

2327 to 2328 Intermediate Works Bill of Quantities			
7.359	Renumber Fibre Joint	each	2
7.373	Rename Cable (Fibre)	each	1

Legend

	Cabinet and Verts		Copper Joint		Trough Duct Cable Tray		Signal Box		FTN Core Node		Screen Joint Routeworks		Manhole details: Cross-To be used Filled-In use Clear-Empty		Overbridge		Signal		Engineer's Line Reference		Crossing		Gas Line		HV Cable		LV Cable		Sewer		Telecoms		Water		AC Stanchion			
	Cabinet with Regenerator and Verts		Fibre Joint		Electrical Control Room		Manhole		Core Node with GSM-R Colocated		Copper Joint Routeworks		Tunnel		Underbridge		VAP Access Point		Mile Post		Gantry		Copper Blue Fibre Red Screen Green		AC Stanchion													
	KEY Proposed Fibre & Civils Elements are shown in RED Proposed Copper Elements are shown in BLUE Proposed Screening Elements are shown in MAGENTA All Recoveries are shown in GREEN		Existing Fibre Cable		Existing Copper Cable		Existing Screen Cable		FTN Access Node		FTN Access Node with GSM-R Colocated		Cabinet Routeworks		Fibre Joint Routeworks		Earth Farm		Buffer Stop		Telephone																	

Notes

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
C	05.05.11	Amended As Per NWR Design Review	DA	JW	CT
B	25.11.10	Stage 2 Design - First Issue	MB	JW	CT
A	07.10.08	Amended Issue		AEL	
DA	17.08.08	1st Issue		AEL	

ndc consultants
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Contractor(s)

Designed: Mike Bonner
Drawn: Joe Winter
Checked: Chris Tappendan
Approved: Chris Tappendan

Signatures and Dates:
Date: 25.11.10
Date: 25.11.10
Date: 25.11.10

Project: FTN / GSM-R Project Stage 2 Design

Drawing Title: Aldershot Station (2327) to Farnham Station 1 (2328)

Status: Design
Scale(s): ELR & Mileage
NTS
PAA1/PAA2

Network Rail

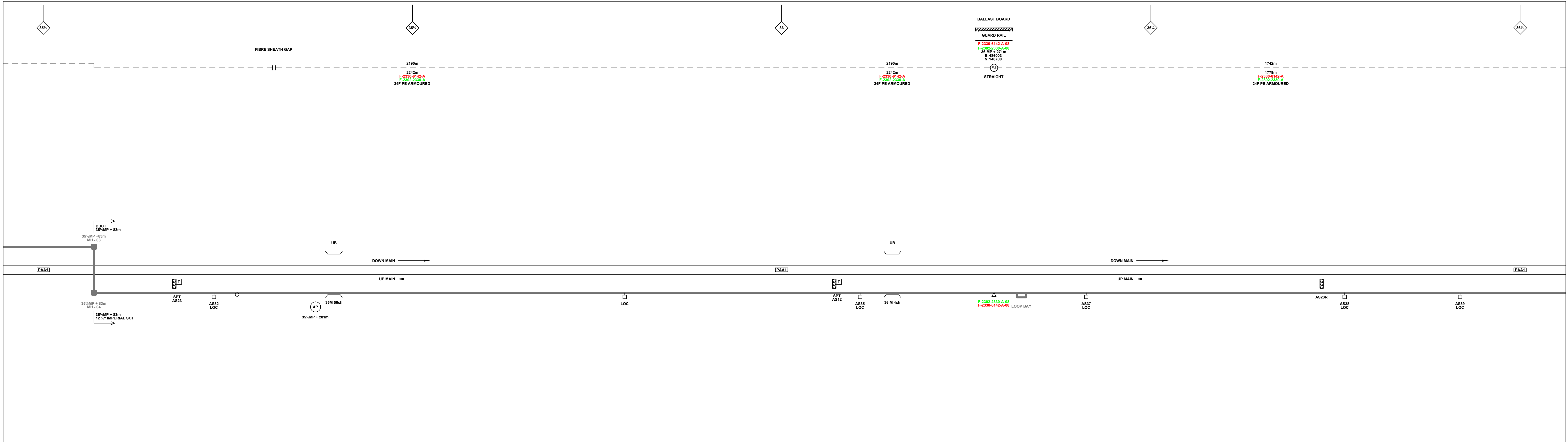
FTN / GSM-R Project
Tournament House
Paxford
London
W2 1HA

Alternative Reference: See Layout Tab A3 Sheets 1 and 2

Drawing Number: NTPO\SLD\2327\2328\001

Revision: C

Sheet: 1 of 4



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Manhole details: Cross-To be used Filled-In use Clear-Empty	Overbridge	Signal	MLNT	Engineer's Line Reference
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Manhole	Underbridge	VAP Access Point	Mile Post	Crossing
KEY Proposed Fibre & Civils Elements are shown in RED Proposed Copper Elements are shown in BLUE Proposed Screening Elements are shown in MAGENTA All Recoveries are shown in GREEN	Screening Conductor Joint with/without Earth	Status - as per Key Below	Mid Length Sheath Gap Fibre	FTN Access Node	Cabinet Routeworks	Sheath Gap Copper	Tunnel	PAP Pedestrian Access Point	Platform	Gantry
	Existing Fibre Cable	Existing Copper Cable	Existing Screen Cable	FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks		Earth Farm	Buffer Stop	Telephone	Gas Line
							Cable Pull	AC Stanchion		HV Cable
										LV Cable
										Sewer
										Telecoms
										Water

Notes

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
C	05.05.11	Amended As Per NWR Design Review	DA	JW	CT
B	25.11.10	Stage 2 Design - First Issue	MB	JW	CT
A	07.10.08	Amended Issue		AEL	
DA	17.09.08	1st Issue		AEL	

Contractor(s)

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Status: Design

Scale(s): ELR & Mileage PAA1/PAA2

Designed	Mike Bonner	Sign.	[Signature]	Date	25.11.10
Drawn	Joe Winter	Sign.	[Signature]	Date	25.11.10
Checked	Chris Tappendan	Sign.	[Signature]	Date	25.11.10
Approved		Sign.		Date	

Project: FTN / GSM-R Project Stage 2 Design

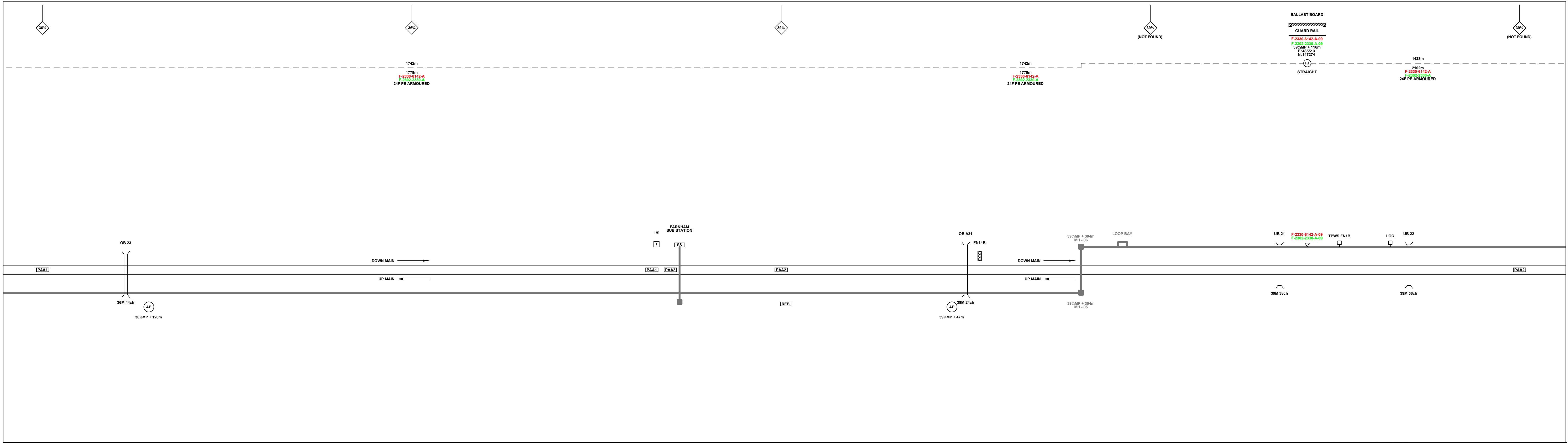
Drawing Title: Aldershot Station (2327) to Farnham Station 1 (2328)

Alternative Reference: See Layout Tab A3 Sheets 3 and 4

Drawing Number: NTPO\SLD\2327\2328\001

Sheet: 2 of 4

Revision: C



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Manhole details: Cross-To be used, Filled-In use, Clear-Empty	Overbridge	Signal	MLNT	Engineer's Line Reference
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Manhole	Underbridge	VAP Access Point	Mile Post	Crossing
KEY	Screening Conductor Joint with/without Earth	1988m Cable Status - as per Key Below	Mid Length Sheath Gap Fibre	FTN Access Node	Cabinet Routeworks	Tunnel	Earth Farm	PAP Pedestrian Access Point	Platform	Gantry
Proposed Fibre & Civils Elements are shown in RED	Existing Fibre Cable	Existing Copper Cable	Sheath Gap Copper	FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks	Buffer Stop	Telephone	Gas Line	HV Cable	LV Cable
Proposed Copper Elements are shown in BLUE	Existing Screen Cable							Sewer	Telecoms	Water
Proposed Screening Elements are shown in MAGENTA								Cable Pull	Copper Blue Fibre Red Screen Green	AC Stanchion
All Existing Elements are shown in BLACK										

Notes

C	05.05.11	Amended As Per NWR Design Review	DA	JW	CT
B	25.11.10	Stage 2 Design - First Issue	MB	JW	CT
A	07.10.08	Amended Issue		AEL	
DA	17.09.08	1st Issue		AEL	
Rev	Date	Description of Revisions	Drawn	Chkd	Appr

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Contractor(s)

Design
ELR & Mileage
PAA1/PAA2

Status: NTS

Designed	Mike Bonner	Sign.	Chris Tappendan	Date	25.11.10
Checked	Joe Winter	Sign.		Date	25.11.10
Approved	Chris Tappendan	Sign.		Date	25.11.10

Project: FTN / GSM-R Project Stage 2 Design

Drawing Title: Aldershot Station (2327) to Farnham Station 1 (2328)

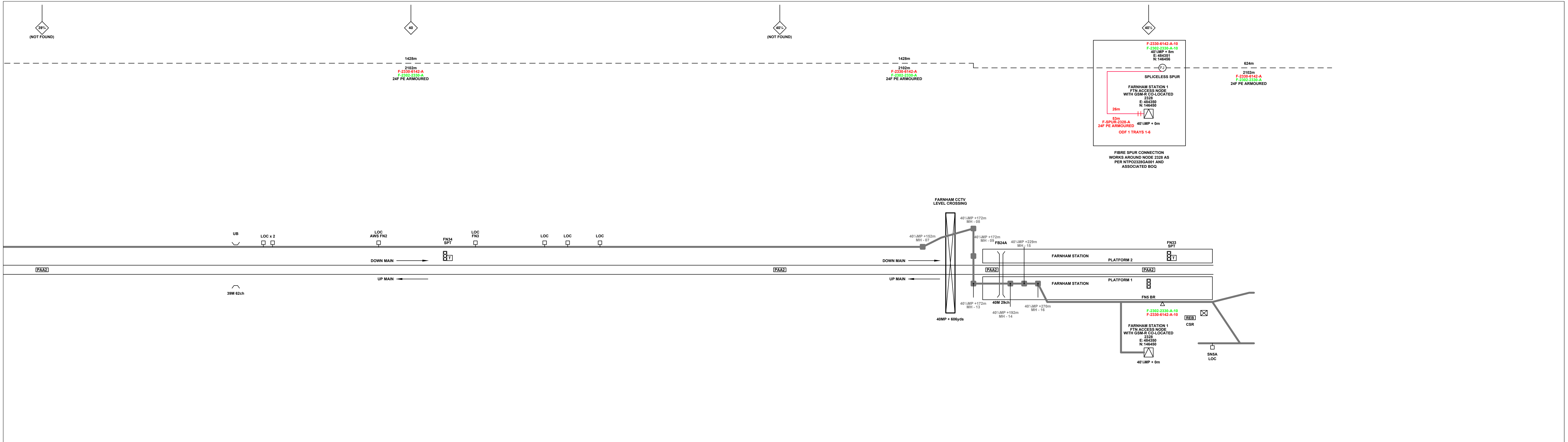
Network Rail

FTN/GSM-R Project
Tournament House
Pudding
London
W2 1HA

Alternative Reference: See Layout Tab A3 Sheets 5 and 6

Drawing Number: NTPO\SLD\2327\2328\001

Sheet: 3 of 4
Revision: C



Legend

	Cabinet and Verts		Copper Joint		Trough Duct Cable Tray		Signal Box		FTN Core Node		Screen Joint Routeworks		Manhole details: Cross-To be used Filled-In use Clear-Empty		Overbridge		Signal		Engineer's Line Reference		— GAS — GAS — Gas Line		— HV — HV — HV Cable		— LV — LV — LV Cable		— SEW — SEW — Sewer		— TEL — TEL — Telecoms		— v — v — Water	
	Cabinet with Regenerator and Verts		Fibre Joint		Electrical Control Room		Manhole		Core Node with GSM-R Colocated		Copper Joint Routeworks		Tunnel		Underbridge		VAP Access Point		Mile Post			— Copper Blue Fibre Red Screen Green		AC Stanchion								
	KEY Proposed Fibre & Civils Elements are shown in RED Proposed Copper Elements are shown in BLUE Proposed Screening Elements are shown in MAGENTA All Recoveries are shown in GREEN		All Existing Elements are shown in BLACK		Existing Copper Cable		Existing Screen Cable		FTN Access Node		FTN Access Node with GSM-R Colocated		Sheath Gap Copper		Platform		Telephone		Earth Farm		Buffer Stop											

Notes

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
C	05.05.11	Amended As Per NWR Design Review	DA	JW	CT
B	25.11.10	Stage 2 Design - First Issue	MB	JW	CT
A	07.10.08	Amended Issue		AEL	
DA	17.09.08	1st Issue		AEL	

Contractor(s)

ndc consultants
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Status: **Design**

Scale(s): ELR & Mitage
PAA1/PAA2

Drawn	Checked	Approved	Project	Designated	Sign.	Date
Mike Bonner	Joe Winter	Chris Tappandan	FTN / GSM-R Project Stage 2 Design			25.11.10

Drawing Title: Aldershot Station (2327) to Farnham Station 1 (2328)

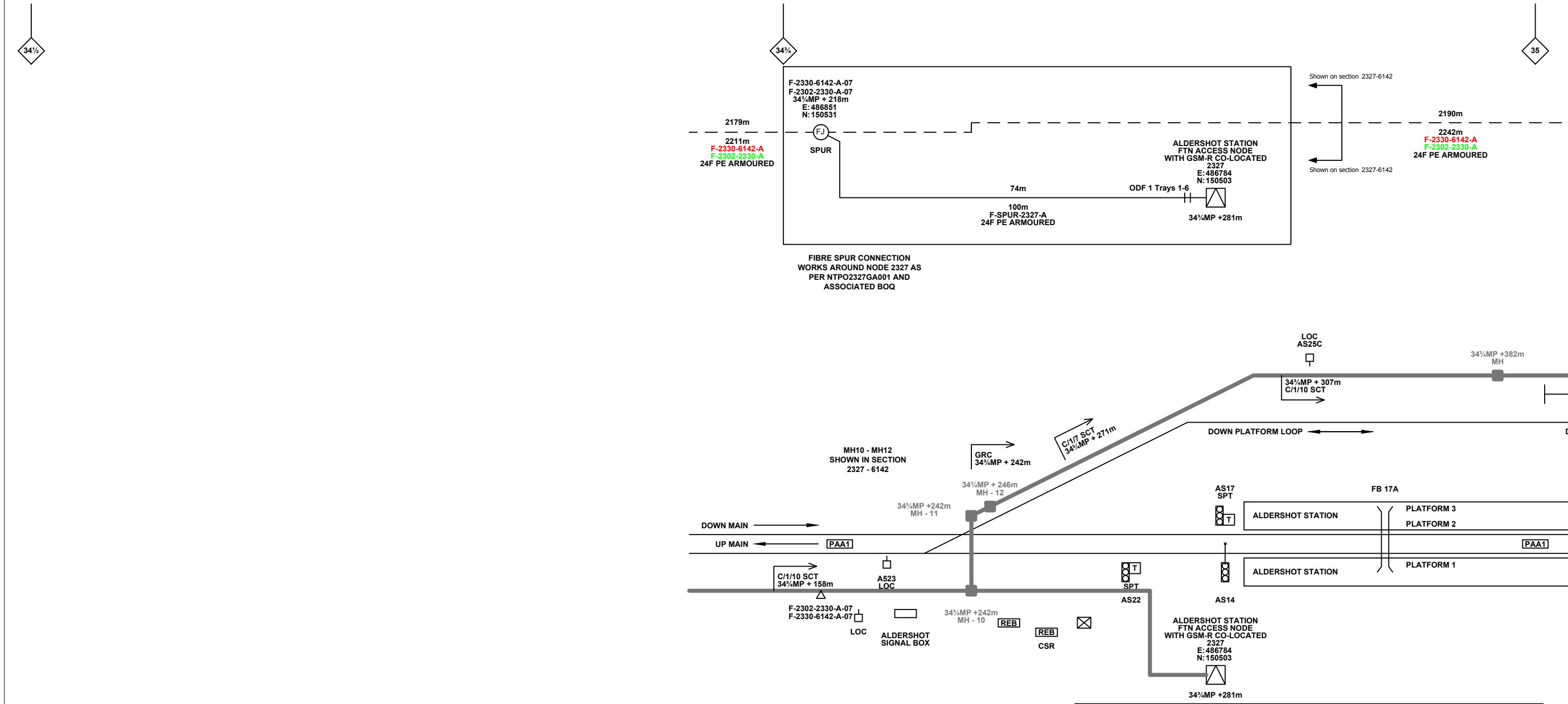
Network Rail

FTN/GSM-R Project
Tournament House
Pardington
Leicester
LE14 4HJ

Alternative Reference: See Layout Tab A3 Sheets 7 and 8

Drawing Number: NTP0\SLD\2327\2328\001

Sheet: 4 of 4
Revision: C



2327 to 2328 Intermediate Works Bill of Quantities			
7.359	Renumbr Fibre Joint	each	2
7.373	Rename Cable (Fibre)	each	1

Legend

	Cabinet and Verts		Copper Joint		Trough Duct Cable Tray		Signal Box		FTN Core Node		Screen Joint Routeworks		Overbridge		Signal		Engineer's Line Reference		Crossing		GAS	Gas Line
	Cabinet with Regenerator and Verts		Fibre Joint		Cable - Type Identified by FTN Code		Electrical Control Room		Core Node with GSM-R Colocated		Copper Joint Routeworks		Underbridge		Vehicle Access Point		Mile Post		Gantry		HV	HV Cable
	KEY		Screening Conductor Joint with/without Earth		Manhole		Mid Length Sheath Gap Fibre		FTN Access Node		Cabinet Routeworks		Tunnel		Pedestrian Access Point		Platform		Water		LV	LV Cable
	Proposed Fibre & Civils Elements are shown in RED		Existing Fibre Cable		Sheath Gap Copper		FTN Access Node with GSM-R Colocated		Fibre Joint Routeworks		Earth Farm		Buffer Stop		Telephone		Cable Pull		AC Stanchion		SEW	Sewer
	Proposed Copper Elements are shown in BLUE		Existing Copper Cable		Status - as per Key Below		FTN Core Node with GSM-R Colocated		Manhole		Overbridge		Underbridge		Signal		Mile Post		Gantry		HV	HV Cable
	Proposed Screening Elements are shown in MAGENTA		Existing Screen Cable		Manhole		FTN Access Node		Mid Length Sheath Gap Fibre		Cabinet Routeworks		Tunnel		Pedestrian Access Point		Platform		Water		LV	LV Cable
	All Recoveries are shown in GREEN		Existing Screen Cable		Manhole		FTN Access Node with GSM-R Colocated		Mid Length Sheath Gap Fibre		Fibre Joint Routeworks		Earth Farm		Telephone		Cable Pull		AC Stanchion		SEW	Sewer

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
C	05.05.11	Amended As Per NWR Design Review	DA	JW	CT
B	25.11.10	Stage 2 Design - First Issue	MB	JW	CT
A	07.10.08	Amended Issue		AEL	
DA	17.09.08	1st Issue		AEL	

Contractor(s)

Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000

Status: **Design**

Scale(s): NTS

ELR & Mileage: PAA1/PAA2

Designated	Sign.	Date
Drawn	Mike Bonner	25.11.10
Checked	Joe Winter	25.11.10
Approved	Chris Tappendan	25.11.10

Project: **FTN / GSM-R Project Stage 2 Design**

Drawing Title: **Aldershot Station (2327) to Farnham Station 1 (2328)**

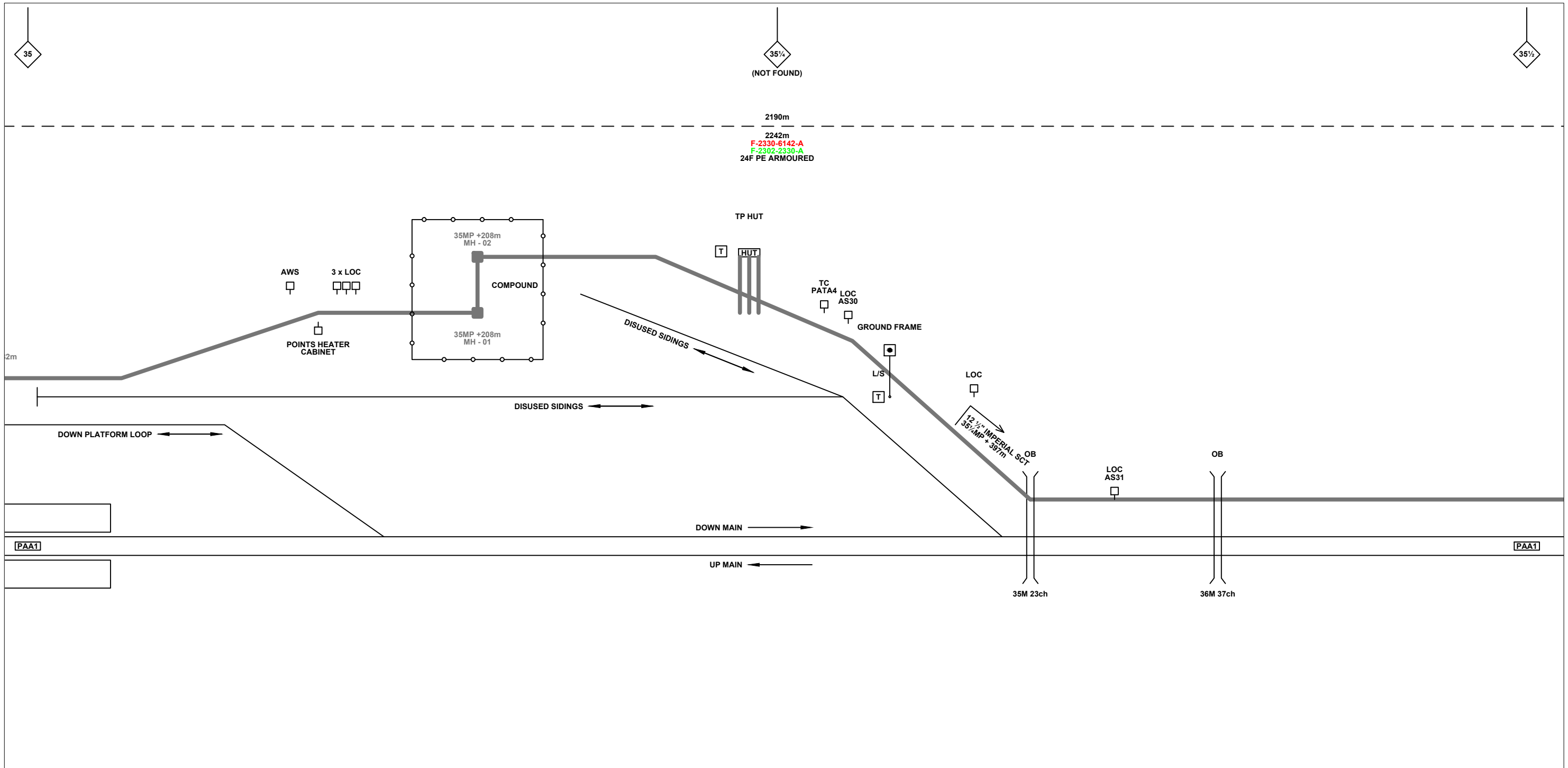
FTN/GSM-R Project
Tournament House
Paddington
London
W2 1HA

Alternative Reference: See Layout Tab 841 x 297 Sheet 1

Drawing Number: NTPO\SLD\2327\2328\001

Sheet: 1 of 8

Revision: C



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Overbridge	Signal	Engineer's Line Reference	Crossing	GAS — GAS — Gas Line
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Underbridge	Vehicle Access Point	Mile Post	Gantry	HV — HV — HV Cable
KEY	Screening Conductor Joint with/without Earth	Manhole	Mid Length Sheath Gap Fibre	FTN Access Node	Cabinet Routeworks	Manhole details: Cross-To be used Filled-In use Clear-Empty	Pedestrian Access Point	Platform	— W — W — Water	
Proposed Fibre & Civils Elements are shown in RED										Cable Pull
Proposed Copper Elements are shown in BLUE										Copper Blue Fibre Red Screen Green
Proposed Screening Elements are shown in MAGENTA										AC Stanchion
All Recoveries are shown in GREEN										
All Existing Elements are shown in BLACK										
Existing Fibre Cable										
Existing Copper Cable										
Existing Screen Cable										

Notes

C	05.05.11	Amended As Per NWR Design Review	DA	JW	CT
B	25.11.10	Stage 2 Design - First Issue	MB	JW	CT
A	07.10.08	Amended Issue		AEL	
DA	17.09.08	1st Issue		AEL	
Rev	Date	Description of Revisions	Drawn	Chkd	Appr

Contractor(s)

Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000

Status: **Design**

Scale(s): NTS

ELR & Mileage: PAA1/PAA2

Designed	Sign.	Date
Drawn	Sign.	Date 25.11.10
Checked	Sign.	Date 25.11.10
Approved	Sign.	Date 25.11.10
Project: FTN / GSM-R Project Stage 2 Design		
Drawing Title: Aldershot Station (2327) to Farnham Station 1 (2328)		

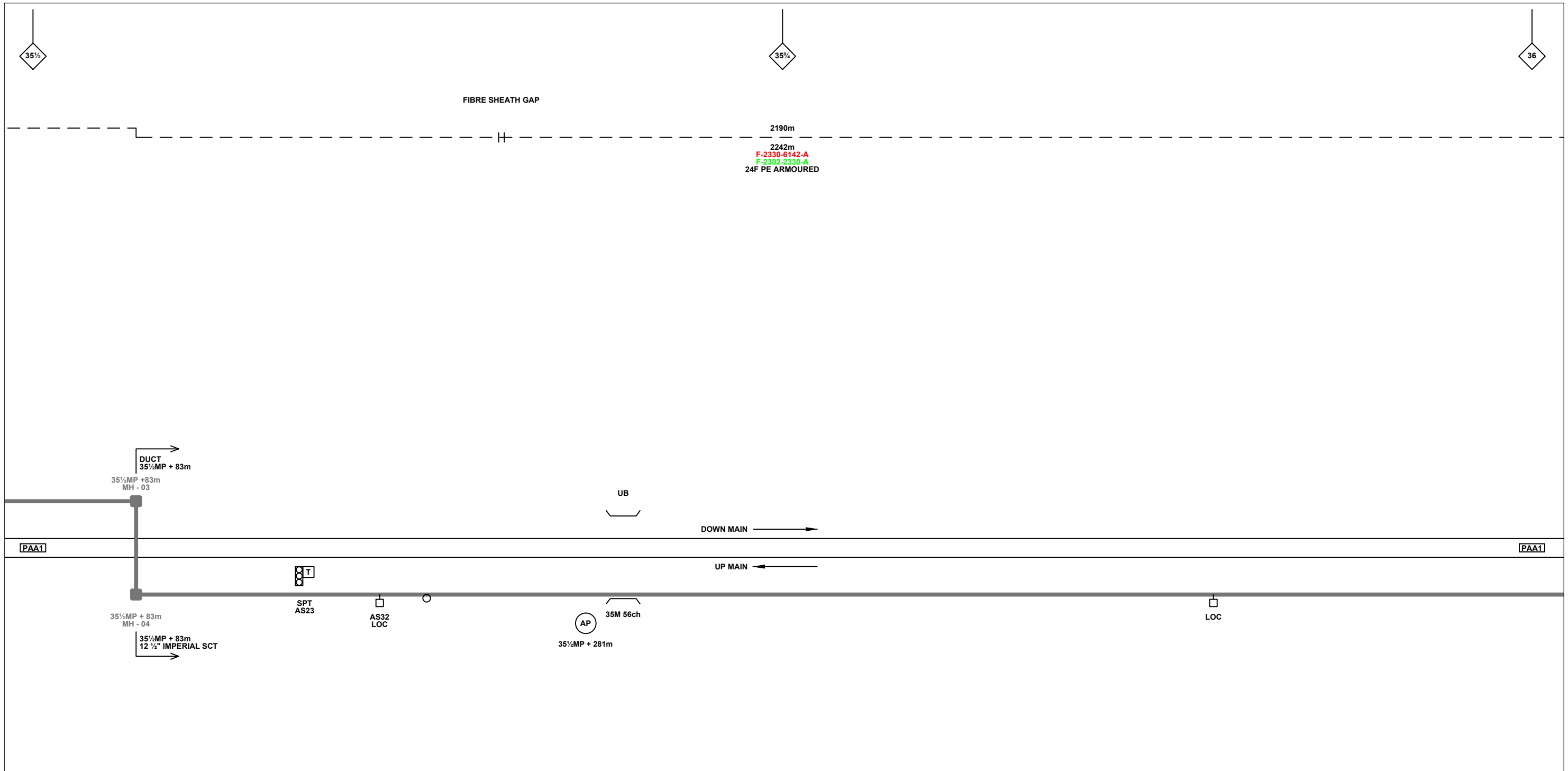
FTN/GSM-R Project
Tournament House
Paddington
London
W2 1HA

Alternative Reference: See Layout Tab 841 x 297 Sheet 1

Drawing Number: NTPO\SLD\2327\2328\001

Sheet: 2 of 8

Revision: C



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Overbridge	Signal	Engineer's Line Reference	Crossing	GAS	GAS	Gas Line
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Underbridge	Vehicle Access Point	Mile Post	Gantry	HV	HV	HV Cable
KEY	Screening Conductor Joint with/without Earth	Status - as per Key Below	Manhole	FTN Access Node	Cabinet Routeworks	Manhole details: Cross-To be used Filled-In use Clear-Empty	Pedestrian Access Point	Platform	Water	Copper Blue	Fibre Red	Screen Green
Proposed Fibre & Civils Elements are shown in RED	Existing Fibre Cable	Existing Copper Cable	Mid Length Sheath Gap Fibre	FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks	Tunnel	Earth Farm	Buffer Stop	AC Stanchion			
Proposed Copper Elements are shown in BLUE	Existing Screen Cable		Sheath Gap Copper									
Proposed Screening Elements are shown in MAGENTA												
All Recoveries are shown in GREEN												

Notes

C	05.05.11	Amended As Per NWR Design Review	DA	JW	CT
B	25.11.10	Stage 2 Design - First Issue	MB	JW	CT
A	07.10.08	Amended Issue		AEL	
DA	17.09.08	1st Issue		AEL	
Rev	Date	Description of Revisions	Drawn	Chkd	Appr

Contractor(s)

Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000

Status: **Design**

Scale(s): NTS

ELR & Mileage: PAA1/PAA2

Designed	Sign.	Date
Drawn	Sign.	Date 25.11.10
Checked	Sign. <i>M.L.</i>	Date 25.11.10
Approved	Sign. <i>Chris Tappendan</i>	Date 25.11.10
Project: FTN / GSM-R Project Stage 2 Design		
Drawing Title: Aldershot Station (2327) to Farnham Station 1 (2328)		

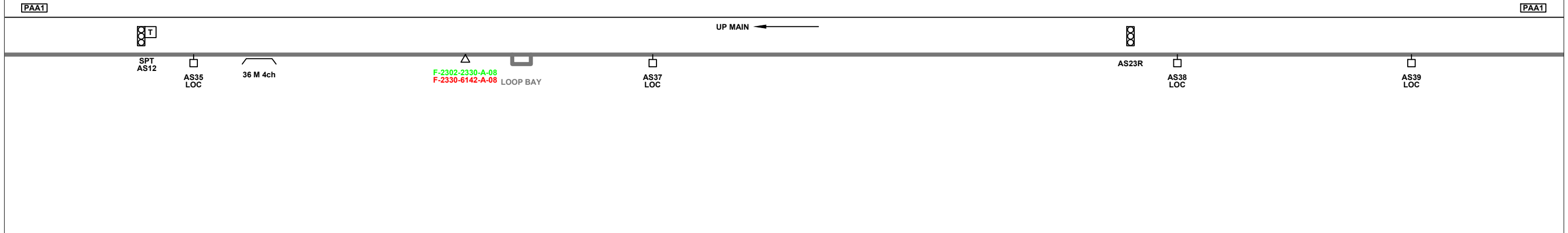
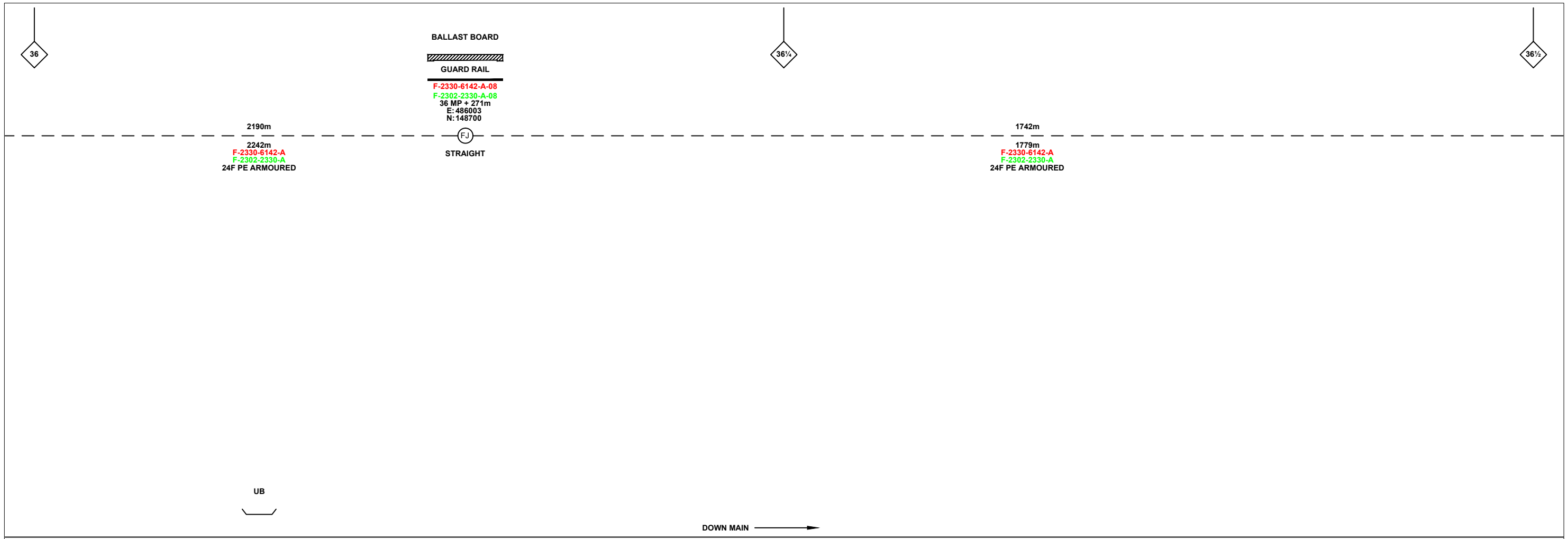
FTN/GSM-R Project
Tournament House
Paddington
London
W2 1HA

Alternative Reference: See Layout Tab 841 x 297 Sheet 2

Drawing Number: NTPO\SLD\2327\2328\001

Sheet: 3 of 8

Revision: C



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Overbridge	Signal	Engineer's Line Reference	Crossing	Gas Line
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Underbridge	Vehicle Access Point	Mile Post	HV Cable	LV Cable
KEY	Screening Conductor Joint with/without Earth	Manhole	Mid Length Sheath Gap Fibre	FTN Access Node	Cabinet Routeworks	Manhole details: Cross-To be used Filled-In use Clear-Empty	Pedestrian Access Point	Platform	Sewer	Telecoms
Proposed Fibre & Civils Elements are shown in RED		Sheath Gap Copper	FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks	Tunnel	Earth Farm	Buffer Stop	Telephone	Water	AC Stanchion
Proposed Copper Elements are shown in BLUE										
Proposed Screening Elements are shown in MAGENTA										
All Recoveries are shown in GREEN										

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
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DA	17.09.08	1st Issue		AEL	

Contractor(s)

Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000

Status: **Design**

Scale(s): NTS

ELR & Mileage: PAA1/PAA2

Designed	Sign.	Date
Drawn	Sign.	Date 25.11.10
Checked	Sign. <i>M.L.</i>	Date 25.11.10
Approved	Sign. <i>Chris Tappendan</i>	Date 25.11.10
Project: FTN / GSM-R Project Stage 2 Design		
Drawing Title: Aldershot Station (2327) to Farnham Station 1 (2328)		

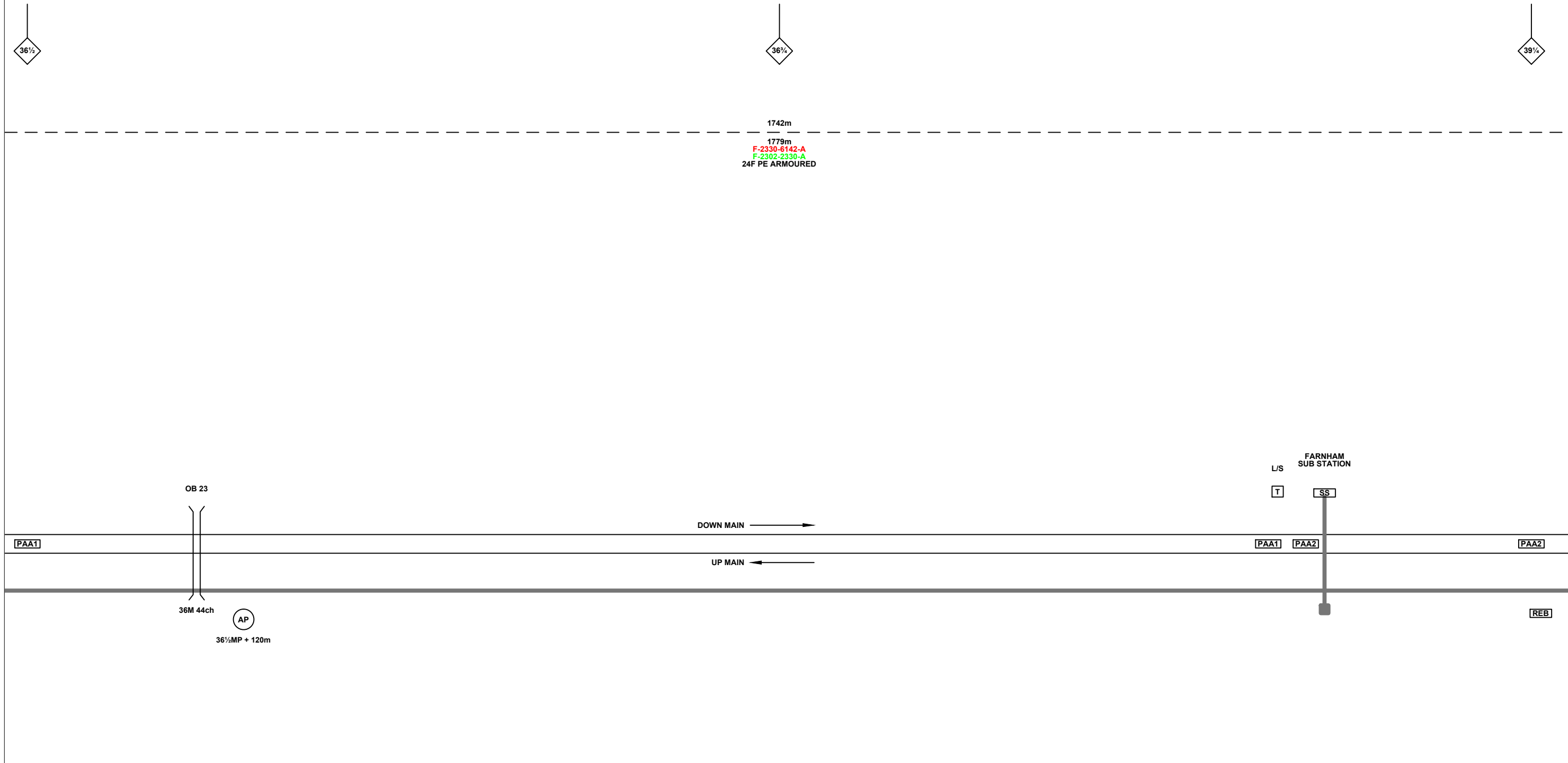
FTN/GSM-R Project
Tournament House
Paddington
London
W2 1HA

Alternative Reference: See Layout Tab 841 x 297 Sheet 2

Drawing Number: NTPO\SLD\2327\2328\001

Sheet: 4 of 8

Revision: C



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Overbridge	Signal	Engineer's Line Reference	Crossing	GAS — GAS — Gas Line
Cabinet with Regenerator and Verts	Fibre Joint	Cable — Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Underbridge	Vehicle Access Point	Mile Post	Gantry	HV — HV — HV Cable
KEY	Screening Conductor Joint with/without Earth	Status — as per Key Below	Manhole	FTN Access Node	Cabinet Routeworks	Manhole details: Cross-To be used Filled-In use Clear-Empty	Pedestrian Access Point	Platform	SEW — SEW — Sewer	LV — LV — LV Cable
Proposed Fibre & Civils Elements are shown in RED		Existing Fibre Cable	Mid Length Sheath Gap Fibre	FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks	Tunnel	Earth Farm	Buffer Stop	Telephone	TEL — TEL — Telecoms
Proposed Copper Elements are shown in BLUE		Existing Copper Cable	Sheath Gap Copper							W — W — Water
Proposed Screening Elements are shown in MAGENTA		Existing Screen Cable								Cable Pull
All Recoveries are shown in GREEN										AC Stanchion

Notes

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
C	05.05.11	Amended As Per NWR Design Review	DA	JW	CT
B	25.11.10	Stage 2 Design - First Issue	MB	JW	CT
A	07.10.08	Amended Issue		AEL	
DA	17.09.08	1st Issue		AEL	

Contractor(s)

Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000

Status: **Design**

Scale(s): NTS

ELR & Mileage: PAA1/PAA2

Designed	Sign.	Date
Drawn	Sign.	Date 25.11.10
Checked	Sign. <i>M.L.</i>	Date 25.11.10
Approved	Sign. <i>Chris Tappendan</i>	Date 25.11.10
Project	FTN / GSM-R Project Stage 2 Design	
Drawing Title	Aldershot Station (2327) to Farnham Station 1 (2328)	

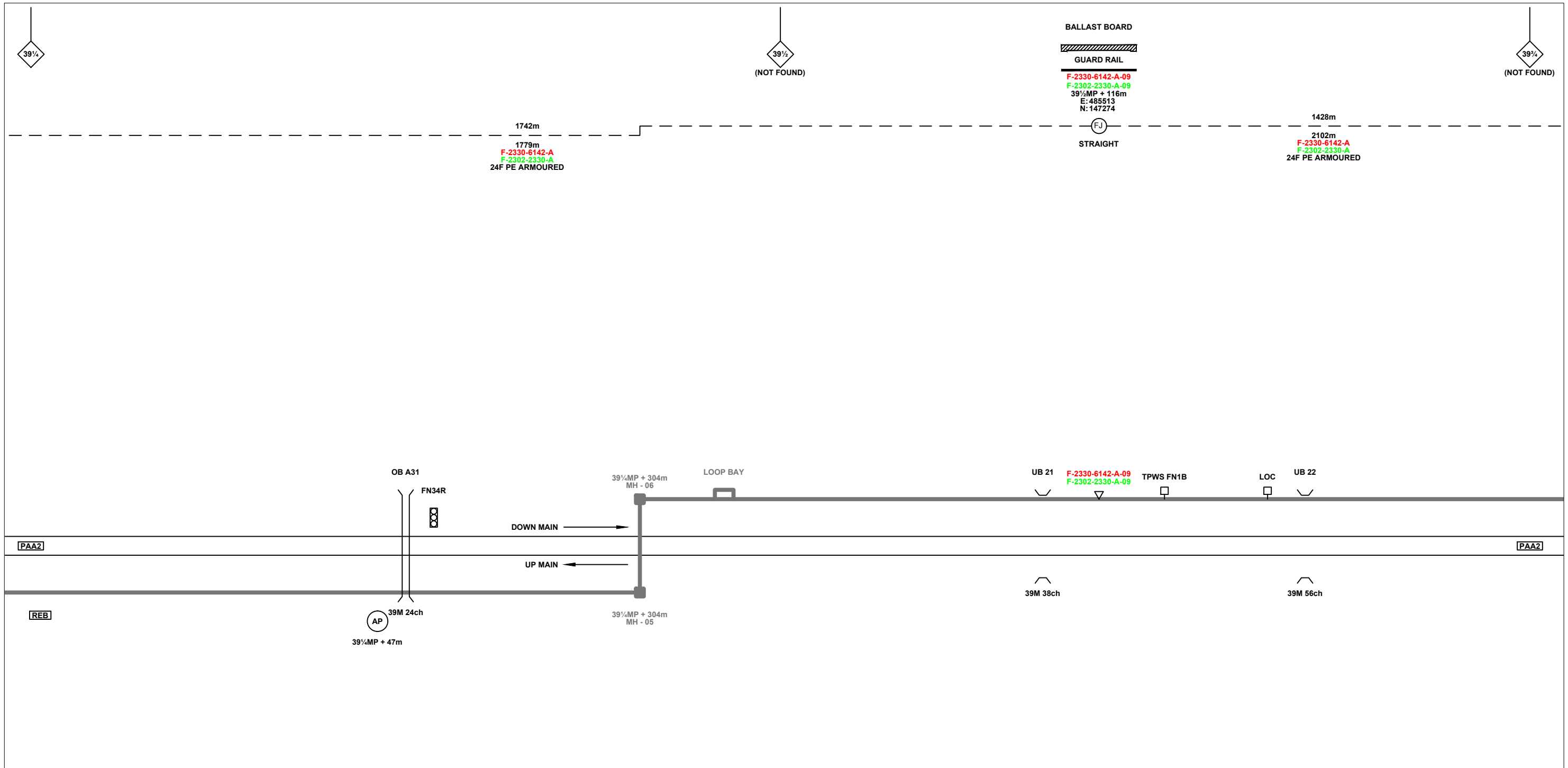
FTN/GSM-R Project
Tournament House
Paddington
London
W2 1HA

Alternative Reference: See Layout Tab 841 x 297 Sheet 3

Drawing Number: NTPO\SLD\2327\2328\001

Sheet: 5 of 8

Revision: C



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Manhole details: Cross-To be used Filled-In use Clear-Empty	Overbridge	Signal	Engineer's Line Reference	Crossing	GAS — GAS — Gas Line
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Manhole	Underbridge	Vehicle Access Point	Mile Post	Gantry	HV — HV — HV Cable
KEY	Screening Conductor Joint with/without Earth	2034m F-DIDC-RGAC-A	Status - as per Key Below	FTN Access Node	Cabinet Routeworks	Mid Length Sheath Gap Fibre	Tunnel	Pedestrian Access Point	Platform	— W — W — Water	Copper Blue Fibre Red Screen Green
Proposed Fibre & Civils Elements are shown in RED				FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks	Sheath Gap Copper	Earth Farm	Buffer Stop	Telephone	AC Stanchion	
Proposed Copper Elements are shown in BLUE											
Proposed Screening Elements are shown in MAGENTA											
All Recoveries are shown in GREEN											

Notes

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A	07.10.08	Amended Issue		AEL	
DA	17.09.08	1st Issue		AEL	
Rev	Date	Description of Revisions	Drawn	Chkd	Appr

Contractor(s)

Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000

Status: **Design**

Scale(s): NTS

ELR & Mileage: PAA1/PAA2

Designed	Sign.	Date
Drawn	Sign.	Date 25.11.10
Checked	Sign.	Date 25.11.10
Approved	Sign.	Date 25.11.10
Project: FTN / GSM-R Project Stage 2 Design		
Drawing Title: Aldershot Station (2327) to Farnham Station 1 (2328)		

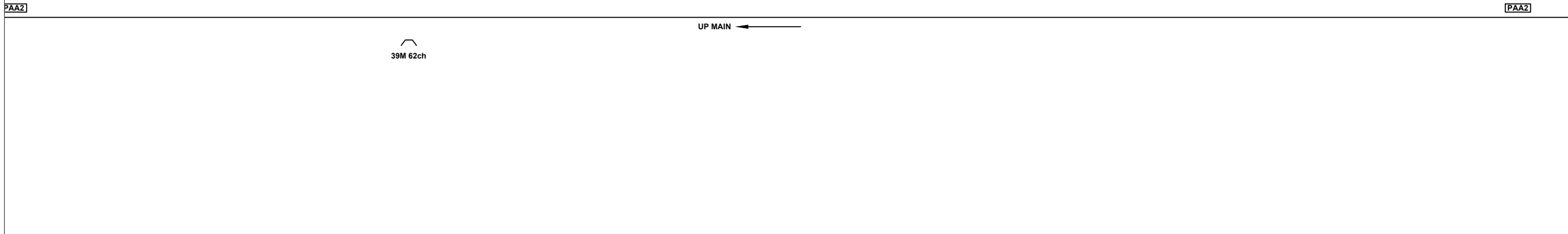
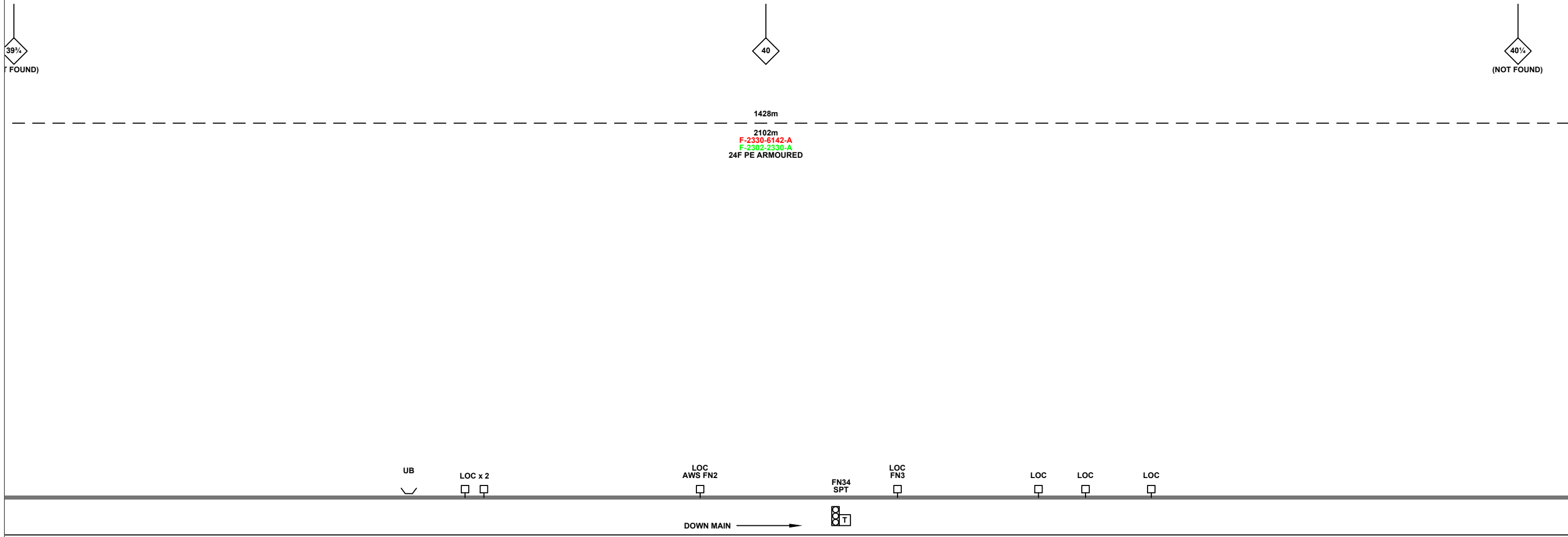
FTN/GSM-R Project
Tournament House
Paddington
London
W2 1HA

Alternative Reference: See Layout Tab 841 x 297 Sheet 3

Drawing Number: NTPO\SLD\2327\2328\001

Sheet: 6 of 8

Revision: C



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Overbridge	Signal	Engineer's Line Reference	Crossing	GAS — GAS — Gas Line
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Manhole	VAP	Mile Post	HV — HV — HV Cable	LV — LV — LV Cable
KEY	Screening Conductor Joint with/without Earth	Status - as per Key Below	Mid Length Sheath Gap Fibre	FTN Access Node	Cabinet Routeworks	Manhole details: Cross-To be used Filled-In use Clear-Empty	PAP	Platform	SEW — SEW — Sewer	TEL — TEL — Telecoms
Proposed Fibre & Civils Elements are shown in RED		All Existing Elements are shown in BLACK	Sheath Gap Copper	FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks	Tunnel	Earth Farm	Telephone	W — W — Water	AC Stanchion
Proposed Copper Elements are shown in BLUE		Existing Fibre Cable					Buffer Stop			
Proposed Screening Elements are shown in MAGENTA		Existing Copper Cable								
All Recoveries are shown in GREEN		Existing Screen Cable								

Notes

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
B	05.05.11	Amended As Per NWR Design Review Stage 2 Design - First Issue	MB	JW	CT
A	07.10.08	Amended Issue		AEL	
DA	17.09.08	1st Issue		AEL	

Contractor(s)

Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000

Status: **Design**

Scale(s): NTS

ELR & Mileage: PAA1/PAA2

Designed	Sign.	Date
Drawn	Sign.	Date 25.11.10
Checked	Sign. <i>M.L.</i>	Date 25.11.10
Approved	Sign. <i>Chris Tappendan</i>	Date 25.11.10
Project: FTN / GSM-R Project Stage 2 Design		
Drawing Title: Aldershot Station (2327) to Farnham Station 1 (2328)		

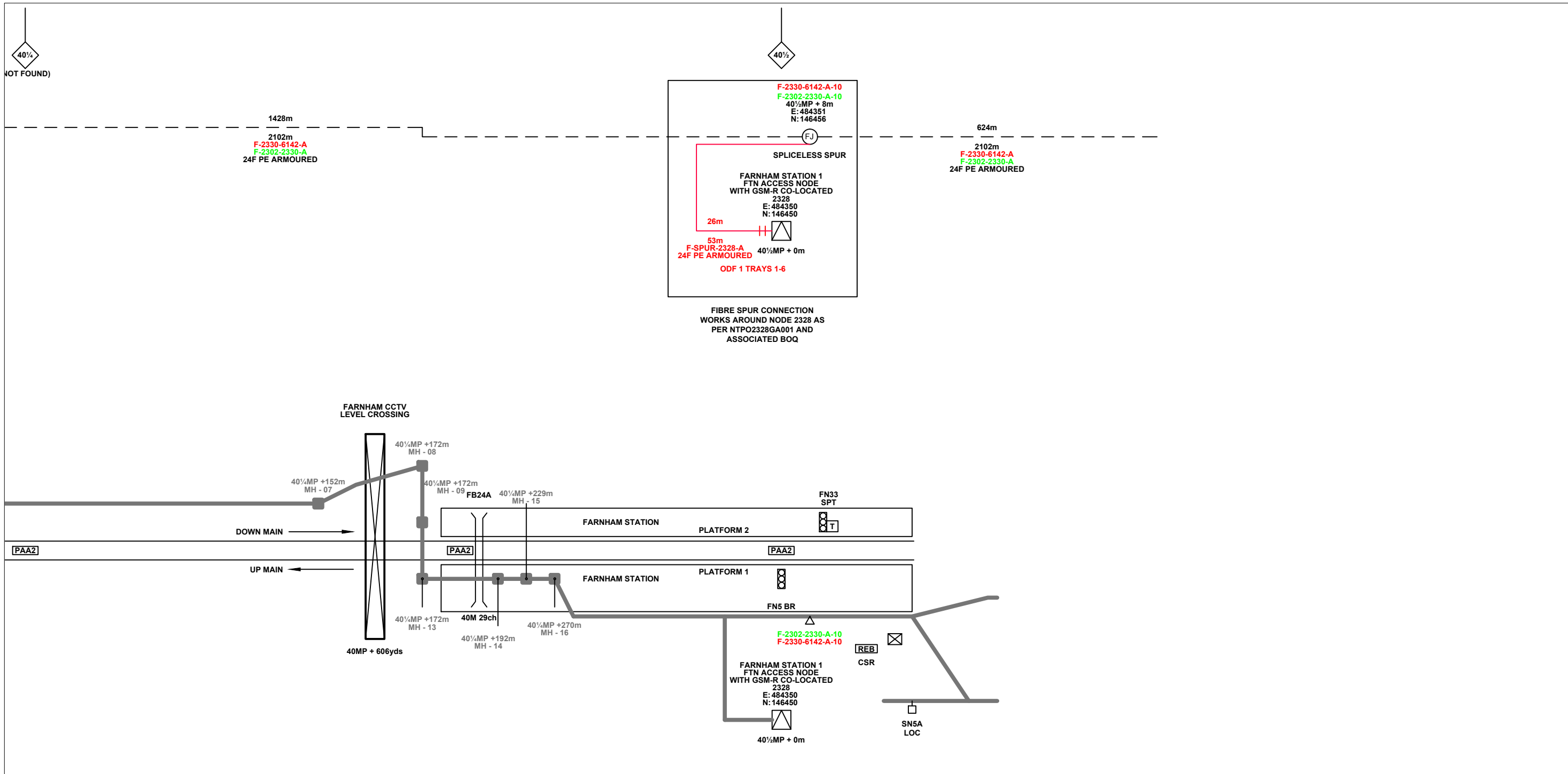
FTN/GSM-R Project
Tournament House
Paddington
London
W2 1HA

Alternative Reference: See Layout Tab 841 x 297 Sheet 4

Drawing Number: NTPO\SLD\2327\2328\001

Sheet: 7 of 8

Revision: C



Legend

- Cabinet and Verts:** DC (Cabinet with Regenerator and Verts)
- Manhole:** Manhole, Mid Length Sheath Gap Fibre, Sheath Gap Copper
- FTN Core Node:** FTN Core Node, Core Node with GSM-R Colocated, FTN Access Node, FTN Access Node with GSM-R Colocated
- Splicing/Connections:** CJ (Copper Joint), FJ (Fibre Joint), SJ (Screening Conductor Joint with/without Earth)
- Other Symbols:** SB (Signal Box), ECR (Electrical Control Room), Screen Joint Routeworks, Copper Joint Routeworks, Cabinet Routeworks, Fibre Joint Routeworks, Overbridge, Underbridge, Signal, VAP (Vehicle Access Point), PAP (Pedestrian Access Point), Earth Farm, Buffer Stop, Telephone, Crossing, Gantry, Mile Post, Platform, AC Stanchion.
- Line References:** MLN1 (Engineer's Line Reference), GAS (Gas Line), HV (HV Cable), LV (LV Cable), SEW (Sewer), TEL (Telecoms), Water.

KEY
 Proposed Fibre & Civils Elements are shown in RED
 Proposed Copper Elements are shown in BLUE
 Proposed Screening Elements are shown in MAGENTA
 All Recoveries are shown in GREEN

Notes:
 All Existing Elements are shown in BLACK
 Existing Fibre Cable
 Existing Copper Cable
 Existing Screen Cable

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
C	05.05.11	Amended As Per NWR Design Review	DA	JW	CT
B	25.11.10	Stage 2 Design - First Issue	MB	JW	CT
A	07.10.08	Amended Issue		AEL	
DA	17.09.08	1st Issue		AEL	

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Contractor(s)

Scale(s): NTS, ELR & Mileage, PAA1/PAA2

Status: Design

Role	Name	Sign.	Date
Designed			
Drawn	Mike Bonner		25.11.10
Checked	Joe Winter	<i>[Signature]</i>	25.11.10
Approved	Chris Tappendan	<i>[Signature]</i>	25.11.10

Project: FTN / GSM-R Project Stage 2 Design

Drawing Title: Aldershot Station (2327) to Farnham Station 1 (2328)

Network Rail

FTN/GSM-R Project
 Tournament House
 Paddington
 London
 W2 1HA

Alternative Reference: See Layout Tab 841 x 297 Sheet 4

Drawing Number: NTPO\SLD\2327\2328\001

Sheet 8 of 8

Revision: C