## **MATERIALAB CONSULTANTS LIMITED**

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax Hong Kong. Email : mcl@fugro.com

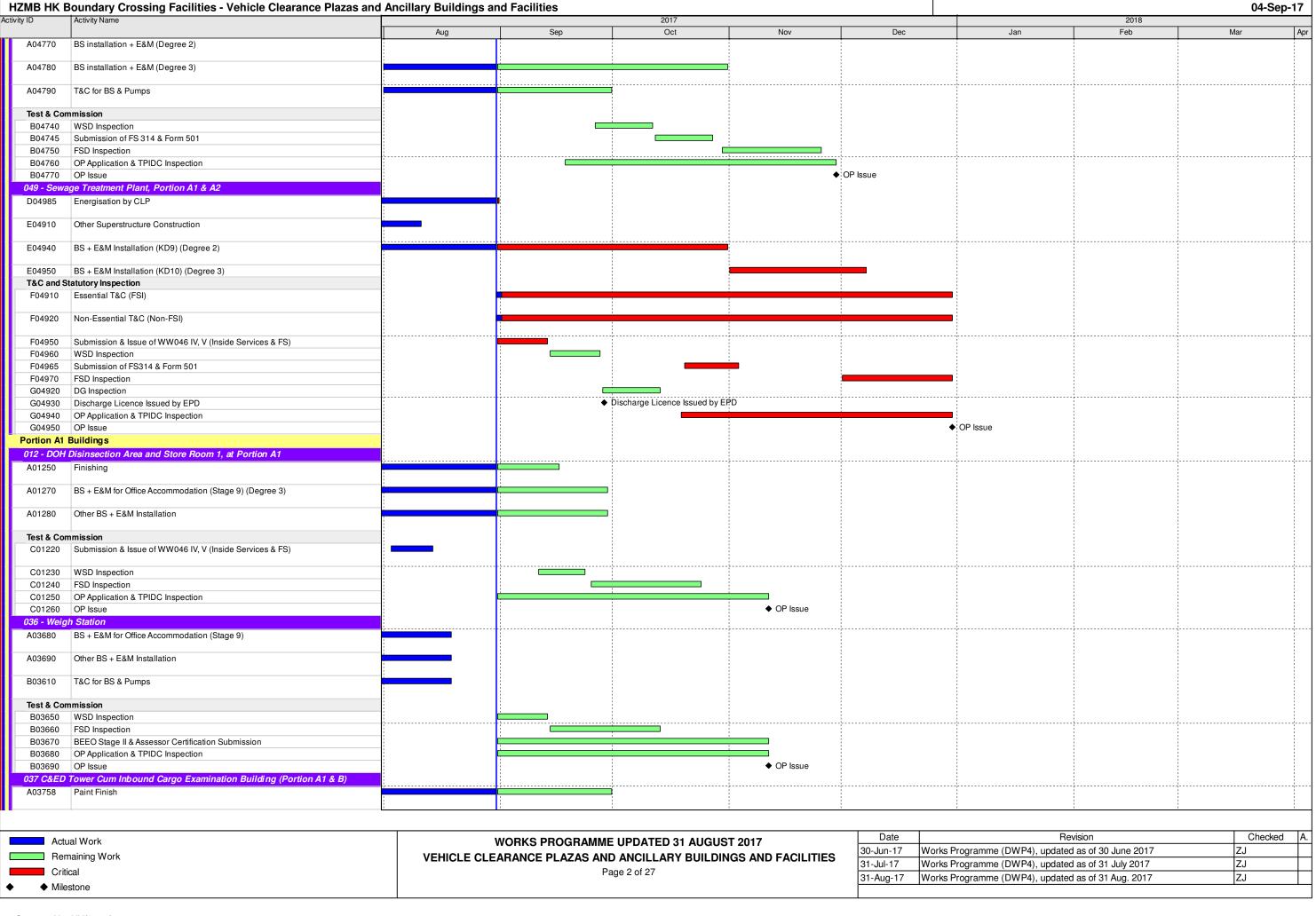


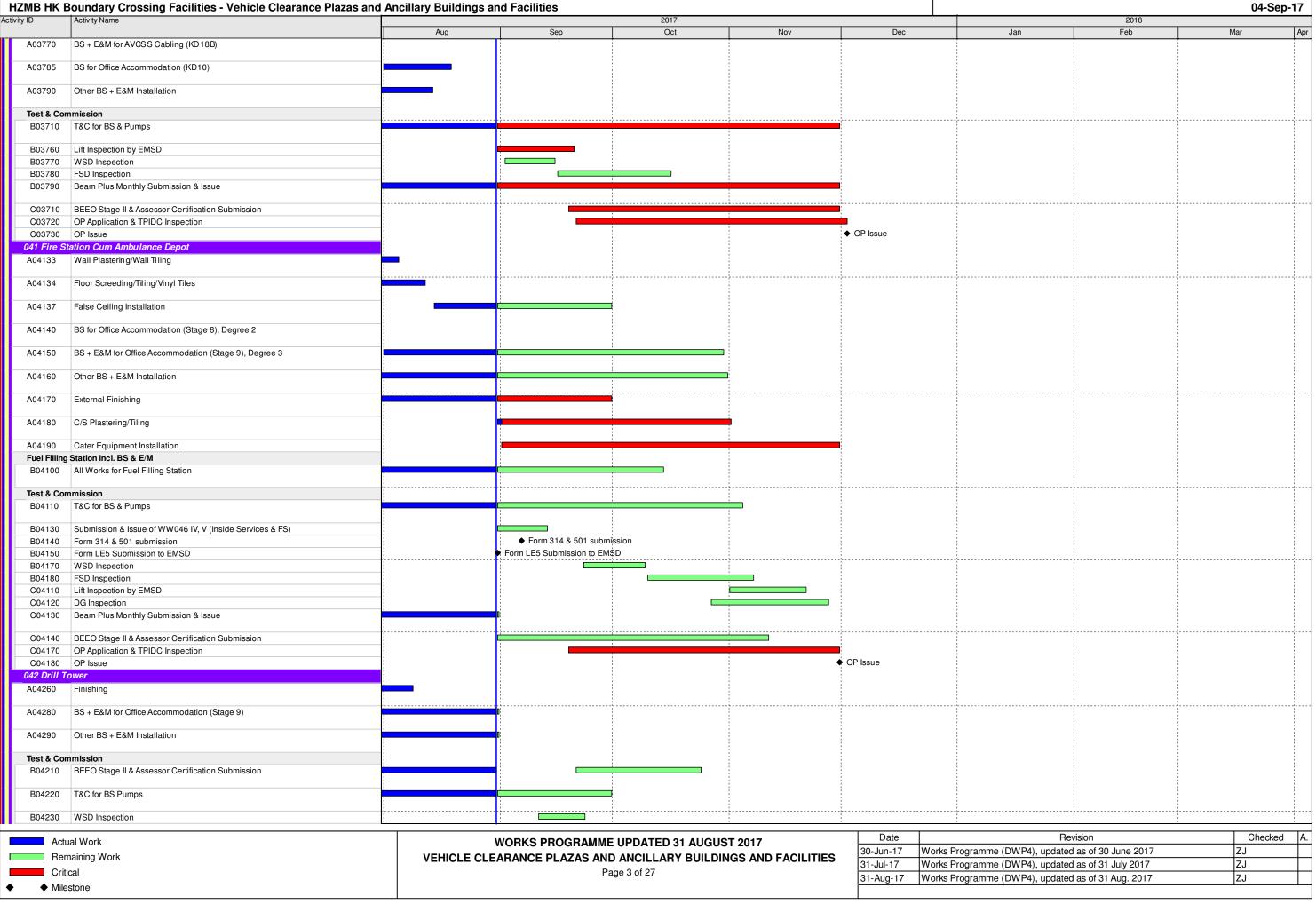
Report No.: 0165/15/ED/0908

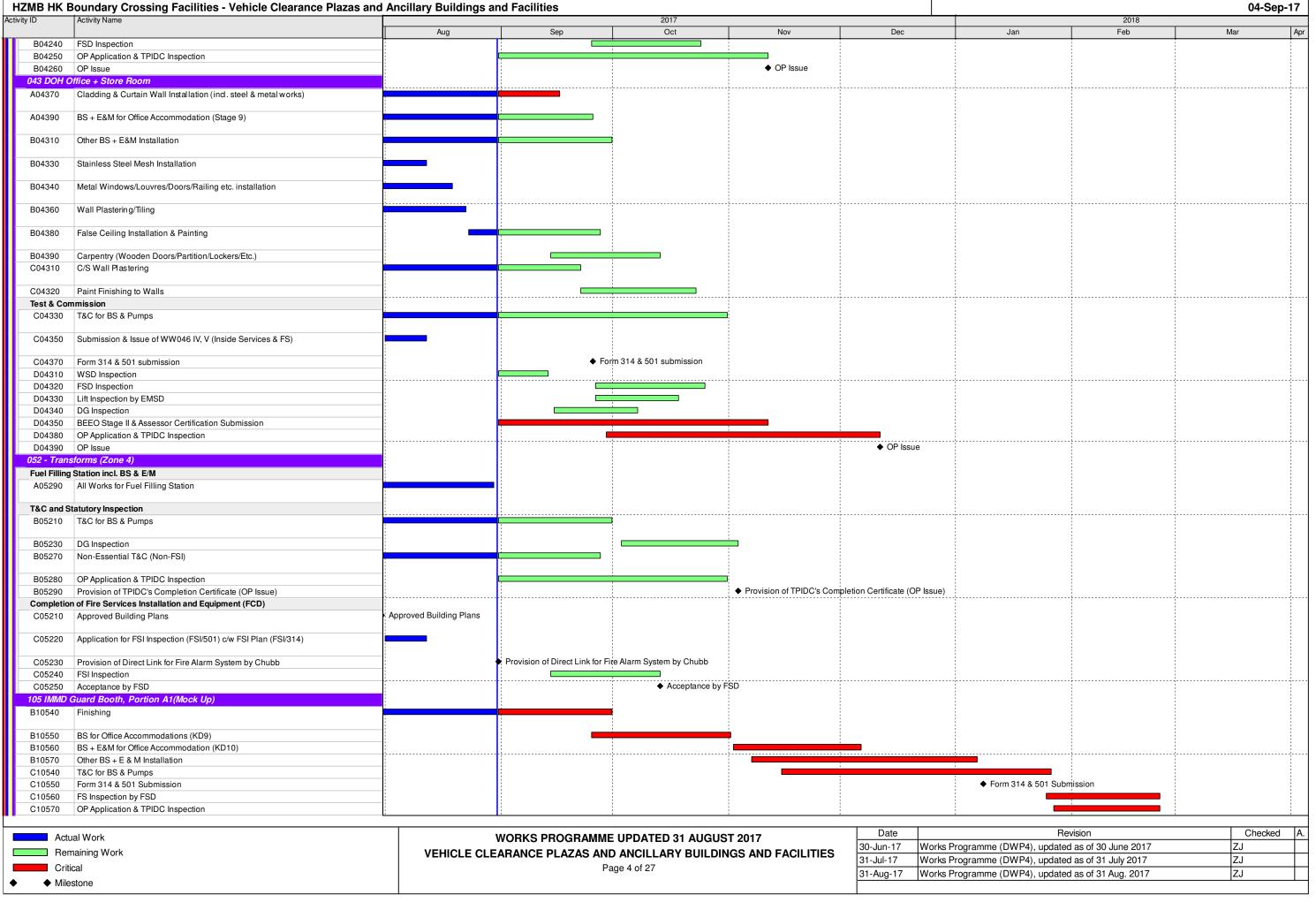
**Appendix C** 

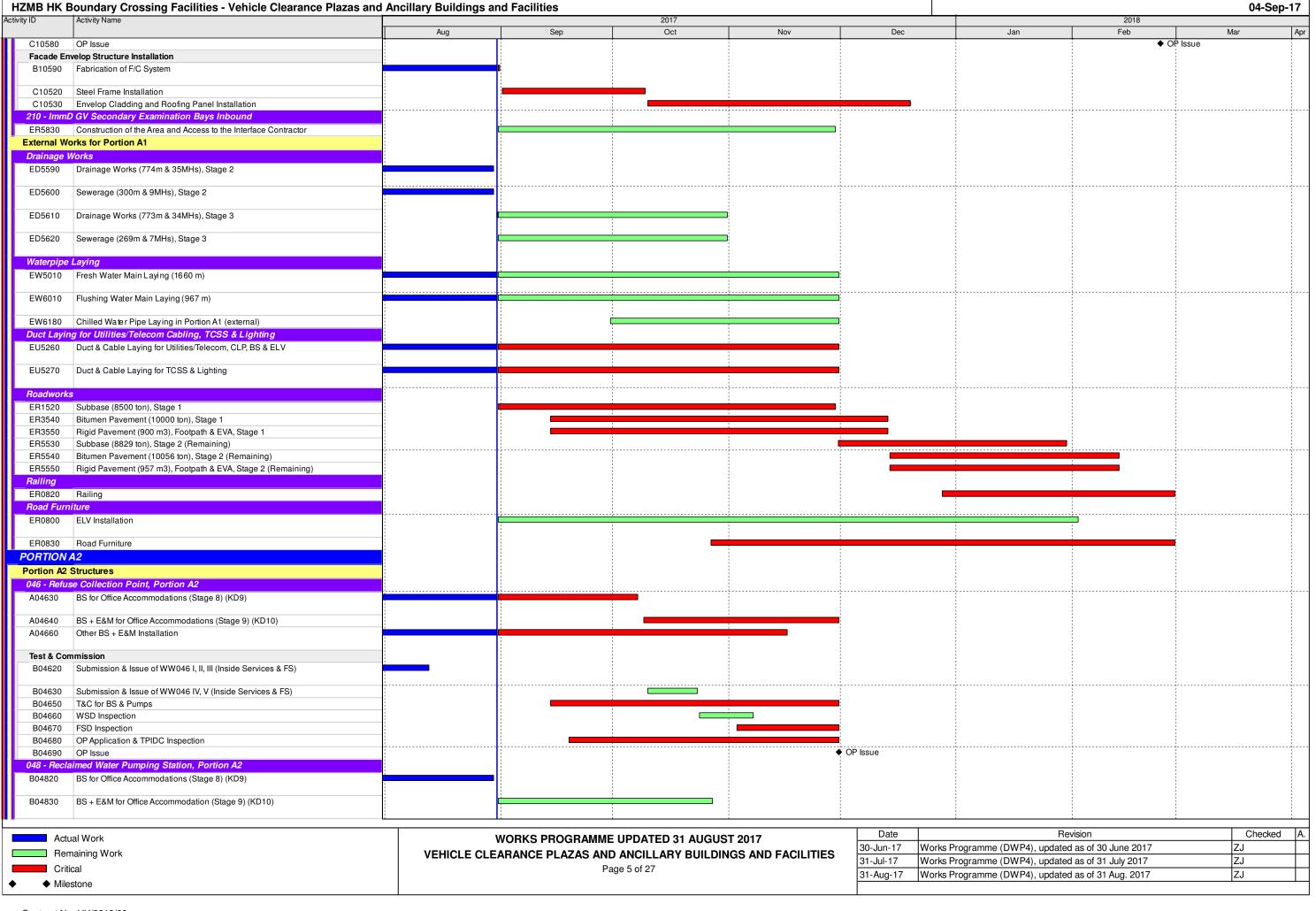
**Construction Programme** 

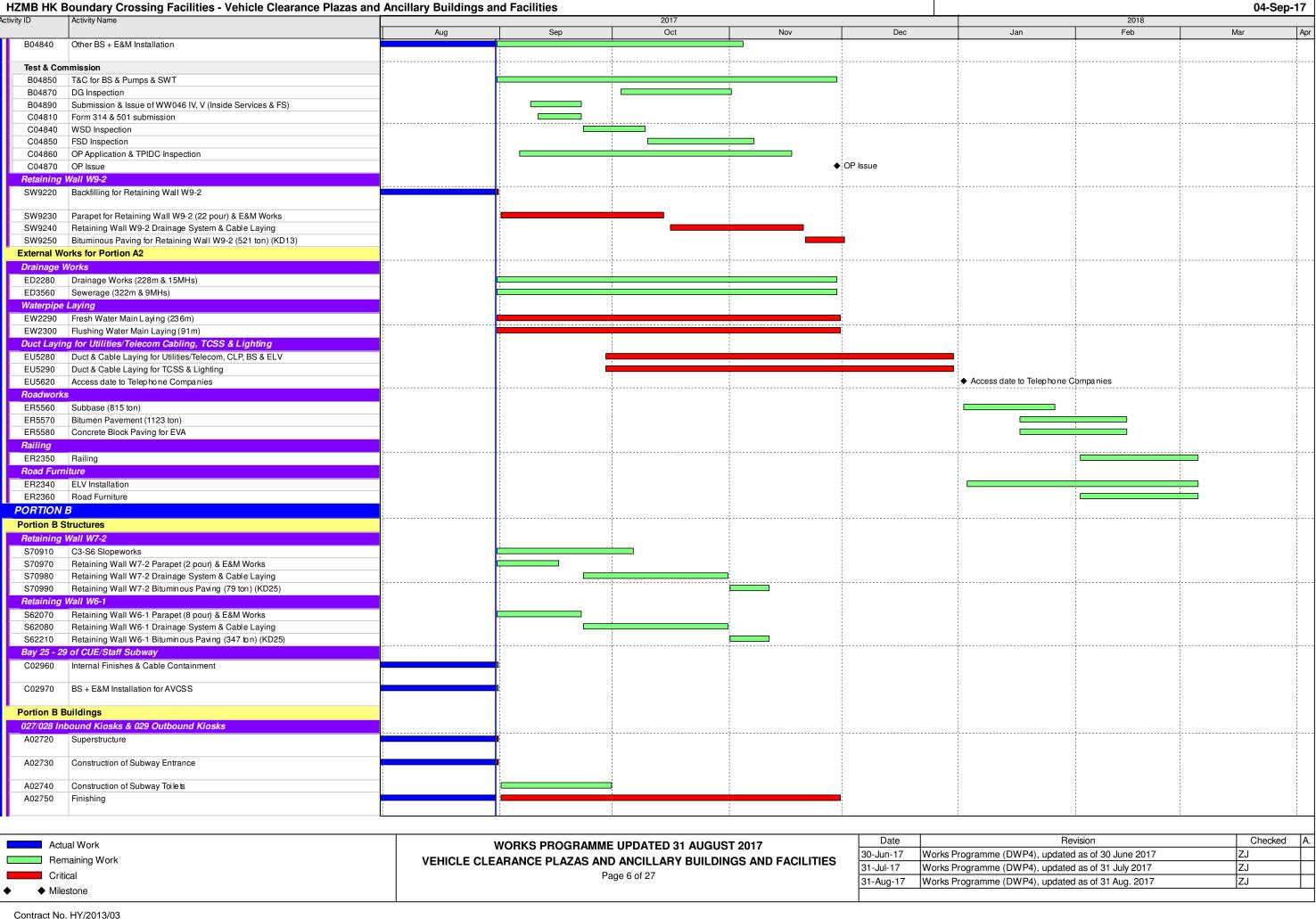
	Boundary Crossing Facilities - Vehicle Clearance Plazas and Ar	iciliary Buildings	and racinties	0017				0010	04-Sep-1	
Activity ID	Activity Name	Aug	Sep	2017 Oct	Nov	Dec	Jan	2018 Feb	Mar	Apr
HKBCE-	/CP & Ancillary Buildings and Facilities, DWP04 (+ DRMS 2)	Aug	J:	OC.	1407	Dec	- Can	1 00	IVIQI	Αρι
_										
CONTRAC	TUATES									
Key Dates										
A1090	KD9 Achievement of Stage 8 of the Works (633 days; 01 Jan. 17 EOT 1)						◆ KD9 Achieveme	ent of Stage 8 of the Works	(633 days; 01 Jan. 17 EOT 1)	
A1100	KD10 Achievement of Stage 9 of the Works (723 days; 01 Apr. 17 EOT 1)			▲ KD11 A shi ayomant of Stage	10 of the Works (730 days; 08 Ap				◆ KD10 Achievement of Stage 9	or the
A1110 A1120	KD11 Achievement of Stage 10 of the Works (730 days; 08 Apr. 17)  KD12 Achievement of Stage 11 of the Works (770 days; 18 May 17)			RD IT Achievement of Stage	◆ KD12 Achievement of Sta	•	(770 days: 18 May 17)			
A1120 A1140	KD12 Achievement of Stage 11 of the Works (770 days, 16 May 17)  KD14 Achievement of Stage 13 of the Works (554 days; 14 Oct. 16)				▼ KD12 Achievement of Sta	ge i i oi ille works i	◆ KD14 Achievement of Stage	13 of the Works (554 days	14 Oct 16)	: 1
A1150	KD15 Achievement of Stage 14 of the Works (548 days; 08 Oct. 16)						◆ KD15 Achievement of Stage		1 1	
A1160	KD16 Achievement of Stage 15 of the Works (548 days; 08 Oct. 16)		♦ KD16 Achieve	ement of Stage 15 of the Works (54	8 days; 08 Oct. 16)		t a serie mente en enege	i or and trome (o to days,	55 555)	
A1170	KD17 Achievement of Stage 16 of the Works (548 days; 08 Oct. 16)			ement of Stage 16 of the Works (54						
A1180	KD18 Achievement of Stage 17 of the Works (490 days; 11 Aug. 16)			,			◆ KD18 Achiev	vement of Stage 17 of the V	Vorks (490 days; 11 Aug. 16)	
A1180A	KD18A Achievement of Stage 18 of the Works (478 days; 30 Jul. 16 EOT 1)						◆ KD18A Achievement of Stag	ge 18 of the Works (478 day	vs; 30 Jul. 16 EOT1)	: 1
A1180B	KD18B Achievement of Stage 19 of the Works (558 days; 18 Oct. 16 EOT 1)							◆ KD18B Achievem	ent of Stage 19 of the Works (558 da	ays;
A1180C	KD18C Achievement of Stage 20 of the Works (670 days; 07 Feb. 17)		KD18C Achievement of S	Stage 20 of the Works (670 days; 0			<del></del>			ļ
A1180D	KD18D Achievement of Stage 21 of the Works (745 days; 23 Apr. 17)			i	chievement of Stage 21 of the W	, , ,	Apr. 17)			: 1
A1180E	KD18E Achievement of Stage 22 of the Works (835 days; 22 Jul. 17)			_	e 22 of the Works (835 days; 22					
A1180F	KD18F Achievement of Stage 23 of the Works (730 days; 08 Apr. 17)			▼ KD18F Achievement of Stag	e 23 of the Works (730 days; 08	. ,	nt of Stage 24 of the Works (770days: 40	( Mby 17)		
A1180G	KD18G Achievement of Stage 24 of the Works (770days; 18 May 17)			! ! !		ND 10GACIllevelller	nt of Stage 24 of the Works (770days; 18 KD19 Achievement of Sectio	1.	: 17 Feb. 17)	1
A1190 A1200	KD19 Achievement of Section IA of the Works (680 days; 17 Feb. 17)  KD20 Achievement of Section IB of the Works (680 days; 17 Feb. 17)						◆ KD20 Achievement of Section			
A1200 A1210	KD21 Achievement of Section IIA of the Works (770 days; 18 May 17)					KD21 Achievemen	it of Section IIA of the Works (770 days; 1	,	s, 17 1 eb. 17)	
A1210 A1220	KD22 Achievement of Section IIB of the Works (770 days; 18 May 17)						it of Section IIB of the Works (770 days; 1			
A1230	KD23 Achievement of Section IIC of the Works (770 days; 18 May 17)				1		at of Section IIC of the Works (770 days; 1			
A1240	KD24 Achievement of Section III of the Works (675 days; 12 Feb. 17)					11320710111011	◆ KD24 Achievement of Sectio		: 12 Feb. 17)	: 1
A1250	KD25 Achievement of Section IV of the Works (965 days; 30 Nov. 17)								◆ KD25 Achievement of Sec	ction
A1270	KD27 Achievement of Section VI of the Works (1331 days; 30 Nov. 18)									
A1280	KD28 Achievement of Section VII of the Works (966 days; 30 Nov. 17)								•	KD
A1290	KD29 Achievement of Section VIII of the Works (910 days; 05 Oct. 17)								•	▶ KD
A1300	KD30 Achievement of Section IX of the Works (910 days; 05 Oct. 17)							♦ KD30 Achievement	of Section IX of the Works (910 days	رة , 05
A1310	KD31 Achievement of Section X of the Works (790 days; 07 Jun. 17)		:	: :			◆ KD31 Achievement of Sectio	n X of the Works (790 days	; 07 Jun. 17)	[
Site Acces	s & Possession									:
Access to	Locations of the Site									: 1
A0330	Contract Date for Access to External Area for Contract HY/2013/01 for ELV System		Contract Date for Access	to External Area for Contract HY/20	013/01 for ELV System Installation	n (570 days)				
	Installation (570 days)									
A0340	Contract Date for Access to External Area for Contract HY/2013/02 for ELV System		Contract Date for Access	to External Area for Contract HY/20	013/02 for ELV System Installation	n (560 days)				
	Installation (560 days)									<u> </u>
A0350	Contract Date for Access to External Area for Contract HY/2013/04 ELV System Installation (560 days)		Contract Date for Access	to External Area for Contract HY/20	13/04 ELV System Installation (5	560 days)				
PORTION										
										:
Portion A1										:
Bridge A9										
Structure			<u> </u>	<u> </u>	_					
SA9470	Parapet (38 pour) & E&M Works		į	i i	<b>-</b>					
SA9480	Bituminous Paving (492 ton) (KD25)									
	Wall W8-1									1
SW8120	Backfilling W8-1							!		
3.1.5125										1
SW8130	Parapet W8-1 (16 pour) & E&M Works		\ -							
SW8140	RW8-1 Drainage system & Cable Laying							 	· · · · · · · · · · · · · · · · · · ·	
										:
	Bltuminous Paving W8-1 (347 ton) (KD25)									
Retaining	Wall W9-1									
SW9120	Backfilling W9-1									
SW9130	Parapet W9-1 (16 pour) & E&M Works				<u> </u>					
SW9140	Drainage System & Cable Laying									: 1
	Bituminous Paving W9-1 (347 ton)									
047 - Fres	h Water Pumping Station, Portion A1 & A2			į	<u> </u>		i			$\Box$
Λ-1	ual Work		WODKO DDOOD ***	ME UPDATED 31 AUGUS	OT 0017	Date	F	Revision	Checked	Α.
		<b>,,</b>				30-Jun-17	Works Programme (DWP4), update	ed as of 30 June 2017	ZJ	H
	maining Work	VEHICLE CL	LEARANCE PLAZAS A	AND ANCILLARY BUILDI	NGS AND FACILITIES	31-Jul-17	Works Programme (DWP4), update		ZJ	H
Cri	ical			Page 1 of 27		31-Aug-17	Works Programme (DWP4), update		ZJ	+
♦ Mile	estone								<del></del> -	4

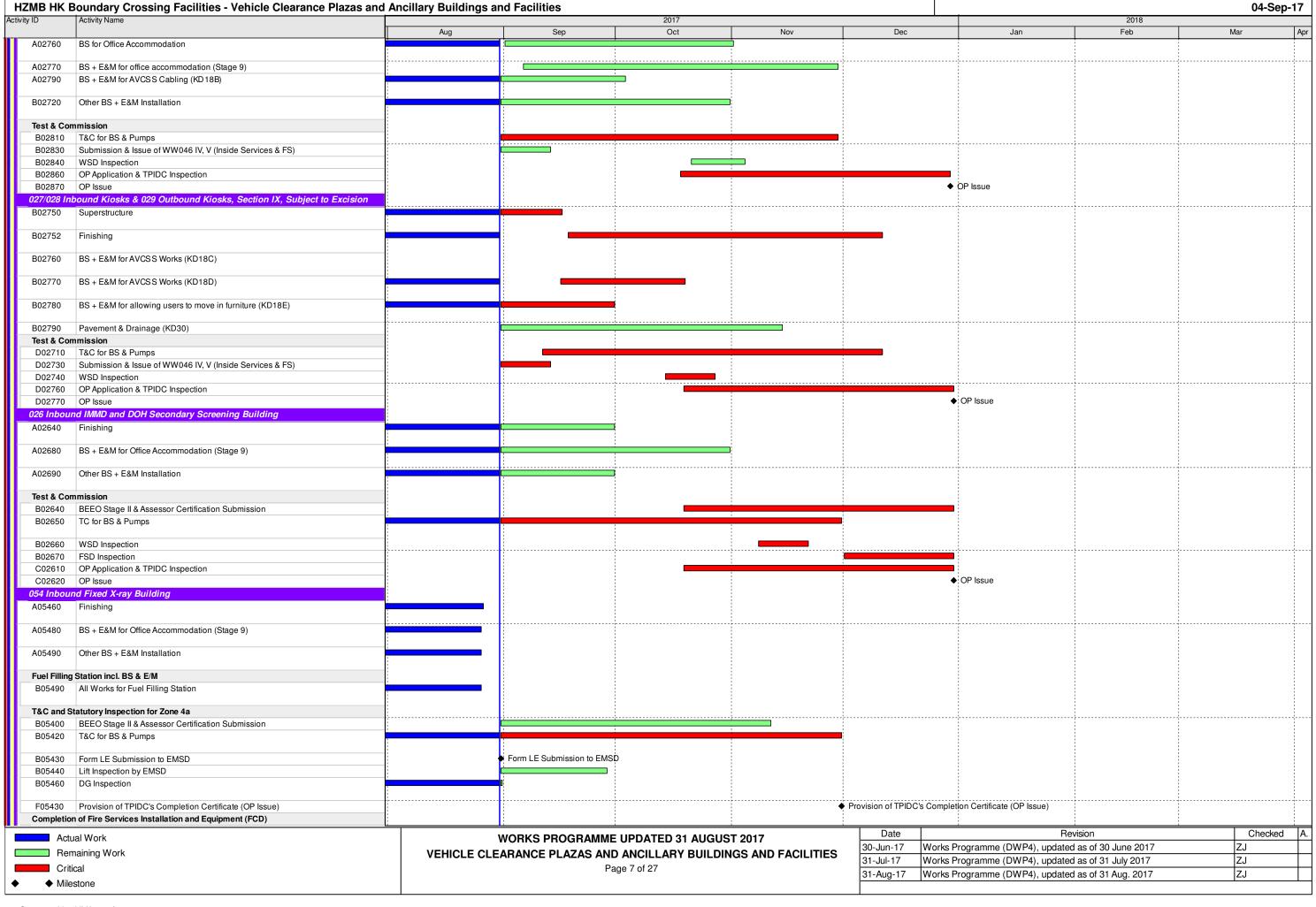


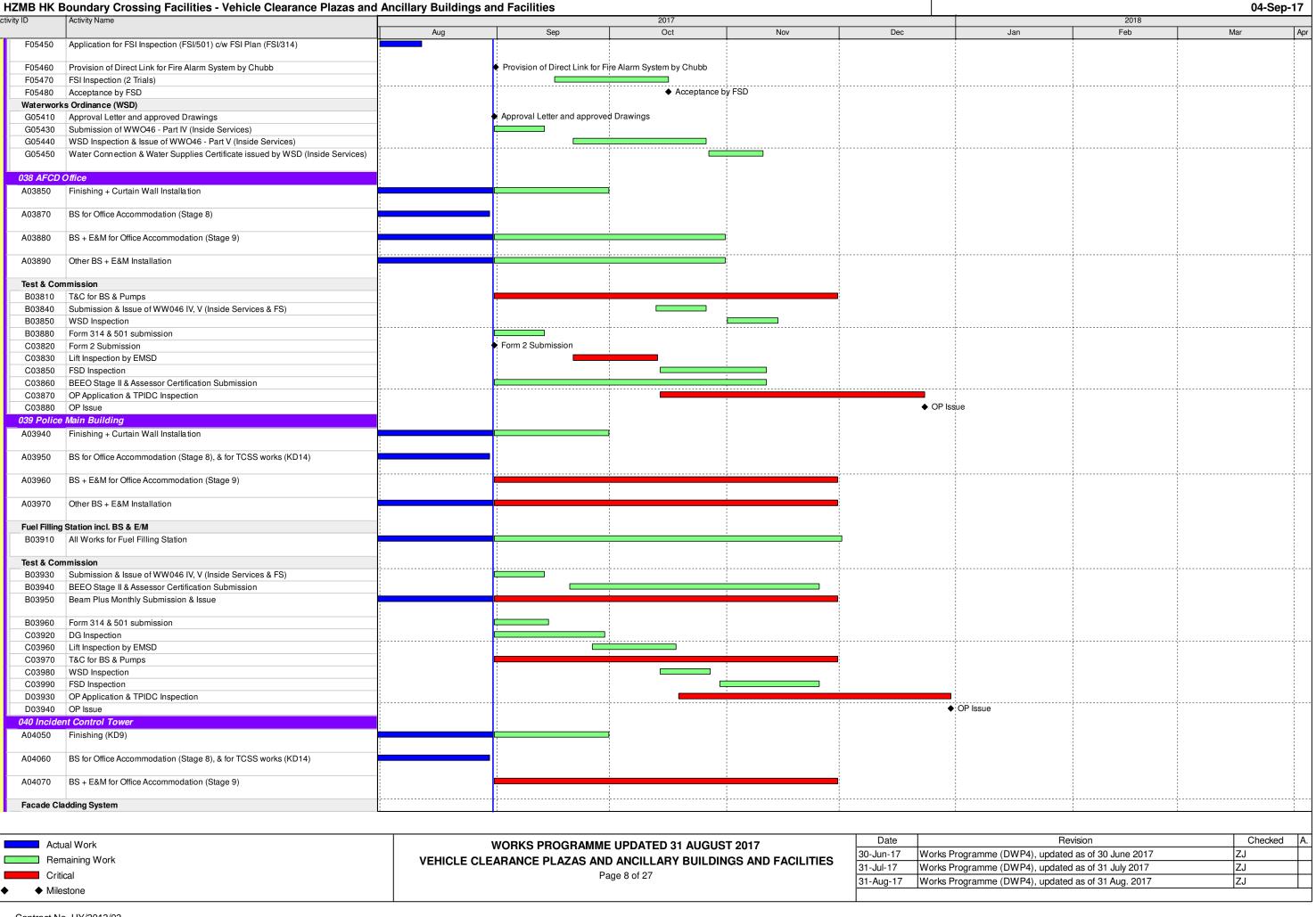


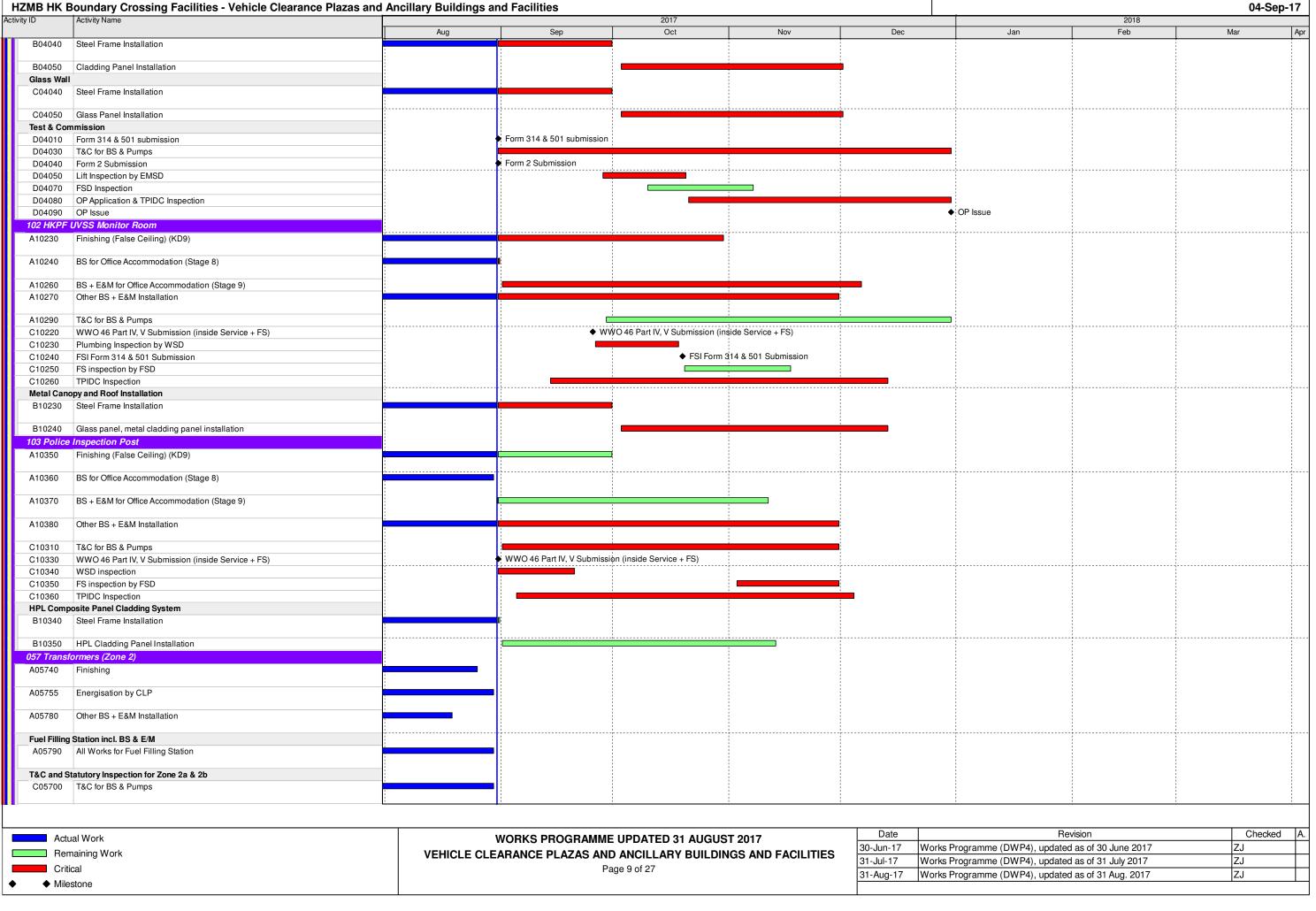


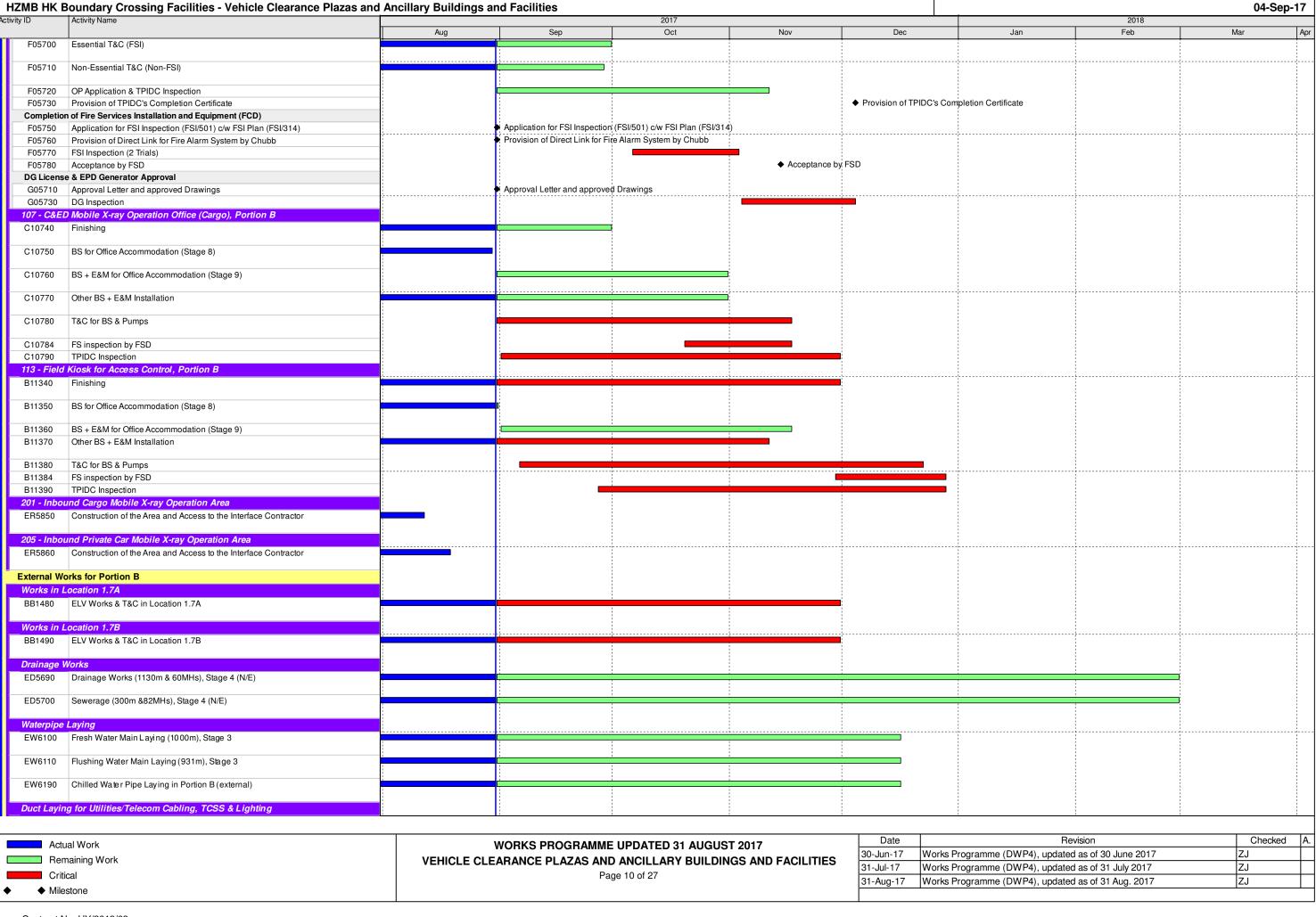


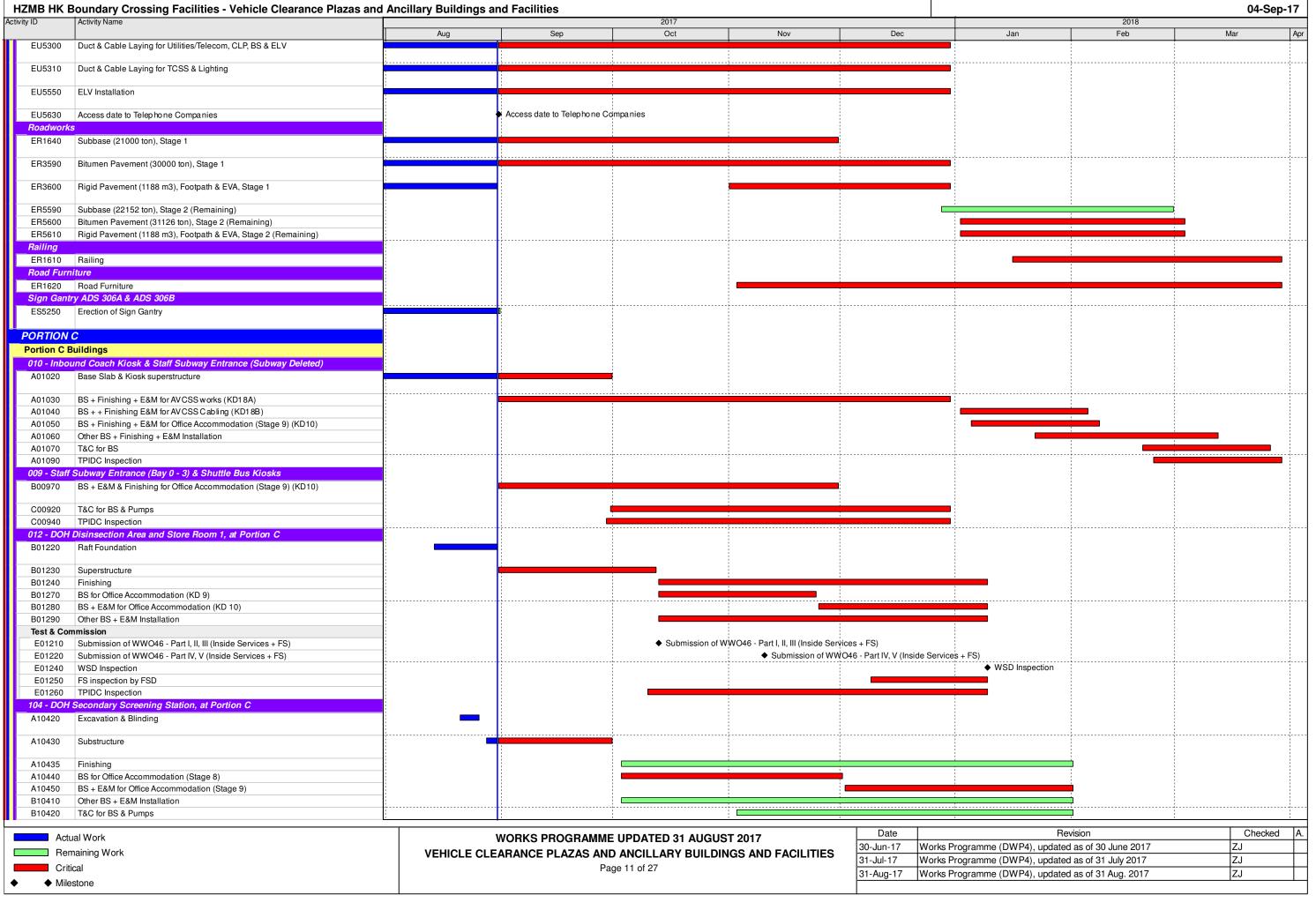


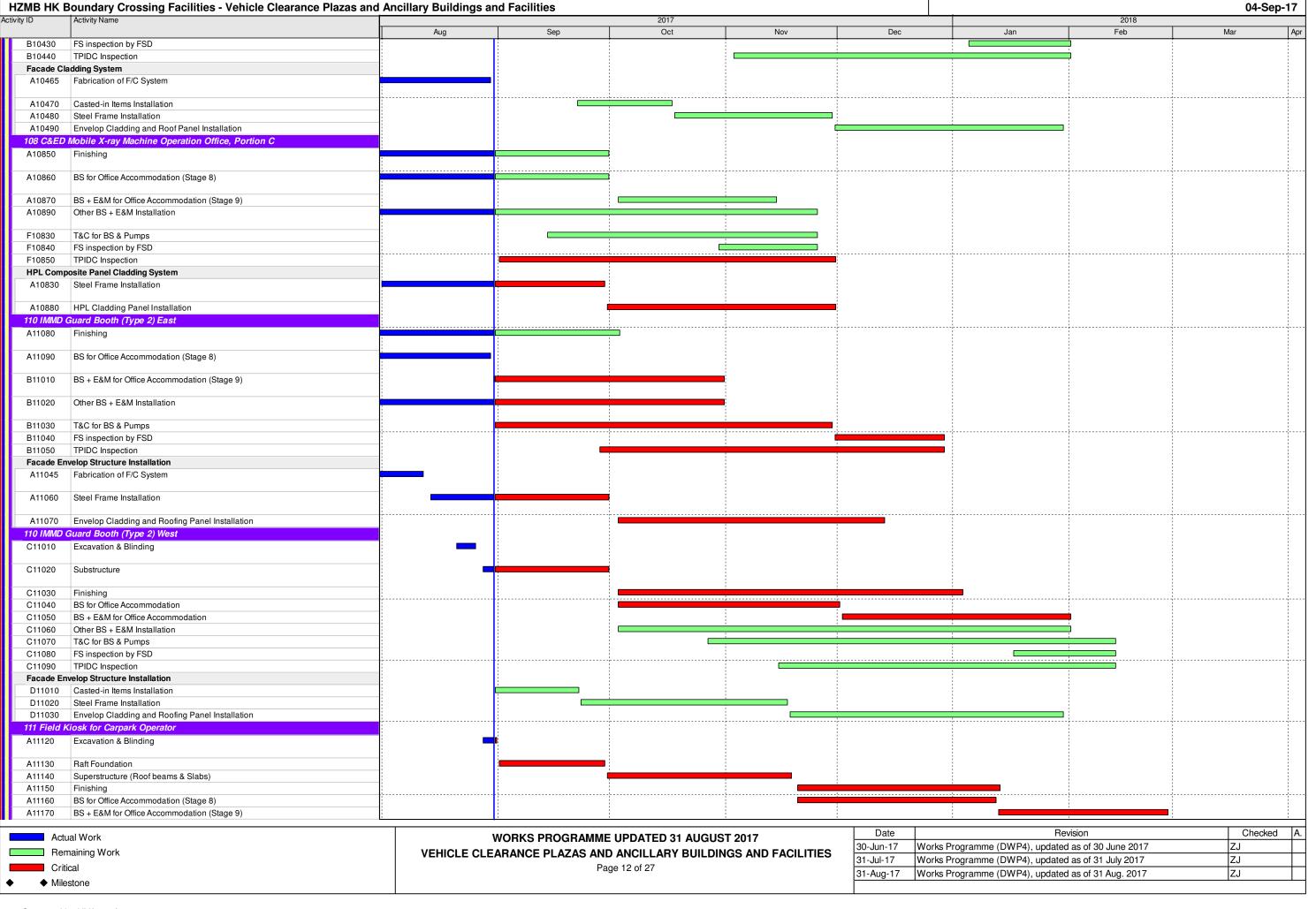


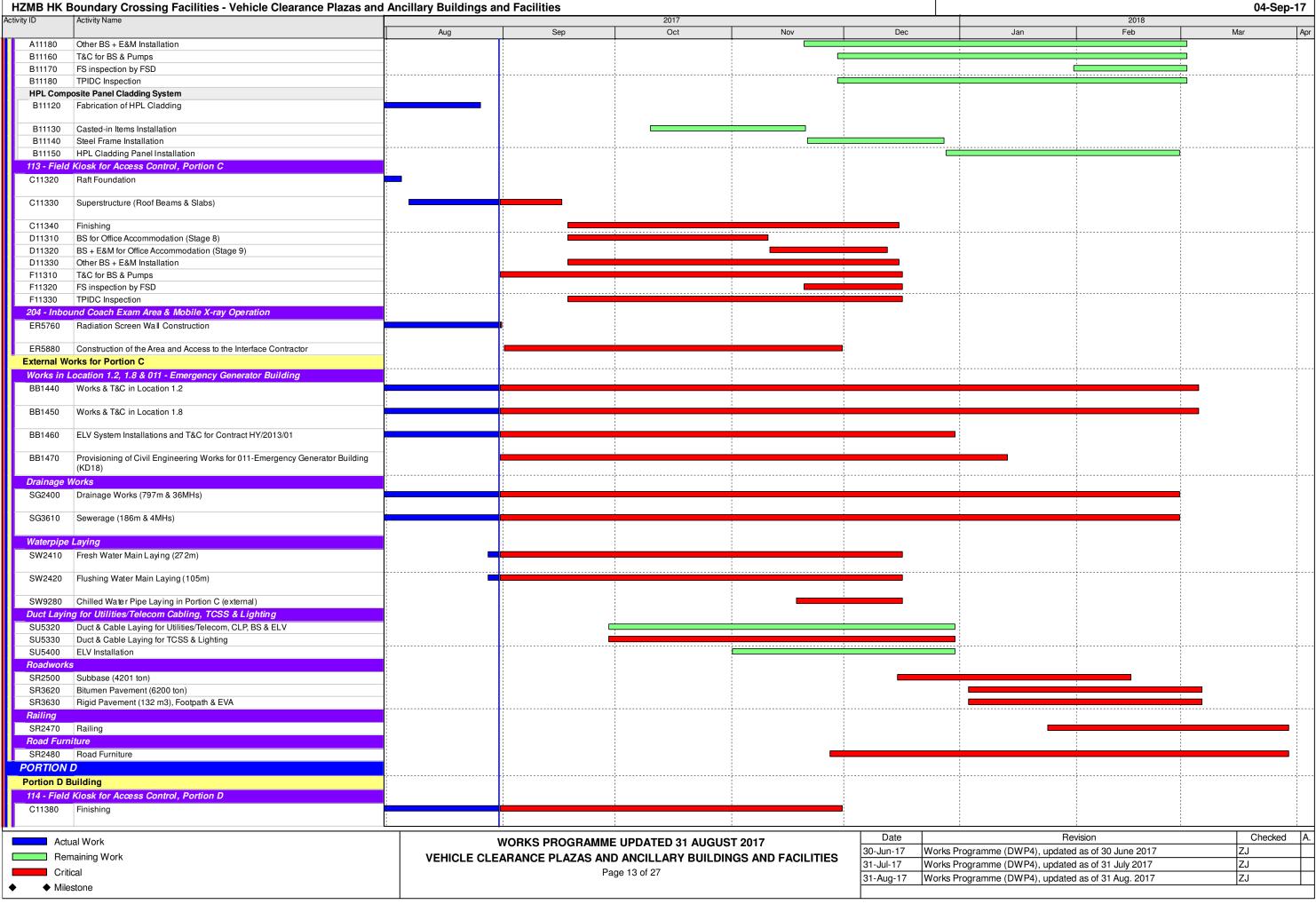


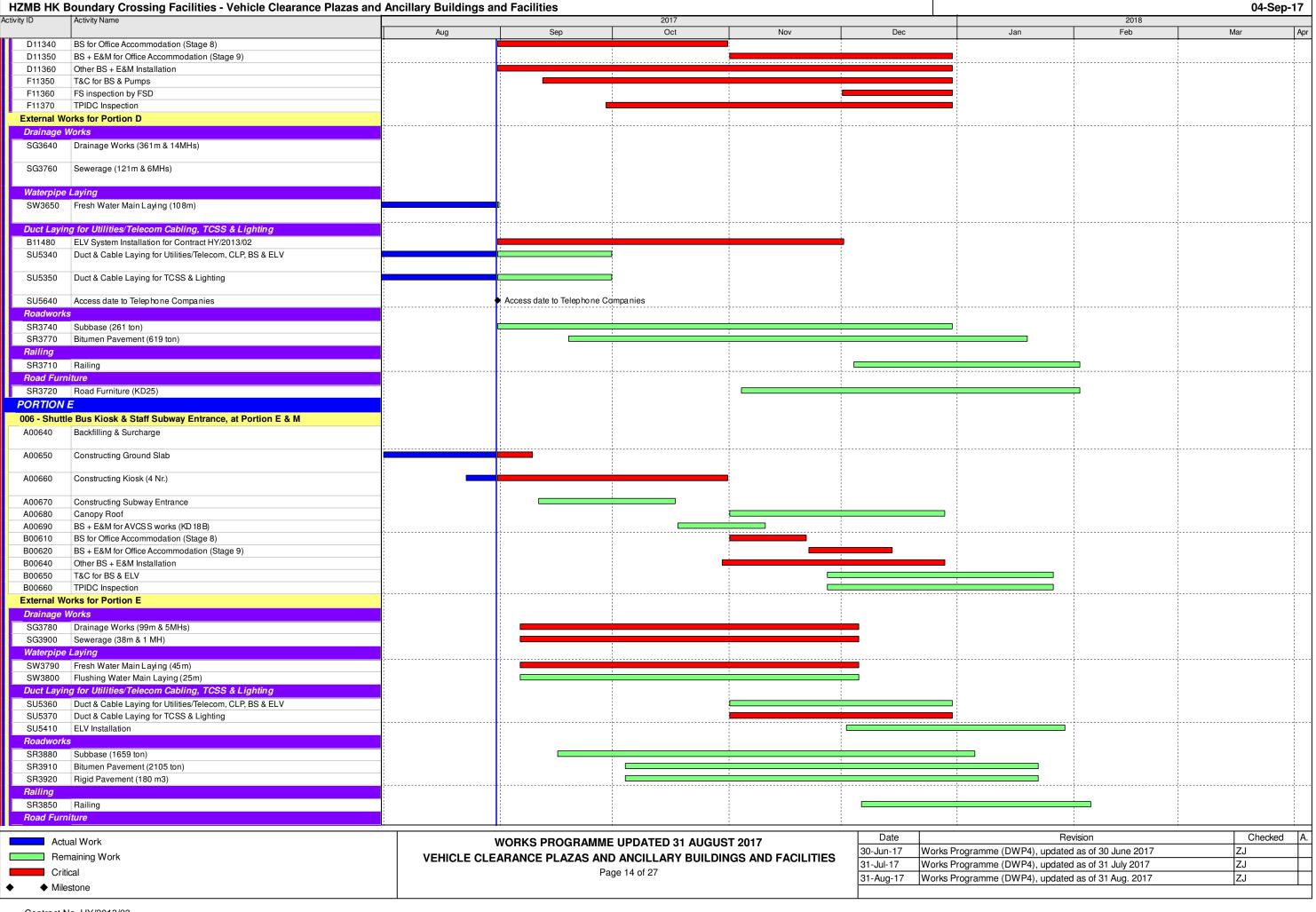


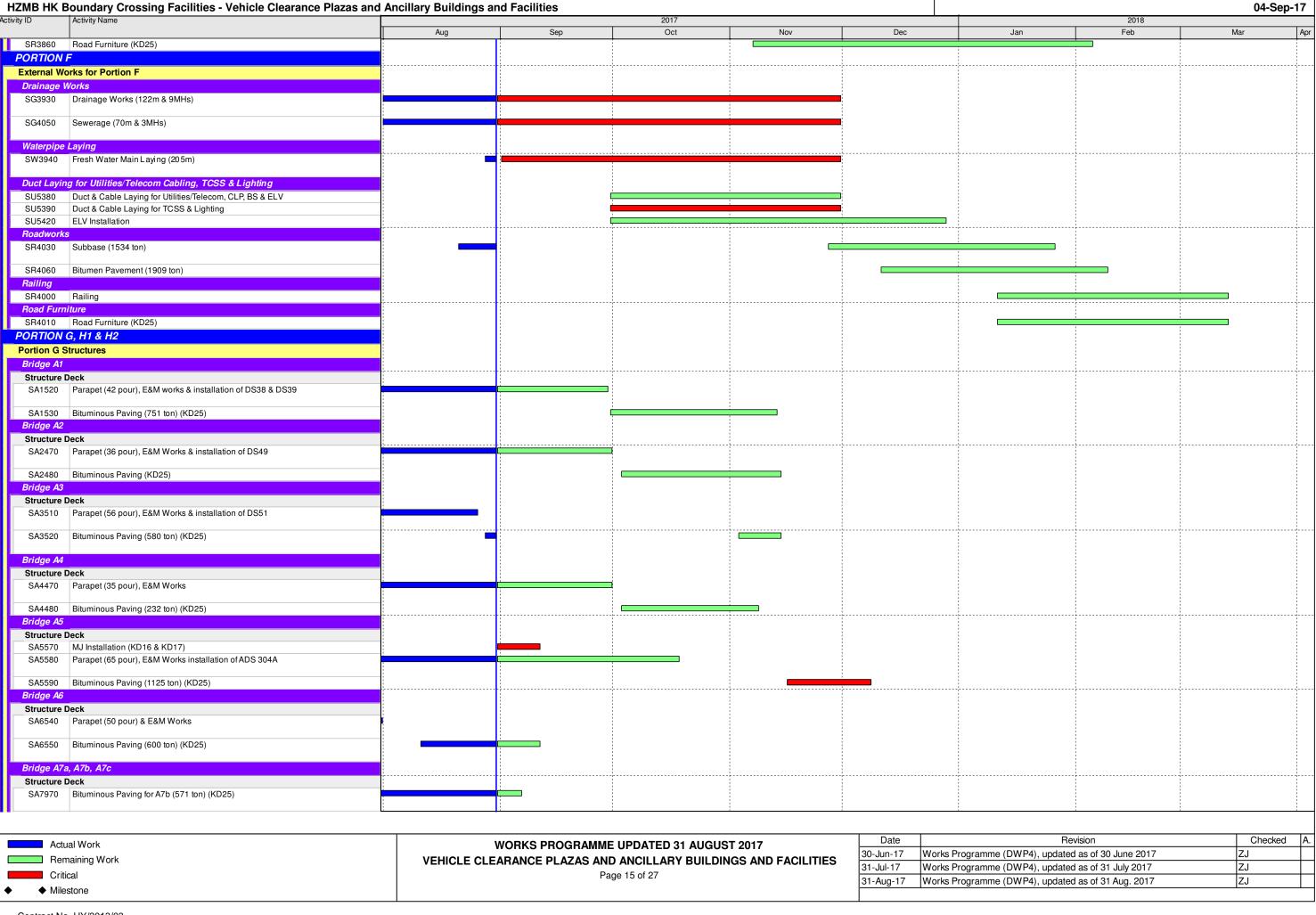


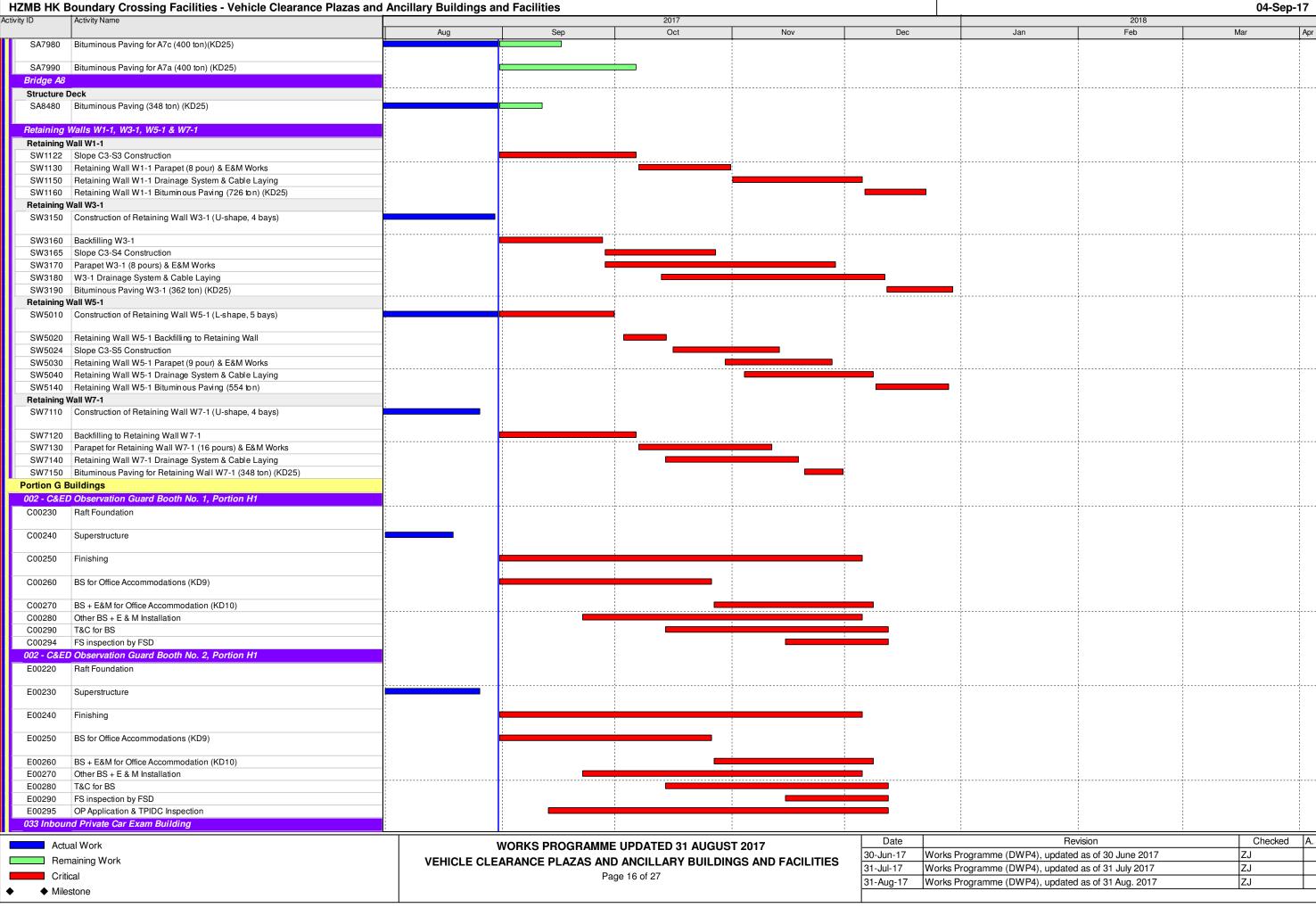


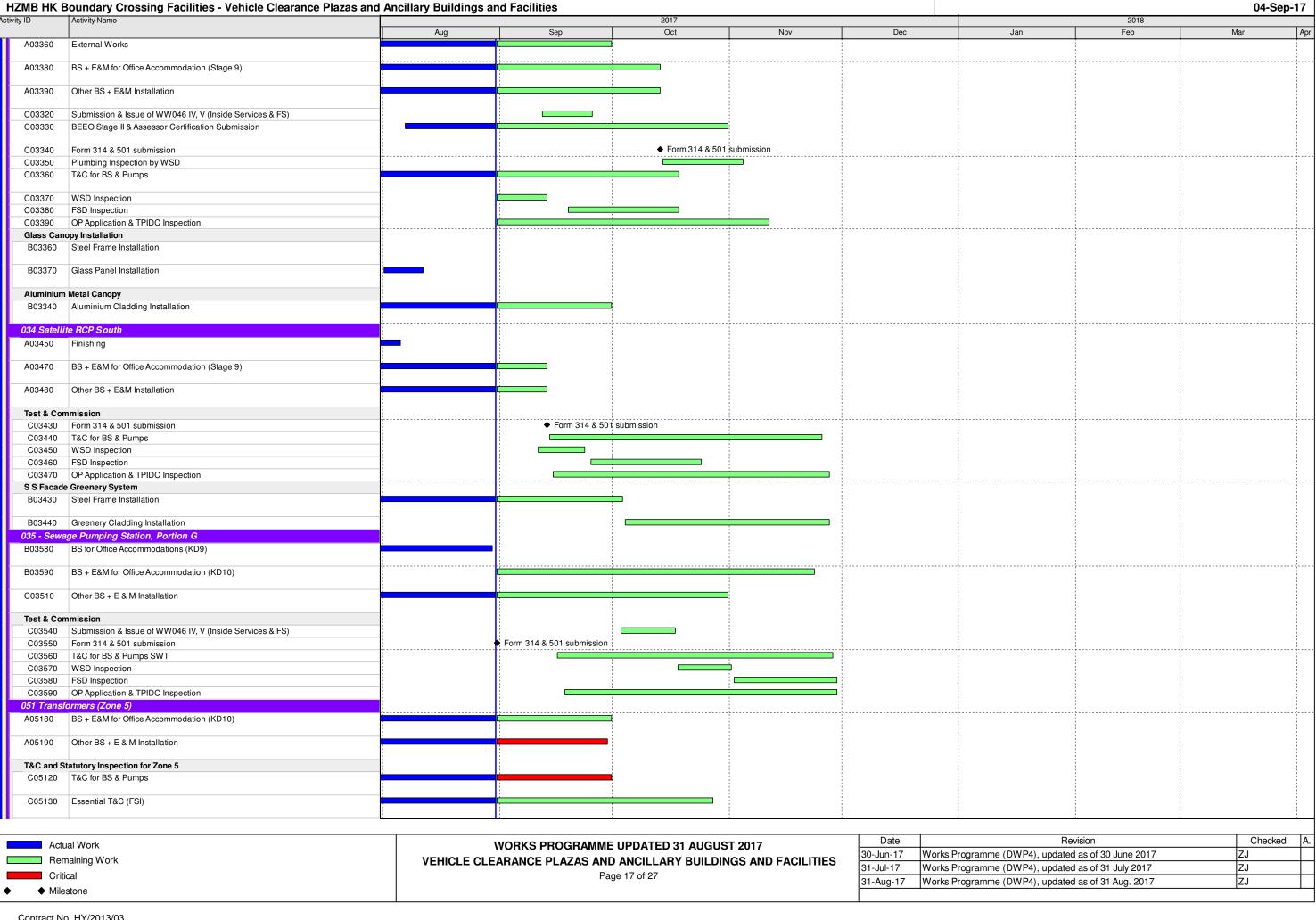


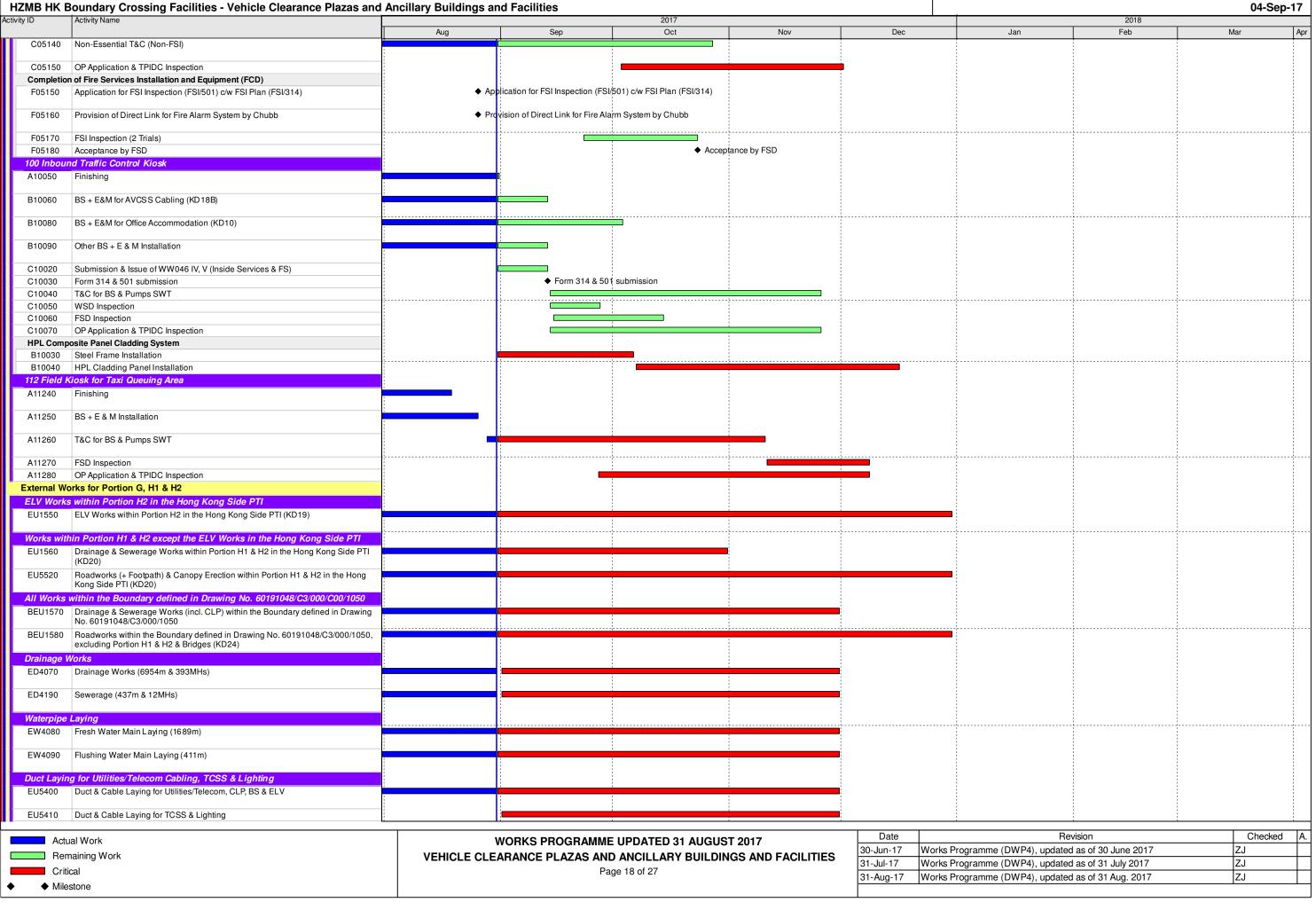


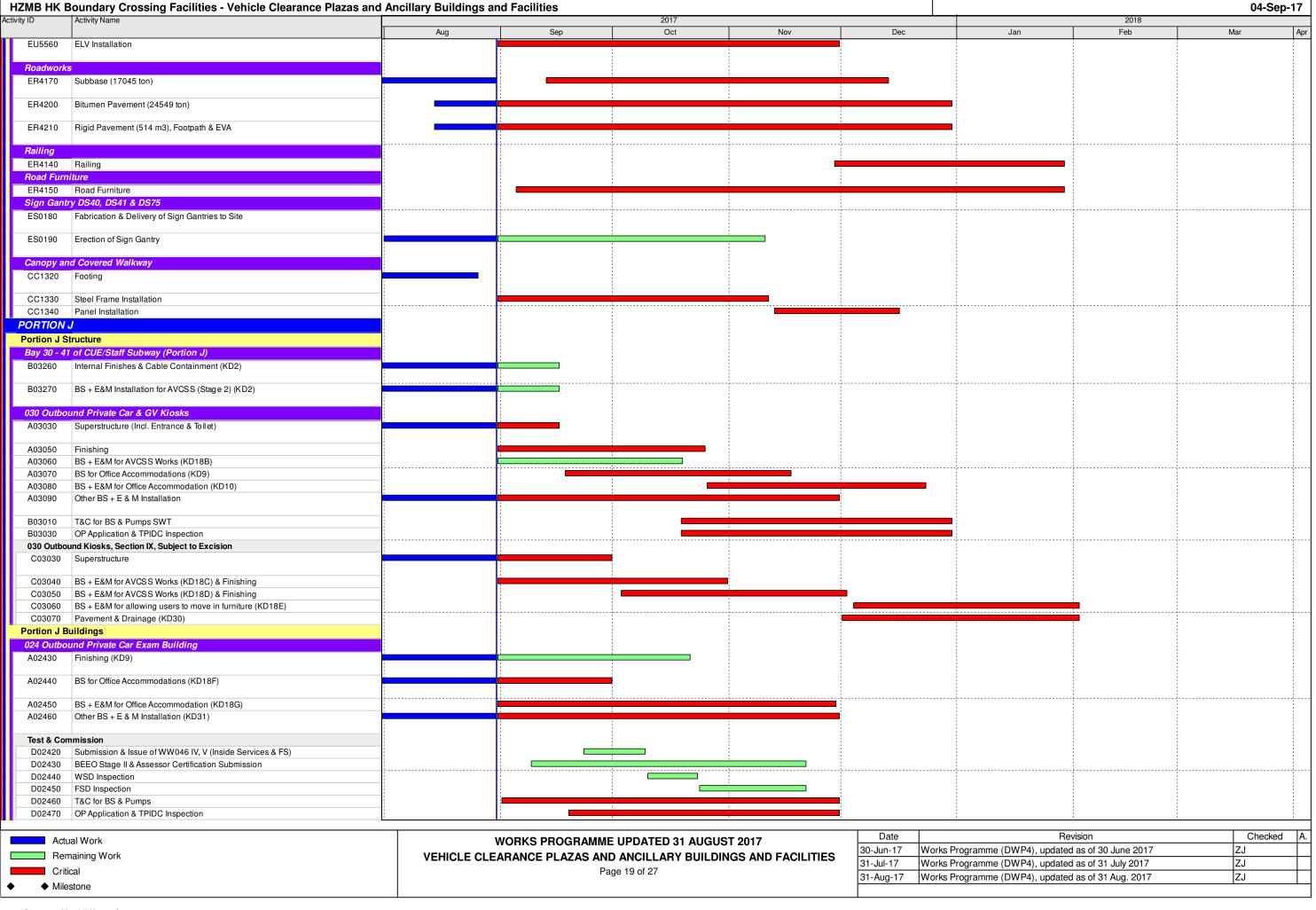


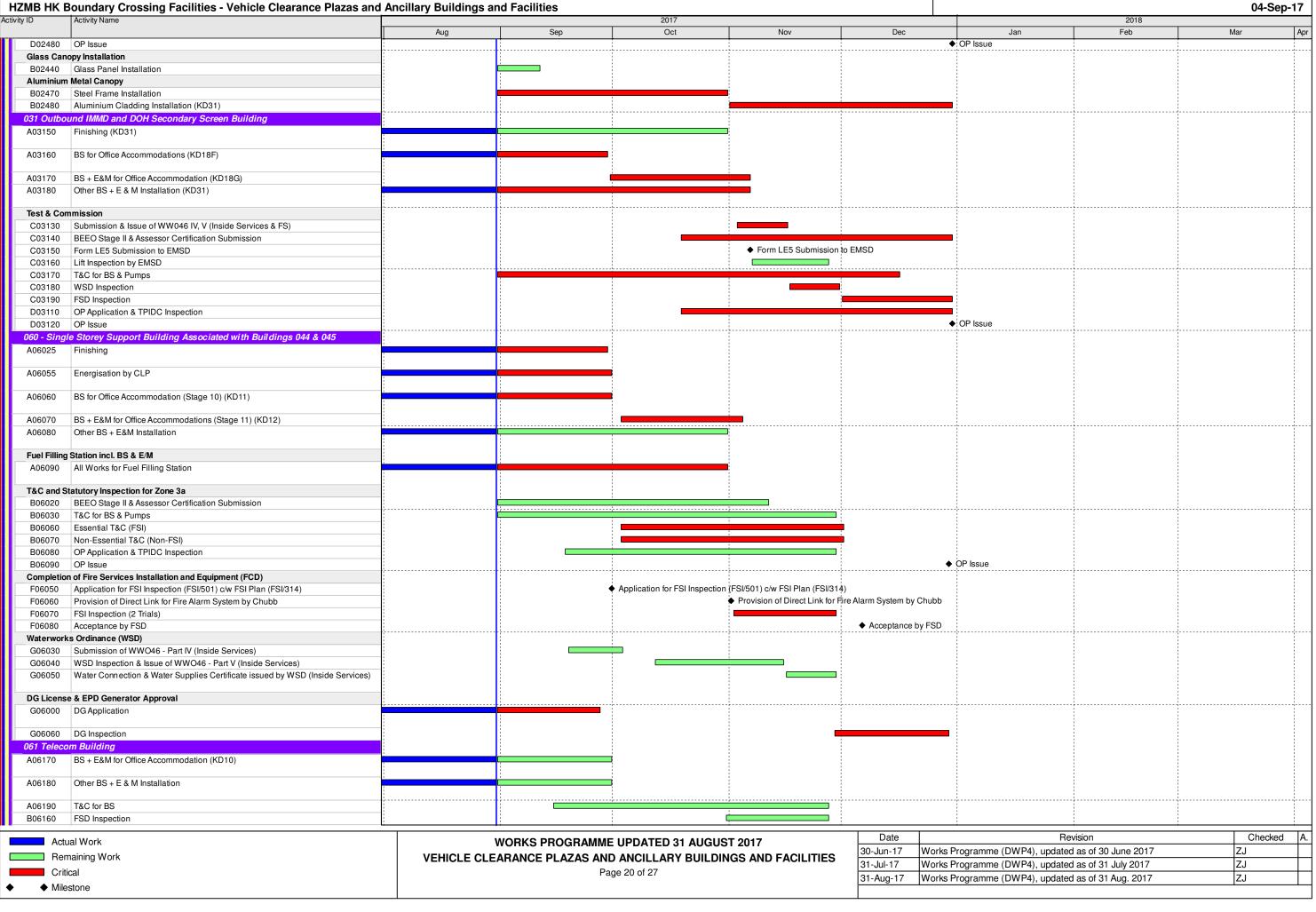


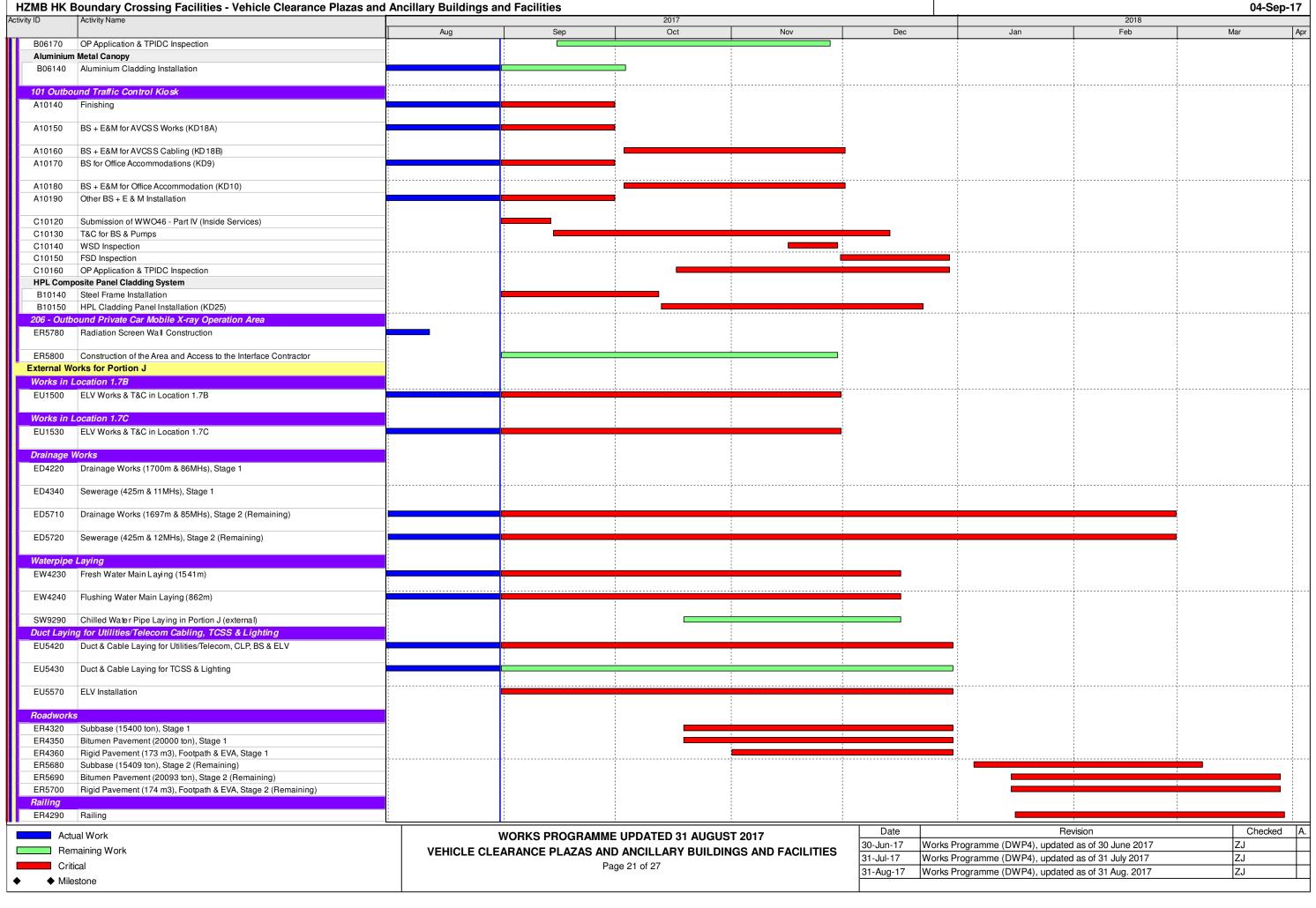


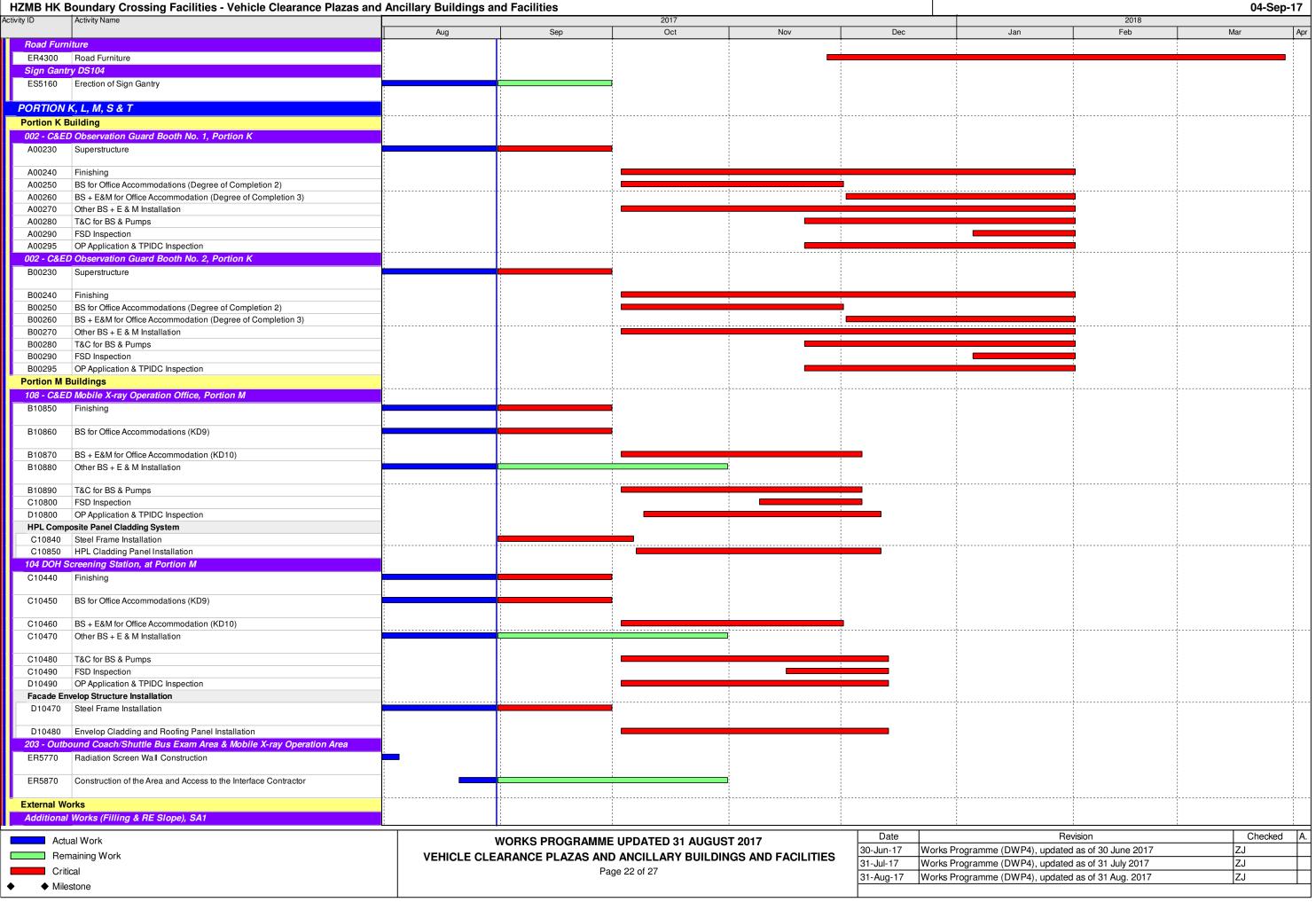


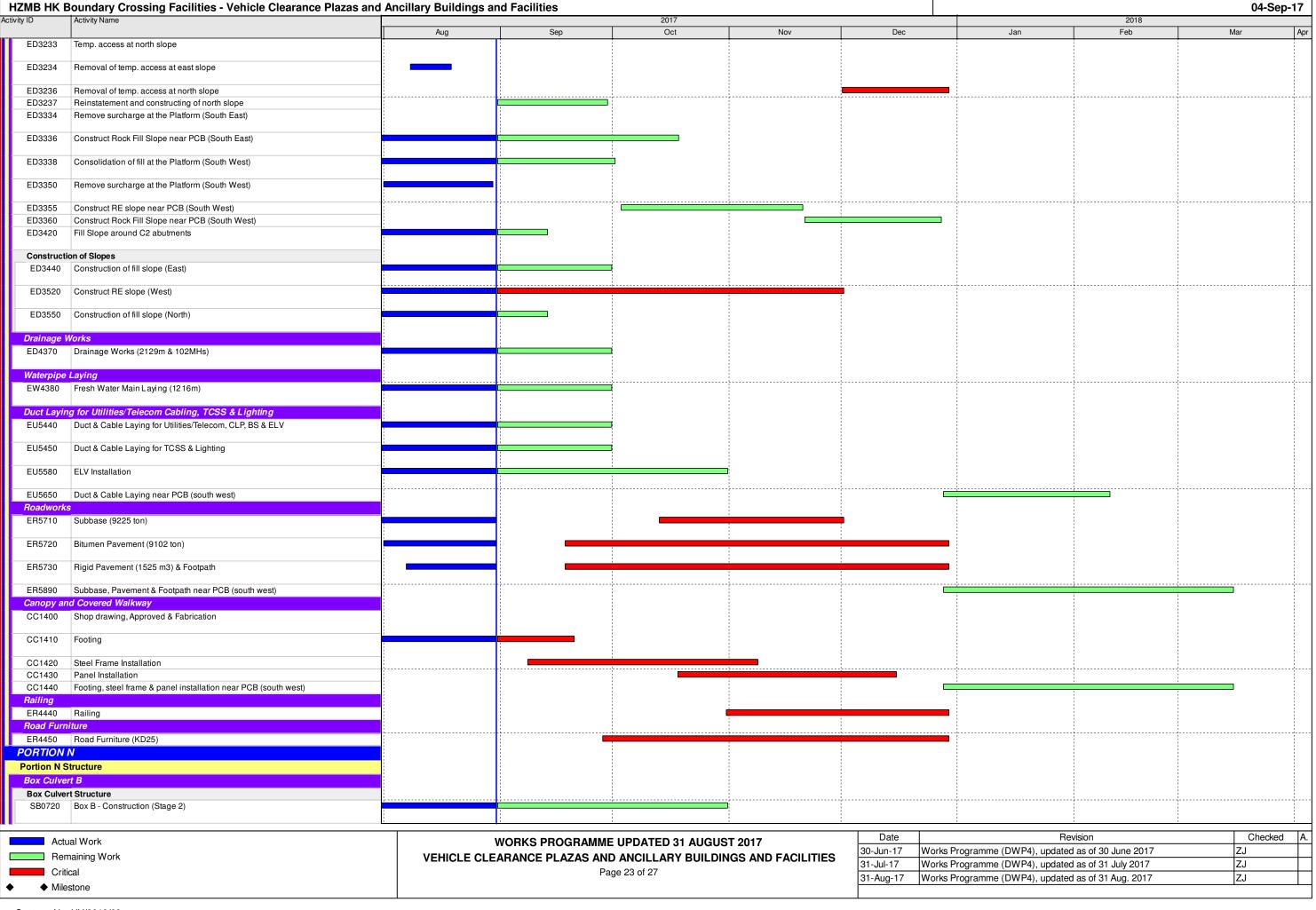




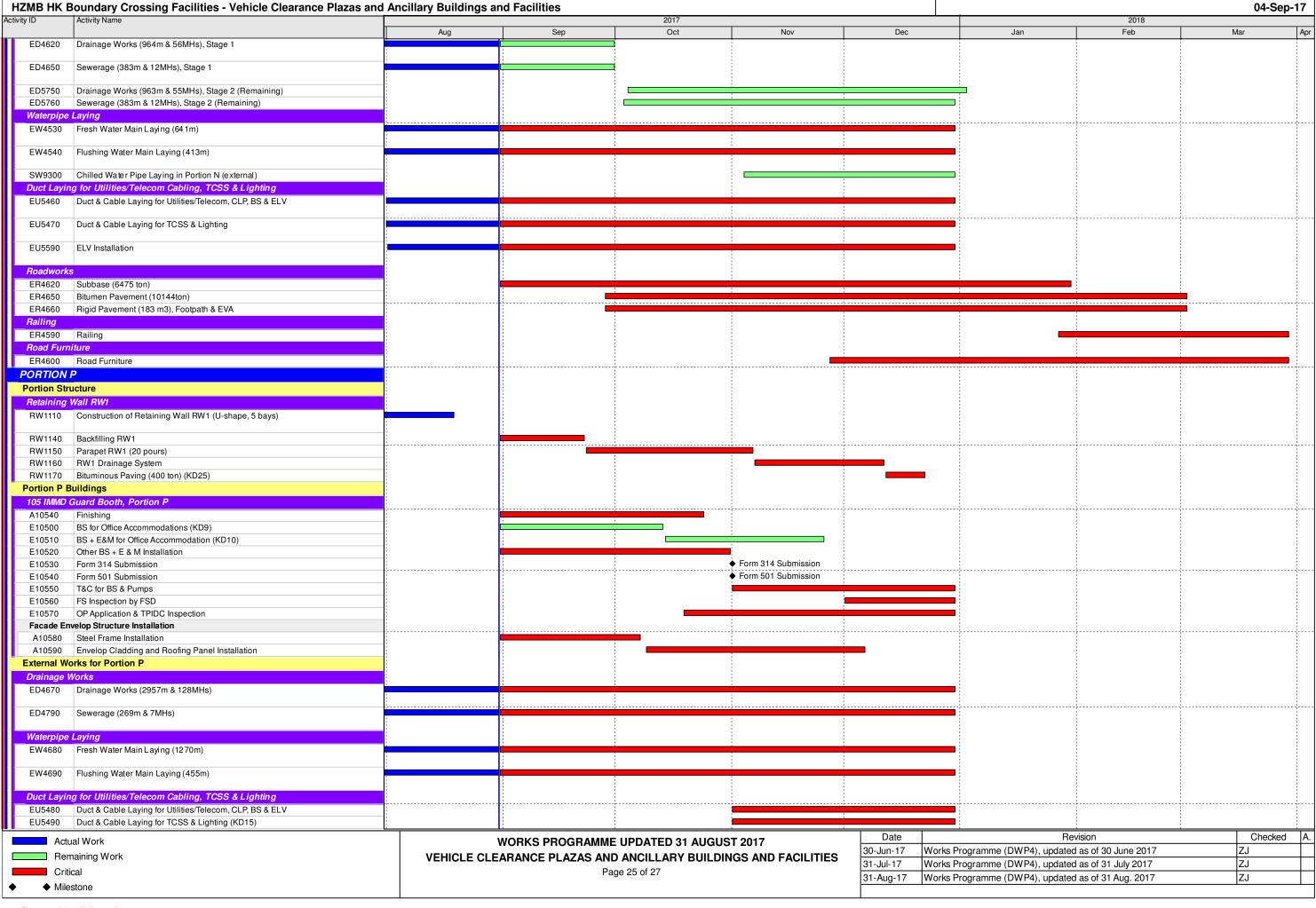


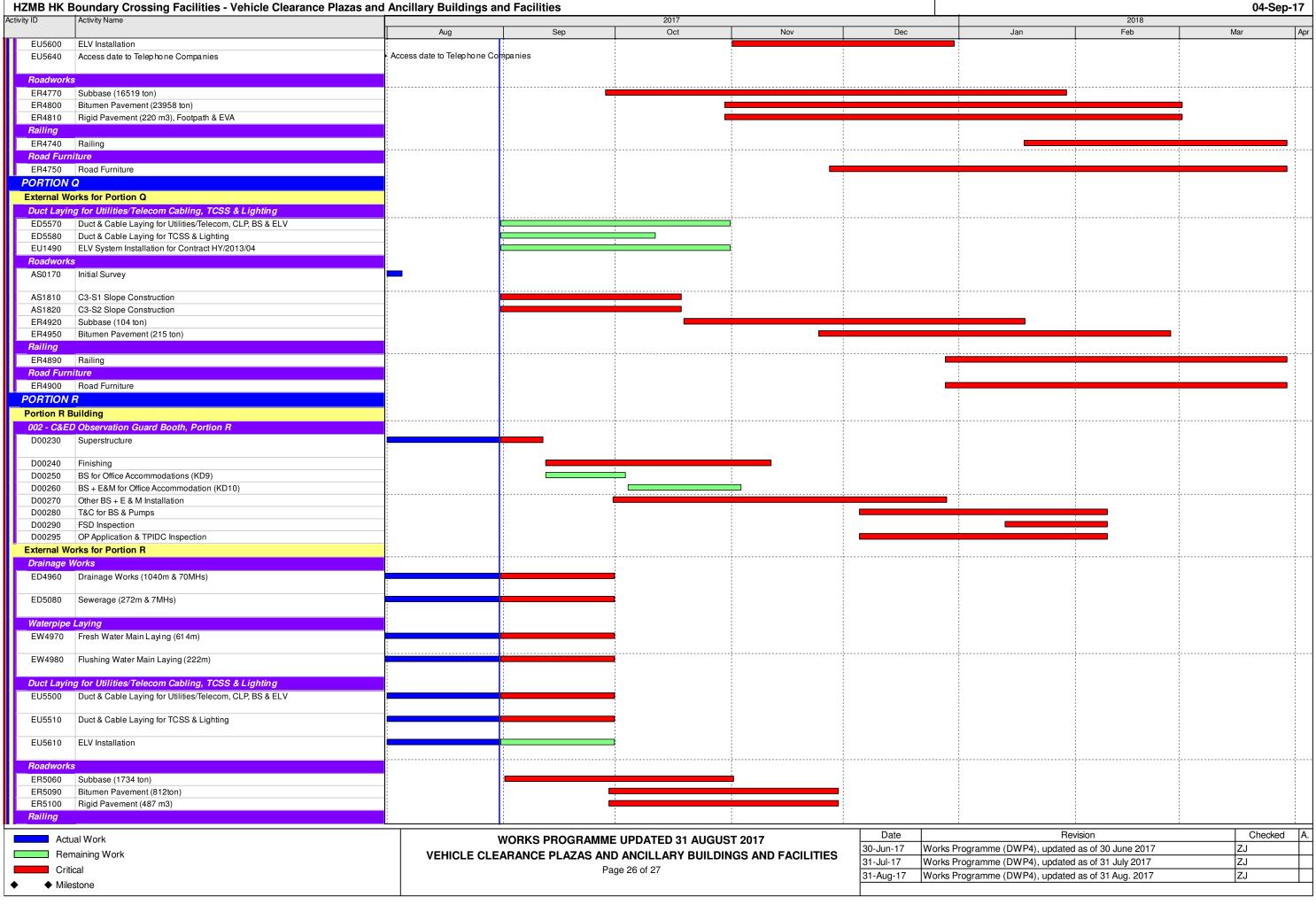


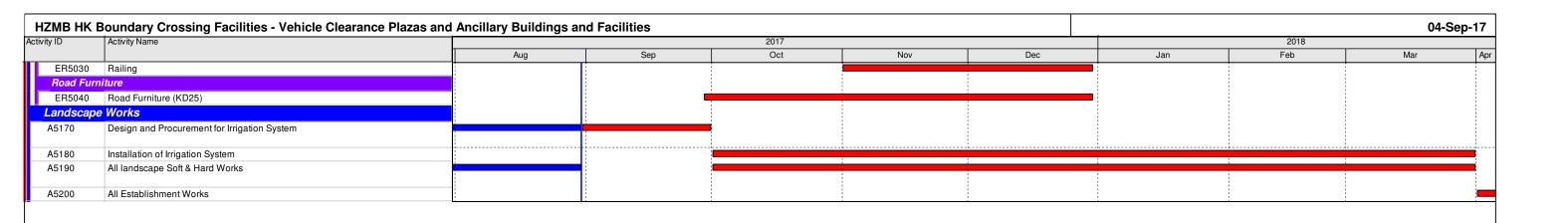








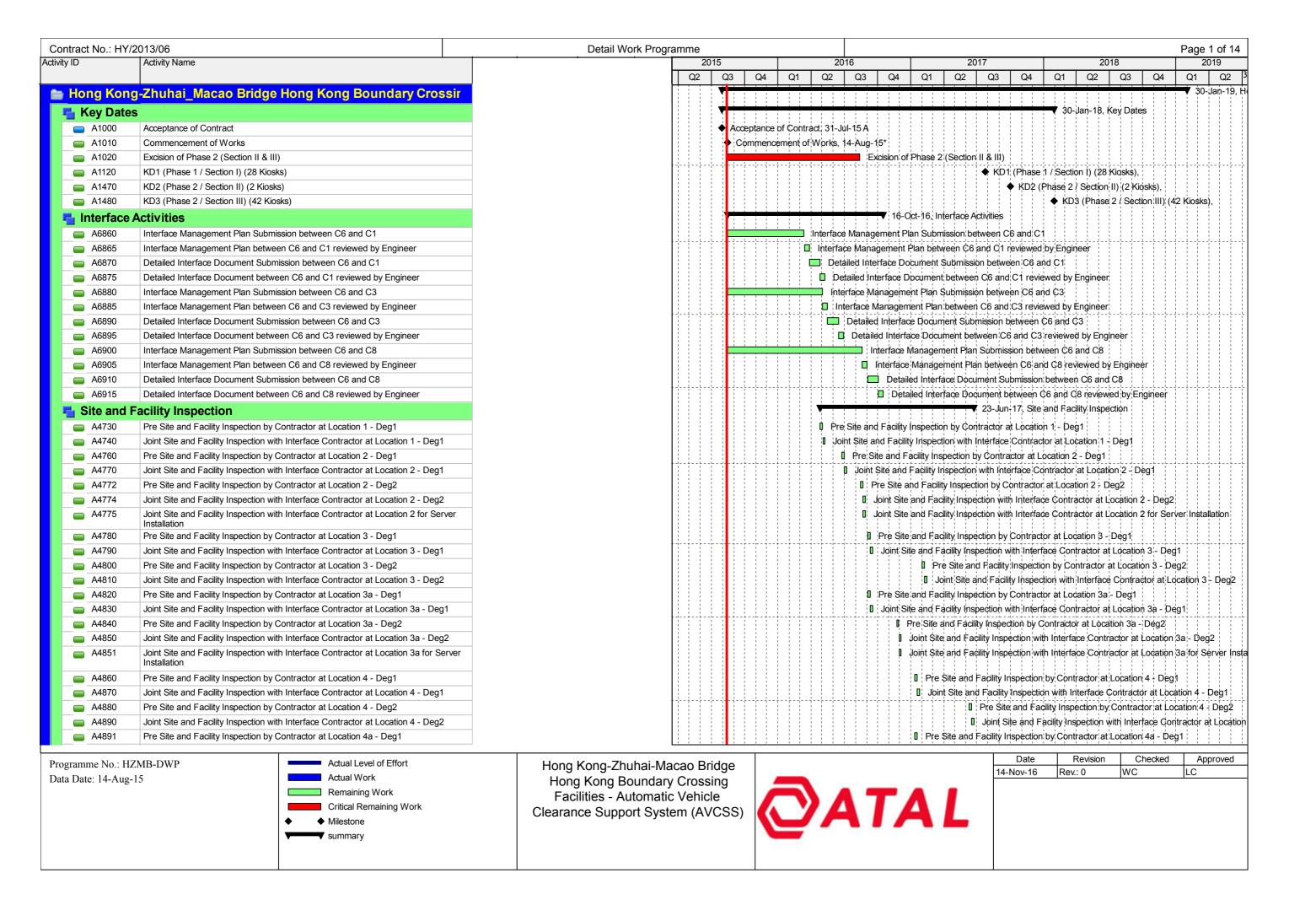




	Actual Work
	Remaining Work
	Critical
•	◆ Milestone

WORKS PROGRAMME UPDATED 31 AUGUST 2017
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES
Page 27 of 27

Date	Revision	Checked	Α.
30-Jun-17	Works Programme (DWP4), updated as of 30 June 2017	ZJ	
31-Jul-17	Works Programme (DWP4), updated as of 31 July 2017	ZJ	
31-Aug-17	Works Programme (DWP4), updated as of 31 Aug. 2017	ZJ	
<u> </u>	<u> </u>		



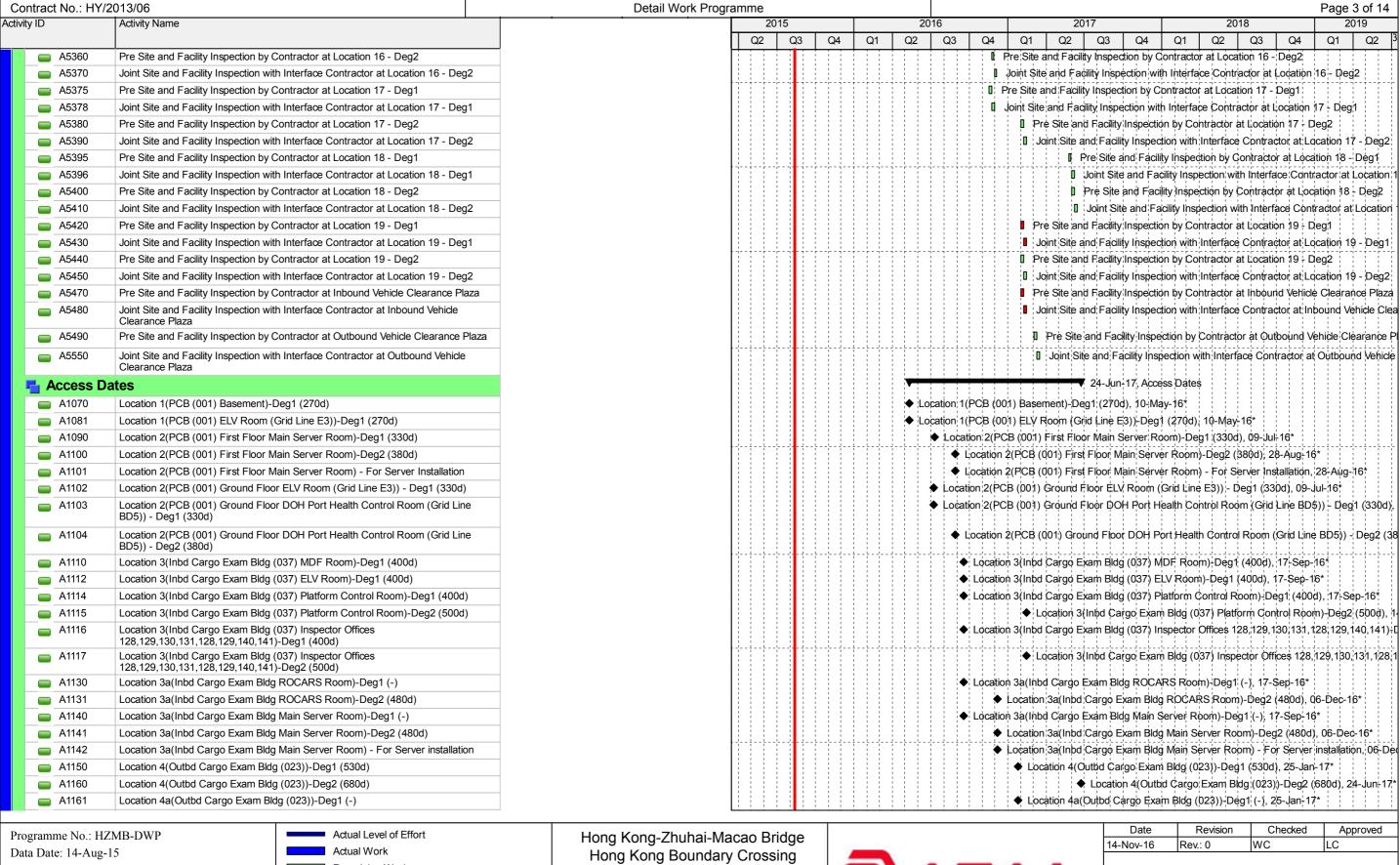
Contract No.: HY/2013/06		Detail Work Programme								F	
Activity ID	Activity Name	20	15			2016		2017		2018	2019
		Q2	Q3	Q4	Q1	Q2 Q3 Q4	Q1 Q2	Q3	Q4 Q1	Q2 Q3	Q4 Q1 Q2 3
A4892	Joint Site and Facility Inspection with Interface Contractor at Location 4a - Deg1						Joint Site a	nd Facility Ins	spection with In	iterface Contracto	r at Location 4a - Deg1
■ A4900	Pre Site and Facility Inspection by Contractor at Location 4a - Deg2						Pr	e Site and Fa	cility Inspection	n by Contractor at	Location 4a - Deg2
<b>A</b> 4910	Joint Site and Facility Inspection with Interface Contractor at Location 4a - Deg2							oint Site and I	Facility Inspecti	ion with Interface (	Contractor at Location 4a
■ A4920	Pre Site and Facility Inspection by Contractor at Location 5 - Deg1					Pre Site and Fa	acility Inspection	by Contractor	at Location 5	- Deg1	
■ A4930	Joint Site and Facility Inspection with Interface Contractor at Location 5 - Deg1					I Join't Site and I	Facility Inspection	n with Interfac	e Contractor a	at Location 5 - Dec	<b>31</b>
<b>A</b> 4940	Pre Site and Facility Inspection by Contractor at Location 5 - Deg2					<b>1</b> Pr	re Site and Facili	ty Inspection I	by Contractor	at Location 5 - De	g2
<b>A</b> 4950	Joint Site and Facility Inspection with Interface Contractor at Location 5 - Deg2					J	oint Site and Fac	cility Inspection	n with Interface	Contractor at Lo	cation 5 - Deg2
<b>A</b> 4960	Pre Site and Facility Inspection by Contractor at Location 6 - Deg1					1 Pre Site	and Facility Ins	pection by Co	ntractor at Loc	ation 6 - Deg1	
<b>A</b> 4970	Joint Site and Facility Inspection with Interface Contractor at Location 6 - Deg1					☐ Joint S	ite and Facility In	spection with	Interface Con	tractor at Location	6 - Deg1
<b>A</b> 4980	Pre Site and Facility Inspection by Contractor at Location 6 - Deg2					□ Pre	e Site and Facilit	y Inspection b	y Contractor a	t Location 6 - Deg	2
■ A4990	Joint Site and Facility Inspection with Interface Contractor at Location 6 - Deg2		-			jo	int Site and Faci	lity Inspection	with Interface	Contractor at Loc	ation 6 - Deg2
■ A5000	Pre Site and Facility Inspection by Contractor at Location 7 - Deg1					Pre Site and Facility	Inspection by C	ontractor at L	ocation 7 - De	g1	
<b>A</b> 5010	Joint Site and Facility Inspection with Interface Contractor at Location 7 - Deg1			[ ]		<ol> <li>Joint Site and Facili</li> </ol>	ty Inspection with	n Interface Co	ontractor at Lo	cation:7 - Deg1	
■ A5020	Pre Site and Facility Inspection by Contractor at Location 8 - Deg1					☐ Pre S	Site and Facility I	nspection by	Contractor at I	ocation 8 - Deg1	
<b>A</b> 5030	Joint Site and Facility Inspection with Interface Contractor at Location 8 - Deg1					☐ Join	t Site and Facility	/ Inspection w	ith Interface C	ontractor at Locat	ion 8 - Deg1
■ A5040	Pre Site and Facility Inspection by Contractor at Location 8 - Deg2						1 1 1 1 <b>1</b> 1	Pre Site and F	acility Inspection	on by Contractor a	t Location 8 - Deg2
■ A5050	Joint Site and Facility Inspection with Interface Contractor at Location 8 - Deg2							Joint Site and	Facility Inspec	tion with Interface	Contractor at Location 8 -
■ A5060	Pre Site and Facility Inspection by Contractor at Location 9 - Deg1						Pre Site and	Facility Inspe	ction by Contra	actor at Location 9	- Deg1
■ A5070	Joint Site and Facility Inspection with Interface Contractor at Location 9 - Deg1						I Joint Site an	nd Facility Insp	ection with Int	erface Contractor	at Location 9 - Deg1
■ A5080	Pre Site and Facility Inspection by Contractor at Location 9 - Deg2							Pre Site and	Facility Inspec	tion by Contractor	at Location 9 - Deg2
■ A5090	Joint Site and Facility Inspection with Interface Contractor at Location 9 - Deg2						11111	Joint Site an	nd Facility Inspe	ection with Interfac	e Contractor at Location 9
<b>A</b> 5100	Pre Site and Facility Inspection by Contractor at Location 10 - Deg1					G 1	Pre Site and Fac	cility Inspection	n by Contracto	r at Location 10 -	Deg1
<b>A</b> 5110	Joint Site and Facility Inspection with Interface Contractor at Location 10 - Deg1				<del></del>		Joint Site and F	acility Inspecti	ion with Interfa	ice Contractor at L	ocation 10 - Deg1
<b>A</b> 5120	Pre Site and Facility Inspection by Contractor at Location 10 - Deg2						☐ Pre Site a	and Facility Ins	spection by Co	ntractor at Locatio	n 10 - Deg2
<b>A</b> 5130	Joint Site and Facility Inspection with Interface Contractor at Location 10 - Deg2						Joint Site	and Facility I	nspection with	Interface Contrac	tor at Location 10 - Deg2
<b>A</b> 5140	Pre Site and Facility Inspection by Contractor at Location 11 - Deg1					☐ Pre Site	and Facility Ins	pection by Co	ntractor at Loc	ation 11 - Deg1	
A5150	Joint Site and Facility Inspection with Interface Contractor at Location 11 - Deg1					☐ Joint S	ite and Facility In	spection with	Interface Con	tractor at Location	11 - Deg1
■ A5160	Pre Site and Facility Inspection by Contractor at Location 11 - Deg2			i - i - i	;; <u>;</u>		Pre Site and Fac	cility Inspection	n by Contracto	r at Location 11 -	Deg2
■ A5170	Joint Site and Facility Inspection with Interface Contractor at Location 11 - Deg2						Joint Site and F	acility Inspecti	ion with Interfa	ce Contractor at L	ocation 11 - Deg2
A5180	Pre Site and Facility Inspection by Contractor at Location 12 - Deg1						and Facility Ins	1 1 1 1			
A5190	Joint Site and Facility Inspection with Interface Contractor at Location 12 - Deg1									tractor at Location	12 - Deg1
A5200	Pre Site and Facility Inspection by Contractor at Location 12 - Deg2							1 1 1 1		r at Location 12 -	
A5210	Joint Site and Facility Inspection with Interface Contractor at Location 12 - Deg2				<del></del>						ocation 12 - Deg2
■ A5220	Pre Site and Facility Inspection by Contractor at Location 13 - Deg1							1 1 1 1		r at Location 13 -	
A5230	Joint Site and Facility Inspection with Interface Contractor at Location 13 - Deg1						1 1 1 1 1 1	i i i i			ocation 13 - Deg1
■ A5240	Pre Site and Facility Inspection by Contractor at Location 13 - Deg2							1 1 1 1		ntractor at Locatio	
■ A5250	Joint Site and Facility Inspection with Interface Contractor at Location 13 - Deg2							1 1 1 1			tor at Location 13 - Deg2
A5260	Pre Site and Facility Inspection by Contractor at Location 14 - Deg1				<del></del>			- + +	i r ii r i	by Contractor at L	
■ A5270	Joint Site and Facility Inspection with Interface Contractor at Location 14 - Deg1							1 1 1 1			ontractor at Location 14 - D
■ A5300	Pre Site and Facility Inspection by Contractor at Location 15 - Deg1					1 Pre Site	and Facility Ins	- i - i - i - i -			
A5310	Joint Site and Facility Inspection with Interface Contractor at Location 15 - Deg1								: : : : :	tractor at Location	15 - Deg1
A5320	Pre Site and Facility Inspection by Contractor at Location 15 - Deg2						1 1 1 1 1 1	1 1 1 1		r at Location 15 -	
A5330	Joint Site and Facility Inspection with Interface Contractor at Location 15 - Deg2	1				- i i i i i i i i <u>i</u>	- 6 - 56 - 65 - 6 - 66 - 65		i	iiiiii	ocation 15 - Deg2
A5340	Pre Site and Facility Inspection by Contractor at Location 16 - Deg1						and Facility Ins	1 1 1 1 1			
A5350	Joint Site and Facility Inspection with Interface Contractor at Location 16 - Deg1							1 1 1 1		tractor at Location	16 - Dea1
7,0000			i i	<u>. i i </u>	<u> </u>	i i i i i i i i i i i i i i i i i i i	Grant Goliny II	יייייייייייייייייייייייייייייייייייייי			יי די ד
Drogramma Ma - Hr	ZMB-DWP Actual Level of Effort	Hann Kann 7hiihai Maass Dii	des						Date F	Revision Ch	necked Approved
Programme No.: HZ		Hong Kong-Zhuhai-Macao Bri	•					14-No	v-16 Rev.	: 0 WC	LC
Data Date: 14-Aug-	13 Adual Work	Hong Kong Boundary Crossi	ına	4						-	<del></del>

Data Date: 14-Aug-15

Remaining Work Critical Remaining Work summary



Date	Revision	Checked	Approved
14-Nov-16	Rev.: 0	WC	LC



Actual Work

Remaining Work

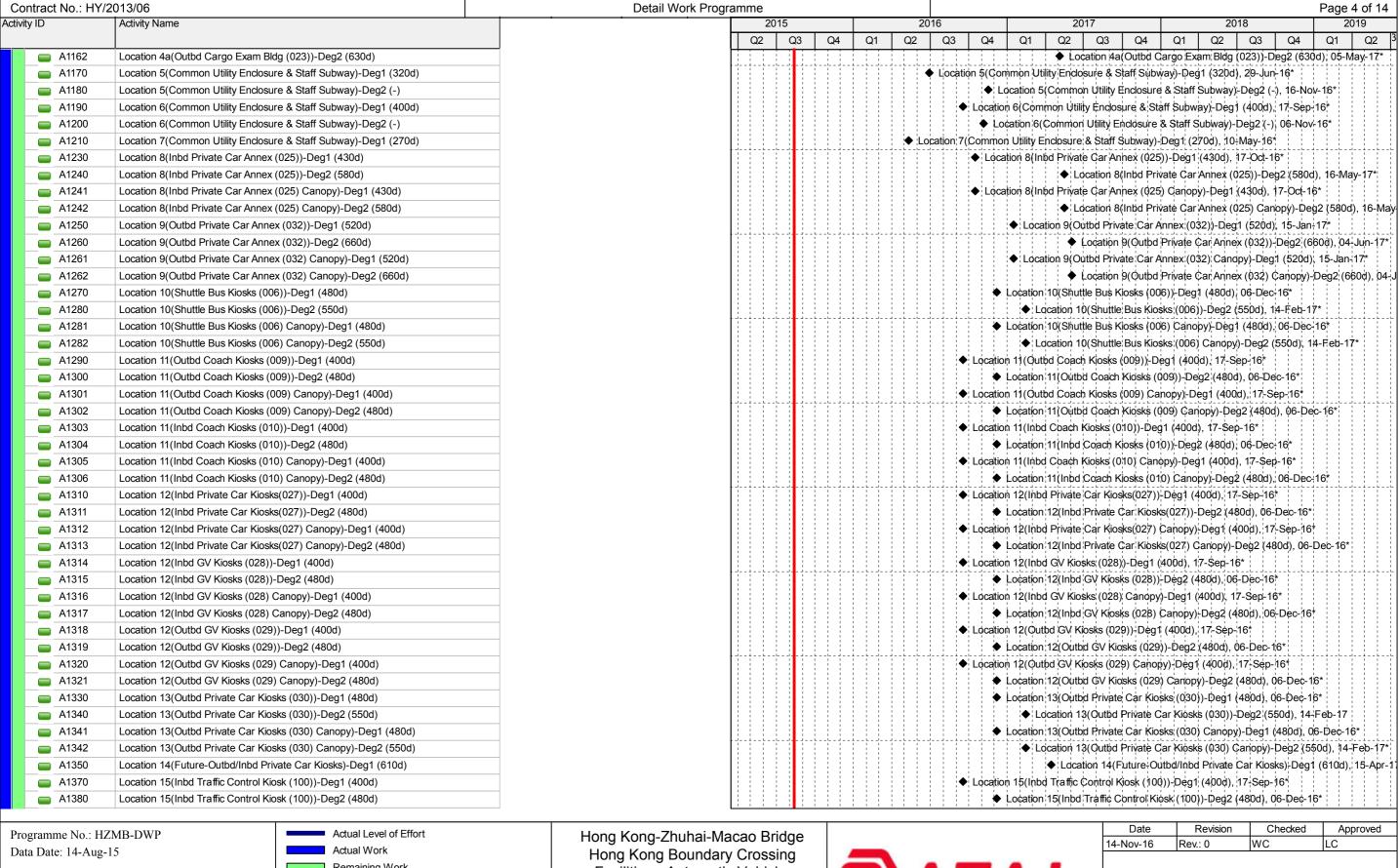
Critical Remaining Work

Milestone

summary

Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities - Automatic Vehicle Clearance Support System (AVCSS)

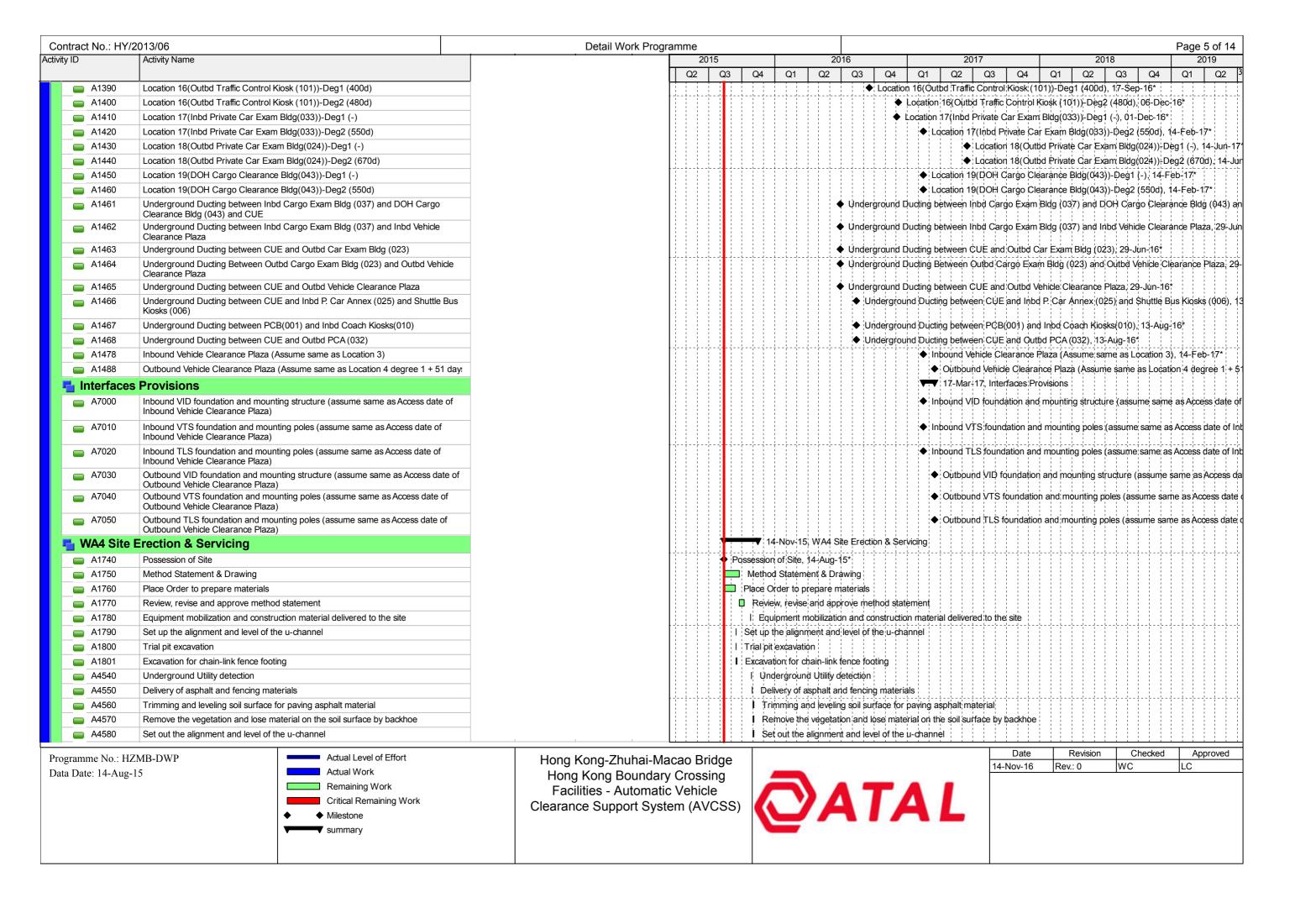


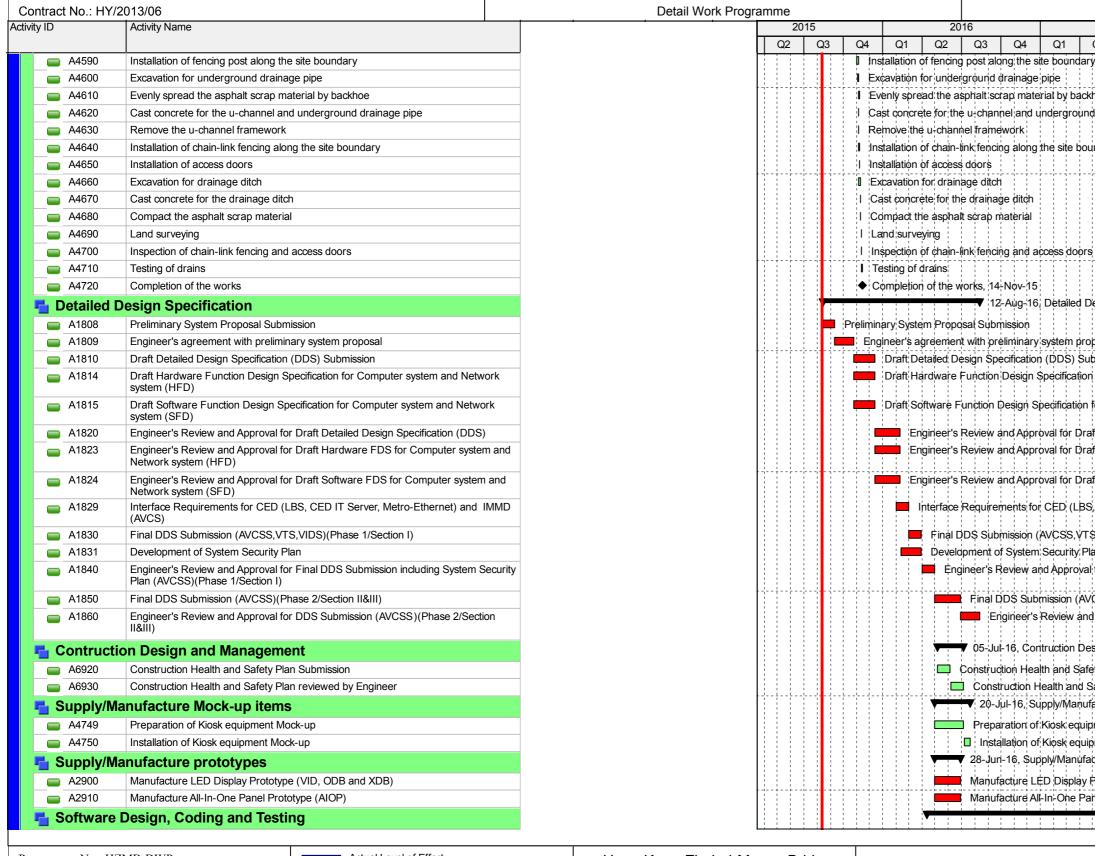


Remaining Work Critical Remaining Work ◆ Milestone summary

Facilities - Automatic Vehicle Clearance Support System (AVCSS)







I Excavation for underground drainage pipe I Evenly spread the asphalt scrap material by backhoe Cast concrete for the u-channel and underground drainage pipe Remove the u-channel framework Installation of chain-link fencing along the site boundary Installation of access doors Excavation for drainage ditch I Cast concrete for the drainage ditch I Compact the asphalt scrap material I Land surveying I Inspection of chain-link fencing and access doors I Testing of drains Completion of the works, 14-Nov-15 ■ 12-Aug-16, Detailed Design Specification Preliminary System Proposal Submission Engineer's agreement with preliminary system proposal Draft Detailed Design Specification (DDS) Submission Draft Hardware Function Design Specification for Computer system and Network system (HFD) Draft Software Function Design Specification for Computer system and Network system (SFD) Engineer's Review and Approval for Draft Detailed Design Specification (DDS) Engineer's Review and Approval for Draft Handware FDS for Computer system and Network system (HFD) Engineer's Review and Approval for Draft Software FDS for Computer system and Network system (SFD): Interface Requirements for CED (LBS, CED IT Server, Metro-Ethernet) and IMMD (AVC\$) Final DD\$ Submission (AVCSS,VT\$,VID\$)(Phase 1/Section I) Development of System Security Plan Engineer's Review and Approval for Final DDS Submission including System Security Plan (AVCSS) (Phase Final DD\$ Submission (AVCSS)(Phase 2/Section II&III) Engineer's Review and Approval for DDS Submission (AVCSS)(Phase 2/Section [I&II]) 05-Jul-16, Contruction Design and Management Construction Health and Safety Plan Submission Construction Health and Safety Plan reviewed by Engineer 20-Jul-16, Supply/Manufacture Mock-up items Preparation of Kiosk equipment Mock-up Installation of Kiosk equipment Mock-up ▼ 28-Jun-16, Supply/Manufacture prototypes Manufacture LED Display Prototype (VID, ODB and XDB) Manufacture All-In-One Panel Prototype (AIOP) ▼ 22-May-17, Software Design, Coding and Testing

2017

Q3

Q2

2016

Q3

Q4

Q2

Programme No.: HZMB-DWP Data Date: 14-Aug-15

 Actual Level of Effort Actual Work Remaining Work Critical Remaining Work Milestone summary

Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities - Automatic Vehicle Clearance Support System (AVCSS)



14-Nov-16 Rev.: 0 WC LC	Date	Revision	Checked	Approved		
111111111111111111111111111111111111111	14-Nov-16	Rev.: 0	WC	LC		

Page 6 of 14

2019

Q2

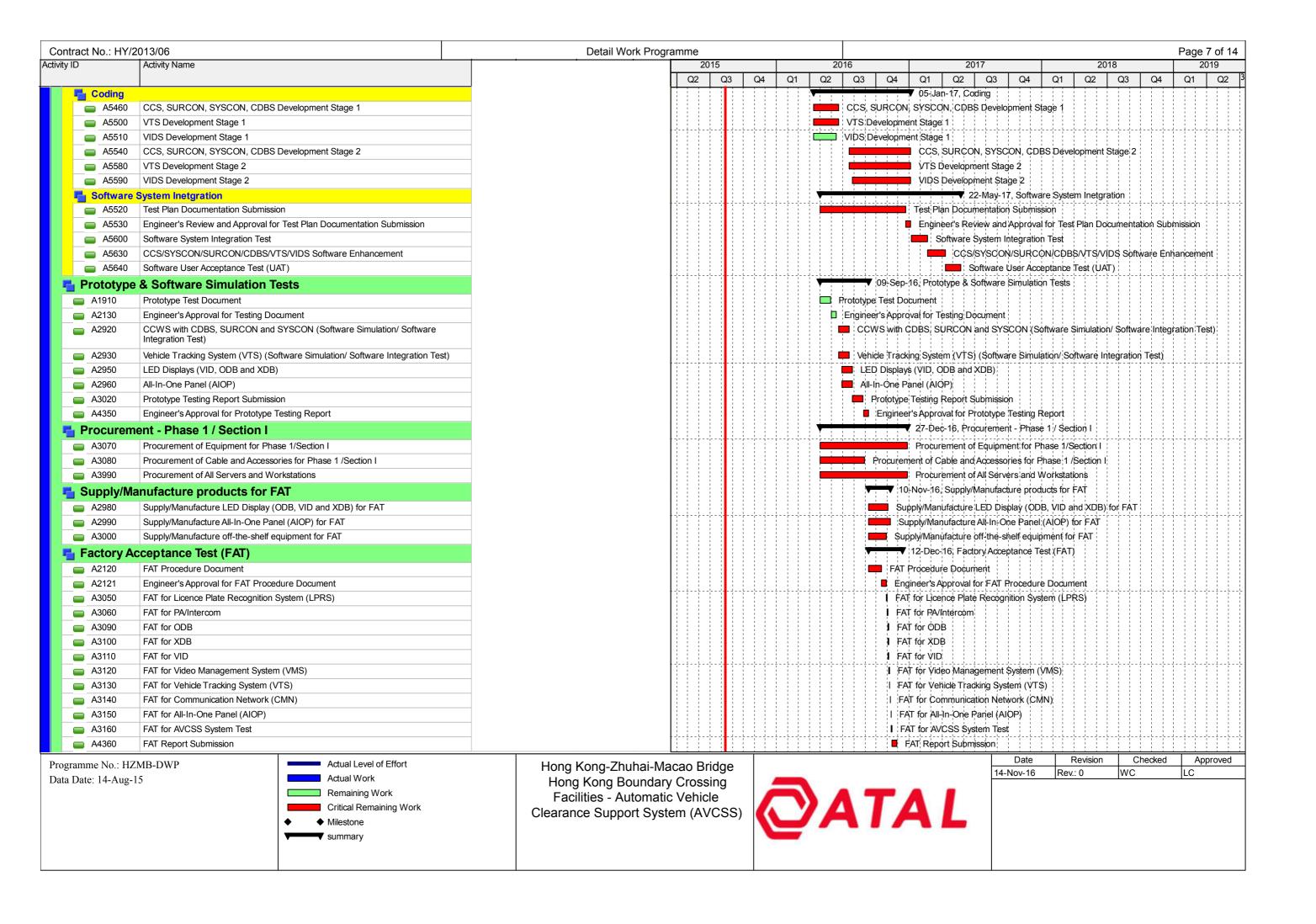
Q1

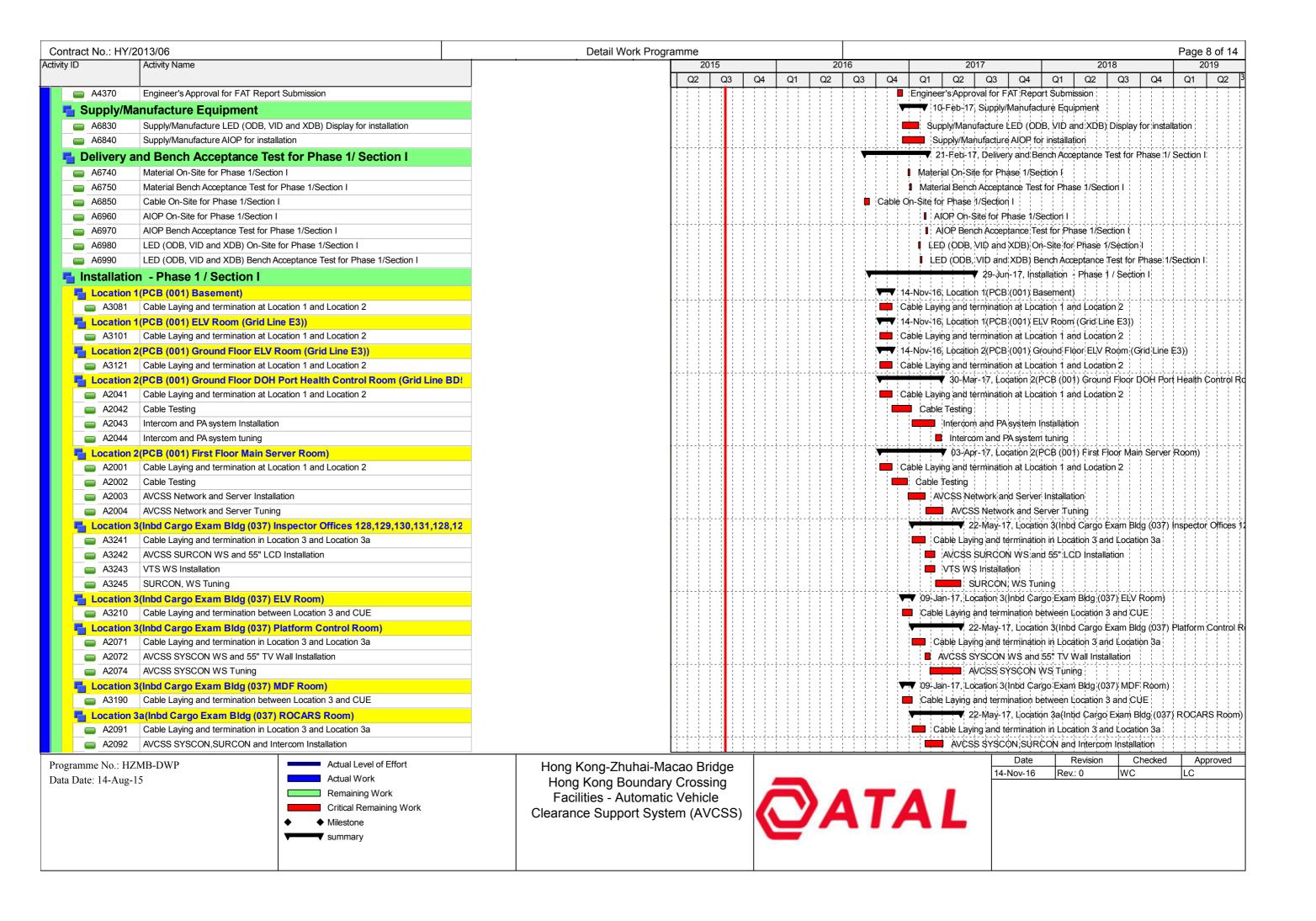
2018

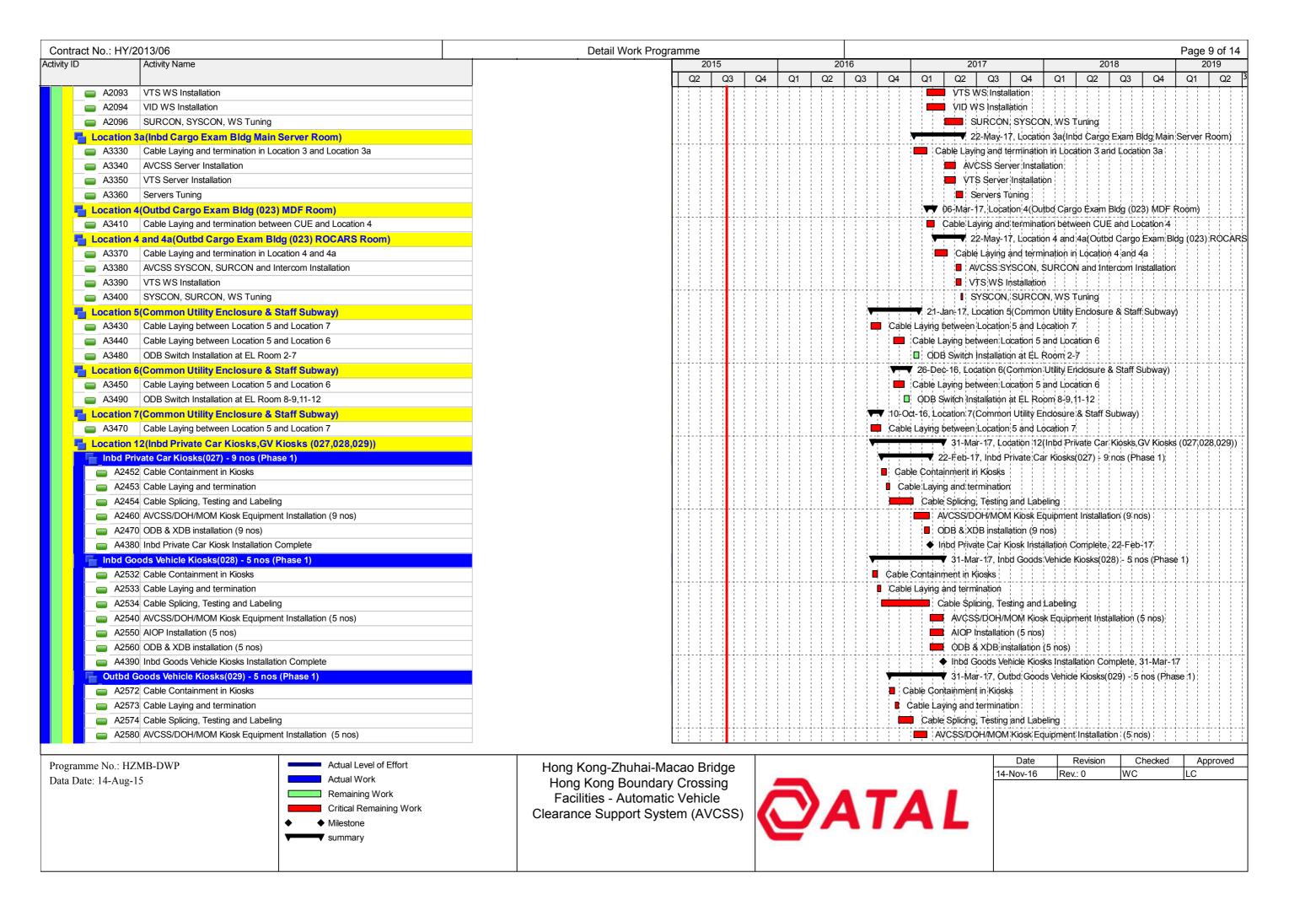
Q3

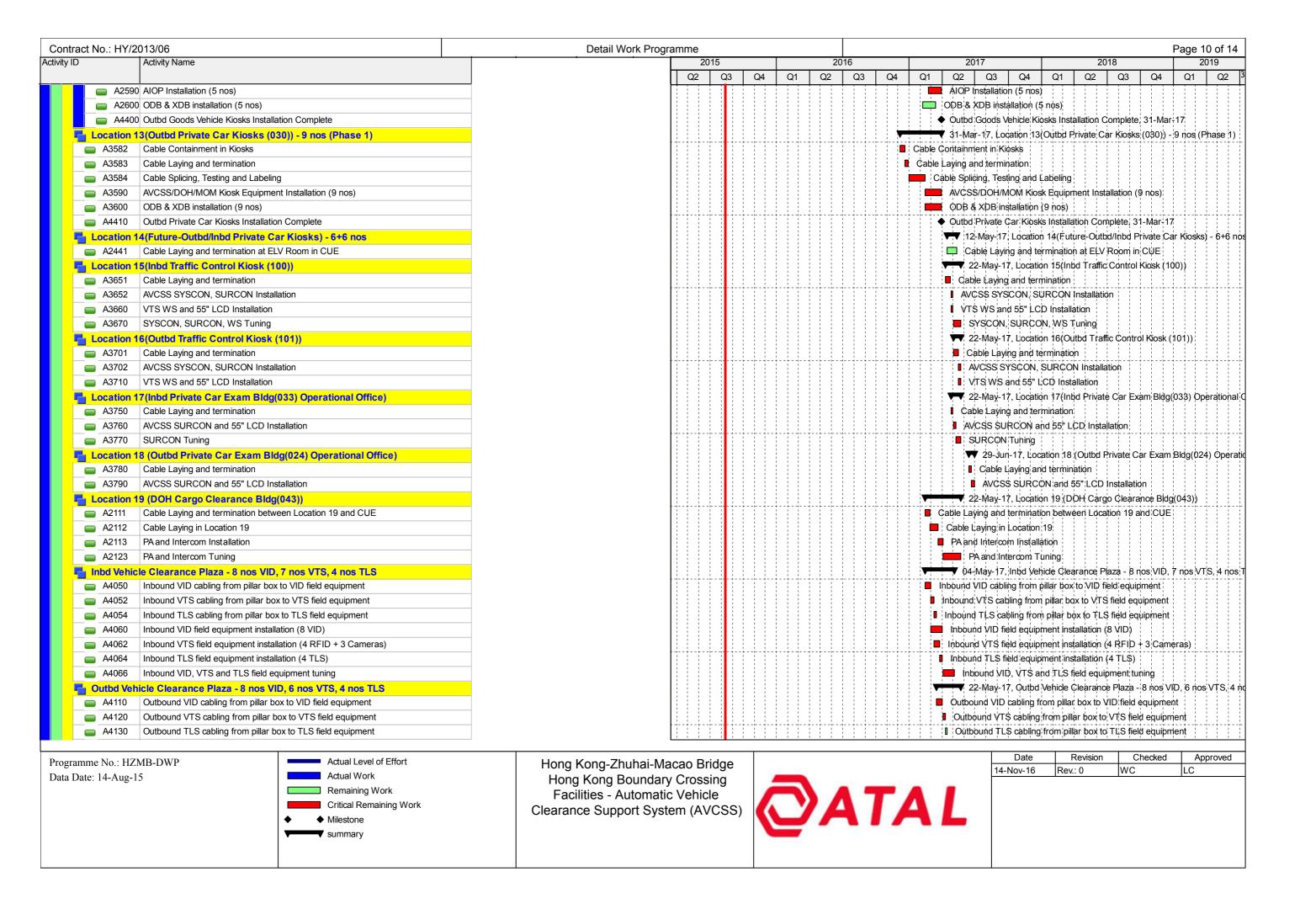
Q2

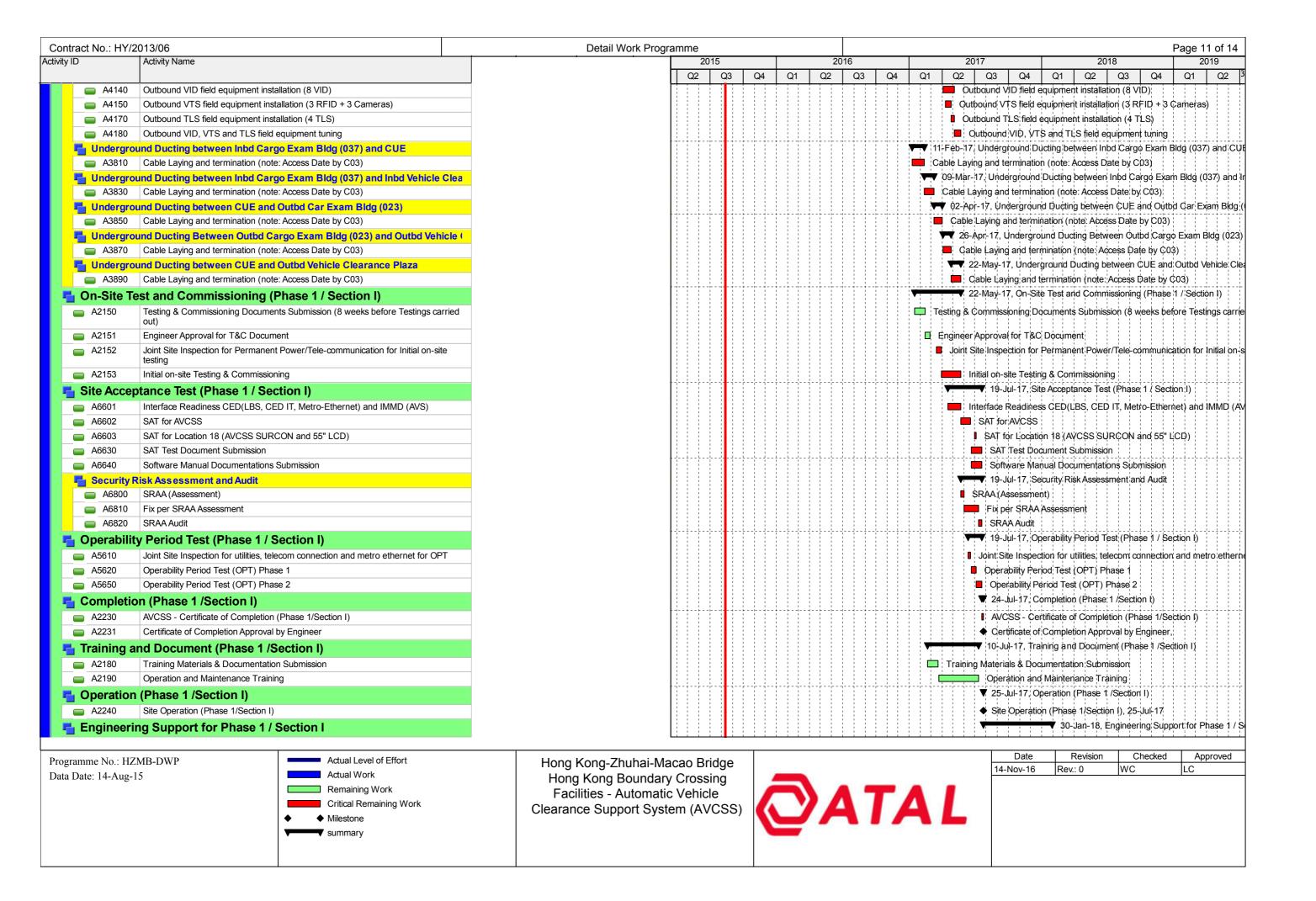
Q1

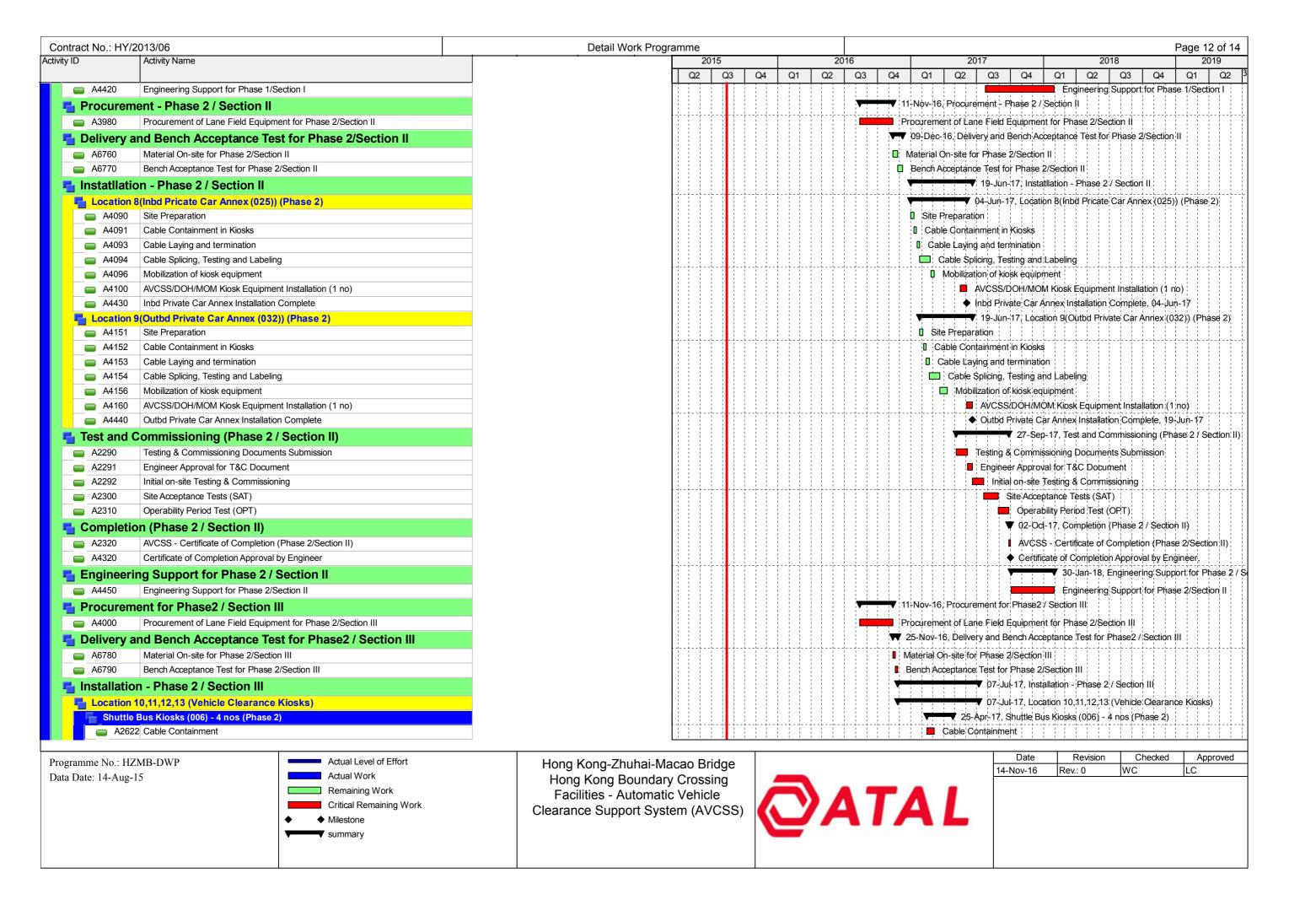


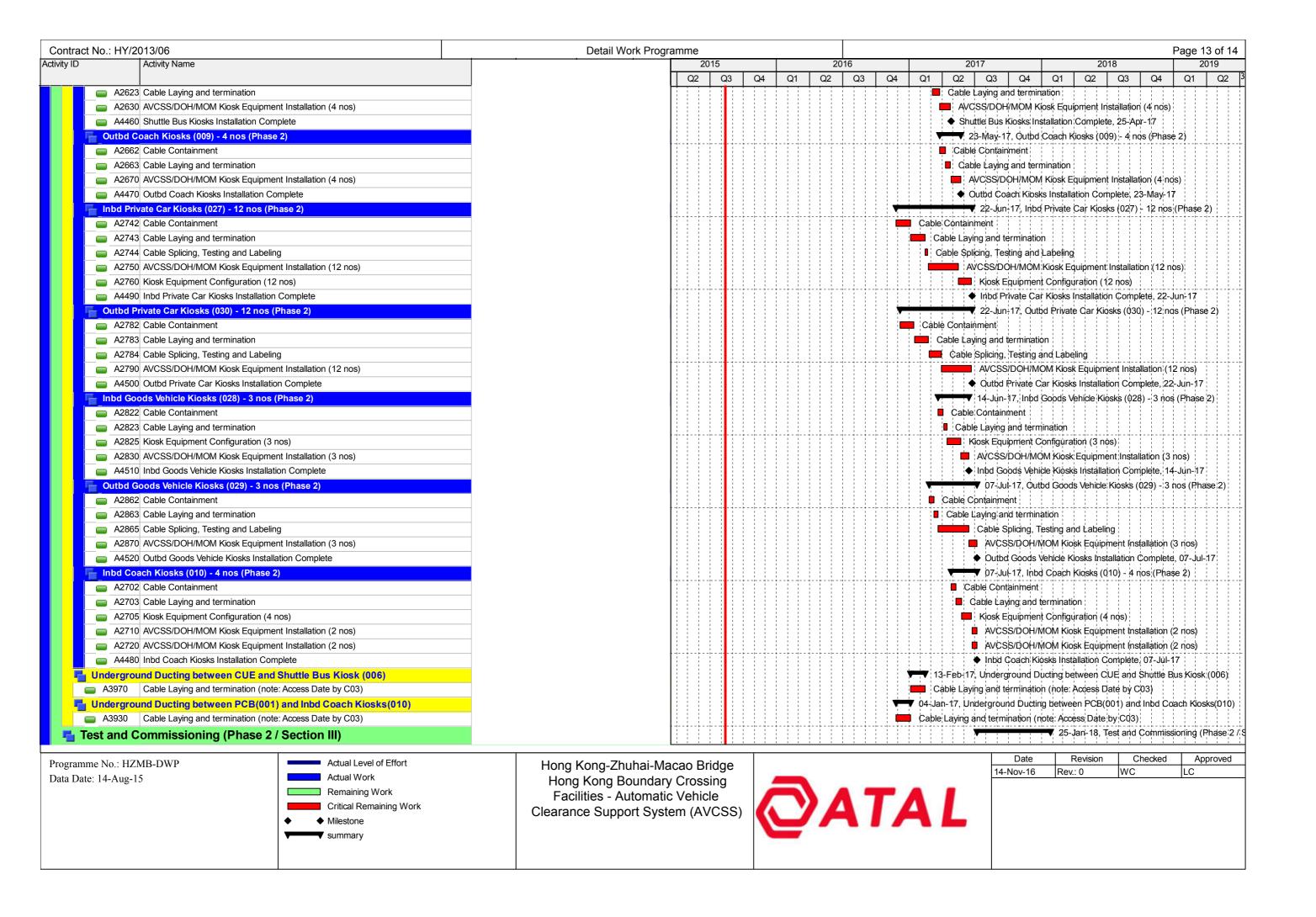


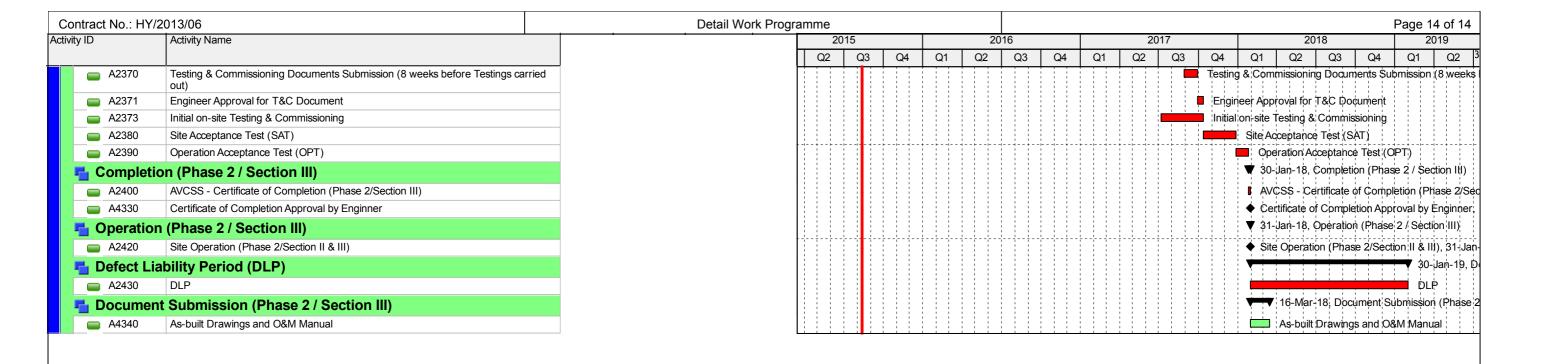












Programme No.: HZMB-DWP Data Date: 14-Aug-15

Actual Level of Effort

Actual Work

Remaining Work

Critical Remaining Work

Milestone

summary

Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities - Automatic Vehicle Clearance Support System (AVCSS)



Date	Revision	Checked	Approved
14-Nov-16	Rev.: 0	WC	LC