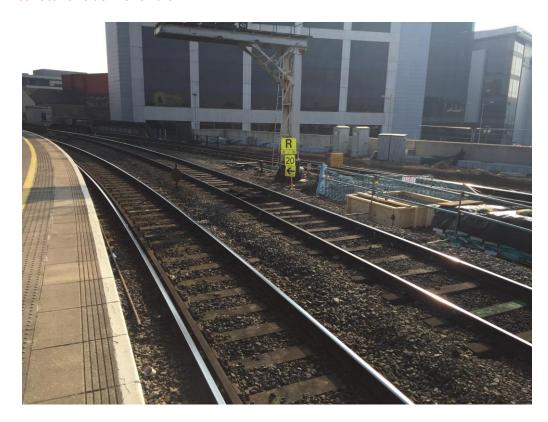
	Permit to Dig/Break Ground		Reference	9201&920	2 Points	
			Revision	1	Date	Mar 16
			Sheet No	1	Of	24
Contract: :Cardiff Area Re-Signalling Contract No:DDD				Permit No:	CASR100	2
Location of Works: Up/Dn Barry & Up/Dn Llandaff						

#### **Description of the intending works:**

## 1. Excavate for track renewals.



#### IF IN DOUBT STOP WORK, AND CALL: Service Co-ordinator on: 07515625563

Show details (including known services), all dimensions of area Scanned, details of trial holes and any reading at each scanned depth (use additional sheets as necessary).

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Work	Package	Plan No:
VVOIN	rackaue	PIAII NO.

CAT Serial No: 10/8KPL-137690 Calibration Expiry Date: 22-01-17			
PART A - Prior to Excavation/Breaking Gr	round	Yes (Initials)	No
Method Statement briefed out-		Y	If no then Permit not to be issued
Is an approved CAT available on site, calibrated and used by a cert	tified operator?	Y	If no then Permit not to be issued
Name of certified operator carrying out CAT scan during planning o	•	David Cove	
The following records have been received and all relevant information part C:  Service records have been received from Network Rail Service Owner S&T Manager, and are attached to this Permit- Hazard Directory (available for site)- In RIMINI pack/Work Package Maintainer- Thales: Lionel Grey 07899 934200		Y	If no then authorisation to proceed required from PM
Are there known/charted services in the area?		Υ	
A full CAT scan in all modes (power, radio and transmitter) has be issue of this Permit and the results recorded on Drawings/Sketch sl		Y	If no then Permit not to be issued
Have all known/charted services been traced and marked on site		Υ	
Uncharted services picked up during initial scanning of area - If yes, then mark on to sketch		Y	

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Contract: :Cardiff Area Re-Signalling
Location of Works: Up/Dn Barry & Up/Dn Llandaff Contract No:DDDB10 Permit No: CASR1002

SERVICE PROVIDER	UTILITY	AREA	LOCATED WITH RD4000 IN WHICH MODE-
		AFFECTED	POWER/ RADIO/ GENNY
WPD Electric	Electric	<b>✓</b>	
National Grid Pylons	Electric		
WPD Over Head Lines	Electric		
Energis	Telecom		
Global Crossing	Telecom	~	
British Telecom	Telecom	~	
Kingston Infrastructure	Telecom		
World Com	Telecom		
Atkins Telecoms	Telecom	~	
Telewest	Telecom	~	
NTL	Telecom	~	
DWR Cymru / Welsh Water	Water clean		
Torfaen CC (Drainage)	Sewers		
Hyder Report	Drain		
Connect (Elf)	Oil Pipe		
Fisher German	Oil Pipe		
Transco (Gas)	Gas		
BOC Gases	Gas		
Station File/CCTV	Plans		
Points Heating		~	
National Deeds	Other Utilities		
(Utilities/Outside Parties)			
Network Rail Zone Cables	S&T Cabling	~	
Carillion (Sudbrook)			
Network Rail Records Centre	Other Utilities		
Scott Wilson			
Network Rail L-Xing Engineer	L-X Plans		

CAUTION: There may be other uncharted buried services. Dig with caution. Use CAT on all 3 modes. If in doubt stop work and call the Services Co-ordinator on 07515625563

#### 

Part A - Hand Dig Only (no mechanical excavati	<b>Part</b>	Α-	Hand	Dig	Only	(no	mechanical	excavation
--	-------------	----	------	-----	------	-----	------------	------------

- All services identified during the CAT scan are to be positively located by trial holes. Detail of the trial holes number, location, type of tools to be used are to be detailed below:
- Where service drawings indicate services, which cannot be located using CAT equipment the service co-ordinator, must seek advice, and prove no cables are present prior to excavation.
- Show details (including known services), dimensions of area Scanned and details of trial holes and any reading at each scanned depth (use additional sheets as necessary).

Are there known/charted services in the area, and have the details of these been transferred	Yes	No
onto the sketch	Υ	If no then Permit not to be issued

#### **Area Scanned**

Minimum scan distance from edge of excavation to be at least 10m where practicable Enter dimensions scanned area

#### **Trial Hole Details**

CAT to be used throughout excavation (every 250mm layer)

Details of any readings at each level:

250mm	<b>→</b>	
500mm	<b>→</b>	
750mm	<b>→</b>	
1000mm	<b>→</b>	

Scanned by: Date/Time:					
I fully understand the service	information provided on	this permit and a	any attached	drawings and	d the Network Rail buried
service procedures					
Issued by Network Rail BS	M	Received by 0	COSS/Super	visor	
Name:		Name:			
D.Cove					
Signature:		Signature:			Date:
D. Corre		-			Time:
Permit valid from26-03-16					
Permit Suspended/Comple					
Name :	ted (sign here if no me	chanical diggii	ig is require	u otherwise	Sign Fait Dj
Name .					
Signature:			Date:		
			Time:		

Reference	9201&920	2 Points		
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Contract: :Cardiff Area Re-Signalling Contract No:DDDB10 Permit No: CASR1002

Location of Works: Up/Dn Barry & Up/Dn Llandaff

PART B - Prior to Mechanical Digging	Yes	No
Has Part A of this Permit been <b>fully</b> completed	Υ	If no do not continue
Does the Work Package Plan cover mechanical digging and is the correct equipment available	Y	If no do not continue
Has machine operator/banksman been briefed on location of known services and digging methodology (no closer than 0.5m to services, action to be taken in event of strike etc)	Y	If no do not continue
Has services been adequately protected/supported and details recorded	Υ	If no do not continue
Have the positions of all buried cables been clearly identified on the surface?	Υ	If no do not continue
Will the excavation or any other activity infringe the 'Track Support Structure'? If <b>Yes</b> TQE must endorse this permit prior to commencement		N

#### Part B - Mechanical Dig

- CAT to be used throughout excavation (every 250mm)
- No mechanical excavation within 0.5m of services
- Type of plant/equipment used:
- Details of service protection:

If in doubt call service coordinator on:075156	25563					
I fully understand the service information provided on	this permit and any attached drawings	and the Network Rail buried				
service procedures						
Issued by Buried Services Manager	Received by COSS/Supervisor					
Name: D.Cove	Name:					
Signature:	Signature:	Date:				
D. Cove		Time:				
Permit valid from26-03-16						
Permit Suspended/Completed*						
Name :						
	T =					
Signature:	Date:					
	Time:					

#### 

#### PART B - Drawings/Sketches

Show details (including known services), limits and boundaries of permit, distances from specific reference points, setting out details and trench details as applicable (use additional sheets as necessary).

A = Offset to Running Rail	A = Offset to Running Rail	
B = Level below rail to	B = Level below rail to Ground	
Ground		
Diameter of Cables	Diameter of Cables	
Number of Cables	Number of Cables	
Markings On Cables	Markings On Cables	
Length of Trench	Length of Trench	
Depth of cables below ground	Depth of cables below ground	
No. Cables in Trough	No. Cables in Trough	
Dist from rail to trough	Dist from rail to trough	

S	k	e	tc	ŀ	1:
•	••	•	••		••

See for	ollowing	photos	and	notes;
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Prepared by:David Cove	Date:

Reference	9201&920	2 Points	
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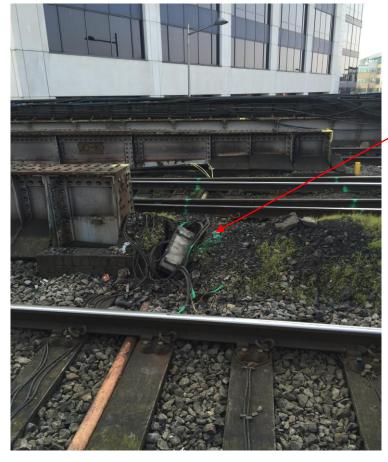
Contract: :Cardiff Area Re-Signalling Contract No:DDDB10 Permit No: CASR1002

Location of Works: Up/Dn Barry & Up/Dn Llandaff



We have removed most of the dead cables from these trough routes and placed the remaining ones into the outer route so the inner trough route can be removed for the dig if required. There may be cables under the trough route but they will be dead.

This cable is dead and is cut is visibly cut in the route.

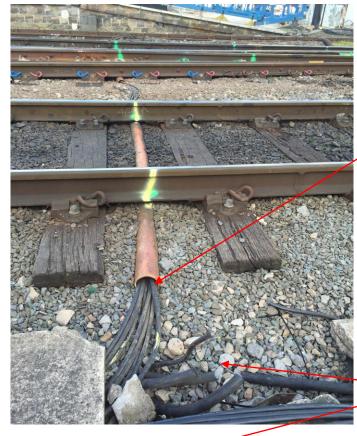


There are some live and dead cables here. The live ones will either have to be protected or disconnected.

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Location of Works: Up/Dn Barry & Up/Dn Llandaff



There are some TPWS cables which cross through the track layout. These have been cut and re-routed so can be moved out of the way at the start of the work or prior to it.



There are cables crossing under the track here which we have proved dead and cut. We believe that 2 of them emerge in the route which is visible here.

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Contract: :Cardiff Area Re-Signalling Contract No:DDDB10 Permit No: CASR1002

Location of Works: Up/Dn Barry & Up/Dn Llandaff



This small pipe runs through the ballast shoulder in the direction shown. It will be in the shoulder for the extent of the excavation so when it is exposed we can cut it with a disc cutter.



We exposed the pipe near the end of the platform and found it to be much deeper.

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Location of Works: Up/Dn Barry & Up/Dn Llandaff



The pipe detailed on the previous page runs into this small circular chamber which we discovered. This can also be removed during the dig.



This chamber sits by C425 signal. The chamber itself appears to be out of the dig area but the cables inside it cross under the track at a depth shallow enough to suggest we will come across them whilst excavating. The cables are all dead so the excavator can either dig through them or we can cut them when exposed.

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Location of Works: Up/Dn Barry & Up/Dn Llandaff Contract No:DDDB10 Permit No: CASR1002



These are the cable ducts which come out of the chamber detailed on the previous page



This clay duct crosses under the track near to the above ducts. It is a redundant service which ran through Platform 6/7. It runs into a small chamber which sits under 821 points.

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Contract: :Cardiff Area Re-Signalling
Location of Works: Up/Dn Barry & Up/Dn Llandaff Permit No: CASR1002 Contract No:DDDB10





These photos highlight the redundant drainage chamber and its position under 821 points. This can be removed or filled in during the excavation.

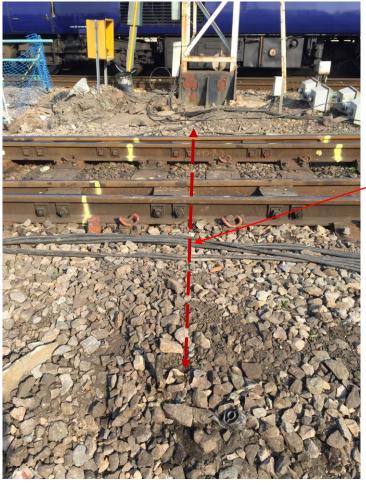
Reference	9201&9202 Points			
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Contract: :Cardiff Area Re-Signalling Contract No:DDDB10 Permit No: CASR1002

Location of Works: Up/Dn Barry & Up/Dn Llandaff



We came across this redundant steel pipe when we removed Platform 6/7. It heads in the direction of our dig so there is a possibility we may come across it whilst digging. The machine will have to pull it out if it comes across it. It is in collared sections so should come out if required.



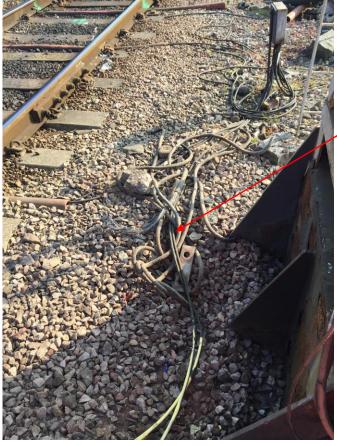
We should come across some redundant cables through here.

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Location of Works: Up/Dn Barry & Up/Dn Llandaff Contract No:DDDB10 Permit No: CASR1002



This small steel pipe is redundant and can be removed.



There is a mix of live and dead cables here. The dead ones are visibly cut. The live ones will have to be either disconnected or protected.

Reference 9201&9202 Points Revision Sheet No Date Of Mar 16

ELR	Mileage From	Mileage To	Hazard Description	Local Name	Free Text	System Reference	Last Updated
SWM2	113.0060	280.1540	Buried Telecommunication Cables		@Note: There could be buried telecoms cables throughout this ELR. If details of cable location are known this cable MUST be identified first before any ground penetration work is carried out.@	60326104	08/09/2008 18:40:00
SWM2	142.0125	171.1234	Site of Special Scientific Interest (SSSI)	Gwent Levels	ST353193-Extends from Cardiff to Chepstow-River Wye Chepstow/Magor Marsh/St Brides,Rumney & Peterstone Levels refers to weedspray restrictions-NO Scrub- indicates that Garlon,Timbrel or other treatments containing tricopyr should not be sprayed onto the scrub area.New in 2000		08/09/2008 18:36:00
5WM2	170.0450	170.0836	Red Zone Working Prohibited	CARDIFF CENTRAL STATION- platform 4 & 6	Between Platforms, No POS. Up Barry and Up Barry Relief. RZB DVD 483/11	60325540	08/09/2008 18:37:00
5WM2	170.0450	170.0836	Red Zone Working Prohibited	CARDIFF CENTRAL STATION platform 2&3	Between platforms, No POS, Dn Relief, Dn Main, Up Main, Up platform RZB> DVD483/9,	60320693	08/09/2008 18:37:00
5WM2	170.0462	170.0462	Buried Electrical Cables	Cardiff Central	ST183758-1-170 SWALEC Agreement 94555 re cables under road, possibly to lighting points, also under CEJ. See notes for items 45855 & 45856. Low Voltage Cable - HAZARD V.10		08/09/2008 18:34:00
SWM2	170.0484	170.0484	Buried Electrical Cables	Cardiff Central	ST183758-1-170 SWALEC Agreement 94555 re cables under road, possibly to lighting points, also under CEJ. See notes for item 45856. Low Voltage Cable - HAZARD V.10	60155216	08/09/2008 18:34:00
SWM2	170.0484	170.0484	Buried Electrical Cables		ST182760-171 Not Known Two cables under W path and multiple cables under E path Penarth Road OBr. For E path see Agreement <owner 90="">. See notes for item 45855. High Voltage Cable - RAR Code: HOE or HBE - HAZARD V.10</owner>	60114185	08/09/2008 18:34:00

Reference 9201&9202 Points Revision Sheet No Date Of Mar 16

SWM2 170.0484	170.0484	Buried Gas Pipe		ST182760-171 Not Known Gas main under centre of Penarth Road at UBr. High Pressure Gas - RAR Code: HBG - HAZARD V.10	60114187	08/09/2008 18:34:00
SWM2 170.0484	170.0484	Buried Telecommunication Cables		ST182760-171 Not Known Cables under each path of Penarth Road UBr. Telecom Cable - RAR Code: HOT or HBT - HAZARD V.10	60114162	08/09/2008 18:34:00
SWM2 170.0484	170.0484	Buried Water Main		ST182760-171 Not Known 20" pipe under northbound roadway at Penarth Road UBr. 10" pipe under W path, 4" pipe from N to Fire Hydrant under path on East side below 6" between Nos 1 & 2 lines < Quail p22> at Station. High Pressure Water - RAR Code: HBW - HAZA	60114151	08/09/2008 18:34:00
SWM2 170.0484	170.0594	Buried Electrical Cables		ST182760-1-171 SWALEC Agreement 91202 re 6.6kv cables up to N boundary of Cardiff General station then to sub station underneath N side of platforms 3/4 E of parcels subway. See notes for item 45855. High Voltage Cable - RAR Code: HOE or HBE - HAZARD V.10	60155207	08/09/2008 18:34:00
SWM2 170.0528	170.0550	Buried Foul Water Service	Cardiff	ST182758-1-170 Cardiff Corporation Agreement 92749 re sewer under approach road with 3xMHCs on N side of station. See notes for item 45853. Sewage - RAR Code: HBF - HAZARD V.10	60155251	08/09/2008 18:34:00
SWM2 170.0528	170.0824	Red Zone Working Prohibited	CARDIFF CENTRAL STATION- Platform 1+0	Between platforms, No POS, Up Platform loop, Up relief. DVD 483/9	60320692	08/09/2008 18:37:00
SWM2 170.0616	170.0616	Buried Telecommunication Cables		ST181760-171 Not Known Cable from Penarth Rd via N edge of RT car park, to E face of Station bldg, thro" bldg then via parcels subway to point under S face of Plat 7. Feeder stubs to each island platform. See notes for item 45855 & 45856. Telecom Cable -	60114153	08/09/2008 18:34:00
SWM2 170.0660	170.0660	Buried Telecommunication Cables		ST181759-171 Not Known Below N boundary at S side of car park. Telecom Cable - RAR Code: HOT or HBT - HAZARD V.10	60114154	08/09/2008 18:36:00
SWM2 170.0660	170.0660	Buried Water Main		ST181759-171 Railtrack Cardiff Central Station "SPAFLOW" plans showing mains water and gas supplies to station buildings. Water Pipe - HAZARD V.10	60117023	08/09/2008 18:34:00
SWM2 170.0660	170.0660	Authorised Access Point	Cardiff	ST183760-171 Railtrack Cardiff Central Station: NB Also Cardiff Central PSB on S side of former CFR Riverside Branch at SWM 170.33 Access Point - HAZARD V.10	60114778	08/09/2008 18:34:00
SWM2 170.0660	170.0660	Buried Plant Cable		ST181759-171 Railtrack Cardiff Central Station - cabling for No.821 points heaters <east -valley="" 6="" 7="" end="" lines="" of="" plats="">.Supply tapped from existing supply in lift shaft and cables buried along centre of Plats 6/7 running east towards site of points. See</east>	60117042	08/09/2008 18:34:00

Reference 9201&9202 Points Revision Sheet No Date Of Mar 16

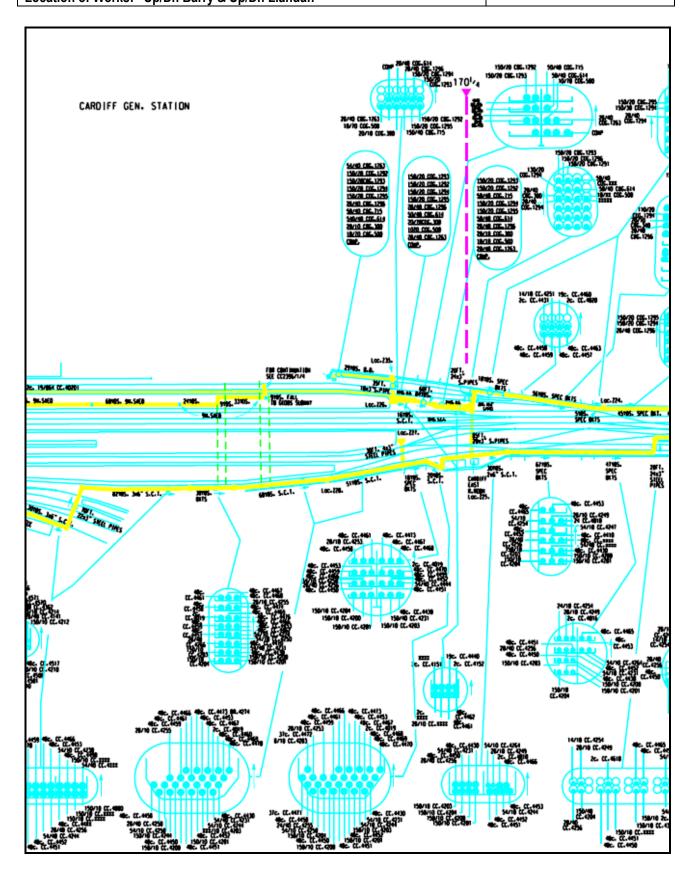
SWM2 170.0660 170.0660 Buried Service		ST181759-171 Railtrack Cardiff Central Stn. Plats 6/7 <valley Lines&gt; Staff Accommodation - Heating and Domestic Hot water piping supply network. RCE Drawing No.BESS 2700 C No. 35251 Unknown Pipeline - HAZARD V.10</valley 	60117025	08/09/2008 18:34:00
SWM2 170.0660 170.0660 Buried Lighting	Cable	ST181759-171 Railtrack SWALEC elec supply to platforms 3/4. Cables run under E & W end of main buildings then via parcels subway to plats 3/4. See notes for item 45855 & 45856. Electric Cable - HAZARD V.10	60117026	08/09/2008 18:34:00
SWM2 170.0660 170.0660 Buried Service		ST181759-171 Railtrack Cardiff Central Station Spaflow plan available. Various Services - HAZARD V.10	60117028	08/09/2008 18:34:00
SWM2 170.0660 170.0660 Arches or othe Buildings	Cardiff Central < Property Ref: 46169000>	ST182759-1-171 First Great Western North Passenger station. Trains operating in the vicinity. Large Station - RAR Code: ZSS - HAZARD V.10	60135100	08/09/2008 18:33:00
SWM2 170.0660 170.0660 Listed Building	Cardiff Central	Railtrack Central Station Buildings Excluding Riverside Nearest stn: Cardiff; Council: Cardiff; Planning auth: Cardiff City ID: HR04616/8009; Doc No: 112113MISC Listed Building - RAR Code: EPL - HAZARD V.10	60135601	08/09/2008 18:33:00
SWM2 170.0660 170.0660 Asbestos Hazar	rd Cardiff Central Station	ST182758-1-171 Railtrack Asbestos survey of station, filed in SWM2 wallet for mileage. Asbestos - RAR Code: EKB - HAZARD V.10	60155509	08/09/2008 18:34:00
SWM2 170.0660 170.0660 Asbestos Hazar	Cardiff rd Semaphore House	-ST181758-Black-no risk refer to site survey at SB	60164839	08/09/2008 18:35:00
SWM2 170.0660 170.0726 Authorised Wal	lking Cardiff Central to Cardiff Panel Box	ST181759-171 Railtrack When on or near the track high visability clothing MUST be worn. Via main entrance to end of subway, then up walkway past Semaphore House. Walking Route to Signal Box - RAR Code: HA - HAZARD V.10	60114393	08/09/2008 18:35:00
SWM2 170.0660 170.0880 Buried Gas Pip	e	ST181759-171 Transco Gas supply pipe runs from conn. point in Wood St., underground to west end of Fish Dock car park retaining wall. Pipe then runs above ground affixed to retaining wall to west end of station buildings thence underground & into station.	60117024	08/09/2008 18:34:00
SWM2 170.0726 170.0726 Authorised Acc	ess Cardiff	ST181759-171 Railtrack Cardiff Panel, Access via Semaphone House Car Park <vehicle> Access Point - HAZARD V.10</vehicle>	60114779	08/09/2008 18:34:00
SWM2 170.0726 170.0726 Authorised Acc Point - Pedestr		Authorised access point-Authorised walking routes: Via main entrance to Semaphore House then along path to rear of SB.See local safety policy doc.	60245855	08/09/2008 18:35:00

Permit to	Dig/Break	Ground
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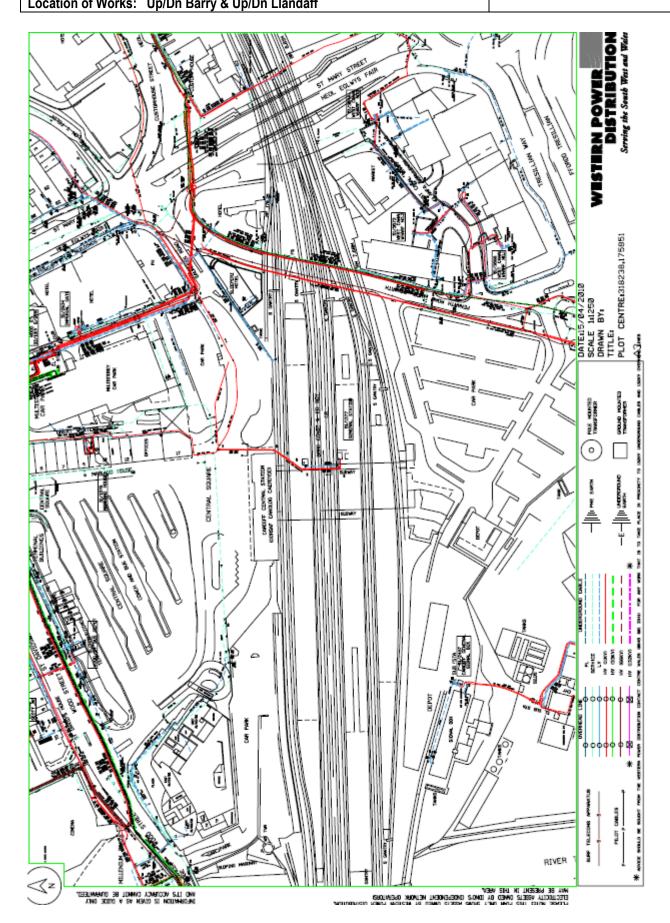
Reference 9201&9202 Points Revision Sheet No Date Of Mar 16

SWM2	170.0726	170.0726	Asbestos Hazard	Panel SB	refer to site survey at SB	60164838	18:35:00
SWM2	170.0737	170.0737	Buried Foul Water Service	Cardiff Central	ST181758-1-170 Hancock, William, & Co Ltd Agreement 95505 re sewer from PSigBox under earthworks on S side of former CFR formation opposite SWM2 mileage stated. Sewage - RAR Code: HBF - HAZARD V.10	60155508	08/09/2008 18:36:00
SWM2	170.0737	170.0737	Buried Electrical Cables	Cardiff Central	ST181758-1-170 SWALEC Agreement 96888 re 11kv cables to PSigBox sub station <a few="" metres="" of="" psb="" se=""> under earthworks on S side of former CFR formation opposite SWM2 mileage stated. High Voltage Cable - RAR Code: HOE or HBE - HAZARD V.10</a>	60155246	08/09/2008 18:34:00
SWM2	170.0814	170.0814	Listed Building	Cardiff Central	Water Tower at Cardiff Central Station to North of West end of platforms 1&2 off Central Square. Grade II listed on 27/08/1999.	60281951	08/09/2008 18:36:00
SWM2	170.0880	171.0880	Other Contamination	Cardiff Canton ED	ST180759-171 Railtrack Potential hazard which may cause harm to man and/or the environment during ground disturbance works eg, excavation. Unknown Contamination - RAR Code:	60114147	08/09/2008 18:34:00

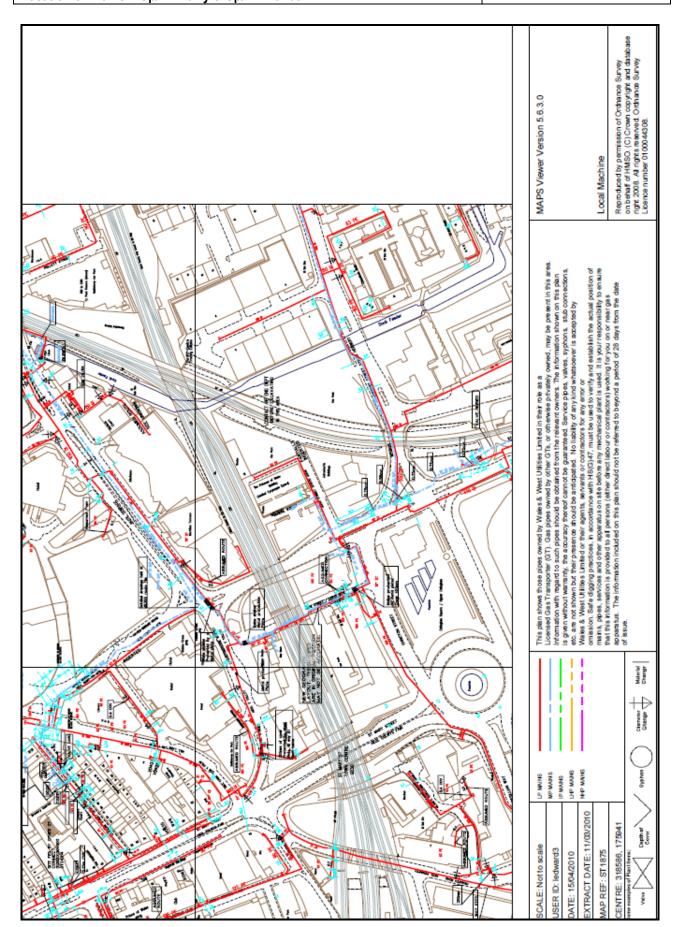
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Contract: :Cardiff Area Re-Signalling Contract No:DDDE			B10	Permit No:	CASR100	2
Location of Works: Up/Dn Barry & Up/Dn Llandaff						



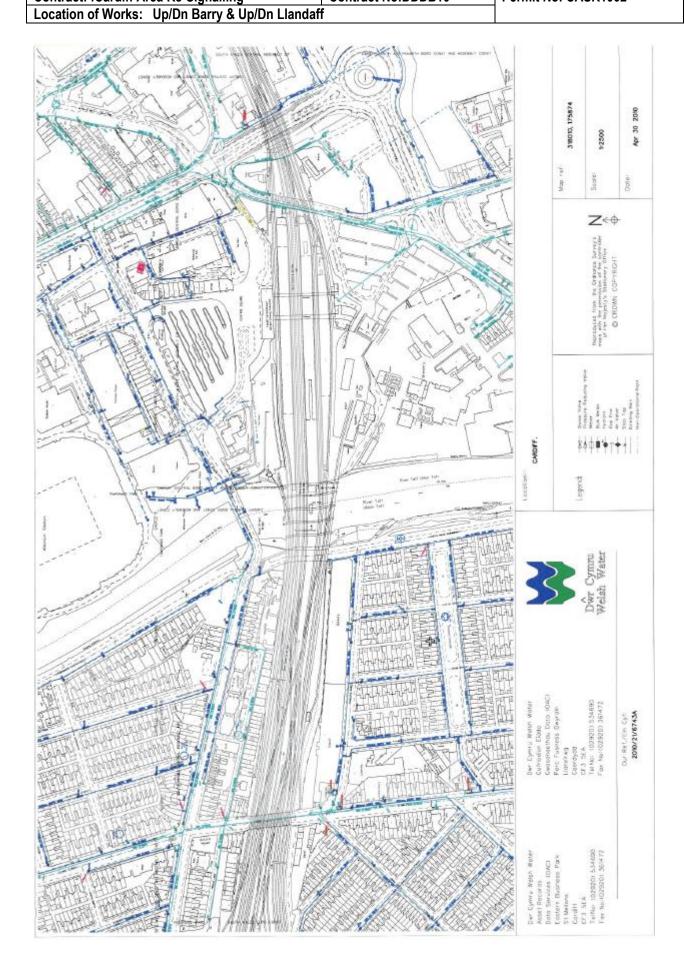
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			Revision	1	Date	Mar 16
	_		Sheet No	20	Of	24
Contract: :Cardiff Area Re-Signalling Contract No:DDDE			B10	Permit No:	CASR100	2
Location of Works: Un/Dn Barry & Un/Dn Llandaff						



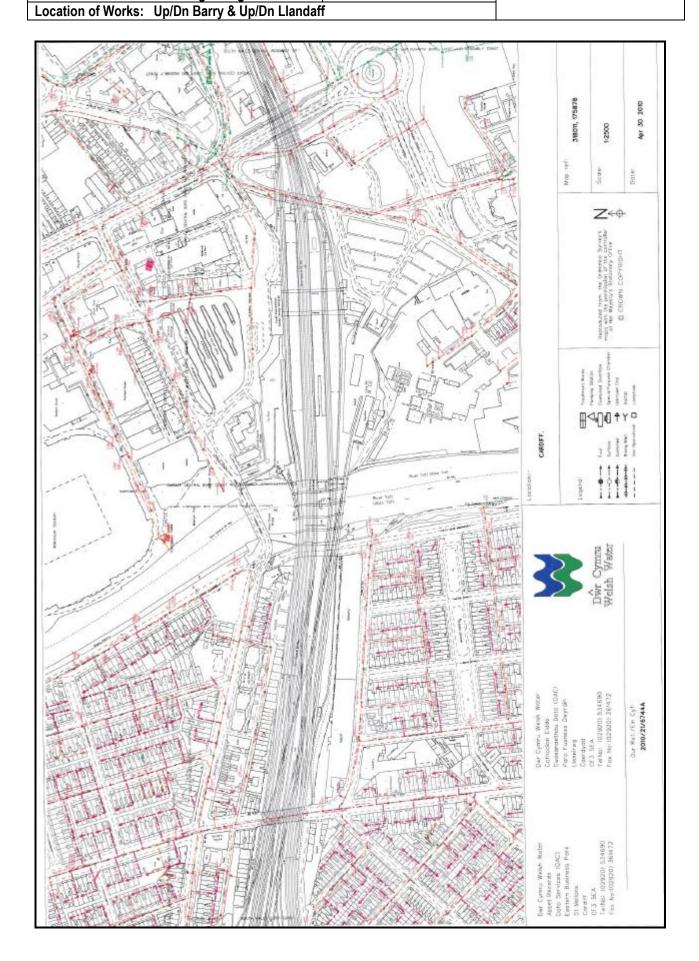
	Permit to Dig/Break Ground		Reference	9201&920	2 Points	
			Revision	1	Date	Mar 16
	_		Sheet No	21	Of	24
Contract: :Cardiff	Contract: :Cardiff Area Re-Signalling Contract No:DDD			Permit No:	CASR100	2
Location of Works: Up/Dn Barry & Up/Dn Llandaff						



			Reference	9201&920	2 Points	
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		_	Reference	9201&9202 Points		
	Permit to Dig/Break Ground		Revision	1	Date	Mar 16
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Contract: :Cardiff	Contract: :Cardiff Area Re-Signalling Contract No:DDDB		B10	Permit No:	CASR100	2



	Permit to Dig/Break Ground		Reference	9201&920	2 Points	
			Revision	1	Date	Mar 16
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Contract: :Cardiff	Area Re-Signalling	B10	Permit No:	CASR100	2	
Location of Works	Location of Works: Up/Dn Barry & Up/Dn Llandaff					

