Metro Manila Subway Project Phase 1 Package CP106: E&M Systems and Track Works			
ITEM NO.	**REFERENCE/CLAUSE/SECTION**	**QUERIES**	**RESPONSE**
Volume II, Part 2 – Employer's Requirements ***General Requirements***			
1.	02 _ CP 106 _ P2 _ S(VI)_ ER(ERG)_ Appendix6 _ 12 Dec_2019 (PA)	Please confirm the evacuation walkway in the tunnel is part of the Civil scope and not under CP106.	Bidder's understanding is correct.
2.	02 _ CP 106 _P2 _ S(VI)_ ER(ERG)_ Appendix6 _ 12 Dec_2019 (PA)	Please confirm the evacuation walkway will be installed after installation of the track. Please provide programme of works.	Contractor's responsibility to propose the program of works, and the sequencing of activities shall be coordinated between relevant Civil work contractors as part of the interface requirement.
Volume II, Part 2 – Employer's Requirements, ***c) Technical Requirements (ERT)***			
3.	01 Track works _12 Dec 2019 (PA) Clause 1.18	To enable dimensioning of friction buffer stops, we need the train weight associated with the load class AWO (empty train for depot) and AW4 (loaded train for mainline). Please provide the missing information.	The vehicle loading with passenger weight is taken as 65 kg per passenger. A train consist of eight (8) vehicles shall have a passenger capacity of not less than 2,242 passengers (seating and standees). Maximum axle load shall not exceed 16,000 kg. 1. W0: tare weight 2. W1: W0 + seated passengers

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			3. W2: W1 + 4 passengers/m² standee 4. W3: W1 + 7 passengers/m² standee 5. W4: W3 + dynamic load and safety margin. The structural design load (W3) is defined as the limit of static weight for the Rolling Stock structure before the introduction of dynamic effects and safety margin. Dynamic load and safety margin shall be added in accordance with JIS E7106.
4.	01 Track works _12 Dec 2019 (PA) Clause 1.20	Please provide the layout position of the walkway	Staff walkway layout in the depot shall be position on areas along center line between ballasted tracks but not limited to Stabling area, PRI and TC area, OCS and PWay maintenance area. Refer to the sketch below;

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			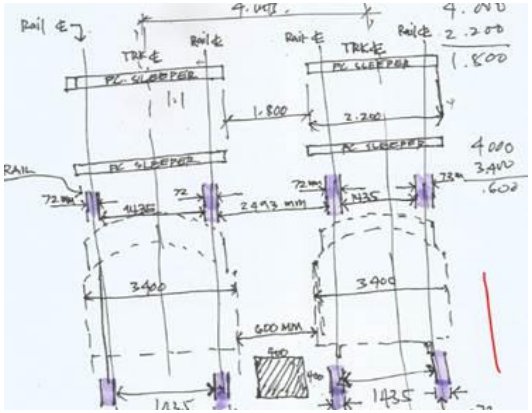

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			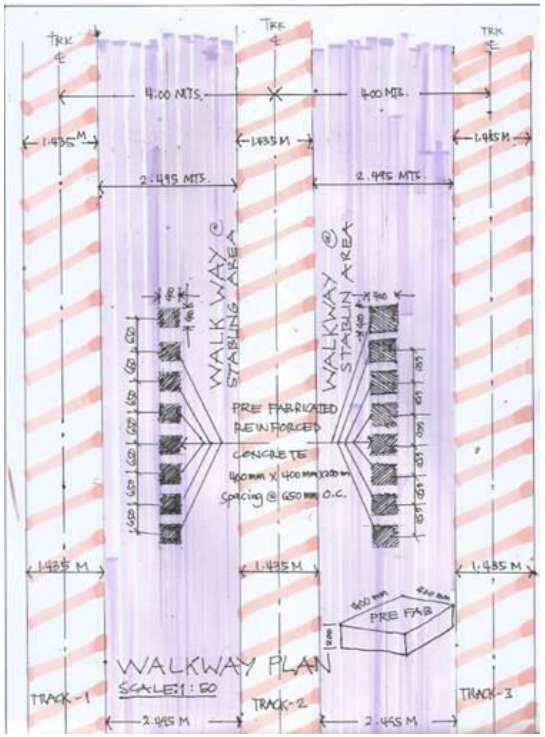
5.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.1.2 Page: SIG-2-2	Please confirm the statement "If ATS fails, manual route control shall be carried out by the backup console (IL-CT) of the OCC" is correct, as this makes no reference to the BOCC? At what point would the BOCC take over?	The statement stands correct. BOCC will be in operation under an emergency condition in the event of Depot OCC full shut down with staff evacuated. E.g. when there is a natural calamity such as

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			flooding, security threat, fire, etc. The equipment failure mode effect and their criticality analysis to be included in the design architecture of OCC by the Contractor.
6.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.1.2 Page: SIG-2-2	Please confirm CBTC and ATO are required in depot.	Both CBTC and ATO is required in the Depot stabling yard; same as the Main Line. The Mainline and Depot stabling should always be considered as one identity for operation.
7.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.1.4.1 Page: SIG-2-4	Please confirm temperature range quoted excludes the computers and servers	No, bidder's understanding is incorrect. Temperature range in the section implies for all equipment in the OCC and Station SER's
8.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.2.1 Page: SIG-2-4	Please clarify the order and meaning of each numeric digit. For example, 1st digit is for train direction, 2nd digit is for train type etc.	The order and the meaning of the train number digits shall be defined during the Detail design stage the contractor to propose for the Engineer review and acceptance with the O&M Concessionaire. The total number sof digit shall be five (50 but this is subject to O&M requirement.
9.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.3.2 Page: SIG-2-7	What kind of communication disorder is defined as "communication loss of a train with the CBTC system"? Does a contractor need to specify each train's	Loss of communication with a train within the CBTC system is a safety related failure. The CBTC shall follow proven fail-safe principles.

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		abnormalities?	The failure description shall be reported at OCC and Depot MMSP for the operator and/or maintainer to act upon it correctly without causing delays and/or compromising safely. For example, in the event of loss of communication with a train meaning non-communicating train, the contractor may adopt to use secondary detection system to detect the absence of trains or route secure/releasing conditions,
10.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.3.4 Page: SIG-2-8	Please confirm our understanding that the SIL4 requirement in ATS covers the whole system which is contrary to normal practice where only safety critical functions are covered in SIL4.	As mentioned in section 2.4.1.4, vital components & safety critical functions of the system architecture shall be classified as SIL4.
11.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.4.1.4 Page: SIG-2-10	Concerning the safety of the signaling system, does the "safety principle material" mean safety case?	Bidder's understanding is correct. Project uses the terminology "Safety Report" instead of Safety Case.
12.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.4.1.4 Page: SIG-2-10	We understand that the expected failure and hazard rate should be given by the Employer. Is this understanding correct?	Bidders understanding is incorrect. The Contractor shall develop and own system HAZARD Log that calculate and submit each expected failure and hazard rate related to the

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			systems mentioned in section 2.4.1.4.
13.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5.3.1 Page: SIG-2-11	Please define Train Operation Mode by GOA level in IEC 62267. Does ATO require both directions operation?	GOA means Grade Of Automation GOA 0 – Manual Operation under line of sight Train Operation without ATP. GOA 1 - Manual Train operation with ATP. GOA 2 – Semi-Automatic Train Operation (STO) GOA 3 – Driverless Train Operation (DTO); Automatic Train Operation (ATO) with attendant in the cab closing the doors and driving the train in an emergency. GOA 4 – Unattended Train Operation (UTO) Full Driver less Train Operation. ATO shall be bi-directional operation.
14.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5.4.1 (3) Page: SIG-2-13	What is the required headway for secondary train detection?	Headway shall remain same if Contractor use Secondary train detection when a non-communicating train is operating. The SOP will be also in use to rescue and secure the failed trains.
15.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5.4.1 (4)	We understand that by 2050, it will become a 10-car formation from 8-car formation. Please confirm no	Bidder's understanding is incorrect. The signalling system shall be designed and

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	Page: SIG-2-13	provision is to be made for the signaling for the additional 2-car formation this contract.	installed to operate 8 Car trains and 10 Car Trains.
16.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5.4.1 (6) Page: SIG-2-13	Is ATO not required in the reverse direction operation?	ATO is to have Bi-directional operation.
17.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5 .4.1 (9) Page: SIG-2-13	Please indicate where is the transfer track in the depot drawing.	Lead Tracks 01 and 02 are transfer tracks as well as transition tracks which are on the left-hand side of the Depot layout reference drawing.
18.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5 .4.1 (11) Page: SIG-2-13	Please confirm that the ESP (Emergency Stop Plunger) shall be reset in each station	Bidder's understanding is correct.
19.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5.4.1 (13) Page: SIG-2-13	Please confirm with drawings, the exact location and layout of the BOCC.	BOCC shall be located at the Mezzanine level of the North Avenue station. The station layout will be published later under a separate GBB.
20.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5.4.1 (16) Page: SIG-2-13	Please confirm that the UPS installed in the equipment rooms are for the signalling system only.	The UPS +Batteries have their own dedicated room as shown in station layout plans. Signalling rooms comprise of SER and SUR.

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21.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5.4.2 Page: SIG-2-16	Please specify which equipment that requires which is required to be in hot standby function.	As per table 2.6.1, CBTC, Interlocking system and ATS shall have hot standby arrangements to meet the performance criteria. Subject to the performance requirement (i.e. Reliability and Availability values, etc.) the contractor shall propose the system configuration such as Hot Stand-By arrangements in the System Architecture. CP 106 Contract is Design & Construct contract.
22.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5.4.2 Page: SIG-2-16	Regarding the encryption for security purposes, please confirm that DES (Data Encryption Standard) is also accepted.	AES or DES can apply to this project as long as safety, security (software and hardware) and reliability requirements are met and supplier can demonstrate similar requirements were met in another project with risk analysis for the design for the proposed signalling system configuration.
23.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5.4.2 Page: SIG-2-16	Is the display of the position of preceding train on the DMI (Driver Machine Interface) related to the function of the Movement Authority?	Bidder's understanding is correct.
24.	02 Signaling System 12 Dec 2019(PA) Clause: 2.5.4.4	Please confirm that there is no other place where a train is not allowed to stop.	As mentioned in section 2.5.4.4, trains should not stop and bridge across the section gap on

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	Page: SIG-2-18		the mainline, Depot access line and Depot.
25.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5.4.4 Page: SIG-2-18	Please provide details of the exact position of the section gaps?	Drawing MMSP-ELEC-0000-DD-0004 shows tentative station gaps for the MMSP project but are subject to train simulation studies. And coordination between systems is an interface requirement. CP 106 Contract is Design & Construct contract.
26.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5.6 Page: SIG-2-19,20	Please confirm that switches are to be provided to isolate PSD from other systems. Please elaborate the purpose of releasing the PSD.	Bidder's understanding is correct. PSD is released manually in the event of an emergency or failures. For further details please refer to PSD specification (Part 9 of the ERT package).
27.	02 Signaling System_12 Dec 2019 (PA) Clause: 2.5.9 Page: SIG-2-27	Where is the transition track in the drawings?	Lead Tracks 01 and 02 are located on the left-hand side of the Depot drawing.
28.	02 _ CP 106 _P2 _ S(VI)_ ER(ERG)_ Appendix 16 _ 12 Dec_2019 (PA) Clause: 2 (h) Page: ERG-App 16-2	We note your requirement to have previous demonstrable pedigree for delivering GOA3 UTO: Please confirm this is not required and should read GOA2 ATO.	Bidder's understanding is incorrect. It shall be a proven GOA 3 DTO system.
29.	02 _ CP 106 _ P2 _ S(VI)_ ER	According to the appendix, GOA3 UTO Driverless	Bidders understanding is incorrect,

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	(ERG)_ Appendix 16 _ 12 Dec_2019 (PA) Clause: 6.1 (h) Page: ERG-App 16-6	System is specified. However, throughout the tender document, there is reference to a driver. Therefore, we believe this is a GOA2 ATO. Please confirm.	GoA 3 (DTO). Driver's cab will always be attended. Attendant shall operate the doors and /or operate the train in an emergency.
30.	02 _ CPI 06 _P2 _ S(VI)_ ER(ERG)_ Appendix 16 _ 12 Dec_2019 (PA) Clause: 6.1 (n) Page: ERG-App 16-6	Please provide ETCS radio frequency band and level.	The ETCS system using GSMR is under a separate contract package. Both systems operate independent to one another. It is unlikely that both system shall operating simultaneously. The radio frequencies from the Department of Telecom, Philippines. To be obtained by the ETCS Contractor during the detailed design stage.
31.	02 _ CPl 06 _P2 _ S(VI)_ ER(ERG)_ Appendix 16 _ 12 Dec_2019 (PA) Clause: 6.2 Page: ERG-App 16-7	In this table, SIL4 is applied to ATP and SIL2 is applied to ATC. We understand ATP and ATC are same definition and SIL4 shall be applied for both. Please confirm our understanding is correct.	Bidders understanding is correct. Please refer to section 2.4.1.4, Safety for SIL categorization.
32.	04 Power Supply System_12 Dec 2019 (PA) Clause: j Page: POW-4-59	Please confirm the reference of the drawings referred to in POW-4-59 (ESS Functional Requirement - item j) and if not currently issued, please issue.	Please refer to the Drawing in Annex C of GBB No.6
33.	06 AFC System_12 Dec 2019 (PA)	Please confirm the "standby location" of the backup	Backup CCS shall be in the Backup OCC

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	Clause: 6.3.3.3 Page: AFC-6-5	CCS Server.	(BOCC). However, this is subject to the overall design of AFC for MMSP together with failure mode analysis during the detailed design stage. Please refer to item 19 of this GBB for BOCC location.
34.	06 AFC System_12 Dec 2019 (PA) Clause: 6.3.3.3 Page: AFC-6-5	"A sufficient number of CCS with a 22in LCD display ... ". Please confirm the quantity required for the CCS with a 22in LCD display.	Contractor shall propose and coordinate with other relevant parties during detailed design stage to finalize the numbers of window per station
35.	06 AFC System_12 Dec 2019 (PA) Clause: 6.3.3. Page: AFC-6-6	Lower Certificate Authority requirement means that all transactions from R/Q need a certification to be received at CCS. Please confirm our understanding is correct.	Bidder's understanding is correct.
36.	06 AFC System_12 D.ec 2019 (PA) Clause: 6.3.3.4 Page: AFC-6-5	Please provide the names of Central Clearing House provider, SVC/EMV Card Issuer and O&M contractor as information from these parties are required for the design of AFC.	The Engineer and/or The Employer shall notify the CP 106 contractor all the stakeholders for the contractor to interface in developing the detailed design. for The Engineer, The Employer and O&M for review and acceptance of the detailed design.
37.	06 AFC System_12 Dec 2019 (PA) Clause: 6.4.1.3	The QR code transactions are stored at CSS. Please confirm if there is any additional back-up requirements	Bidder's understanding is correct

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	Page: AFC-6-8	for the QR code transactions (i.e. where should it be back-up).	
38.	06 AFC System_12 Dec 2019 (PA) Clause: 6.4.1.4 Page: AFC-6-8	Please provide the detailed list of ticket media EMV, NFC and mobile apps service to be used in MMSP project, as each individual system has an impact on the cost.	Ticket medias are: - Contactless Card - EMV Contactless Card - NFC - QR Code
39.	06 AFC System_12 Dec 2019 (PA) Clause: 6.4.3.2 Page: AFC-6-10	It is not a standard practice to include the Issue Data in the card identification number. Please confirm this requirement is	Contractor shall propose other options or operations during detailed design stage for the Engineer's review and approval and the Employer's acceptance.
40.	06 AFC System_12 Dec 2019 (PA) Clause: 6.4.1.3, 6.43.2 Page: AFC-6-8, AFC-6-10	Please provide the MMSP Business Rule where information such as ticket types, fare structure and handling fees are available. This information is required to identify the scope of work for AFC system.	The Business rule will be published after we received Bidders' proposal or at the contract award period.
41.	06 AFC System_l2 Dec 2019 (PA) Clause: 6.4.9.2 Page: AFC-6-19	Please confirm that the data storage system / tape media for the 10 years data saving in the O&M financial system is outside the scope of this contract.	No, Contractor shall provide according to the requirement.
42.	06 AFC System_12 Dec 2019 (PA) Clause: 6.5.1.3 Page: AFC-6-21	EMC standard IEC 62236 is for rolling stock and not applicable for the AFC. We propose EN61000-6-2 and EN61000-6-4 as EMC	Bidders proposal is accepted.

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		standard for AFC systems. Please confirm the acceptance of the proposed EMC standard.	
43.	06 AFC System_12 Dec 2019 (PA) Clause: 6.7.4.2 Page: AFC-6-36	Please provide the definition of "RJT" stated in this clause. Please provide the definition of Group Ticket - does it mean by TVM function to sell multiple SJTs to the same destination or special discount for a group of certain number of passengers.	RJT is return Journey Ticket Yes, bidder's understanding is correct.
44.	06 AFC System_12 Dec 2019 (PA) Clause: 6.7.6.2 Page: AFC-6-38	Please provide the definition of "Hotlist" stated in this clause.	Hotlist are Blocked Card or Media
45.	06 AFC System_12 Dec 2019 (PA)	Please provide the definition of "TOM" and "HDD"	TOM is Ticket Office Machine is like POS HHD Mean Handheld Device
46.	06 AFC System_12 Dec 2019 (PA) Clause: 6.5.11.1, 6.18 Page: AFC-6-21, AFC-6-57	In the General Bid Bulletin No.1, Annex "A" Item no. 17, it is mentioned to refer to the table in Section 6.18 for the latest passenger demand forecast number. However, there is no unit indicated in the table. Please clarify what are the units used for each column of the table. Please clarify the meaning of numbers shown at the last line of each table.	Referred to Section 6.18

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47.	06 AFC System_12 Dec 2019 (PA) Clause: 6.18 Page: AFC-6-57	DOTr commented to use tables in the 6.18 for equipment estimate. Nevertheless, the table shows some discrepancies, such as Entry gate + exit gate + provision gate is not always equal to the column gate total. Can you confirm the quantity? Can you confirm the number of gates in East Valenzuela and at Bicutan (not available in table 6.18)? Please clarify the meaning of "provision gate" and what is expected.	Confirmed with the discrepancies, it should just be the total of Entry Gate + Exit Gate + Provision Gate The Exit and the Entry numbers are required from the AFC Contractor, But the Provision is Extra space which the Civil and Architecture team should provide for future grow of the station demand. Bicutan Station will be finalized at the later stage. Bidders proposal is not expected in this Bid response. The Architect and the Civil to provide space for future expansion based on the station passenger increases and if the AFC Contractor require extra space.
48.	07 PSD_12 Dec 2019 (PA) 7.6.1 (3) The material of screen doors (sliding screen and fixed screen) shall be fireproof.	Though our PSDs are fire-resistance and can stand fire burning to a certain extent, it is not completely fireproof, or to be used as a barrier to completely seal the fire in the track side. In addition, please provide a fire-resistance standard for guidance, required level within such standard, and any specific requirements of "fire services department of Philippines".	Please refer to NFPA and JIS standards for fire safety applicable for PSDs.
49.	07 PSD_12 Dec 2019 (PA) 1 (b)	Nomenclature dictates that any references to Safety	Bidder's understanding is correct.

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		Relevant or Non-Vital within this Technical Specification, shall be understood to mean Safety Integrity Level [SIL2], and not to be misunderstood to mean SIL4 or SIL0. "Non-vital" referring to signals not safety-related, which PMFBJ suggests to be SIL 0, please clarify.	
50.	02 _ CP 106 _ P2 _ S(VI)_ ER(ERG)_Appendix18_12 Dect_2019 (PA) 1 (b)	"Nomenclature dictates that any references to Safety Relevant or Non-Vital within this Technical Specification, shall be understood to mean Safety Integrity Level [SIL2], and not to be misunderstood to mean SIL4 or SIL0." "Non-vital" referring to signals not safety-related, which PMFBJ suggests to be SIL 0, please clarify.	This comment is a repeat of item 49.
Volume III, Part 2 —Employer's Requirements (ER) ***d) Drawings***			
51.	TW, SIG, OCS and PSD Vol III Part 2 EMPLOYERS REQUIREMENTS_d) Drawings_19 Dec 2019	There are some discrepancies about the number of platforms in station depending of the documents. Vol III Part 2 EMPLOYERS REQUIREMENTS_d) Drawings_l9 Dec 2019 - MMSP-SIG-OOOO-DD-0201: North Avenue Station	North Avenue and Bonifacio Global City Stations will have 2 side platforms. FTI and Lawton West (renamed to Senate Station) are the only stations which will have 4 platforms.

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		shows 2 platforms - MMSP-SIG-OOOO-DD-0303: North Avenue Station shows 4 platforms - MMSP-OCS-OOOO-DD-0102: North Avenue Station shows 4 platforms - MMSP-SIG-0000-DD-0201: Bonifacio Global City Station shows 2 platforms - MMSP-SIG-OOOO-DD-0303: Bonifacio Global City Station shows 4 platforms - MMSP-OCS-OOOO-DD-0102: Bonifacio Global City Station shows 4 platforms Volume II PSD specifications, PSD-7-3 in the table for the door quantity - North Avenue: 2 sets - Bonifacio: 4 sets Can you confirm for all the stations the number of platforms?	Refer to Feb 2020 version of Signalling scheme published in Annex C of GBB No.6.
52.	TW, SIG, OCS and PSD Vol III Part 2 EMPLOYERS REQUIREMENTS_d) Drawings_ 19 Dec 2019	There are many discrepancies about the number of turnouts depending of the document. Vol III Part 2 EMPLOYERS REQUIREMENTS_d) Drawings_19 Dec 2019	Refer to Feb 2020 version of Signalling scheme published in Annex C of GBB No.6 for the number of turnouts.

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		MMSP-SIG-0000-DD-0201: No crossover before Quirino or Tandang - MMSP-SIG-0000-DD-0301: 1 double crossover before Quirino, 1 crossover after Tandang - MMSP-OCS-0000-DD-0102: 1 double crossover before Quirino, no crossover after Tandang - MMSP-OCS-0000-DD-0402 and 403: 1 double crossover before Quirino, no crossover after Tandang - MMSP-SIG-0000-DD-0201: 1 crossover before North Avenue Station (NSA) - MMSP-SIG-0000-DD-0303: no crossover, 4 turnouts before and after NAS for 4 platforms - MMSP-OCS-0000-DD-0102: no crossover, 4 turnouts before and after NAS for 4 platforms - MMSP-OCS-0000-DD-0404: no crossover, 4 turnouts before and after NAS for 4 platforms - MMSP-SIG-0000-DD-0201: Pocket track at Ortigas shows 3 turnouts - MMSP-SIG-0000-DD-0304: Pocket track at Ortigas shows 6 turnouts - MMSP-OCS-0000-DD-O 102: Pocket track at Ortigas	

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		shows 6 turnouts - MMSP-OCS-0000-DD-0409: Pocket track at Ortigas shows 6 turnouts - MMSP-SIG-0000-DD-0201: No turnouts in BGC - MMSP-SIG-0000-DD-0305: 4 turnouts before and after BGC for 4 platforms - MMSP-OCS-0000-DD-0102: 4 turnouts before and after BGC for 4 platforms - MMSP-OCS-0000-DD-0411: 4 turnouts before and after BGC for 4 platforms Can you confirm all the turnouts and the general track layout?	
53.	OCS Vol III Part 2 EMPLOYERS REQUIREMENTS_ d) Drawings_ 19 Dec 2019	OCS layout stops at MMSP-OCS-0000-DD-0415 at FTI station. There is no layout for the other branch from Lawton to Senate to NAIA T3. Please provide the missing drawings.	The OCS drawings published were for reference only. The Contractor shall be responsible to prepare the OCS layout for The Engineer review and acceptance. The CP 106 Contract package is Design Build.
54.	TWK Vol III Part 2 EMPLOYERS REQUIREMENTS_ d)	Track alignment and profile are missing for all the line. Track alignment is important to define curves and hardened rail or check rail position. Please provide the	Refer to the latest version of the Drawings in the Annex C of GBB No.6.

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	Drawings_19 Dec 2019	complete track alignment as main reference for the all system. Please confirm the specific mileages of curves more than or equal to 800m radius. Profile of the line is important to check the potential use of railway equipment as they have restriction to work in certain condition. Please provide the complete profile of the line as main reference for the all system.	
55.	PSD Vol III Part 2 EMPLOYERS REQUIREMENTS_ d) Drawings_ 19 Dec 2019	Can you provide the characteristics of the rolling stock? Can you confirm that the size of the opening of the door is 2m, and 2,820m between doors, and can be considered as an input data to design PSD, whatever the rolling stock model will be? Is North Avenue Station is the only station to be in curve? Having a station in curve has a big impact on PSD design. Can you provide outline design of all the stations to confirm if all stations are straight or potentially in curve?	Refer to Annex B, item 1 of this GBB