NEW ADDRESSABLE LOOP AS REQUIRED.



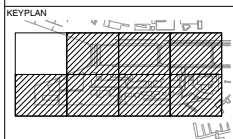
3  
—  
NTS  
NEW JETTY MOUNT SCADA SERVICE RISER



3  
—  
NTS  
E/A HORN AND STROBE WIRING DIAGRAM

NOTES FOR E/A SYSTEM WIRING DIAGRAM

1. EACH HORN AND OR STROBE DEVICE IS POWERED FROM A LOCAL 120V CIRCUIT THROUGH AN ADDRESSABLE RELAY.
2. UPON ACTIVATION OF AN EMERGENCY ALARM PULL STATION THE NEAREST STROBE LIGHT WILL BEGIN OPERATION AND THE EMERGENCY ALARM HORNS WILL ACTUATE AS WELL AS THE EMERGENCY ALARM HORN IN THE PUMPHOUSE.
3. EMERGENCY ALARM STROBES ARE PULL STATIONS OPERATE INDEPENDENTLY OF THE SITE FIRE ALARM SYSTEM.



Rev	Description	Date
3	ISSUED FOR ELECTRICAL ADDENDUM M1	2017/07/12
2	ISSUED FOR TENDER	2017/03/06
1	ISSUED FOR 90% REVIEW	16/08/15
Revised	Drawn/Revised/Drawn/Revised	Date/Date

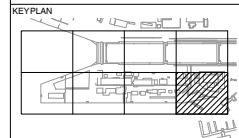
Client/Client  
**ESQUIMALT GRAVING DOCK**  
  
825 ADMIRALS ROAD,  
VICTORIA, BC, V8A 2P1

Project title/Titre du projet  
**825 ADMIRALS ROAD, VICTORIA, BC  
ESQUIMALT GRAVING DOCK  
ELECTRICAL SAFETY UPGRADE  
SOUTH JETTY  
RECONSTRUCTION**

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**PATRICK TRUONG**  
PROJECT Project Manager/Administrateur de Projet  
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PROJECT Project Manager/Administrateur de Projet  
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PROJECT Project Manager/Administrateur de Projet  
**PATRICK TRUONG**

Drawing title/Titre du dessin  
**EMERGENCY ALARM,  
COMMUNICATIONS AND  
SCADA SYSTEM DETAILS**

Project No./No. du projet  
**R.026729.002**  
Sheet/Feuille  
**E8**  
Revision no./  
Révision  
**3**



3	ISSUED FOR ELECTRICAL ADDENDUM W/1	2017/07/2
2	ISSUED FOR TENDER	2017/03/06
1	ISSUED FOR 90% REVIEW	16/06/15

Client/Client  
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GRAVING DOCK**  
  
825 ADMIRALS ROAD,  
VICTORIA, BC, V8A 2P1

Projet/Projet  
825 ADMIRALS ROAD, VICTORIA, BC  
**ESQUIMALT GRAVING DOCK  
ELECTRICAL SAFETY UPGRADE**  
  
**SOUTH JETTY  
RECONSTRUCTION**

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PATRICK TRUONG

Drawing Title/Titre du dessin  
**JETTY DUCT BANK  
SECTIONS 1 OF 7**

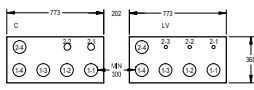
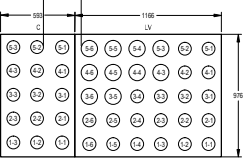
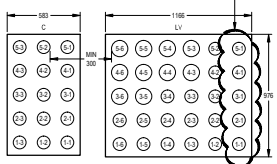
Project No./No. du projet  
**R.026729.002**  
Sheet/Feuille  
**E10**  
Revision no./  
Révision  
**3**

CABLE SCHEDULE SOUTH JETTY SERVICES				
SERVICE	TYPE	VOLTAGE	CONDUCTORS	ID
SOUTH JETTY SYSTEM GROUND	LV	N/A	1x0/0 INSULATED	(SJSST)
SOUTH JETTY SYSTEM GROUND	LV	N/A	1x0/0 INSULATED	(SJSST)
12000V OUTDOOR PANEL	LV	12000V	3x0/2 TC CABLE	(ZTW1)
TUG WHARF CABLES, NAV LIGHTS	LV	12000V	2x3/8 TC CABLE 2x2/8 TC CABLE	(ZTW2) (ZTW3) (NAV1)
TUG WHARF CABLES	LV	12000V	3x3/8 TC CABLE	(ZTW4) (ZTW5) (ZTW6)
TUG WHARF CABLES	LV	12000V	3x3/8 TC CABLE	(ZTW7) (ZTW8) (ZTW9)
JMM1-5 120V RECS. LIGHTS SERVICE	LV	12000V	2x#1 TC CABLE	(JMSERV)
JMM1-5 120V SCADA POWER	LV	12000V	2x#1 TC CABLE	(JMSPP)
JMM1-5 HEAT TRACE	LV	120V	2x#10 TC CABLE	(JMHST)
JMM1 600V SERVICE	LV	600V	3x#500CM TC CABLE	(JMS1)
JMM2 600V SERVICE	LV	600V	3x#500CM TC CABLE	(JMS2)
JMM3 600V SERVICE	LV	600V	3x#50 TC CABLE	(JMS3)
JMM5 600V SERVICE	LV	600V	3x#50 TC CABLE	(JMS5)
JMM4 430-630 REGULATED SERVICE	LV	630V	8x3x500CM TC CABLE	(JMS4)
JMM3 480V SERVICE	LV	480V	3x3x500CM TC CABLE	(JMS3)
JMM5 480V SERVICE	LV	480V	2x3x300CM TC CABLE	(JMS5)
JMM4 208V SERVICE	LV	12000V	2x4x300CM TC CABLE	(JMS4)
HMM1 FUTURE	LV	N/A	FUTURE	(HMS1)
HMM5 SERVICE	LV	347V	4x#6 TC CABLE	(HMS5)
TUG WHARF LIST SERVICE	LV	347V	4x#6 TC CABLE	(HMS5)
HMM5 HMM1 REC POWER	LV	12000V	2x#1 TC CABLE	(HMS1)
600V SOUTH JETTY CAISSON RECEPTACLE	LV	600V	4x#10 TC CABLE	(SJSCT)
600V OIL WATER SEPARATORS HEAT	LV	600V	4x#1 TC CABLE	(JMSHT)
SOUTH JETTY LV SPARE CONDUIT (103mm)	LV	N/A	FUTURE	(JMSVS)
SOUTH JETTY LV SPARE CONDUIT (53mm)	LV	N/A	FUTURE	(JMSVS)
JETTY MOUNT SPARE LV CONDUIT (103mm)	LV	N/A	FUTURE	(JMSVS)
ROPE LOCKER LOW VOLTAGE (FUTURE)	LV	N/A	FUTURE	(RLV)
FIA HORN TUG WHARF	COMM	N/A	2x#12 ARMORED	(FHTW)
FIA HORN TUG WHARF	COMM	N/A	2x#12 ARMORED	(FHTW)
FIA TUG WHARF	COMM	N/A	2x#12 ARMORED	(FATW)
FIA SOUTH JETTY	COMM	N/A	2x#12 ARMORED	(FASJ) (FASJ)
FIA HORN SOUTH JETTY	COMM	N/A	2x#12 ARMORED	(FHSJ)
TEL SOUTH JETTY MOUNTS	COMM	N/A	5x2PR#14 GEL CAT3 ARMORED CALBE	(TSMT) (TSMT) (TSMT) (TSMT) (TSMT)
FIBRE OPTIC SCADA SOUTH JETTY MOUNTS	COMM	N/A	5x(2PR 50/125µm SSM ARMORED FIBRE CABLE)	(SSMT) (SSMT) (SSMT) (SSMT) (SSMT)
SCADA TUNNEL LOOP	COMM	N/A	2PR#18 CAT3 ARMORED CABLE	(STSTU)
FIBRE OPTIC JETTY MOUNTS	COMM	N/A	5x6 9/125µm SSM ARMORED FIBRE CABLE	(FOMT) (FOMT) (FOMT) (FOMT) (FOMT)
OCTV SOUTH JETTY	COMM	N/A	12PR#14 GEL CAT3 ARMORED CALBE	(CTVSJ)
FIA TO JETTY MOUNT	COMM	N/A	2x#12 ARMORED	(FAM)
FIA HORN TO JETTY MOUNT	COMM	N/A	2x#12 ARMORED	(FAM)
EIA SOUTH JETTY	COMM	N/A	2x#12 ARMORED	(EASJ)
EIA TO JETTY MOUNT	COMM	N/A	2x#12 ARMORED	(EAM)
OCTV SOUTH JETTY FUTURE	COMM	N/A	FUTURE	(CTVSJ)
SHAW CABLE (FUTURE)	COMM	N/A	FUTURE	(SHAW)
SOUTH JETTY COMM SPARE (FIBRE ONLY)	COMM	N/A	FUTURE	(FOSJ)
SOUTH JETTY COMM SPARE	COMM	N/A	FUTURE	(TELSJ)
JETTY MOUNT SPARE COMM CONDUIT (103mm)	COMM	N/A	FUTURE	(JMSJ)

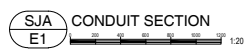
NOTE  
NOT ALL CABLES WILL APPEAR IN EVERY SECTION.



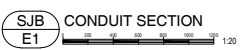
NOTES: CONDUITS ARE NEW, NOT INTERCEPTED CONDUIT STUBS.  
CORE NEW 54x50mm RPP CONDUITS INTO MANHOLE AND  
EXTENDING ALL CONDUITS TOWARDS SOUTH JETTY



CONDUIT AND CABLE SCHEDULE		
CONDUIT ROUTE	CONDUIT ID	CABLE ID
SOUTH JETTY LV SERVICES	1-1	103 (SJM1)
	1-2	103 (SJM2)
	1-3	103 (SJM3)
	1-4	103 (SJM4)
	1-5	103 (SJM5)
	1-6	103 (SJM6)
	2-1	103 (SJM7)
	2-2	103 (SJM8)
	2-3	103 (SJM9)
	2-4	103 (SJM10)
	2-5	103 (SJM11)
	2-6	103 (SJM12)
	3-1	103 (SJM13)
	3-2	103 (SJM14)
	3-3	103 (SJM15)
	3-4	103 (SJM16)
	3-5	129 (SJM17)
	3-6	129 (SJM18)
	4-1	103 (SJM19)
	4-2	103 (SJM20)
	4-3	129 (SJM21)
	4-4	129 (SJM22)
	4-5	129 (SJM23)
	4-6	129 (SJM24)
	5-1	103 (SJM25)
	5-2	103 (SJM26)
	5-3	129 (SJM27)
	5-4	129 (SJM28)
	5-5	129 (SJM29)
	5-6	129 (SJM30)
SOUTH JETTY COMM SERVICES	1-1	103 (FQJM) (FQJM) (FQJM) (FQJM) (FQJM)
	1-2	103 (TSMT) (TSMT) (TSMT) (TSMT) (TSMT)
	1-3	103 (FHTW) (FHTW) (FHTW) (FHTW) (FHTW)
	2-1	103 (FOSJ)
	2-2	103 (SSJM) (SSJM) (SSJM) (SSJM) (SSJM)
	2-3	103 (CTVSJ)
	3-1	103 (FOSJ)
	3-2	103 (EASJ)
	3-3	103 (CTVSJ)
	4-1	103 (FOSJ)
	4-2	103 (TELSJ)
	4-3	103 (TELSJ)
	5-1	103 (FOSJ)
	5-2	103 (TELSJ)
	5-3	103 (SHAW)

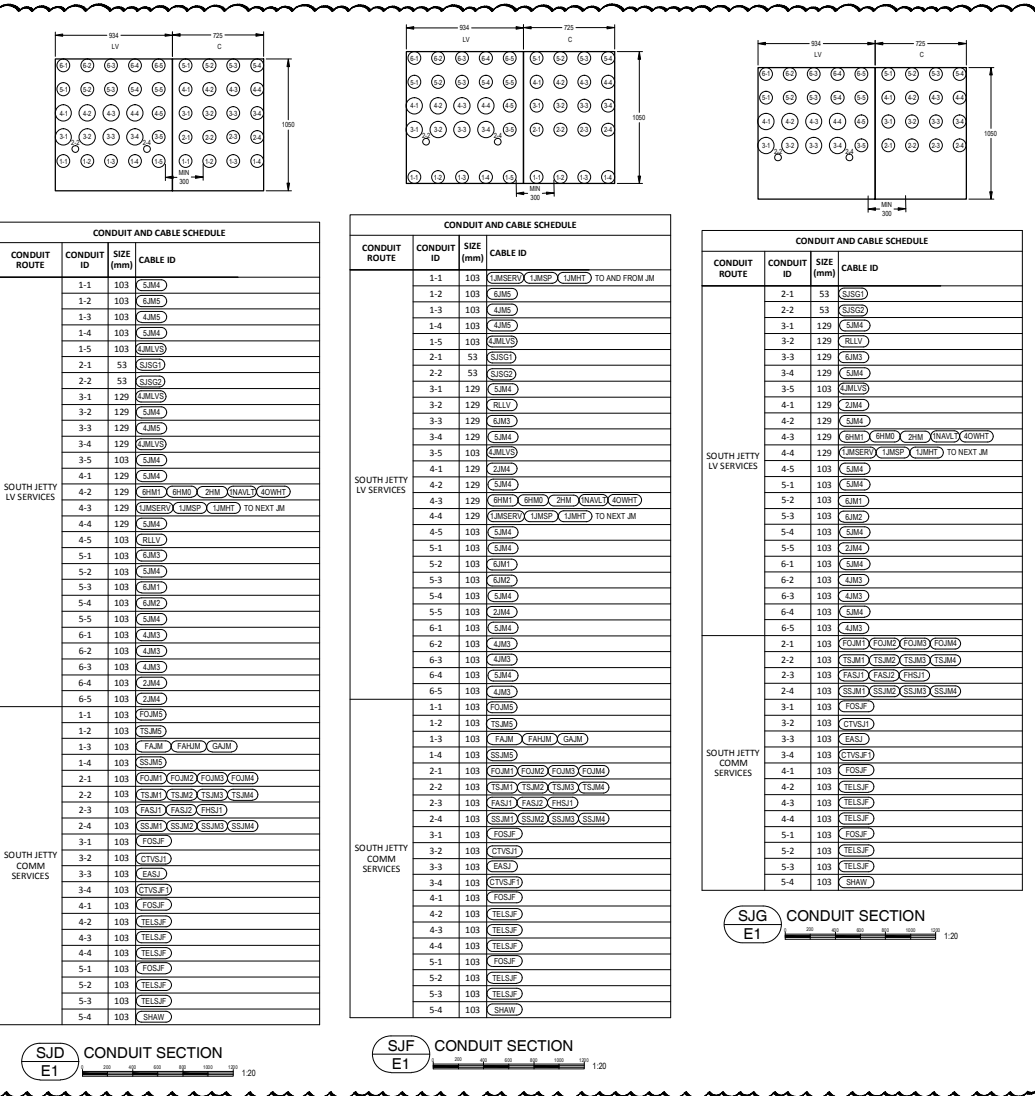


CONDUIT AND CABLE SCHEDULE		
CONDUIT ROUTE	CONDUIT ID	CABLE ID
SOUTH JETTY LV SERVICES	1-1	103 (SJM1)
	1-2	103 (SJM2)
	1-3	103 (SJM3)
	1-4	103 (SJM4)
	1-5	103 (SJM5)
	1-6	103 (SJM6)
	2-1	103 (SJM7)
	2-2	103 (SJM8)
	2-3	103 (SJM9)
	2-4	103 (SJM10)
	2-5	103 (SJM11)
	2-6	103 (SJM12)
	3-1	103 (SJM13)
	3-2	103 (SJM14)
	3-3	103 (SJM15)
	3-4	103 (SJM16)
	3-5	129 (SJM17)
	3-6	129 (SJM18)
	4-1	103 (SJM19)
	4-2	103 (SJM20)
	4-3	129 (SJM21)
	4-4	129 (SJM22)
	4-5	129 (SJM23)
	4-6	129 (SJM24)
	5-1	103 (SJM25)
	5-2	103 (SJM26)
	5-3	129 (SJM27)
	5-4	129 (SJM28)
	5-5	129 (SJM29)
	5-6	129 (SJM30)
SOUTH JETTY COMM SERVICES	1-1	103 (FQJM) (FQJM) (FQJM) (FQJM) (FQJM)
	1-2	103 (TSMT) (TSMT) (TSMT) (TSMT) (TSMT)
	1-3	103 (FHTW) (FHTW) (FHTW) (FHTW) (FHTW)
	2-1	103 (FOSJ)
	2-2	103 (SSJM) (SSJM) (SSJM) (SSJM) (SSJM)
	2-3	103 (CTVSJ)
	3-1	103 (FOSJ)
	3-2	103 (EASJ)
	3-3	103 (CTVSJ)
	4-1	103 (FOSJ)
	4-2	103 (TELSJ)
	4-3	103 (TELSJ)
	5-1	103 (FOSJ)
	5-2	103 (TELSJ)
	5-3	103 (SHAW)




CONDUIT AND CABLE SCHEDULE		
CONDUIT ROUTE	CONDUIT ID	CABLE ID
SOUTH JETTY LV SERVICES TO TUG WHARF	1-1	103 (ZTW1) (ZTW2) (ZTW3)
	1-2	103 (ZTW4) (ZTW5) (ZTW6) (ZTW7) (ZTW8) (ZTW9)
	1-3	103 (SJM1)
	1-4	103 (SJM2)
	1-5	103 (SJM3)
	1-6	103 (SJM4)
LV TO TUG WHARF POLE	2-1	27 (ETWMM) (JMSERV)
	2-2	27 (2HM) TO AND FROM TUG WHARF POLE
	2-3	27 (SJM1)
SOUTH JETTY COMM SERVICES TO TUG WHARF	1-1	103 (TELSJ)
	1-2	103 (TELSJ)
	1-3	103 (TELSJ)
	1-4	103 (TELSJ)
COMM TO TUG WHARF POLE	2-1	53 (FHTW) (FHTW) (FHTW)
	2-2	53 (TELSJ)





CABLE SCHEDULE SOUTH JETTY SERVICES				
SERVICE	TYPE	VOLTAGE	CONDUCTORS	ID
SOUTH JETTY SYSTEM GROUND	LV	N/A	1x200 INSULATED	SJG20
SOUTH JETTY SYSTEM GROUND	LV	N/A	1x200 INSULATED	SJG20
120/208V OUTDOOR PANEL	LV	120/208V	3xR2 TC CABLE	2TW1
TUG WHARF CABLES - NAV LIGHTS	LV	120/208V	2x3xR2 TC CABLE	2TW2 2TW3 (NAVL)
TUG WHARF CABLES	LV	120/208V	3x3xR10 TC CABLE	2TW4 2TW5 2TW6
TUG WHARF CABLES	LV	120/208V	3x3xR10 TC CABLE	2TW7 2TW8 2TW9
JM1-5 120V RECS LIGHTS SERVICE	LV	120/208V	2xR1 TC CABLE	LMISERVO
JM1-5 120V SCADA POWER	LV	120/208V	2xR1 TC CABLE	LMISP
JM1-5 HEAT TRACE	LV	120V	2xR10 TC CABLE	LMHT
JM1 600V SERVICE	LV	600V	3xR500CM TC CABLE	LM1
JM2 600V SERVICE	LV	600V	3xR500CM TC CABLE	LM2
JM3 600V SERVICE	LV	600V	3xR30 TC CABLE	LM3
JM5 600V SERVICE	LV	600V	3xR30 TC CABLE	LM5
JM4 430-630 REGULATED SERVICE	LV	630V	3xR500CM TC CABLE	LM4
JM5 480V SERVICE	LV	480V	3xR300CM TC CABLE	LM2
JM5 480V SERVICE	LV	480V	2xR300CM TC CABLE	LM5
JM4 208V SERVICE	LV	120/208V	2xR300CM TC CABLE	LM4
HM1 FUTURE	LV	N/A	FUTURE	HM1
HM2 SERVICE	LV	347V	4xR6 TC CABLE	HM2
TUG WHARF LIST SERVICE	LV	347V	4xR6 TC CABLE	ETWHM
HM2, HM1 REC POWER	LV	120/208V	2xR1 TC CABLE	2HM
600V SOUTH JETTY CAISSON RECEPTACLE	LV	600V	4xR10 TC CABLE	SLICR
600V OIL WATER SEPARATORS HEAT	LV	600V	4xR1 TC CABLE	QWHT
SOUTH JETTY LV SPARE CONDUIT (103mm)	LV	N/A	FUTURE	GLVS,B
SOUTH JETTY LV SPARE CONDUIT (53mm)	LV	N/A	FUTURE	GLVS,B
JETTY MOUNT SPARE LV CONDUIT (103mm)	LV	N/A	FUTURE	GLVS,B
ROPE LOCKER LOW VOLTAGE (FUTURE)	LV	N/A	FUTURE	RLV
FIA HORN TUG WHARF	COMM	N/A	2xR12 ARMORED	HTW1
FIA HORN TUG WHARF	COMM	N/A	2xR12 ARMORED	HTW2
FIA TUG WHARF	COMM	N/A	2xR12 ARMORED	FATW1
FIA SOUTH JETTY	COMM	N/A	2xR12 ARMORED	FASJ1 FASJ2
FIA HORN SOUTH JETTY	COMM	N/A	2xR12 ARMORED	FHSJ1
TEL SOUTH JETTY MOUNTS	COMM	N/A	3xR12 ARMORED	TSJM1 TSJM2 TSJM3 TSJM4 TSJM5 TSJM6 TSJM7 TSJM8 TSJM9 TSJM10 TSJM11 TSJM12 TSJM13 TSJM14 TSJM15 TSJM16 TSJM17 TSJM18 TSJM19 TSJM20 TSJM21 TSJM22 TSJM23 TSJM24 TSJM25 TSJM26 TSJM27 TSJM28 TSJM29 TSJM30 TSJM31 TSJM32 TSJM33 TSJM34 TSJM35 TSJM36 TSJM37 TSJM38 TSJM39 TSJM40 TSJM41 TSJM42 TSJM43 TSJM44 TSJM45 TSJM46 TSJM47 TSJM48 TSJM49 TSJM50 TSJM51 TSJM52 TSJM53 TSJM54 TSJM55 TSJM56 TSJM57 TSJM58 TSJM59 TSJM60 TSJM61 TSJM62 TSJM63 TSJM64 TSJM65 TSJM66 TSJM67 TSJM68 TSJM69 TSJM70 TSJM71 TSJM72 TSJM73 TSJM74 TSJM75 TSJM76 TSJM77 TSJM78 TSJM79 TSJM80 TSJM81 TSJM82 TSJM83 TSJM84 TSJM85 TSJM86 TSJM87 TSJM88 TSJM89 TSJM90 TSJM91 TSJM92 TSJM93 TSJM94 TSJM95 TSJM96 TSJM97 TSJM98 TSJM99 TSJM100
FIBRE OPTIC SCADA SOUTH JETTY MOUNTS	COMM	N/A	5xR12 ARMORED	SSJM1 SSJM2 SSJM3 SSJM4 SSJM5 SSJM6 SSJM7 SSJM8 SSJM9 SSJM10 SSJM11 SSJM12 SSJM13 SSJM14 SSJM15 SSJM16 SSJM17 SSJM18 SSJM19 SSJM20 SSJM21 SSJM22 SSJM23 SSJM24 SSJM25 SSJM26 SSJM27 SSJM28 SSJM29 SSJM30 SSJM31 SSJM32 SSJM33 SSJM34 SSJM35 SSJM36 SSJM37 SSJM38 SSJM39 SSJM40 SSJM41 SSJM42 SSJM43 SSJM44 SSJM45 SSJM46 SSJM47 SSJM48 SSJM49 SSJM50 SSJM51 SSJM52 SSJM53 SSJM54 SSJM55 SSJM56 SSJM57 SSJM58 SSJM59 SSJM60 SSJM61 SSJM62 SSJM63 SSJM64 SSJM65 SSJM66 SSJM67 SSJM68 SSJM69 SSJM70 SSJM71 SSJM72 SSJM73 SSJM74 SSJM75 SSJM76 SSJM77 SSJM78 SSJM79 SSJM80 SSJM81 SSJM82 SSJM83 SSJM84 SSJM85 SSJM86 SSJM87 SSJM88 SSJM89 SSJM90 SSJM91 SSJM92 SSJM93 SSJM94 SSJM95 SSJM96 SSJM97 SSJM98 SSJM99 SSJM100
SCADA TUNNEL LOOP	COMM	N/A	2xR12 ARMORED	SSJTL
FIBRE OPTIC JETTY MOUNTS	COMM	N/A	5xR12 ARMORED	FOJMD FOJMD FOJMD FOJMD FOJMD
CCTV SOUTH JETTY	COMM	N/A	12xR12 ARMORED	CTVSJ1
FIA TO JETTY MOUNT	COMM	N/A	2xR12 ARMORED	FAJMD
FIA HORN TO JETTY MOUNT	COMM	N/A	2xR12 ARMORED	FAHMD
EIA SOUTH JETTY	COMM	N/A	2xR12 ARMORED	EASJ
EIA TO JETTY MOUNT	COMM	N/A	2xR12 ARMORED	EASMD
SHAW CABLE (FUTURE)	COMM	N/A	FUTURE	SHAW
SOUTH JETTY COMM SPARE (FIBRE ONLY)	COMM	N/A	FUTURE	FOJMD
SOUTH JETTY COMM SPARE	COMM	N/A	FUTURE	FOJMD
JETTY MOUNT SPARE COMM CONDUIT (103mm)	COMM	N/A	FUTURE	JMCS

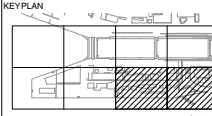
NOTE  
NOT ALL CABLES WILL APPEAR IN EVERY SECTION.



**AES**  
APPLIED ENGINEERING  
SOLUTIONS LIMITED

REAL PROPERTY SERVICES  
Pacific Region  
SERVICES IMMOBILIERS  
Région de l'Asie-Pacifique

KEY PLAN



3	ISSUED FOR ELECTRICAL ADDENDUM M1	2017/07/12
2	ISSUED FOR TENDER	2017/03/06
1	ISSUED FOR 99% REVIEW	16/08/15

Client/Client

**ESQUIMALT  
GRAVING DOCK**

825 ADMIRALS ROAD,  
VICTORIA, BC, V8A 2P1

Projet /Projet du projet  
**825 ADMIRALS ROAD, VICTORIA, BC  
ESQUIMALT GRAVING DOCK  
ELECTRICAL SAFETY UPGRADE**

**SOUTH JETTY  
RECONSTRUCTION**

Consultant Approval Box Only

Designated by/Conseiller par  
**L. BARNES**

Drawn by/Dessiné par  
**J. BIELING, S. SEYMOUR**

Project Manager/Administrateur de Projets  
**PATRICK TRUONG**

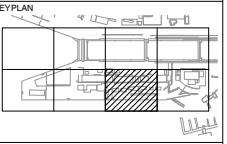
Project Engineer/Ingénieur et Ingénieur de Projets  
**PREETIPAL PAUL**

Drawing Title/Titre du dessin

Project No./No. du projet  
**R.026729.002**

Sheet/Feuille  
**E11**

Revision no./  
Révision  
**3**



3	ISSUED FOR ELECTRICAL ADDENDUM M1	2017/01/12
2	ISSUED FOR TENDER	2017/03/06
1	ISSUED FOR 90% REVIEW	16/08/15
Revised	Drawings/Descriptions	Daily/Date

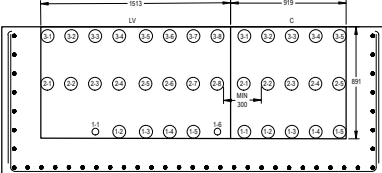
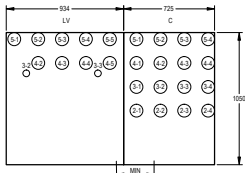
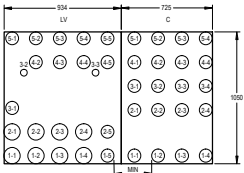
Client/Client  
**ESQUIMALT  
GRAVING DOCK**  
  
825 ADMIRALS ROAD,  
VICTORIA, BC, V8A 2P1

Projet titre/Titre du projet  
**825 ADMIRALS ROAD, VICTORIA, BC  
ESQUIMALT GRAVING DOCK  
ELECTRICAL SAFETY UPGRADE**  
  
**SOUTH JETTY  
RECONSTRUCTION**

Consultant Approval Box Only  
Designed by/Conçu par  
**L. BARNES**  
Drawn by/Dessiné par  
**J. BIELING, S. SEYMOUR**  
Project Manager/Administrateur de Projets  
**PATRICK TRUONG**  
Project Engineer/Ingénieur et Engineering Designer/  
Ingénieur en Génie Électrique/Service d'ingénierie  
**PREETIPAL PAUL**  
Drawing title/Titre du dessin

**JETTY DUCT BANK  
SECTIONS 3 OF 7**

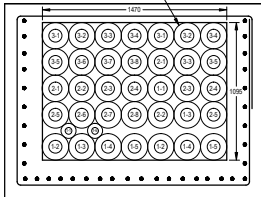
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**R.026729.002**  
Sheet/Feuille  
**E12**  
Revision no./  
Révision  
**3**



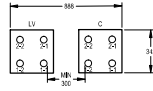
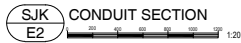
CONDUIT AND CABLE SCHEDULE				
CONDUIT ROUTE	CONDUIT ID	SIZE (mm)	CABLE ID	
SOUTH JETTY LV SERVICES	1-1	129	53MM	
	1-2	129	53MM	
	1-3	129	53MM	
	1-4	129	53MM	
	1-5	103	23MM	
	2-1	129	53MM	
	2-2	129	53MM	
	2-3	129	53MM	
	2-4	129	53MM	
	2-5	103	23MM	
	3-1	103	LMSPR (LMSPR) (LMHT) TO AND FROM JM	
	3-2	53	53SD	
	3-3	53	53SD	
	4-2	103	6MM	
	4-3	103	6MM	
	4-4	103	6MM	
	4-5	103	6MM	
	5-1	103	6MM	
	5-2	103	6MM	
	5-3	103	6MM	
	5-4	103	RLLY	
	5-5	103	6MM (6MM) (2MM) (NAVY) (6MM)	
	5-6	103	LMSPR (LMSPR) (LMHT) TO NEXT JM	
	SOUTH JETTY COMM SERVICES	1-1	103	FOUM
		1-2	103	TSJM
		1-3	103	FAJM (FAHJM) (GJM)
		1-4	103	SSJM
2-1		103	FOUM (FOUM) (FOUM)	
2-2		103	TSJM (TSJM) (TSJM)	
2-3		103	FAJM (FAJM) (FHSJ)	
2-4		103	SSJM (SSJM) (SSJM)	
3-1		103	TSOF	
3-2		103	CTVETJ	
3-3		103	EASJ	
3-4		103	CTVSPJ	
4-1		103	TSOF	
4-2		103	TELSF	
4-3		103	TELSF	
4-4		103	TELSF	
5-1		103	TSOF	
5-2		103	TELSF	
5-3		103	TELSF	
5-4		103	SHAW	



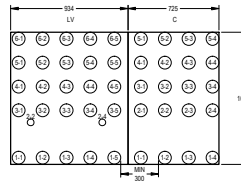
OUTLINE OF THE APPROXIMATE DIAMETER  
OF THE SEISMIC DEFLECTION JOINTS ———



CONDUIT AND CABLE SCHEDULE		
CONDUIT ROUTE	CONDUIT ID	SIZE (mm)
SOUTH JETTY LV SERVICES	1-1	53 SUSG
	1-2	103 G.MD
	1-3	103 G.MD
	1-4	103 G.MD
	1-5	103 G.MD
	1-6	53 SUSG
	2-1	103 G.MD
	2-2	103 G.MD
	2-3	103 RLLV
	2-4	G.MD G.MD G.MD G.MD G.MD G.MD
	2-5	G.MD LMSD LMSD LMSD TO NEXT JM
	2-6	ELVS,B
	2-7	ELVS,B
	2-8	ELVS,B
	3-1	ELVS,B
	3-2	ELVS,B
	3-3	ELVS,B
	3-4	ELVS,B
3-5	ELVS,B	
3-6	ELVS,B	
3-7	ELVS,B	
3-8	ELVS,B	
SOUTH JETTY COMM SERVICES	1-2	TS,M1 TS,M2 TS,M3
	1-3	TASU,T TASU,T TBSU,T
	1-4	SS,M1 SS,M2 SS,M3
	2-1	FOM1 FOM2 FOM3
	2-2	CTVSU,T
	2-3	EAST
	2-4	CTVSU,F
	2-5	TELSU,F
	3-1	FOSU,F
	3-2	TELSU,F
3-3	TELSU,F	
3-4	FOSU,F	
3-5	SHAW	



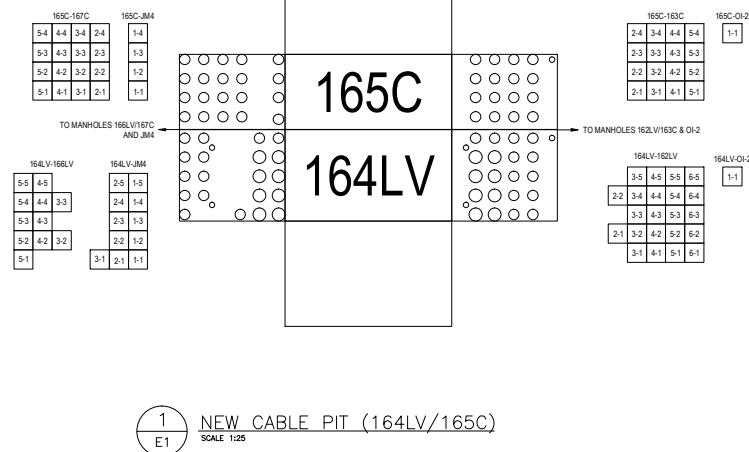
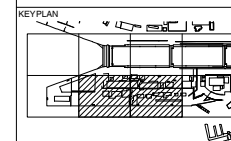
CONDUIT AND CABLE SCHEDULE			
CONDUIT ROUTE	CONDUIT ID	SIZE (mm)	
SOUTH JETTY LV SERVICES TO PB62	1-1	53	(5MMT) (40WMT) (2PM)
	1-2	53	(2LVISJ5)
	1-3	53	(2LVISJ5)
	1-4	53	(2LVISJ5)
SOUTH JETTY COMM SERVICES TO PB63	1-1	53	(CTVSJ1)
	1-2	53	(CTVSJ.F)
	1-3	53	(TELSJ.F)
	1-4	53	(SHAW)



CONDUIT AND CABLE SCHEDULE			
CONDUIT ROUTE	CONDUIT ID	SIZE (mm)	CABLE ID
SOUTH JETTY LV SERVICES	1-1	103	LM3
	1-2	103	LM3
	1-3	103	LM3
	1-4	103	LM3
	1-5	103	LM5R3 LM5P LM5T TO AND FROM JM
	2-1	53	3SG2
	2-2	53	3SG2
	3-1	103	LM1
	3-2	103	LM2
	3-3	103	PMW NAVEL
	3-4	103	LM5R3 LM5P LM5T TO NEXT JM
	3-5	103	RLM
	4-1	103	CLV5D
	4-2	103	CLV5D
	4-3	103	CLV5D
	4-4	103	CLV5D
	4-5	103	CLV5D
	5-1	103	CLV5D
	5-2	103	CLV5D
	5-3	103	CLV5D
5-4	103	CLV5D	
5-5	103	CLV5D	
SOUTH JETTY COMM SERVICES	6-1	103	CLV5D
	6-2	103	CLV5D
	6-3	103	CLV5D
	6-4	103	CLV5D
	6-5	103	CLV5D
	1-1	103	FOJMD
	1-2	103	TSJMD
	1-3	103	FAM FAHM GAM
	1-4	103	SSJMD
	2-1	103	FOJMD FQJMD
	2-2	103	TSJMD TQJMD
	2-3	103	FASJY FASD FHSJY
	2-4	103	SSJMY SSJMD
	3-1	103	FOJSP
	3-2	103	TELSJF
	3-3	103	EASJF
3-4	103	CTVSJFT	
4-1	103	FOJSP	
4-2	103	TELSJF	
4-3	103	TELSJF	
4-4	103	TELSJF	
5-1	103	FOJSP	
5-2	103	TELSJF	
5-3	103	TELSJF	
5-4	103	SHWJF	



CABLE SCHEDULE SOUTH JETTY SERVICES					
SERVICE	TYPE	VOLTAGE	CONDUCTORS	ID	
SOUTH JETTY SYSTEM GROUND	LV	N/A	1cØ20 INSULATED	(J5S01)	
SOUTH JETTY SYSTEM GROUND	LV	N/A	1cØ20 INSULATED	(J5S02)	
120/208V OUTDOOR PANEL	LV	120/208V	3ØR2 TC CABLE	(2TW1)	
TUG WHARF CABLES, NAV/LIGHTS	LV	120/208V	2x3Ø6 TC CABLE, 2xØ8 TC CABLE	(2TW2) (2TW3) (HAR1)	
TUG WHARF CABLES	LV	120/208V	3xØ810 TC CABLE	(2TW4) (2TW5) (2TW6)	
TUG WHARF CABLES	LV	120/208V	3xØ810 TC CABLE	(2TW7) (2TW8) (2TW9)	
JMH1-5 120V RECS. LIGHTS SERVICE	LV	120/208V	2Ø1 TC CABLE	(JMB01)	
JMH1-5 120V SCADA POWER	LV	120/208V	2Ø1 TC CABLE	(JMB02)	
JMH1-5 HEAT TRACE	LV	120V	2Ø110 TC CABLE	(JMB03)	
JMH1 600V SERVICE	LV	600V	3ØR500CM TC CABLE	(6M1)	
JMH2 600V SERVICE	LV	600V	3ØR500CM TC CABLE	(6M2)	
JMH3 600V SERVICE	LV	600V	3ØR30 TC CABLE	(6M3)	
JMH5 600V SERVICE	LV	600V	3ØR30 TC CABLE	(6M5)	
JMH4 430-630 REGULATED SERVICE	LV	630V	2xØR500CM TC CABLE	(6M4)	
JMH3 480V SERVICE	LV	480V	3xØR300CM TC CABLE	(4M3)	
JMH5 480V SERVICE	LV	480V	2xØR300CM TC CABLE	(4M5)	
JMH4 208V SERVICE	LV	120/208V	2xØR300CM TC CABLE	(2M4)	
HMH1 FUTURE	LV	N/A	FUTURE	(HMH1)	
HMH0 SERVICE	LV	3Ø1V	4ØR6 TC CABLE	(HMH0)	
TUG WHARF L1ST SERVICE	LV	3Ø1V	4ØR6 TC CABLE	(6TWHM)	
HMH0, HMH1 REC POWER	LV	120/208V	2Ø1 TC CABLE	(2HM)	
600V SOUTH JETTY CAISSON RECEPTACLE	LV	600V	4ØR10 TC CABLE	(6SCA)	
600V OIL WATER SEPARATORS HEAT	LV	600V	4Ø1 TC CABLE	(4OWHT)	
SOUTH JETTY LV SPARE CONDUIT (103mm)	LV	N/A	FUTURE	(GLVS2)	
SOUTH JETTY LV SPARE CONDUIT (53mm)	LV	N/A	FUTURE	(GLVS5)	
JETTY MOUNT SPARE LV CONDUIT (103mm)	LV	N/A	FUTURE	(GLMVS)	
ROPE LOCKER LOW VOLTAGE (FUTURE)	LV	N/A	FUTURE	(RLLY)	
FIA HORN TUG WHARF	COMM	N/A	2ØR12 ARMORED	(FHTW1)	
FIA HORN TUG WHARF	COMM	N/A	2ØR12 ARMORED	(FHTW2)	
FIA TUG WHARF	COMM	N/A	2ØR12 ARMORED	(FATW1)	
FIA SOUTH JETTY	COMM	N/A	2x2ØR12 ARMORED	(FAS1) (FAS2)	
FIA HORN SOUTH JETTY	COMM	N/A	2ØR12 ARMORED	(FHS12)	
TEL SOUTH JETTY MOUNTS	COMM	N/A	3x25PR14 GEL CAT3 ARMORED CABLE	(TSAM) (TSAP) (TSAM) (TSAM) (TSAM)	
FIBRE OPTIC SCADA SOUTH JETTY MOUNTS	COMM	N/A	5x22P 5Ø12µm SMM ARMORED FIBRE CABLE	(SSAM) (SSAM) (SSAM) (SSAM) (SSAM)	
SCADA TUNNEL LOOP	COMM	N/A	2PR18 CAT3 ARMORED CABLE	(SSTU1)	
FIBRE OPTIC JETTY MOUNTS	COMM	N/A	5x5 9125µm SSM ARMORED FIBRE CABLE	(FQMH) (FQMH) (FQMH) (FQMH) (FQMH)	
OCTV SOUTH JETTY	COMM	N/A	12PR14 GEL CAT3 ARMORED CABLE	(CTVSH)	
FIA TO JETTY MOUNT	COMM	N/A	2x2ØR12 ARMORED	(FAM)	
FIA HORN TO JETTY MOUNT	COMM	N/A	2x2ØR12 ARMORED	(FHAM)	
EIA SOUTH JETTY	COMM	N/A	2ØR12 ARMORED	(EAS1)	
EIA TO JETTY MOUNT	COMM	N/A	2ØR12 ARMORED	(EAM)	
OCTV SOUTH JETTY FUTURE	COMM	N/A	FUTURE	(CTVSHF)	
SHAW CABLE (FUTURE)	COMM	N/A	FUTURE	(SHAW)	
SOUTH JETTY COMM SPARE (FIBRE ONLY)	COMM	N/A	FUTURE	(FQSH)	
SOUTH JETTY COMM SPARE	COMM	N/A	FUTURE	(TELSF)	
JETTY MOUNT SPARE COMM CONDUIT (103mm)	COMM	N/A	FUTURE	(JMSC)	



**GENERAL NOTES:**

1. REFER TO CIVIL SHEETS TO EXTRUDED CONCRETE RACEWAY CONSTRUCTION DETAILS.
2. IDENTIFY ALL FEEDER CABLES WITH COLOURED TAGS HAVING A SLOTTED THE HOLES AND SECURED WITH TWO PLASTIC TAG TIES.
3. ALL MANHOLES SHALL BE EQUIPPED WITH CONDUIT DIRECTORIES. EACH WALL OF THE MANHOLE WITH CONDUIT ENTRY SHALL HAVE A DIRECTORY. SEE SPECIFICATION FOR DIRECTORY DETAILS.
4. ALL MANHOLE COVERS SHALL HAVE ASSIGNED MANHOLE NUMBER WELDED ONTO EXTERIOR OF I.D.



3	ISSUED FOR ELECTRICAL ADDENDUM #1	2017/0
2	ISSUED FOR TENDER	2017/0
1	ISSUED FOR 99% REVIEW	16/08
<b>Revision/</b>	<b>Description/Description</b>	<b>Date/Date</b>

**Client/client**

**ESQUIMALT  
GRAVING DOCK**

**825 ADMIRALS ROAD,  
VICTORIA, BC, V9A 2P1**

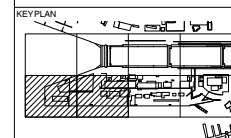
**Project title/Titre du projet**  
825 ADMIRALS ROAD, VICTORIA, BC  
ESQUIMALT GRAVING DOCK  
ELECTRICAL SAFETY UPGRADE

**SOUTH JETTY  
RECONSTRUCTION**

Consultant Approval Box Only -
Designed by/Concept par I.BARNES
Drawn by/Dessiné par J.BIELING, S. SEYMOUR
PMSC Project Manager/Administrateur de Projets TPSGC PATRICK TRUONG
PMSC Regional Manager, Architectural and Engineering Services/ Géomètres agréés, Services d'architecture et de génie, TPSGC PREETIPAL PAUL
Drawing title/Titre du dessin

**SOUTH JETTY  
MANHOLE AND PULL  
PIT DETAILS 3 OF 7**

Project No./No. du projet	Sheet/Feuille	Section n° La Sécheresse n°
R.026729.002	E22	3



3	ISSUED FOR ELECTRICAL ADDENDUM #1	2017/03/16
2	ISSUED FOR TENDER	2017/03/16
1	ISSUED FOR 99% REVIEW	16/08/2017
<b>Revision/</b>	<b>Description/Description</b>	<b>Date/Date</b>

**ESQUIMALT  
GRAVING DOCK**

825 ADMIRALS ROAD,  
VICTORIA, BC, V9A 2P1

**Project Name/Titre du projet**  
825 ADMIRALS ROAD, VICTORIA, BC  
ESQUIMALT GRAVING DOCK  
ELECTRICAL SAFETY UPGRADE

## SOUTH JETTY RECONSTRUCTION

Consultant Approval Box Only

Designed by/Concept por  
L. BARNES

Drawn by/Dessiné par  
J.BIELING, S. SEYMOUR

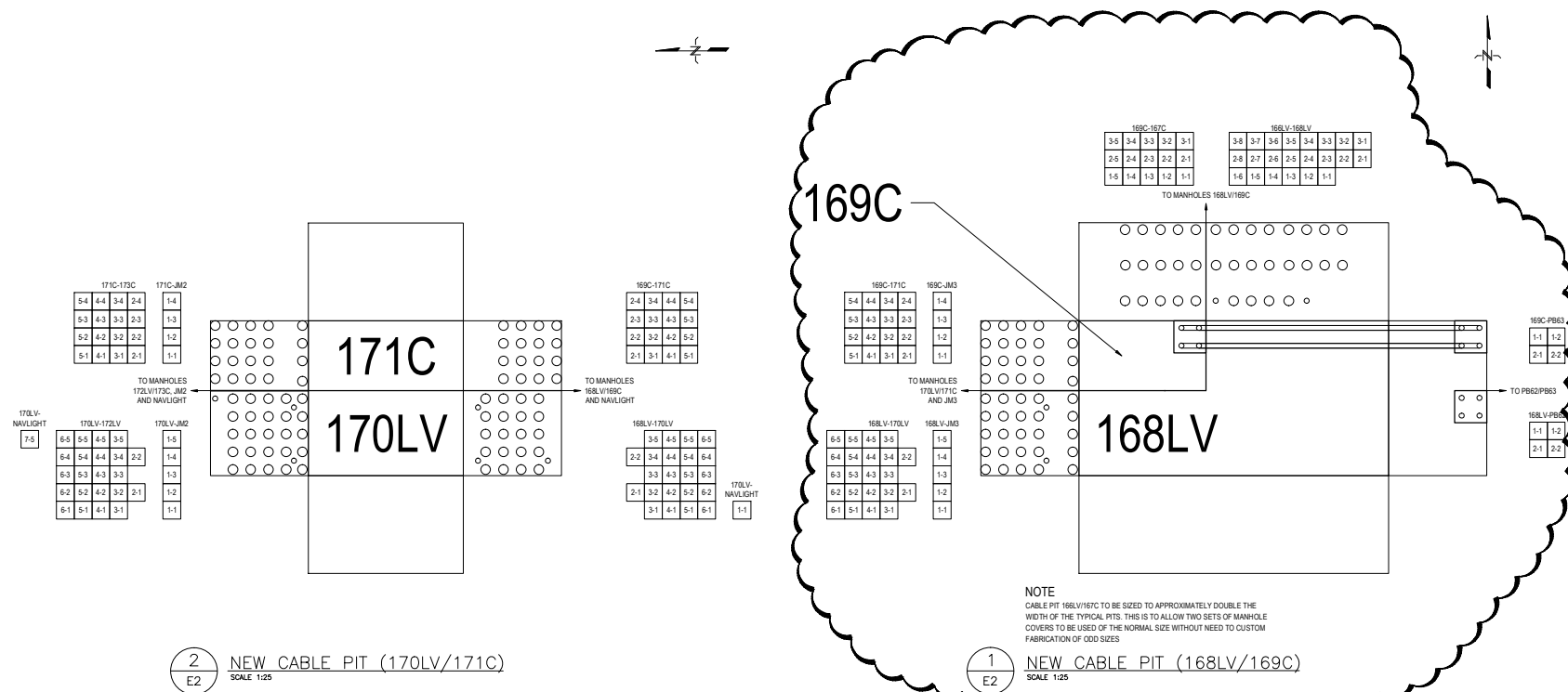
**FWSC Project Manager/Administrateur de Projets TPSOC**  
PATRICK TRUONG

**FWSC, Regional Manager, Architectural and Engineering Services**  
Gestionnaire régionale, Services d'architecture et de génie, TPSOC  
PROFITDAI PAIII

Drawing title/Titre du dessin

**SOUTH JETTY  
MANHOLE AND PULL  
PIT DETAILS 4 OF 7**

Project No./No. du projet	Sheet/Feuille	Revision n° La Révision est.
R.026729.002	E23	3



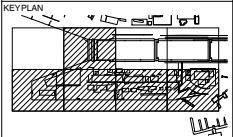
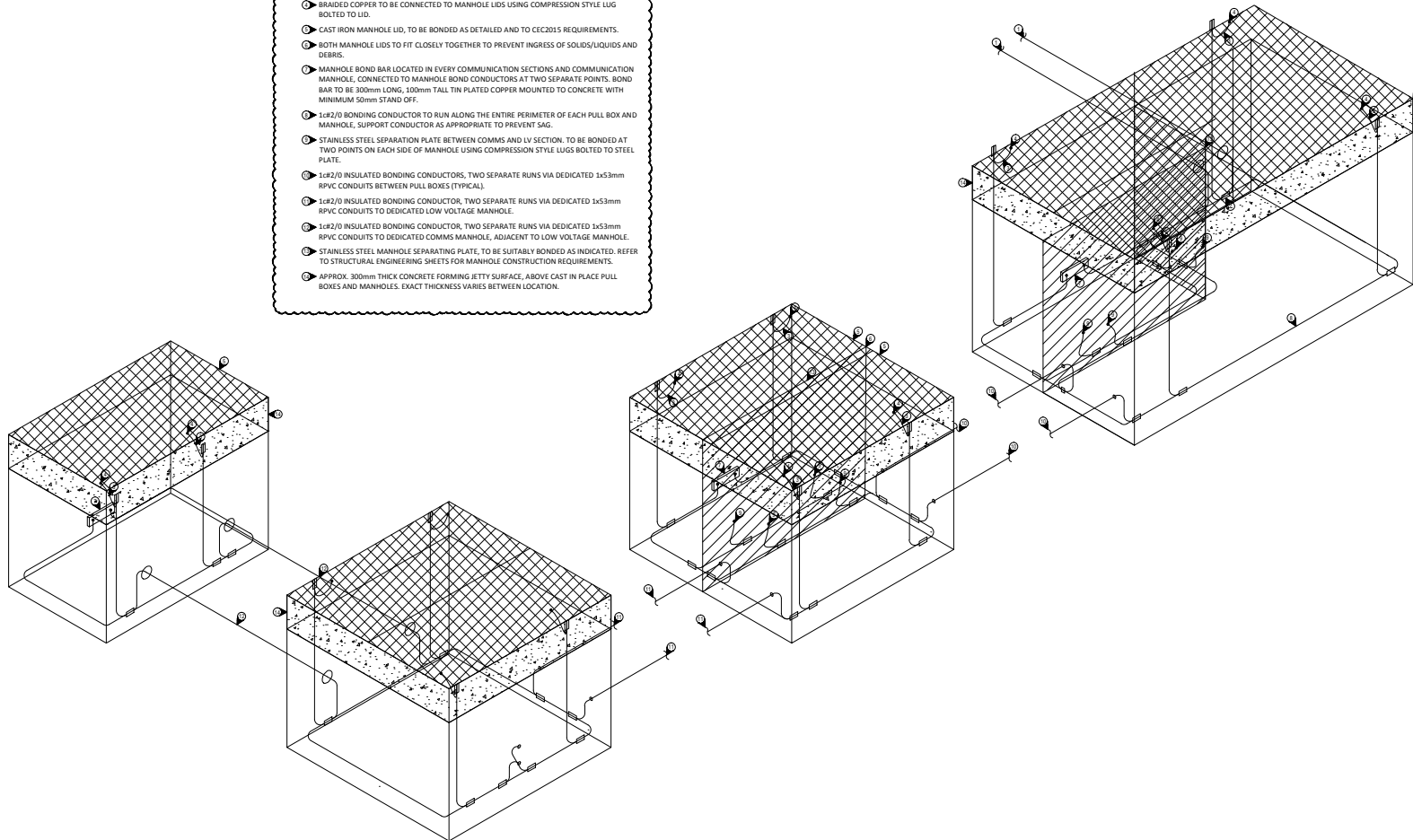
**GENERAL NOTES:**

1. REFER TO CIVIL SHEETS TO EXTRUDED CONCRETE RACEWAY CONNECTION DETAILS.
2. IDENTIFY ALL FEEDER CABLES WITH COLOURED TAGS HAVING 4 SLOTTED THE HOLES AND SECURED WITH TWO PLASTIC TAG TIES.
3. ALL MANHOLES SHALL BE EQUIPPED WITH CONDUIT DIRECTORY. EACH WALL OF THE MANHOLE WITH CONDUIT ENTRY SHALL HAVE A DIRECTORY. SEE SPECIFICATION FOR DIRECTORY DETAILS.
4. ALL MANHOLE COVERS SHALL HAVE ASSIGNED MANHOLE NUMBER WELDED ONTO EXTERIOR OF LID.



#### BONDING NOTES

- 1x1/2" INSULATED BONDING CONDUCTORS, TWO SEPARATE RUNS VIA DEDICATED 1x53mm RPVC CONDUITS TO EXISTING LOW VOLTAGE MANHOLE 144LV BOND. TIE INTO EXISTING BOND AT TWO DIFFERENT LOCATIONS AND ATTACH USING NON-REVERSIBLE COMPRESSION STYLE CRIMP CONNECTOR.
- ALL BOND CONDUCTOR TAPS TO BE CONNECTED TO MAIN BOND WIRES USING NON-REVERSIBLE COMPRESSION STYLE CRIMP CONNECTOR (TYPICAL).
- BRAIDED #2/0 FLEXIBLE COPPER CONNECTOR TO BOND MANHOLE LIDS, ATTACH TO EACH LID AT TWO SEPARATE LOCATIONS.
- BRAIDED COPPER TO BE CONNECTED TO MANHOLE LIDS USING COMPRESSION STYLE LUG BOLTED TO LID.
- CAST IRON MANHOLE LID, TO BE BONDED AS DETAILED AND TO CEC2015 REQUIREMENTS.
- BOTH MANHOLE LIDS TO FIT CLOSELY TOGETHER TO PREVENT INGRESS OF SOLIDS/LIQUIDS AND DEBRIS.
- MANHOLE BOND BAR LOCATED IN EVERY COMMUNICATION SECTIONS AND COMMUNICATION MANHOLE, CONNECTED TO MANHOLE BOND CONDUCTORS AT TWO SEPARATE POINTS. BOND BAR TO BE 300mm LONG, 100mm TALL TIN PLATED COPPER MOUNTED TO CONCRETE WITH MINIMUM 50mm STAND OFF.
- 1x1/2" BONDING CONDUCTOR TO RUN ALONG THE ENTIRE PERIMETER OF EACH PULL BOX AND MANHOLE, SUPPORT CONDUCTOR AS APPROPRIATE TO PREVENT SAG.
- STAINLESS STEEL SEPARATION PLATE BETWEEN COMMS AND LV SECTION, TO BE BONDED AT TWO POINTS ON EACH SIDE OF MANHOLE USING COMPRESSION STYLE LUGS BOLTED TO STEEL PLATE.
- 1x1/2" INSULATED BONDING CONDUCTORS, TWO SEPARATE RUNS VIA DEDICATED 1x53mm RPVC CONDUITS BETWEEN PULL BOXES (TYPICAL).
- 1x1/2" INSULATED BONDING CONDUCTOR, TWO SEPARATE RUNS VIA DEDICATED 1x53mm RPVC CONDUITS TO DEDICATED LOW VOLTAGE MANHOLE.
- 1x1/2" INSULATED BONDING CONDUCTOR, TWO SEPARATE RUNS VIA DEDICATED 1x53mm RPVC CONDUITS TO DEDICATED COMMS MANHOLE, ADJACENT TO LOW VOLTAGE MANHOLE.
- STAINLESS STEEL MANHOLE SEPARATING PLATE, TO BE SUITABLY BONDED AS INDICATED. REFER TO STRUCTURAL ENGINEERING SHEETS FOR MANHOLE CONSTRUCTION REQUIREMENTS.
- APPROX. 300mm THICK CONCRETE FORMING JETTY SURFACE, ABOVE CAST IN PLACE PULL BOXES AND MANHOLES. EXACT THICKNESS VARIES BETWEEN LOCATION.



3	ISSUED FOR ELECTRICAL ADDENDUM MPT	2017/01/12
2	ISSUED FOR TENDER	2017/03/06
1	ISSUED FOR 90% REVIEW	16/08/15

Client/Client

#### ESQUIMALT GRAVING DOCK

825 ADMIRALS ROAD,  
VICTORIA, BC, V8A 2P1

Project title/Titre du projet  
825 ADMIRALS ROAD, VICTORIA, BC  
ESQUIMALT GRAVING DOCK  
ELECTRICAL SAFETY UPGRADE  
SOUTH JETTY  
RECONSTRUCTION

Consultant Approval Box Only

Designed by/Concepté par  
I. BARNES

Drawn by/Dessiné par  
J. BIELING, S. SEYMOUR

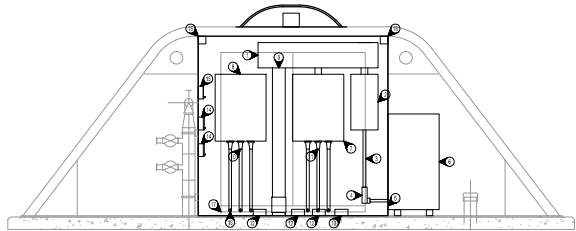
PMSC Project Manager/Administrateur de Projet PMSC  
PATRICK TRELOUGH

PMSC Regional Manager/Administrateur et Engineering Services/  
Gestionnaire régional, Services d'ingénierie et de PMSC, PMSC  
PRIETIPAL, PAUL

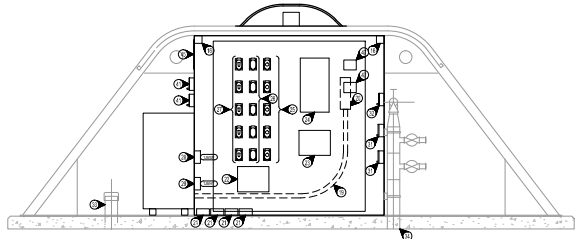
Drawing title/Titre du dessin

#### SOUTH JETTY PULLBOX BONDING TYPICAL DETAIL

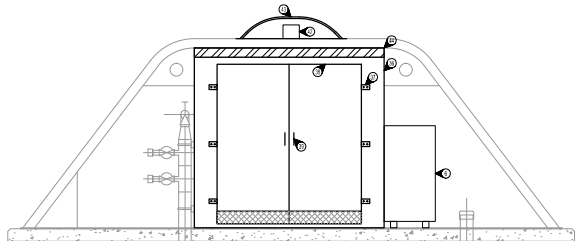
Project No./No. du projet R.026729.002	Sheet/Feuille E29	Revision no./ Révision 3
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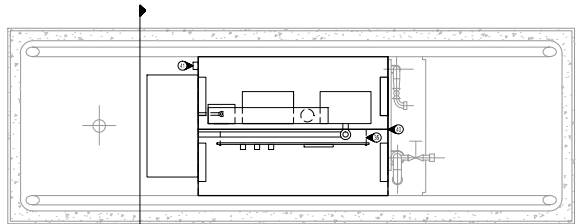
1 JETTY MOUNT #1 & #2  
REFURBISHED POWER SECTION (FACE TOWARDS SHORE)  
SCALE 1:20



2 JETTY MOUNT #1 & #2  
REFURBISHED COMMUNICATION SECTION  
SCALE 1:20



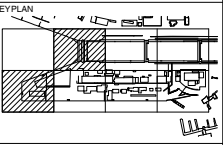
3 JETTY MOUNT #1 & #2  
REFURBISHED ELEVATION  
SCALE 1:20



4 JETTY MOUNT #1 & #2  
REFURBISHED FLOOR PLAN  
SCALE 1:20

#### KEYNOTES SHEETS E30 AND E31:

- 600V, 200A, 3PH, 3W SPLITTER TROUGH.
- 40A, 600V, 3PH BREAKER IN BREAKER ENCLOSURE.
- 1x12mm GRS CONDUIT BETWEEN 600V, 40A BREAKER AND OUTDOOR TRANSFORMER. CONNECT USING 3C8R.
- GRS LBR FITTING.
- ENSURE PENETRATION BETWEEN ENCLOSURE AND TRANSFORMER IS SUITABLY SEALED AND VAPOR STOPPED.
- 40KVA, 600V-120/208V STEP DOWN TRANSFORMER. TRANSFORMER TO BE EPOXY ENCAPSULATED NEMA 4X RATED TRANSFORMER SUITABLE FOR WALL MOUNTING TO EXTERIOR TO KIOSK. TRANSFORMER IS TO BE DELTA-WYE TYPE WITH GROUND CONNECTING BACK INTO KIOSK AND TO CONNECT TO SOUTH JETTY GROUND BUS BAR LOCATED IN NEARBY MANHOLE. GROUND TO BE #6 GREEN INSULATED COPPER. PROTECT GROUND WIRE USING NON-METALLIC LIQUID TIGHT FLEX.
- 600V, 100A, 100% RATED BREAKER C/W CAMLOCK CONNECTORS ON BOTTOM SIZED TO MATCH EXISTING CAMLOCK CONNECTORS ON SSSR AND DOCKSIDE SERVICE ASSEMBLIES.
- 120/208V, 100A, 100% RATED BREAKER C/W CAMLOCK CONNECTORS ON BOTTOM SIZED TO MATCH EXISTING CAMLOCK CONNECTORS ON SSSR AND DOCKSIDE SERVICE ASSEMBLIES.
- 1x1/2mm GRS CONDUIT FROM CONDUIT STUB UP TO 600V SPLITTER TROUGH. CONDUIT TO BE ATTACHED TO RPVC STUB USING SUITABLE EXPANSION COUPLING.
- DLO STYLE CABLES SUPPLIED BY OTHERS.
- PROVIDE SUPPORT BARS BEHIND BREAKERS, FOR ATTACHMENT OF STAINLESS STEEL STRAIN RELIEF GRIPS TO PREVENT STRESS ON DLO CABLE OR CAM-LOCK PLUGS.
- 5x1/2mm RPVC CONDUIT STUBS FROM NEARBY SOUTH JETTY MANHOLE. ENSURE CONDUITS ARE SUITABLY ENTERED INTO BASE OF JETTY MOUNT TO ALLOW FOR FUTURE USE OF ALL SPARES. ALL CONDUITS TO BE SUITABLY VAPOUR STOPPED.
- NOT USED.
- POWER SECTION SERVICE RECEPTACLES C/W LATCH COVERS.
- POWER SECTION LIGHT SWITCH WIRED IN SERIES AFTER SERVICE RECEPTACLES FOR CONTROL OF LIGHTING.
- 500 LUMEN, 120V, LED STRIP LIGHTS, 4X RATED, MOUNTED IN TOP CORNERS OF EACH SECTION. TO BE MOUNTED SUCH THAT THE LIGHT IS THROWN INTO THE CENTRE OF THE KIOSK NOT JUST WASHING THE WALLS.
- OUTLINE OF KIOSK DOOR. ENSURE BREAKERS AND CAM-LOCK CONNECTORS ARE SUITABLY MOUNTED SUCH THAT ACCESS AND OPERATION IS NOT IMPEDED.
- EXISTING 100mm GAP BELOW KIOSK DOORS FOR CABLE EXIT/ENTRY.
- 4C#10 TECK CABLE MOUNTED BEHIND COMMUNICATION PLYWOOD BOARD. TO RUN BEHIND BOARD AND UP INTO ELBOW FITTING.
- 4C#10 ELBOW FITTING INTO TOP, BACK END OF 120/208V, 100A BREAKER VIA PENETRATION BETWEEN POWER AND COMMUNICATION COMPARTMENT BARRIER.
- 4x1/2mm RPVC CONDUIT STUBS FROM NEARBY SOUTH JETTY MANHOLE. ENSURE CONDUITS ARE SUITABLY ENTERED INTO BASE OF JETTY MOUNT TO ALLOW FOR FUTURE USE OF ALL SPARES. ALL CONDUITS TO BE SUITABLY VAPOUR STOPPED.
- TEL-COM SPLICE BOX FOR CAT3 PHONE CABLE CROSS CONNECTIONS.
- SCADA METERS FOR COMPRESSED AIR AND WATER MONITORING.
- FIBRE TO CATSE MINIMUM 8-PORT INDUSTRIAL MEDIA CONVERTER AND POWER SUPPLY MOUNTED TO PLYWOOD MOUNTING BOARD.
- 5x 9/32x1/4 SSM FIBRE OPTIC CONNECTION RECEPTACLES C/W SCREW ON OR SNAP ON COVER TO PREVENT DIRT/DUST/WATER INGRESS WHEN NOT IN USE. COVER TO COME WITH CHAIN OR PLASTIC TAIL ATTACHED TO PLUG BASE TO PREVENT LOSS WHEN CONNECTION IN USE.
- 5x CAT3E CONNECTION RECEPTACLES C/W SCREW ON OR SNAP ON COVER TO PREVENT DIRT/DUST/WATER INGRESS WHEN NOT IN USE. COVER TO COME WITH CHAIN OR PLASTIC TAIL ATTACHED TO PLUG BASE TO PREVENT LOSS WHEN CONNECTION IN USE.
- 5x CAT3 TELEPHONE CONNECTION RECEPTACLES C/W SCREW ON OR SNAP ON COVER TO PREVENT DIRT/DUST/WATER INGRESS WHEN NOT IN USE. COVER TO COME WITH CHAIN OR PLASTIC TAIL ATTACHED TO PLUG BASE TO PREVENT LOSS WHEN CONNECTION IN USE.
- JETTY MOUNT LV 120V SERVICE SPLICE BOX FOR POWER AND LIGHTING CIRCUIT.
- JETTY MOUNT HEAT TRACE SPLICE BOX. FINAL CONNECTION OF HEAT TRACE BY MECHANICAL CONTRACTOR.
- NOT USED.
- COMMUNICATION SECTION SERVICE RECEPTACLES C/W LATCH COVERS.
- COMMUNICATION SECTION LIGHT SWITCH WIRES IN SERIES AFTER SERVICE RECEPTACLES FOR CONTROL OF LIGHTING.
- SEWER CONNECTION POINT. LOCATION TO BE CONFIRMED ON MECHANICAL DETAILS FOR JETTY MOUNT REBUILDING.
- WATER AND COMPRESSED AIR CONNECTION MANIFOLDS. CONFIRM MOUNTING AND CO-ORDINATE WITH MECHANICAL CONTRACTOR AND MECHANICAL SHEETS FOR DETAILED DESIGN.
- COMMUNICATIONS 19mm THICK PLYWOOD BACKBOARD PAINTED WHITE. MOUNTED OFF WALL TO ALLOW TECK CABLE TO PASS BEHIND FOR 208V SECONDARY FEEDERS.
- CONFIRM POWER AND COMMUNICATION SECTION WELD INTEGRITY. SUBMIT A PER UNIT COST FOR REPAIR WORK THAT WILL BE DONE UNDER A CHANGE ORDER IF REQUIRED.
- REPLACE EXISTING DOOR HINGES WITH NEW STAINLESS STEEL HINGES.
- REPLACE ALL DOOR SEALS WITH NEW GASKETS. GASKET TO BE 4 STRIPS FOR TOP, BOTTOM AND SIDES. TO EXTEND FULL LENGTH OF DOOR AND MEET AT EDGES FOR SEAMLESS CONNECTION.
- REPLACE ALL DOOR LATCHES WITH NEW STAINLESS STEEL LOOKALIKE LATCHES.
- REPLACE EXISTING SEPARATION BARRIER WITH NEW ALUMINUM OR STAINLESS STEEL 3.5mm PLATE.
- FIRE ALARM AND EMERGENCY ALARM EMERGENCY PULL STATION IN 4X RATED BOX MOUNTED ONE ABOVE THE OTHER. WIRES INTO FIRE ALARM SYSTEM.
- FIRE ALARM AND EMERGENCY ALARM LIGHTS MOUNTED TO KIOSK ROOF. RED FOR FIRE ALARM. BLUE FOR EMERGENCY ALARM. TO BE OF NEMA4 CONSTRUCTION AND ROOF PENETRATION TO BE SUITABLY SEALED TO PREVENT WATER INGRESS. WIRES INTO LIGHTS TO BE INSTALLED WITH DRIP LOOP TO PREVENT WATER MIGRATION ALONG THE CABLES IN THE EVENT OF A LEAK.
- SCREWS IN ALUMINUM PIPE WORK - TO BE REPAIRED TO ALLOW RIGIDS TO SLIDE OVER THE TOP OF THE STROBE LIGHTS WITHOUT CATCHING. TO BE WELDED TO THE TOP OF THE EXISTING KIOSK ROOF.
- RED BANDING WRAP- WEATHERPROOF. APPLIED AROUND TOP OF KIOSK TO INDICATE KIOSK IS A FIRE ALARM AND EMERGENCY ALARM PULL STATION.
- OUTDOOR RATED LAMICOD LABEL. WHITE BACKGROUND WITH RED LETTERS MOUNTED ABOVE FIA AND EIA PULL STATIONS STATING "FIRE ALARM AND EMERGENCY ALARM PULL STATIONS"
- PROVIDE LAMICOD LABEL OF JM#1 AND JM#2 SINGLE LINE DETAIL. TO BE MOUNTED TO FACE OF 208V MOLDED CASE SWITCH. SUBMIT SINGLE LINE DRAWING FOR ELECTRICAL ENGINEER AND SITE REPRESENTATIVE APPROVAL PRIOR TO MANUFACTURING.
- NO-R REVENUE CERTIFIED METERS C/W 200S CTS AND SA PULSED PTTs. TO BE MOUNTED ON COMMUNICATIONS BACKBOARD AND CONNECTED TO CTS AND PTTs INTEGRATED INTO MOLDED CASE SWITCH COMPARTMENT. PLUG INTO CATSE MEDIA CONVERTER FOR CONNECTION INTO EXISTING SSSR SCADA SYSTEM.



Rev	Description	Date
3	ISSUED FOR ELECTRICAL ADDENDUM M#1	2017/07/12
2	ISSUED FOR TENDER	2017/03/06
1	ISSUED FOR 99% REVIEW	16/08/15

Client/Client

#### ESQUIMALT GRAVING DOCK

825 ADMIRALS ROAD,  
VICTORIA, BC, V8A 2P1

Projet title/Titre du projet  
825 ADMIRALS ROAD, VICTORIA, BC  
ESQUIMALT GRAVING DOCK  
ELECTRICAL SAFETY UPGRADE  
SOUTH JETTY  
RECONSTRUCTION

Consultant Approval Box Only

Designed by/Conçue par  
I. BARNES

Drawn by/Dessiné par  
J. BIELING, S. SEYMOUR

PM/SC Project Manager/Administrateur de Projets PM/SC  
PATRICK TRELOUGH

PM/SC, Regional Manager, Architecture and Engineering Services/  
PM/SC, Responsable Services d'Architecture et d'Ingénierie  
PREETIPAL PAUL

Drawing title/Titre du dessin

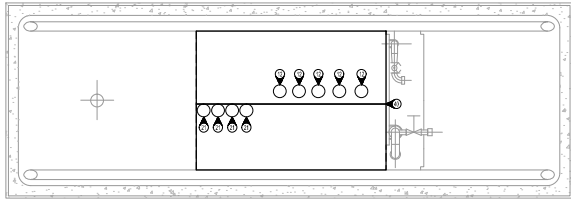
JETTY MOUNT #1 & #2  
REFURBISHMENT DETAILS  
1 OF 2

Project No./No. du projet  
R.026729.002

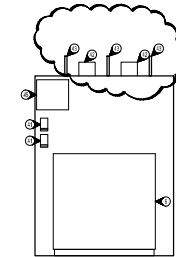
Sheet/Feuille  
E30

Revision no./  
Révision  
3





5  
JETTY MOUNT #1 & #2  
REFURBISHED PENETRATION LOCATIONS  
SCALE 1:20



6  
JETTY MOUNT #1 & #2  
TRANSFORMER SIDE VIEW  
SCALE 1:20

#### KEYNOTES SHEETS E30 AND E31:

- 600V, 200A, 3PH, 3W SPLITTER TROUGH.
- 40A, 600V, 3PH BREAKER IN BREAKER ENCLOSURE.
- 1x21mm GRS CONDUIT BETWEEN 600V, 40A BREAKER AND OUTDOOR TRANSFORMER. CONNECT USING 3C8B
- GRS LBR FITTING.
- ENSURE PENETRATION BETWEEN ENCLOSURE AND TRANSFORMER IS SUITABLY SEALED AND VAPOR STOPPED.
- 40kVA, 600V/120/208V STEP DOWN TRANSFORMER. TRANSFORMER TO BE EPOXY ENCAPSULATED NEMA 4X RATED TRANSFORMER SUITABLE FOR WALL MOUNTING TO EXTERIOR OF KIOSK. TRANSFORMER IS TO BE DELTA-WYE TYPE WITH GROUND CONNECTING BACK INTO KIOSK AND TO CONNECT TO SOUTH JETTY GROUND BUS BAR LOCATED IN NEARBY MANHOLE. GROUND TO BE #6 GREEN INSULATED COPPER. PROTECT GROUND WIRE USING NON-METALLIC LIQUID TIGHT FLEX.
- 600V, 100A, 100% RATED BREAKER C/W CAM-LOCK CONNECTORS ON BOTTOM SIZED TO MATCH EXISTING CAM-LOCK CONNECTORS ON SSSR AND DOCKSIDE SERVICE ASSEMBLIES.
- 120/208V, 100A, 100% RATED BREAKER C/W CAM-LOCK CONNECTORS ON BOTTOM SIZED TO MATCH EXISTING CAM-LOCK CONNECTORS ON SSSR AND DOCKSIDE SERVICE ASSEMBLIES.
- 1x103mm GRS CONDUIT FROM CONDUIT STUB UP TO 60V SPLITTER TROUGH. CONDUIT TO BE ATTACHED TO RPVC STUB USING SUITABLE EXPANSION COUPLING.
- DLO STYLE CABLES SUPPLIED BY OTHERS.
- PROVIDE SUPPORT BARS BEHIND BREAKERS, FOR ATTACHMENT OF STAINLESS STEEL STRAIN RELIEF GRIPS TO PREVENT STRESS ON DLO CABLE OR CAM-LOCK PLUGS.
- 5x103mm RPVC CONDUIT STUBS FROM NEARBY SOUTH JETTY MANHOLE. ENSURE CONDUITS ARE SUITABLY ENTERED INTO BASE OF JETTY MOUNT TO ALLOW FOR FUTURE USE OF ALL SPARES. ALL CONDUITS TO BE SUITABLY VAPOUR STOPPED.
- NOT USED
- POWER SECTION SERVICE RECEPTACLES C/W LATCH COVERS.
- POWER SECTION LIGHT SWITCH WIRED IN SERIES AFTER SERVICE RECEPTACLES FOR CONTROL OF LIGHTING.
- 500 LUMEN, 120V, LED STRIP LIGHTS, 4X RATED, MOUNTED IN TOP CORNERS OF EACH SECTION. TO BE MOUNTED SUCH THAT THE LIGHT IS THROWN INTO THE CENTRE OF THE KIOSK NOT JUST WASHING THE WALLS.
- OUTLINE OF KIOSK DOOR. ENSURE BREAKERS AND CAM-LOCK CONNECTORS ARE SUITABLY MOUNTED SUCH THAT ACCESS AND OPERATION IS NOT IMPEDED.
- EXISTING 100mm GAP BELOW KIOSK DOORS FOR CABLE EXIT/ENTRY.
- 4C810 TECK CABLE MOUNTED BEHIND COMMUNICATION PLYWOOD BOARD. TO RUN BEHIND BOARD AND UP INTO ELBOW FITTING.
- 4C810 ELBOW FITTING INTO TOP, BACK END OF 120/208V, 100A BREAKER VIA PENETRATION BETWEEN POWER AND COMMUNICATION COMPARTMENT BARRIER.
- 4x103mm RPVC CONDUIT STUBS FROM NEARBY SOUTH JETTY MANHOLE. ENSURE CONDUITS ARE SUITABLY ENTERED INTO BASE OF JETTY MOUNT TO ALLOW FOR FUTURE USE OF ALL SPARES. ALL CONDUITS TO BE SUITABLY VAPOUR STOPPED.
- TEL-COM SPICE BOX FOR CAT3 PHONE CABLE CROSS CONNECTIONS
- SCADA METERS FOR COMPRESSED AIR AND WATER MONITORING.
- FIBRE TO CATSE MINIMUM 8-PORT INDUSTRIAL MEDIA CONVERTER AND POWER SUPPLY MOUNTED TO PLYWOOD MOUNTING BOARD.
- 5x 9125µM SSM FIBRE OPTIC CONNECTION RECEPTACLES C/W SCREW ON OR SNAP ON COVER TO PREVENT DIRT/DUST/WATER INGRESS WHEN NOT IN USE. COVER TO COME WITH CHAIN OR PLASTIC TAIL ATTACHED TO PLUG BASE TO PREVENT LOSS WHEN CONNECTION IN USE.

- 5x CATSE CONNECTION RECEPTACLES C/W SCREW ON OR SNAP ON COVER TO PREVENT DIRT/DUST/WATER INGRESS WHEN NOT IN USE. COVER TO COME WITH CHAIN OR PLASTIC TAIL ATTACHED TO PLUG BASE TO PREVENT LOSS WHEN CONNECTION IN USE.
- 5x CAT3 TELEPHONE CONNECTION RECEPTACLES C/W SCREW ON OR SNAP ON COVER TO PREVENT DIRT/DUST/WATER INGRESS WHEN NOT IN USE. COVER TO COME WITH CHAIN OR PLASTIC TAIL ATTACHED TO PLUG BASE TO PREVENT LOSS WHEN CONNECTION IN USE.
- JETTY MOUNT LV 120V SERVICE SPICE BOX FOR POWER AND LIGHTING CIRCUIT.
- JETTY MOUNT HEAT TRACE SPICE BOX. FINAL CONNECTION OF HEAT TRACE BY MECHANICAL CONTRACTOR.
- NOT USED
- COMMUNICATION SECTION SERVICE RECEPTACLES C/W LATCH COVERS
- COMMUNICATION SECTION LIGHT SWITCH WIRES IN SERIES AFTER SERVICE RECEPTACLES FOR CONTROL OF LIGHTING.
- SEWER CONNECTION POINT. LOCATION TO BE CONFIRMED ON MECHANICAL DETAILS FOR JETTY MOUNT REFURBISHMENT.
- WATER AND COMPRESSED AIR CONNECTION MANIFOLDS. CONFIRM MOUNTING AND CO-ORDINATE WITH MECHANICAL CONTRACTOR AND MECHANICAL SHEETS FOR DETAILED DESIGN.
- COMMUNICATIONS 19mm THICK PLYWOOD BACKBOARD PAINTED WHITE. MOUNTED OFF WALL TO ALLOW TECK CABLE TO PASS BEHIND FOR 208V SECONDARY FEEDERS.
- CONFIRM POWER AND COMMUNICATION SECTION WELD INTEGRITY. SUBMIT A PER UNIT COST FOR REPAIR WORK THAT WILL BE DONE UNDER A CHANGE ORDER IF REQUIRED.

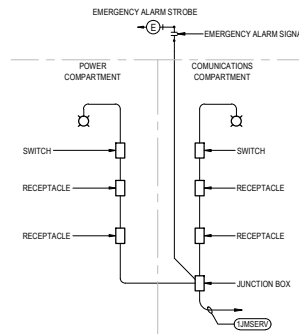
- REPLACE EXISTING DOOR HINGES WITH NEW STAINLESS STEEL HINGES.
- REPLACE ALL DOOR SEALS WITH NEW GASKETS. GASKET TO BE 4 STRIPS FOR TOP, BOTTOM AND SIDES. TO EXTEND FULL LENGTH OF DOOR AND MEET AT EDGES FOR SEAMLESS CONNECTION.
- REPLACE ALL DOOR LATCHES WITH NEW STAINLESS STEEL LOCKABLE LATCHES.
- REPLACE EXISTING SEPARATION BARRIER WITH NEW ALUMINUM OR STAINLESS STEEL 3.5mm PLATE.

- FIRE ALARM AND EMERGENCY ALARM EMERGENCY PULL STATION IN 4X RATED BOX MOUNTED ON THE EXTERIOR OF THE KIOSK.
- FIRE ALARM AND EMERGENCY ALARM MOUNTED TO KIOSK ROOF. RED FOR FIRE ALARM. BLUE FOR EMERGENCY ALARM. TO BE OF NEOMAX CONSTRUCTION AND ROOF PENETRATION TO BE SUITABLY SEALED TO PREVENT WATER INGRESS. WIRES INTO LIGHTS TO BE INSTALLED WITH DRIP LOOP TO PREVENT WATER MIGRATION ALONG THE CABLES IN THE EVENT OF A LEAK.

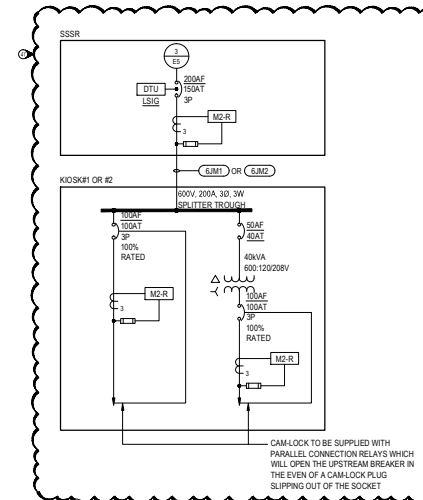
- SCHEDULE 85 ALUMINUM PIPE WORK. TO BE INSTALLED TO ALLOW ROPES TO SLIDE OVER THE TOP OF THE STROBE LIGHTS WITHOUT CATCHING. TO BE WELDED TO THE TOP OF THE EXISTING KIOSK ROOF.
- RED BANDING WRAP WEATHERPROOF APPLIED AROUND TOP OF KIOSK TO INDICATE KIOSK IS A FIRE ALARM AND EMERGENCY ALARM PULL STATION.

- OUTDOOR RATED LAMICOID LABEL. WHITE BACKGROUND WITH RED LETTERS MOUNTED ABOVE FIA AND EIA PULLS STATIONS STATING "FIRE ALARM AND EMERGENCY ALARM PULL STATIONS"

- PROVIDE LAMICOID LABEL OF JM#1 AND JM#2 SINGLE LINE DETAIL. TO BE MOUNTED TO FACE OF 208V MOLDED CASE SWITCH. SUBMIT SINGLE LINE DRAWING FOR ELECTRICAL ENGINEER AND SITE REPRESENTATIVE APPROVAL PRIOR TO MANUFACTURING.
- M2-R REVENUE CERTIFIED METERS C/W 200S CTS AND 5A FUSED PTS. TO BE MOUNTED ON COMMUNICATIONS BACKBOARD AND CONNECTED TO CTS AND PTS INTEGRATED INTO MOLDED CASE SWITCH COMPARTMENT. PLUG INTO CATSE MEDIA CONVERTER FOR CONNECTION INTO EXISTING SSSR SCADA SYSTEM



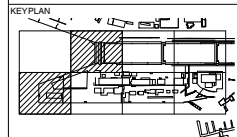
7  
JM#1 AND #2 WIRING RISER  
NYS



8  
JM#1 AND #2 PARTIAL SINGLE LINE  
NYS

0 10 20 30 40 50 60 70 80 90 100mm

0 10 20 30 40 50 60 70 80 90 100mm



3	ISSUED FOR ELECTRICAL ADDENDUM M21	2017/07/12
2	ISSUED FOR TENDER	2017/03/06
1	ISSUED FOR 99% REVIEW	16/08/15
Revised/Revisé	Description/Description	Date/Date

**ESQUIMALT  
GRAVING DOCK**

825 ADMIRALS ROAD,  
VICTORIA, BC, V8A 2P1

Projet titre/Titre du projet  
825 ADMIRALS ROAD, VICTORIA, BC  
ESQUIMALT GRAVING DOCK  
ELECTRICAL SAFETY UPGRADE

**SOUTH JETTY  
RECONSTRUCTION**

Consultant Approval Box Only

Designed by/Conçu par  
L. BARNES

Drawn by/Dessiné par  
J. BIELING, S. SEYMOUR

PMSC Project Manager/Administrateur de Projets PMSC  
PATRICK TRELOUGH

PMSC Regional Manager/Administrateur et Ingénieur Régional/  
PATRICK TRELOUGH  
PREETIPAL PAUL

Drawing title/Titre du dessin

**JETTY MOUNT #1 & #2  
REFURBISHMENT DETAILS  
2 OF 2**

Project No./No. du projet  
R.026729.002

Sheet/Feuille  
**E31**

Revision no./  
No. de révision  
**3**





SCALE 1:20



## SCALE 1:20



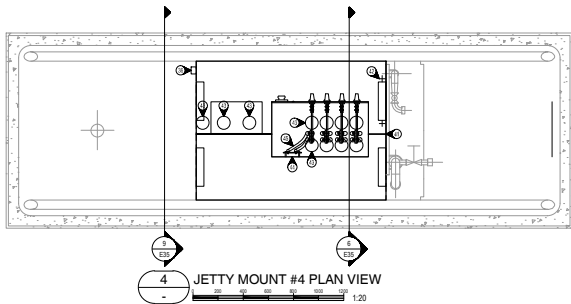
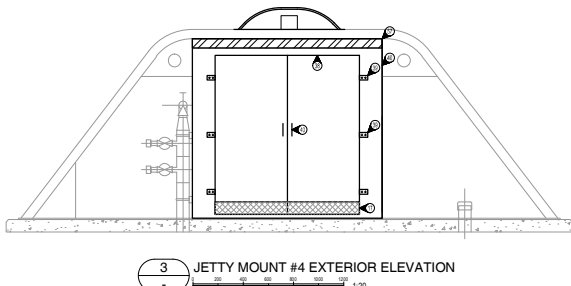
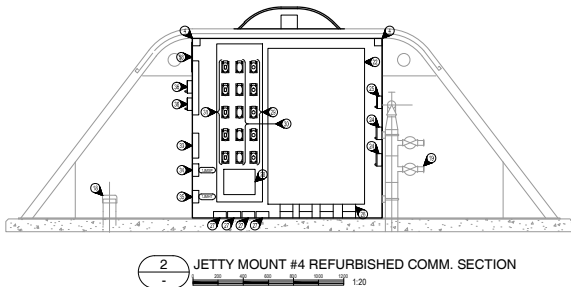
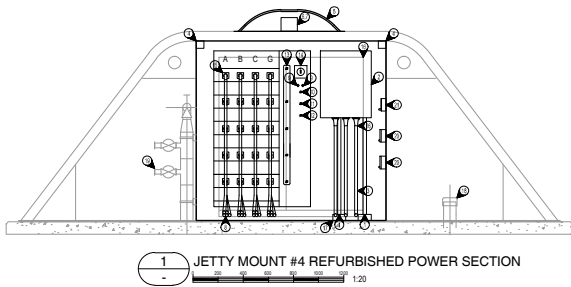
## NTS



## NT:







# KEYNOTES SHEETS E34 AND E35.

- 24x300KCM VIA ARMORED FLEXIBLE TUBING FROM CONDUIT TO BASE OF 208V MOULDED CASE SWITCH.
- 1200208V, 200A MOULDED CASE SWITCH C/W CAMLOCK CONNECTORS ON BOTTOM SIZED TO MATCH EXISTING CAMLOCK CONNECTORS ON SSSR AND DOCKSIDE SERVICE ASSEMBLIES.
- DLO STYLE CABLES SUPPLIED BY OTHERS.
- 500 LUMEN, 120V, LED STRIP LIGHTS, 4X RATED, MOUNTED IN TOP CORNERS OF EACH SECTION. TO BE MOUNTED SUCH THAT THE LIGHT IS THROWN INTO THE CENTRE OF THE KIOSK NOT JUST WASHING THE WALLS.
- SCHEDULE 80 ALUMINUM PIPE WORK, TO BE INSTALLED TO ALLOW ROPES TO SLIDE OVER THE TOP OF THE STROBE LIGHTS WITHOUT CATCHING. TO BE WELDED TO THE TOP OF THE EXISTING KIOSK DOOR.
- FIRE ALARM AND EMERGENCY ALARM LIGHTS MOUNTED TO KIOSK ROOF. RED FOR FIRE ALARM. BLUE FOR EMERGENCY ALARM. TO BE OF NEMAX CONSTRUCTION AND ROOF PENETRATION TO BE SUITABLY SEALED TO PREVENT WATER INGRESS. WIRES INTO LIGHTS TO BE INSTALLED WITH DRIP LOOP TO PREVENT WATER MIGRATION ALONG THE CABLES IN THE EVENT OF A LEAK.
- DLO STYLE CABLES SUPPLIED BY OTHERS.
- CONNECTION POINTS FOR REMOTE MOUNTED EMERGENCY POWER OFF, TRIP ON OPEN SIGNAL C/W SHORTING CAP
- PILOT LIGHT, PUSH TO TEST, RED - POWER ON
- PILOT LIGHT, PUSH TO TEST, GREEN - POWER OFF
- PILOT LIGHT, PUSH TO TEST, AMBER - BREAKER TRIPPED DUE TO FAULT CONDITION
- PILOT LIGHT, PUSH TO TEST, INDICATES ALL CAM LOCK RECEPTACLES FOR A, B, C AND GROUND PHASES ARE CONNECTED FOR ONE 400A CONNECTION. REFER TO REGULATED VOLTAGE SYSTEM CONTROL LOGIC DIAGRAMS FOR ADDITIONAL DETAILS
- MUSHROOM HEAD EMERGENCY POWER OFF BUTTON C/W KEY DISENGAGE.
- 400A @ 100%, 530V RATED CAM LOCK STYLE RECEPTACLES, SINGLE POLE PER PHASE 250KCM. C/W DOUBLE THROW MICRO SWITCH FOR SAFETY INTERLOCKING OF MOULDED CASE SWITCH. RECEPTACLES FOR 0A, 0B, 0C, 0G WIRE CONNECTIONS. 0G RECEPTACLES TO BE REVERSED FROM POWER PHASES AND USE MALE CONNECTIONS ON EQUIPMENT FACE.
- OUTLINE OF KIOSK DOOR. ENSURE MOULDED CASE SWITCHES, BREAKERS AND CAM-LOCK CONNECTORS ARE SUITABLY MOUNTED SUCH THAT ACCESS AND OPERATION IS NOT IMPEDED.
- EXISTING 100mm GAP BELOW KIOSK DOORS FOR CABLE EXIT/ENTRY.
- SEWER CONNECTION POINT. LOCATION TO BE CONFIRMED ON MECHANICAL DETAILS FOR JETTY MOUNT REFURBISHMENT.
- WATER AND COMPRESSED AIR CONNECTION MANFOLDS. CONFIRM MOUNTING AND CO-ORDINATE WITH MECHANICAL CONTRACTOR AND MECHANICAL SHEETS FOR DETAILED DESIGN.
- POWER SECTION SERVICE RECEPTACLES C/W LATCH COVERS.
- POWER SECTION LIGHT SWITCH WIRED IN SERIES AFTER SERVICE RECEPTACLES FOR CONTROL OF LIGHTING.
- BACK OF 2000A REGULATED DISTRIBUTION CONNECTION BOARD. DUE TO THE SIZE OF THE BUSSING AND ENTRY REQUIREMENTS IT STRADDLES ACROSS THE SEPARATION BARRIER AS SHOWN.
- 3x103mm RPVC CONDUIT STUBS FROM NEARBY SOUTH JETTY MANHOLE LV SECTION. ENSURE CONDUITS ARE SUITABLY ENTERED INTO BASE OF JETTY MOUNT. TO ENTRE BELOW 208V SWITCH FOR 208V POWER SERVICE AND JETTY MOUNT SERVICE FEEDERS.
- COMMUNICATION SECTION SERVICE RECEPTACLES C/W LATCH COVERS.
- COMMUNICATION SECTION LIGHT SWITCH WIRED IN SERIES AFTER SERVICE RECEPTACLES FOR CONTROL OF LIGHTING.
- 8x125mm RPVC CONDUIT STUBS FROM NEARBY SOUTH JETTY MANHOLE LV SECTION. ENSURE CONDUITS ARE SUITABLY ENTERED INTO BASE OF JETTY MOUNT. SPLIT BELOW 2000A REGULATED DISTRIBUTION CONNECTION BOARD AS SHOWN ON E3E3. PROVIDE EXTENDER COUPLING TO ENTRE 103mm CONDUITS INTO BASE ON DISTRIBUTION CONNECTION BOARD.
- 4x103mm RPVC CONDUIT STUBS FROM NEARBY SOUTH JETTY MANHOLE COMM SECTION. ENSURE CONDUITS ARE SUITABLY ENTERED INTO BASE OF JETTY MOUNT TO ALLOW FOR FUTURE USE OF ALL SPARES. ALL CONDUITS TO BE SUITABLY VAPOUR STOPPED.
- TEL-COM SERVICE BOX FOR CAT3 PHONE CABLE CROSS CONNECTIONS
- 5x8125mm SSM FIBRE OPTIC CONNECTION RECEPTACLES C/W SCREW ON OR SNAP ON COVER

- TO PREVENT DIRT/DUST/WATER INGRESS WHEN NOT IN USE. COVER TO COME WITH CHAIN OR PLASTIC TAIL ATTACHED TO PLUG BASE TO PREVENT LOSS WHEN CONNECTION IN USE.
- 5/CAT3E CONNECTION RECEPTACLES C/W SCREW ON OR SNAP ON COVER TO PREVENT DIRT/DUST/WATER INGRESS WHEN NOT IN USE. COVER TO COME WITH CHAIN OR PLASTIC TAIL ATTACHED TO PLUG BASE TO PREVENT LOSS WHEN CONNECTION IN USE.
- 5/CAT3 TELEPHONE CONNECTION RECEPTACLES C/W SCREW ON OR SNAP ON COVER TO PREVENT DIRT/DUST/WATER INGRESS WHEN NOT IN USE. COVER TO COME WITH CHAIN OR PLASTIC TAIL ATTACHED TO PLUG BASE TO PREVENT LOSS WHEN CONNECTION IN USE.
- FIBRE TO CAT3E & PORT INDUSTRIAL MEDIA CONVERTER AND POWER SUPPLY MOUNTED TO PLYWOOD MOUNTING BOARD.
- SCADA METERS FOR COMPRESSED AND AND WATER MONITORING.
- JETTY MOUNT LV 120V SERVICE SPLICE BOX FOR POWER AND LIGHTING CIRCUIT.
- JETTY MOUNT HEAT TRACE SPLICE BOX. FINAL CONNECTION OF HEAT TRACE BY MECHANICAL CONTRACTOR.
- FIRE ALARM AND EMERGENCY ALARM EMERGENCY PULL STATION IN 4X RATED BOX MOUNTED ONE ABOVE THE OTHER. WIRED INTO FIRE ALARM SYSTEM.
- REPLACE EXISTING DOOR HINGES WITH NEW STAINLESS STEEL HINGES.
- REPLACE ALL DOOR SEALS WITH NEW GASKETS. GASKET TO BE 4 STRIPS FOR TOP, BOTTOM AND SIDES. TO EXTEND FULL LENGTH OF DOOR AND MEET AT EDGES FOR SEAMLESS CONNECTION.
- CONFIRM POWER AND COMMUNICATION SECTION WELD INTEGRITY. SUBMIT A PER UNIT COST FOR REPAIR WORK THAT WILL BE DONE UNDER A CHANGE ORDER IF REQUIRED.
- REPLACE ALL DOOR LATCHES WITH NEW STAINLESS STEEL LOCKABLE LATCHES.
- REPLACE EXISTING SEPARATION BARRIER WITH NEW ALUMINUM OR STAINLESS STEEL 3.5mm PLATE.
- COMMUNICATIONS 19mm THICK PLYWOOD BACKBOARD PAINTED WHITE. MOUNTED OFF WALL TO ALLOW TEOX CABLE TO PASS BEHIND FOR 208V SECONDARY FEEDERS.
- CONDUIT STUB UP LOCATIONS. TO BE ARRANGED TO ENSURE EASE OF PULLING CONDUCTORS INTO CORRECT SERVICE CONNECTION POINTS
- JETTY MOUNT 2000A SERVICE GROUND BUS BAR MOUNTED NEAR BACK OF ASSEMBLY. TO BE OF TIN PLATED COPPER CONSTRUCTION MOUNTED ON INSULATED STANDOFFS.
- BOND CAM-LOCK CABLE CONCENTRIC COPPER BOND WIRES TO CELL GROUND BAR.
- NOT USED
- NOT USED
- CAM-LOCK TERMINAL LUGS. TO BE TIN PLATED COPPER AND RATED FOR 400A LOADS.
- 400A, TIN PLATED COPPER TAB BUS BETWEEN MAIN BUS AND CAM LOCK TERMINAL LUGS.
- 2000A RATED DISTRIBUTION BUS BAR, (PHASE A SHOWN) FOR ALL PHASES. TO BE MOUNTED VERTICALLY IN THE CELL.
- INSULATED SUPPORTS SPANNING ACROSS THE DISTRIBUTION CELL FOR BUS BAR SUPPORTS. TO BE SUITABLY INSULATED AND OF SUFFICIENT STRENGTH TO SUPPORT ALL BUSSING.
- 45 DEGREE CUT BACKS IN FACE OF DISTRIBUTION BOARD FOR MOUNTING OF CAM-LOCK CONNECTIONS.
- FLAT SURFACE OF THE DISTRIBUTION AFTER CAM LOCK LUGS.
- TERMINATE CONDUCTOR TO BUS TERMINAL LUGS USING 2-HOLE COMPRESSION STYLE TERMINAL CONNECTORS. HEAT SHRINK TERMINATION USING MANUFACTURER'S RECOMMENDED METHODS.
- 500KCM COPPER CABLE SUM
- DLO CABLES EXITING VIA WINDOW AT BASE OF JETTY MOUNT
- RED BANDING WRAP. WEATHERPROOF. APPLIED AROUND TOP OF KIOSK TO INDICATE KIOSK IS A FIRE ALARM AND EMERGENCY ALARM PULL STATION.
- OUTDOOR RATED LAMICOID LABEL. WHITE BACKGROUND WITH RED LETTERS MOUNTED ABOVE FIA AND EIA PULL STATIONS STATING "FIRE ALARM AND EMERGENCY ALARM PULL STATIONS"
- PROVIDE LAMICOID LABEL OF 2.3MM SINGLE LINE DETAIL. TO BE MOUNTED TO FACE OF 208V MOULDED CASE SWITCH. SUBMIT SINGLE LINE DRAWING FOR ELECTRICAL ENGINEER AND SITE REPRESENTATIVE APPROVAL PRIOR TO MANUFACTURING.

Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES

Pacific Region

SERVICES IMMOBILIÉRIES

Région de l'Asie-Pacifique

Victoria Office

AES

APPLIED ENGINEERING SOLUTIONS LIMITED

KEY PLAN

Rev	Description	Date
1	ISSUED FOR TENDER	2017/03/06
2	ISSUED FOR 99% REVIEW	16/08/15
3	ISSUED FOR ELECTRICAL ADDENDUM M-1	2017/07/12

Client/Client

ESQUIMALT GRAVING DOCK

825 ADMIRALS ROAD, VICTORIA, BC, V8A 2P1

Projet /Projet

825 ADMIRALS ROAD, VICTORIA, BC

ESQUIMALT GRAVING DOCK

ELECTRICAL SAFETY UPGRADE

South Jetty Reconstruction

Consultant Approval Box Only

Designed by/Concepté par

L. BARNES

Drawn by/Dessiné par

J. BIELING, S. SEYMOUR

PMSC Project Manager/Administrateur de Projets /PMSC

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PMSC Regional Manager/Administrateur and Engineering Services/PMSC Régional, Services d'ingénierie et d'entretien /à la place, PMSC

PREETIPAL PAUL

Drawing title/Titre du dessin

JETTY MOUNTS #4

REFURBISHMENT DETAILS

1 OF 2

Project No./No. du projet

R.0267299.002

Sheet/Feuille

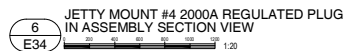
E34

Revision no./No. de révisions

3

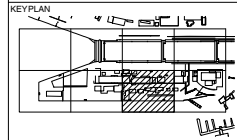
Date: July 12, 2017, 1:02 PM  
 Project: 825 ADMIRALS ROAD, VICTORIA, BC, V8A 2P1  
 Drawing: E34

0 10 20 30 40 50 60 70 80 90 100mm



2. 2x4C3500KVA VIA ARMORED FLEXIBLE TUBING FROM CONDUIT TO BASE OF 208V MOLDED CASE SWITCH.
3. 120/208V, 200A MOLDED CASE SWITCH C/W CAM-LOCK CONNECTORS ON BOTTOM SIZED TO MATCH EXISTING CAM-LOCK CONNECTORS ON SSRR AND DOCKSIDE SERVICE ASSEMBLIES.
4. DLO STYLE CABLES SUPPLIED BY OTHERS.
5. 500 LUMEN, 120V, LED STRIP LIGHTS, 4 RATED, MOUNTED IN TOP CORNERS OF EACH SECTION, TO BE MOUNTED SUCH THAT THE LIGHT IS THROWN INTO THE CENTRE OF THE KIOSK NOT JUST WASHING THE WALLS.
6. SCHEDULE 40 ALUMINUM PIPE WORK, TO BE INSTALLED TO ALLOW ROPES TO SLIDE OVER THE TOP OF THE STROBE LIGHTS WITHOUT CATCHING. TO BE WELDED TO THE TOP OF THE EXISTING WALLS.
7. FIRE ALARM AND EMERGENCY ALARM LIGHTS MOUNTED TO KIOSK ROOF. RED FOR FIRE ALARM. BLUE FOR EMERGENCY ALARM. TO BE OF NEMA3 CONSTRUCTION AND ROOF PENETRATION TO BE SEALED TO PREVENT FIRE OR RAIN INGRESS. WIRED INTO LIGHTS TO BE INSTALLED WITH DRIP LOOP TO PREVENT WATER MIGRATION ALONG THE CABLES IN THE EVENT OF A LEAK. FIRE ALARM LIGHT TO BE CONTINUOUSLY ON LIGHT, TO STORE WHEN SYSTEM IS ACTIVE. BLUE IS TO BE STROBE ONLY WHEN SYSTEM IS ACTIVE.
8. NO LIGHTS.
9. DLO STYLE CABLES SUPPLIED BY OTHERS.
10. CONNECTION POINTS FOR REMOTE MOUNTED EMERGENCY POWER OFF, TRIP ON OPEN SIGNAL, CAM SHORTING CAP.
11. PILOT LIGHT, PUSH TO TEST, RED - POWER ON
12. PILOT LIGHT, PUSH TO TEST, GREEN - POWER OFF
13. PILOT LIGHT, PUSH TO TEST, AMBER - BREAKER TRIPPED DUE TO FAULT CONDITION
14. PILOT LIGHT, PUSH TO TEST, INDICATES ALL CAM-LOCK RECEPTACLES FOR A, B, C AND GROUND PHASES ARE CONNECTED FOR ONE 400A CONNECTION. REFER TO REGULATED VOLTAGE SYSTEM CONTROL, LOGIC DIAGRAMS FOR ADDITIONAL DETAILS.
15. MUSHROOM HEAD EMERGENCY POWER OFF BUTTON ON KEY DISENGAUGE.
16. 400A @ 100% 650V RATED CAM-LOCK STYLE RECEPTACLES, SINGLE POLE PER PHASE 2500K. CAP OF 1000 MICRO MOUNT SWITCH FOR SAFETY INTERLOCKING OF MOLDED CASE SWITCH RECEPTACLES FOR 0A, 0B, 0C, 0G 0S WIRE CONNECTIONS, 0G RECEPTACLES TO BE REVERSED FROM POWER PHASES AND USE MALE CONNECTIONS ON EQUIPMENT FACE.
17. OUTLINE OF KIOSK DOOR. ENSURE MOLDED CASE SWITCHES, BREAKERS AND CAM-LOCK EXISTING ARE SUITABLY MOUNTED SUCH THAT ACCESS AND OPERATION IS NOT IMPEDED.
18. EXISTING 100mm GAP BELOW KIOSK DOORS FOR CABLE EXTENTRY.
19. SEWER CONNECTION POINT. LOCATION TO BE CONFIRMED ON MECHANICAL DETAILS FOR JETTY MOUNT REPAIRMENT.
20. WATER AND COMPRESSED AIR CONNECTION MANIFOLDS. CONFIRM MOUNTING AND CO-ORDINATE WITH MECHANICAL CONTRACTOR AND MECHANICAL SHEETS FOR DETAILED DESIGN.
21. POWER SECTION SERVICE RECEPTACLES C/W LATCH COVERS.
22. POWER SECTION LIGHT SWITCH WIRED IN SERIES AFTER SERVICE RECEPTACLES FOR CONTROL OF LIGHTING.
23. BACK OF 2000A REGULATED DISTRIBUTION CONNECTION BOARD. DUE TO THE SIZE OF THE BUSSING AND ENTRY REQUIREMENTS IT SITDRADES ACROSS THE SEPARATION BARRIER AS SHOWN.
24. 3x100mm RPVC CONDUIT STUBS FROM NEARBY SOUTH JETTY MANHOLE U/LY SECTION. ENSURE CONDUITS ARE SUITABLY ENTERED INTO BASE OF JETTY MOUNT. TO ENTER BELOW 208V STROBE FOR 208V POWER SERVICE AND 120V JETTY MOUNT SERVICE FEEDERS.
25. COMMUNICATION SECTION SERVICE RECEPTACLES C/W LATCH COVERS.
26. COMMUNICATION SECTION LIGHT SWITCH WIRED IN SERIES AFTER SERVICE RECEPTACLES FOR CONTROL OF LIGHTING.
27. 8x12mm RPVC CONDUIT STUBS FROM NEARBY SOUTH JETTY MANHOLE U/LY SECTION. ENSURE CONDUITS ARE SUITABLY ENTERED INTO BASE OF JETTY MOUNT. SPRT BELOW 2000A REGULATED DISTRIBUTION CONNECTION BOARD AS SHOWN ON SHEET. PROVIDE EXPANDING END OF THE 100mm CONDUITS INTO BASE ON DISTRIBUTION CONNECTION BOARD.
28. 4x100mm RPVC CONDUIT STUBS FROM NEARBY SOUTH JETTY MANHOLE C/COM SECTION. ENSURE CONDUITS ARE SUITABLY ENTERED INTO BASE OF JETTY MOUNT TO ALLOW FOR FUTURE USE OF ALL SPARES. ALL CONDUITS TO BE SUITABLY VAPOR STOPPED.
29. TEL-COM SLUICE BOX FOR CAT3 PHONE CABLE CROSS CONNECTIONS

- 5.4x125mm SSM FIBRE OPTIC CONNECTION RECEPTACLES CW SREW ON OR SNAP ON COVER TO PREVENT DIRT/STUATSWATER INGRESS WHEN NOT IN USE. COVER TO COME WITH CHAIN OR PLASTIC TAIL ATTACHED TO PLUG BASE TO PREVENT LOSS WHEN CONNECTION IN USE.
- 5.6x32mm CONNECTION RECEPTACLES CW SREW ON OR SNAP ON COVER TO PREVENT DIRT/STUATSWATER INGRESS WHEN NOT IN USE. COVER TO COME WITH CHAIN OR PLASTIC TAIL ATTACHED TO PLUG BASE TO PREVENT LOSS WHEN CONNECTION IN USE.
- 5.6x37.5 TELEPHONE CONNECTION RECEPTACLES CW SREW ON OR SNAP ON COVER TO PREVENT DIRT/STUATSWATER INGRESS WHEN NOT IN USE. COVER TO COME WITH CHAIN OR PLASTIC TAIL ATTACHED TO PLUG BASE TO PREVENT LOSS WHEN CONNECTION IN USE.
- TO FIBRE TO CAT5E 8-PORT INDUSTRIAL MEDIA CONVERTER AND POWER SUPPLY MOUNTED TO PLYWOOD MOUNTING BOARD.
- 300A METERS FOR COMPRESSED AND WATER MONITORING.
- JETTY MOUNT LV 120V SERVICE SPLICE BOX FOR POWER AND LIGHTING CIRCUIT.
- JETTY MOUNT HEAT TRACE SPLICE BOX. FINAL CONNECTION OF HEAT TRACE BY MECHANICAL CONTRACTOR.
- FIRE ALARM AND EMERGENCY ALARM EMERGENCY PULL STATION IN 4X4 GRID BOX MOUNTED ONE ABOVE THE OTHER, WIRED INTO FIRE ALARM SYSTEM.
- REPLACE EXISTING DOOR HINGES WITH NEW STAINLESS STEEL HINGES.
- REPLACE ALL DOOR SEALS WITH NEW GASKETS. GASKET TO BE 4 STRIPS FOR TOP, BOTTOM AND SIDES. TO EXTEND FULL LENGTH OF DOOR AND MEET AT EDGES FOR SEAMLESS CONNECTION.
- CONFIRM POWER AND COMMUNICATION SECTION WELD INTEGRITY. SUBMIT A PER UNIT COST FOR REPAIR WORK THAT WILL BE DONE UNDER A CHANGE ORDER IF REQUIRED.
- REPLACE ALL DOOR LATCHES WITH NEW STAINLESS STEEL LOCKABLE LATCHES.
- REPLACE EXISTING SEPARATION BARRIER WITH NEW ALUMINUM OR STAINLESS STEEL 3.5mm PLATE.
- COMMUNICATIONS 15mm THICK PLYWOOD BACKBOARD PAINTED WHITE. MOUNTED OFF WALL TO ALLOW TIE BACK CABLE TO PASS BEHIND FOR 200 SECONDARY DEVICES.
- CONDUIT STATUS UP LOCATIONS. TO BE ARRANGED TO ENSURE EXCESS OF PULLING CONDUITS INTO CORRECT SERVICE CONNECTION POINTS.
- JETTY MOUNT 2009A SERVICE GROUND BUS MOUNTED NEAR BACK OF ASSEMBLY. TO BE OF IN PLATED COPPER CONSTRUCTION MOUNTED ON INSULATED STANDOFFS.
- BOND CAM-LOCK CABLE CONCENTRIC COPPER BOND WIRES TO CELL GROUND BAR.
- NOT USED.
- NOT USED.
- CAM-LOCK TERMINAL LUGS, TO BE IN PLATED COPPER AND RATED FOR 400A LOADS.
- 400A IN PLATED COPPER TAB BUS MOUNTED BETWEEN MAIN BUS AND CAM-LOCK TERMINAL LUGS.
- 200A DISTRIBUTION BUS BAR, (PHASE A SHOWN) FOR ALL PHASES. TO BE MOUNTED WITHIN THE 150mm THICK PLYWOOD BACKBOARD.
- INSULATED SUPPORTS SPANNING ACROSS THE DISTRIBUTION CELL FOR BUS BAR SUPPORTS. TO BE SUTABLY INSULATED AND OF SUFFICIENT STRENGTH TO SUPPORT ALL BUSSING.
- 45 DEGREE CUT BACKS IN FACE OF DISTRIBUTION BOARD FOR MOUNTING OF CAM-LOCK CONNECTIONS.
- FLAT SURFACE OF THE DISTRIBUTION AFTER CAM-LOCK PLUGS.
- TERMINATE CONDUCTOR TO BUS TERMINAL LUGS USING 2-HOLE COMPRESSION STYLE TERMINAL CONNECTORS. HEAT SHRINK TERMINATION USING MANUFACTURER'S RECOMMENDED METHODS.
- 5000K COPPER CABLE SSM
- DO CABLES EXTING VIA WINDOW AT BASE OF JETTY MOUNT
- RED BANDING W/PAW. WEATHERPROOF APPLIED AROUND TOP OF KIOSK TO INDICATE KIOSK IS A FIRE ALARM AND EMERGENCY ALARM PULL STATION.
- OUTDOOR LABEL LAMINOID LABEL. WHITE BACKGROUND WITH RED LETTERS MOUNTED ABOVE FIRE AND ALARM STATIONS STATING "FIRE ALARM AND EMERGENCY ALARM PULL STATIONS"
- PROVIDE LAMINOID LABEL OF 2x4 SINGLE LINE DETAIL. TO BE MOUNTED TO FACE OF 2009 MOLDED CASE SWITCH. SUMMIT SINGLE LINE DRAWING FOR ELECTRICAL ENGINEER AND SITE REPRESENTATIVE APPROVAL PRIOR TO MANUFACTURING.



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2	ISSUED FOR TENDER	2017/03/06
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<b>Revision/</b> <b>Description</b>	<b>Description/Description</b>	<b>Date/Date</b>
<b>Client/Client</b>		

**Project title/Titre du projet**  
**825 ADMIRALS ROAD, VICTORIA, BC**  
**ESQUIMALT GRAVING DOCK**  
**ELECTRICAL SAFETY UPGRADE**

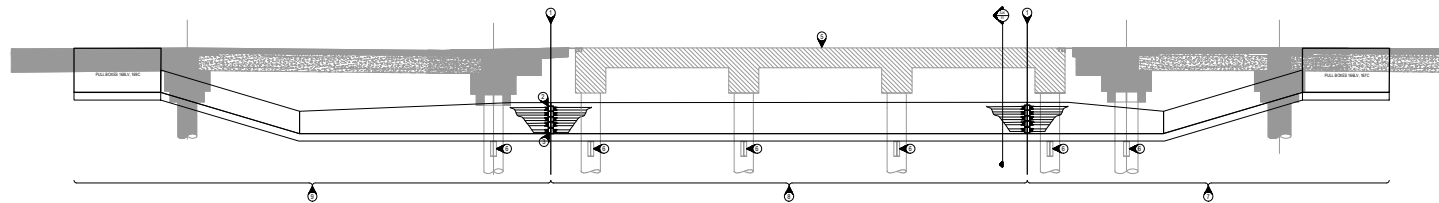
**SOUTH JETTY**  
**RECONSTRUCTION**

Drawing title/Titre du dessin

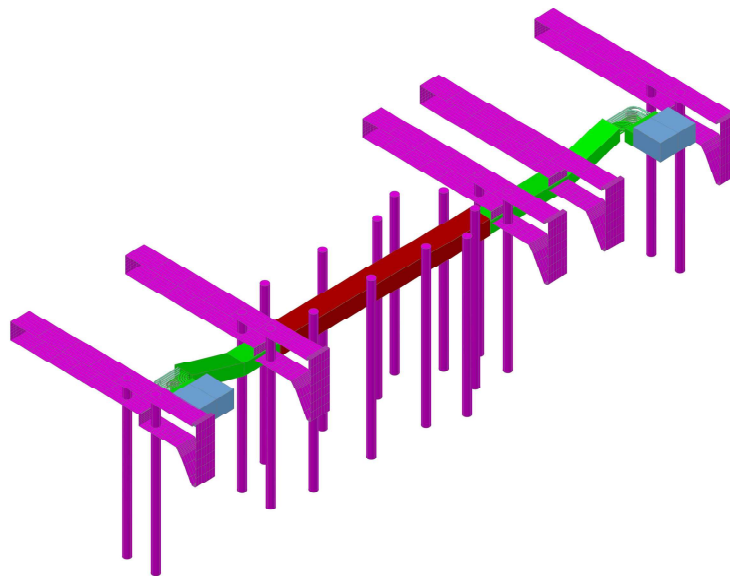
Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.026729.002	E35	3







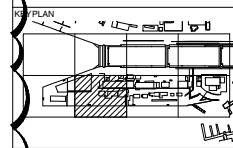
1 EXISTING JETTY CROSSING WEST END DEFLECTION JOINT



2 EXISTING JETTY CROSSING 3D MODEL. CONDUITS SHOWN AT ELBOWS

#### KEYNOTES:

- ① LOCATION OF STRUCTURAL JOINT LINE BETWEEN NEW JETTY STRUCTURE AND EXISTING SOUTH SIDE CONCRETE/SHEET PILE WALL. ENSURE DEFLECTION COUPLING FLEX JOINT IS INSTALLED IN THE SAME VERTICAL PLANE AS THE STRUCTURAL JOINT, SUCH THAT THE VERTICAL SHEAR IS ALIGNED.
- ② NSMA 4X RATED LIQUID TIGHT DEFLECTION COUPLING. ENSURE CONNECTION TO RPVC CONDUIT USES RIGID METAL CONDUIT NIPPLES AND RIGID METAL-TO-PVC CONDUIT ADAPTERS TO PREVENT DAMAGE TO RPVC THREADS DUE TO METAL ON PLASTIC THREAD FORCES. DEFLECTION COUPLING MUST BE CAPABLE OF THE FOLLOWING:
  - MINIMUM 19mm EXPANSION/CONTRACTION MOTION IN THE HORIZONTAL
  - MINIMUM 19mm UP/DOWN MOTION IN THE VERTICAL
  - ANGULAR MISALIGNMENT OF THE CONDUIT RUNS UP TO 30 DEGREES.
  - INNER DIAMETER TO BE CONSTANT DURING A DEFLECTION EVENT WHICH DOES NOT EXCEED PARAMETER a,b OR c.
  - FLEXIBLE TINNED COPPER GROUNDING STRAP ACROSS DEFLECTION JOINT TO ALLOW FOR CONTINUITY OF GROUND.
  - STANDARD SIZES THREADS FOR RPVC/STEEL FITTINGS
  - SUITABLE FOR IMMERSION IN SALT WATER
- ③ PROVIDE MINIMUM 50mm CONCRETE COVER AROUND CONDUITS PRIOR TO CONNECTION TO DEFLECTION COUPLING.
- ④ PRECAST CONCRETE SUPPORT BEAMS BETWEEN PILE CAPS. NO CORING, ANCHORING OR MODIFICATION TO THESE BEAMS WITHOUT PRIOR SIGNED AUTHORIZATION FROM STRUCTURAL ENGINEER OF RECORD.
- ⑤ JETTY CONCRETE/ASPHALT SURFACE. REFER TO STRUCTURAL SHEETS FOR ADDITIONAL DETAILS.
- ⑥ RACEWAY SUPPORT BEAMS ON EXISTING PILE CAPS. REFER TO STRUCTURAL DETAILS FOR ADDITIONAL INFORMATION.
- ⑦ SECTION#1 - THIS SECTION OF THE DUCT BANK IS STRUCTURALLY ANCHORED TO THE EAST PORTION OF THE NEW JETTY AND WILL MOVE WITH THIS PORTION OF THE NEW JETTY DURING A SEISMIC EVENT. IT IS NOT STRUCTURALLY CONNECTED TO SECTION#2. THE INTERFACE BETWEEN THESE TWO SECTIONS IS AT THE DEFLECTION JOINTS ON THE EAST END OF THE RUN.
- ⑧ SECTION#2 - THIS SECTION OF THE DUCT BANK IS STRUCTURALLY ANCHORED TO THE EXISTING JETTY AND WILL MOVE WITH THIS PORTION OF THE JETTY DURING A SEISMIC EVENT. IT IS NOT STRUCTURALLY CONNECTED TO SECTION#1 OR #3. THE INTERFACE BETWEEN THIS SECTION AND THE OTHER TWO IS AT THE DEFLECTION JOINTS ON EACH END OF THE RUN.
- ⑨ SECTION#1 - THIS SECTION OF THE DUCT BANK IS STRUCTURALLY ANCHORED TO THE WEST PORTION OF THE NEW JETTY AND WILL MOVE WITH THIS PORTION OF THE NEW JETTY DURING A SEISMIC EVENT. IT IS NOT STRUCTURALLY CONNECTED TO SECTION#2. THE INTERFACE BETWEEN THESE TWO SECTIONS IS AT THE DEFLECTION JOINTS ON THE WEST END OF THE RUN.



Sheet/Feuille	Description/Description	Date/Date
3	ISSUED FOR ELECTRICAL ADDENDUM M1	2017/07/12
2	ISSUED FOR TENDER	2017/03/06
1	ISSUED FOR 99% REVIEW	16/08/15

#### ESQUIMALT GRAVING DOCK

825 ADMIRALS ROAD,  
VICTORIA, BC, V8A 2P1

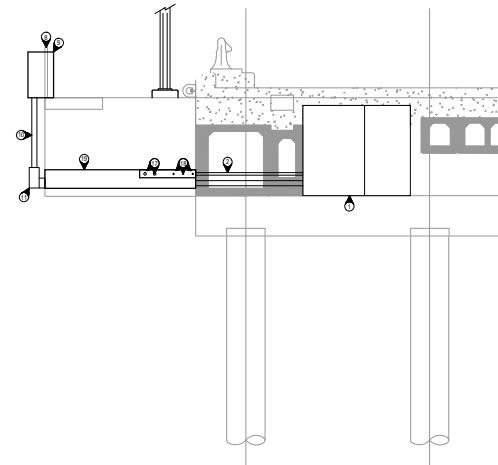
Project title/Titre du projet  
825 ADMIRALS ROAD, VICTORIA, BC  
ESQUIMALT GRAVING DOCK  
ELECTRICAL SAFETY UPGRADE  
**SOUTH JETTY RECONSTRUCTION**

Standard Approval Box Only

Original by/Concepté par  
REARINES  
Drawn by/Dessiné par  
J. BELLING, S. BEYBOUR  
QCQC Project Manager/Administrateur de Projets PQQC  
PATRICK TRELOUNG  
QCQC Regional Manager, Architectural and Engineering Services/  
QCQC Régional, Services d'architecture et d'ingénierie  
PHILIPPA PAUL  
Drawing title/Titre du dessin

#### SOUTH JETTY WEST END DEFLECTION JOINTS

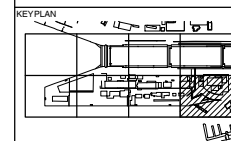
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R.026729.002	E41	3



1 SOUTH JETTY TUG WHARF CONNECTION PLAN

- |     |   |     |  |
|-----|---|-----|--|
| 1.  | SOUTH JETTY MANHOLE. REFER TO 102Z FOR ADDITIONAL DETAILS. COMM CONDUITS WILL NEED TO PASS THROUGH THE LV SECTION VIA RPVC CONDUIT TO ENSURE ISOLATION OF LV AND COMM IS MAINTAINED.  | 17. | 2x53mm RPVC COMM CONDUITS FROM COMM MANHOLE TO STUB UP INSIDE NEW TUG WHARF POLE.  |
| 2.  | CO-ORDINATE CONDUIT WINDOW IN CAST CONCRETE BEAM FOR CONDUIT PASS THROUGH AND INSTALL RPVC CONDUIT AS INDICATED ON SECTION DETAILS. CONFIRM CONDUIT WINDOW LOCATIONS WITH STRUCTURAL ENGINEER AND CO-ORDINATE WITH STRUCTURAL SHOP DRAWINGS.  | 18. | 3x27mm RPVC POWER CONDUITS FROM LV MANHOLE TO STUB UP INSIDE NEW TUG WHARF POLE. CO-ORDINATE ALL CONDUITS TO ENTER SUCH THAT THEY ARE CONCEALED UNDER BASE OF NEW LIGHTING POLE. |
| 3.  | NEW M16 TAPERED MARINE GRADE ALUMINUM NEMA SQUARE POLE. MINIMUM 47mm WALL THICKNESS. REFER TO DETAIL 35/43 FOR ADDITIONAL INFORMATION.  | 19. | CONDUITS BETWEEN MANHOLE AND TUG WHARF TO BE ENCASED IN CONCRETE DUCT BANK AFTER PASSING THROUGH STRUCTURAL BREAK FROM NOTE 2.   |
| 4.  | WEATHERPROOF FIRE ALARM YARD SIRED ON ADJUSTABLE PIVOT BASE. MINIMUM 1200B. (TYPICAL OF 4)  | 20. | WEATHERPROOF EMERGENCY ALARM YARD SIRED ON ADJUSTABLE PIVOT BASE. MINIMUM 1200B.   |
| 5.  | 8000 LUMEN, 3000K, LED NEMA 3R RATED YARD LIGHT. TO BE OF CAST MARINE GRADE ALUMINUM CONSTRUCTION MOUNTED TO TOP OF NEW POLE.   |     |  |
| 6.  | 13,000 LUMEN, 3000K, LED NEMA 3R RATED ADJUSTABLE WIDE DISTRIBUTION FLOOD LIGHT FOCUSED ON TUG WHARF. TO BE OF CAST MARINE GRADE ALUMINUM CONSTRUCTION MOUNTED TO TOP OF NEW POLE.  |     |  |
| 7.  | FIRE ALARM AND EMERGENCY ALARM EMERGENCY PULL STATION IN 4X RATED BOX MOUNTED SIDE BY SIDE AT 1.5M AFF MOUNTED TO POLE. WIRED INTO FIRE ALARM SYSTEM.   |     |  |
| 8.  | CONFIRM HAND RAIL LOCATION/HEIGHTS/SIZES WITH STRUCTURAL SHEETS.  |     |  |
| 9.  | LOW VOLTAGE SPLICE BOX. ALL TUG WHARF CABLES TO BE SPLICES FROM TECKTO TYPE CABLES TO TYPE G CABLE SUITABLE FOR MOUNTING TO EXTERIOR OF TUG WHARF. SPLICE BOX TO BE SIZES AS PER CEC REQUIREMENTS FOR CONDUIT ENTRY/EXIT AND TO BE ON CAST MARINE GRADE ALUMINUM CONSTRUCTION. FRONT COVER TO BE REMOVABLE TO ALLOW ACCESS FROM TUG WHARF SPUR OFF SOUTH JETTY. CO-ORDINATE SPLICE BOX LOCATION WITH HAND RAIL POLES. |     |  |
| 10. | 5X103mm NEMA3R MARINE GRADE RIDGED ALUMINUM CONDUIT FROM ELBOWS ENTERING BASE TO SPLICE BOX. SECURELY STRAPPED TO JETTY CONCRETE STRUCTURE.   |     |  |
| 11. | 5X103mm NEMA 3R MARINE GRADE ELBOWS   |     |  |
| 12. | SEAL 5X103mm RPVC CONDUITS FOR FUTURE COMM SERVICES. ENSURE PULL STRING IS ACCESSIBLE BEHIND SEALING CAP.   |     |  |
| 13. | TYPE G CONDUCTORS FROM SPLICE BOX TO TUG WHARF SERVICE PEDISTALS STRAPPED SECURELY TO WALKWAY AND EDGE OF TUG WHARF.  |     |  |
| 14. | TUG WHARF WINGED WALKWAY. COORDINATE EXACT DIMENSIONS AND MOUNTING SOLUTIONS WITH STRUCTURAL DETAILS AND SUPPLY CONTRACTOR.   |     |  |
| 15. | TUG WHARF SERVICES TO TUG WHARF MOUNT1  |     |  |





3	ISSUED FOR ELECTRICAL ADDENDUM #1	2017/07/12
2	ISSUED FOR TENDER	2017/03/01
1	ISSUED FOR 99% REVIEW	16/08/15
<b>Revision/</b>	<b>Description/Description</b>	<b>Date/Date</b>

Client/silent	
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ESQUIMALT  
GRAVING DOCK

825 ADMIRALS ROAD,  
VICTORIA, BC, V9A 2P1

**Project title/Titre du projet**  
825 ADMIRALS ROAD, VICTORIA, BC  
ESQUIMALT GRAVING DOCK  
ELECTRICAL SAFETY UPGRADE

**SOUTH JETTY  
RECONSTRUCTION**

Consultant Approval Box Only

Designed by/Concept person	L. BARNES
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Drawn by/Dessiné par  
J.BIELING, S. SEYMOUR

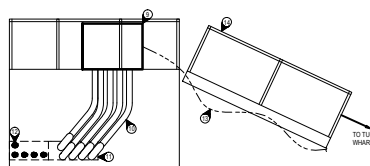
FWGSC Project Manager/Administrateur de Projets TPSCG  
PATRICK TRUONG

PRSC, Regional Manager, Architectural and Engineering Services  
Généraliste régionale, Services d'architecture et de génie, 1920  
BEEFTAIR PAUL

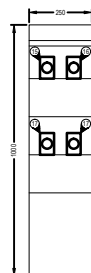
Drawing title/Titre du dessin

## NEW TUG WHARF SERVICES AND DETAILS

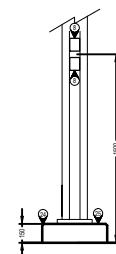
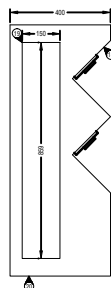
Project No./No. du projet <b>R.026729.002</b>	Sheet/Feuille <b>E43</b>	Révision no./ La Révision no. <b>3</b>
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# 1 SOUTH JETTY TUG WHARF SPLICE BOX ELEVATION



2 SOUTH JETTY TUG WHARF PEDESTAL  
- NTS



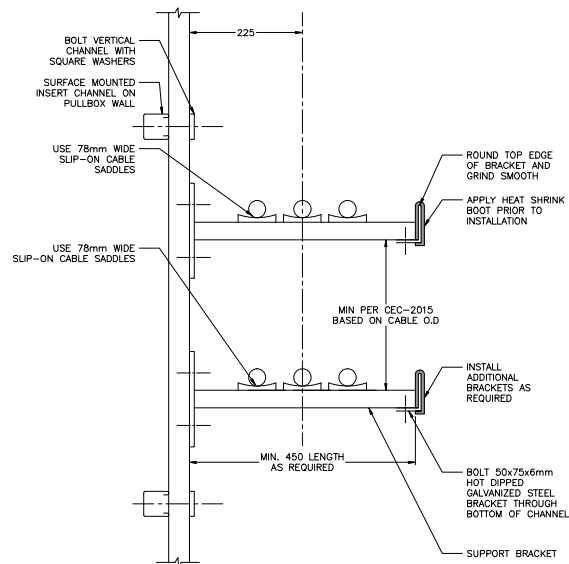
# 3 — SOUTH JETTY TUG WHARF POLE DETAILS NTS

KEYNOTES:

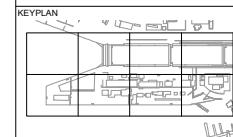
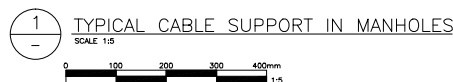
5. FIRE ALARM AND EMERGENCY ALARM EMERGENCY PULL STATION IN RATED BOX MOUNTED SIDE BY SIDE AT 1.5M AFF MOUNTED TO POLE. WIRED INTO FIRE ALARM SYSTEM.
6. LOW VOLTAGE SPLICE BOX. ALL TUG WHARF CABLES TO BE SPLICES FROM TECTOXY TYPE CABLES TO TYPE G CABLE SUITABLE FOR MOUNTING TO EXTENSION OF TUG WHARF. SPLICE BOX TO BE SIZES AS PER CEC REQUIREMENTS FOR CONDUIT ENTRY AND TO BE OR NEMARM MARINE GRADE ALUMINUM CONSTRUCTION. FRONT COVER TO BE REMOVABLE TO ALLOW ACCESS FROM TUG WHARF SPUR OFF SOUTH JETTY. CO-ORDINATE SPLICE BOX LOCATION WITH HAND RAIL ALUMINUM.
7. SX130mm NEMARM MARINE GRADE RIDGED ALUMINUM CONDUIT FROM ELBOWS ENDING BASE TO SPLICE BOX. SECURELY STRAPPED TO JETTY CONCRETE STRUCTURE.
8. SX130mm NEMA 3R MARINE GRADE ELBOWS
9. SEAL SX130mm RPPVC CONDUITS FOR FUTURE COM SERVICES. ENSURE PULL STRAP IS ACCESSIBLE BEHIND SEALING CAP.
10. TYPE 'G' CONDUCTORS TO PULL BOX TO TUG WHARF SERVICE PEDESTALS STRAPPED SECURELY TO WALKWAY AND EDGE OF TUG WHARF.
11. TUG WHARF HINGED WALKWAY. COORDINATE EXACT DIMENSIONS AND MOUNTING SOLUTIONS WITH STRUCTURAL DETAILS AND SUPPLY CONTRACTOR.
12. NEMAXX OUTDOOR RATED 1.6-60R CW LATCHED COVER
13. NEMAXX OUTDOOR RATED 1.6-20R CW LATCHED COVER
14. NEMAXX OUTDOOR RATED 1.5-20R CW LATCHED COVER
15. 45 DEGREE CUT BACKS IN FACE OF DISTRIBUTION PEDESTAL FOR EASE OF CONNECTION AND PROTECTION FOR E ELEMENTS
16. ACCESS HATCHES ON EACH SIDE OF DISTRIBUTION PEDESTAL FOR ACCESS TO INTERNAL WIRE WAY.
17. TYPE 'G' CONDUCTORS TO ENTER INTO BASE OF DISTRIBUTION PEDESTAL TO BE SUITABLY SEALED TO PREVENT WATERINTRAL INGRESS.
18. POLE ACCESS HATCH. SEALED AND GASKETED.
19. CO-ORDINATE 53mm COMMUNICATION CONDUIT STUBS WITH POLE BASE AS SHOWN.
20. CO-ORDINATE 27mm COMMUNICATION CONDUIT STUBS WITH POLE BASE AS SHOWN.
21. 19mm CHAMFER AROUND POLE BASE.
22. CONCRETE 500mm Ø POLE BASE. TO BE SECURELY BOLTED TO THE TUG WHARF LANDING STRUCTURE USING REBAR RODS. COMPRESSIVE STRENGTH 25MPa @ 28DAYS.







- GENERAL NOTES:**
1. ALL CABLES SHALL BE SPACED NO LESS THAN ONE CABLE DIAMETER APART.
  2. ALL METAL CABLE SUPPORTS SHALL BE BONDED TO GROUND SYSTEM.
  3. SUPPORT CHANNELS MOUNTED TO PULL BOX WALLS WAS REQUIRED



3	ISSUED FOR ELECTRICAL ADDENDUM M/1	2017/07/12
2	ISSUED FOR TENDER	2017/03/06
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Revisions/Revisions	Description/Description	Date/Date

Client/Client

**ESQUIMALT  
GRAVING DOCK**

825 ADMIRALS ROAD,  
VICTORIA, BC, V8A 2P1

Project title/Titre du projet

**825 ADMIRALS ROAD, VICTORIA, BC  
ESQUIMALT GRAVING DOCK  
ELECTRICAL SAFETY UPGRADE  
SOUTH JETTY  
RECONSTRUCTION**

Consultant Approval Box Only

Designed by/Conçu par  
**I. BARNES**

Drawn by/Dessiné par  
**J. BIELING, S. BEYMOUR**

Project Manager/Responsable de projet  
**PATRICK TRUONG**

Project Engineer/Architectural and Engineering Services/  
Ingénieur en architecture/Services d'architecture et de génie civil  
**PREETIPAL PAUL**

Drawing title/Titre du dessin

**CABLE MOUNTING**

Project No./No. du projet  
**R.026729.002**

Sheet/Feuille  
**ESK#1**

Revision no./  
Révision  
**3**