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**From:** Christie Graham [Graham.Christie@carillionplc.com]  
**Sent:** 22 October 2008 08:28  
**To:** Steven Bell  
**Cc:** Beattie Steve; Hudson Steve; Jim McEwan; Graeme Barclay  
**Subject:** MUDFA - Discussions on 21st October 2008  
**Attachments:** Side Entry Manholes- Status; MUDFA Weekly Meeting Report of 14th October 2008.xls;  
Response to Duncan Fraser Email of 5th September 2008

Steven,

As briefly discussed yesterday (and I have included more detail on some of the issues for clarity), I list below the major items which are currently detrimentally impacting or likely to detrimentally impact the MUDFA completion programme :

- TM constraints :
  - Maintain W/B bus lane through the Mound / Princes Street at all times.
  - Cannot close the Mound / Princes Street and Lothian Road at the same time.
  - Cannot close the Mound / Princes Street and Broughton Street at the same time.
  - Cannot work in Broughton Street and York Place at the same time.
  - Can only close one of the following at any one time : Broughton Street, McDonald Road, Annandale Street, Pilrig Street ??
  - The above have emanated from various discussions at the TMRP but we are not sure if our interpretation is correct and we urgently require the promised matrix of permitted and non- permitted TM combinations to allow us to review the impact on the programme.
- The design is incomplete :
  - There are no dimensions or levels given on the IFC drawings for the utility installations which means that the vast majority of the utility diversions are being done by trial and error to determine where best they can be accommodated in the ground. This is leading to much abortive works, inefficient working and delays to the programme.
  - Many IFC drawings have yet to be issued eg Ocean Terminal to Rennies Isle (these Works should have started by now but we cannot proceed until the IFC drawings are issued).
  - IFC drawings for side entry manholes ( we understand there could be up to 48 No side entry manholes to complete). IFC details are awaited for 17No of these manholes and we have been instructed not to proceed with 14 No of them until January 2009. Note that IFC details are awaited for side entry manholes at the Mound, Waverley Junction and 3 No at Haymarket Yards (see attached schedule).
  - An example of the consequence of the inadequate design is that at the Foot of the Walk, we understand that Infracore have exposed recently diverted BT ducts which are still in the way of their Works.
  - We understand that a recent design safety audit has flagged up a problem which will require relocating the DKE at Haymarket and possibly amended works for the MUDFA contract – we await instructions on this issue which may impact the completion date for Haymarket (separate details to follow).
- There are many existing utilities which are unforeseen, congested and / or at shallower depths than permitted under the RAUC specification or Utility Company requirements. Coupled with unforeseen / unknown obstructions underground, this is leading to difficulties in installing utility diversions and reinstating trenches. For example :
  - The latest trial holes at the Mound have revealed a different layout of existing services than expected – IFC details are awaited for the watermains and gas diversions.
  - Haymarket Yards is particularly congested and several TQ's remain outstanding in respect of utility diversions.
  - Cannot install road crossings at Tower Street / Constitution Street because of a clash with an existing sewer running longitudinally down the carriageway.
  - We suggest that standard details be issued clearly indicating reinstatements / backfill required in the case of congested, close or shallow services.
- Although there has been a vast reduction in the number of open TQ's over the last two weeks as our respective teams are collaborating better together, there remain many TQ's to be answered.
  - At Manderson Street, we are unable to proceed pending confirmation of details for the BT chamber.
  - There are also problems with a gas main at Manderson Street where the gas main was installed in accordance with TQ responses but SGN are now advising that the gas main design was not approved by SGN and the current installation is not acceptable – we await further instructions.

- Following the discussions with CEC and the comments above in relation to location of diversions, congested or shallow existing or new utilities, we anticipate having to submit an increased number of TQ's going forward in order to obtain the necessary instructions.
- As a consequence of the above, there is insufficient work available on site to effectively and efficiently deploy our current resource level.
  - On Friday 17<sup>th</sup> October 2008, we demobilised 35 No utility operatives.
  - On Friday 24<sup>th</sup> October 2008, it is likely that we will demobilise a further 30 No utility operatives.
  - The Christmas embargo is fast approaching, commences on 26<sup>th</sup> November 2008 ( see also item below). However, we require up to 3.5 weeks to remove the TM / enabling works in November 2008 and probably another 3.5 weeks in January 2009 to reinstate it. Therefore, the vast majority of worksites will be unavailable to us between early November 2008 and end of January 2009. We do not have IFC details to allow us to proceed at some of the few worksites which would be available to us during the embargo. The situation will be exacerbated if the rumoured embargo in Leith Walk in December 2008 happens. Excluding staff, we currently have circa 250 resources on site (utilities and enabling). Due to the lack of available work fronts between early November 2008 and late January 2009, we have little option but to demobilise the vast majority of these 250 resources. This will inevitably lead to serious problems when we have to remobilise in late January 2009 as there is no guarantee that the resources will remain available.
- We require clear instructions on the extent of the Xmas embargo limits and the extent of TM / enabling works reinstatements required for the embargo (could be up to 3.5 weeks either side of the embargo to remove / reinstate the TM and enabling works). Any permitted reduction in the necessity to remove some of the TM / enabling works would possibly allow us to work longer at certain locations and assist the programme.
- The latest review of progress against programme rev 7.09 as of 14<sup>th</sup> October 2009 gives a **forecast end date of November 2009** (copy attached for your information). This date may slip further depending on the extent of permitted TM combinations going forward.
- CUS had a meeting on site on 17<sup>th</sup> October 2008 with CEC (Duncan Fraser, Derek Fordyce and Tom Clark) to discuss trench / excavation reinstatements and to respond to Duncan Fraser's email of 5<sup>th</sup> September 2008. Unfortunately no TIE representative attended although I believe Duncan had extended the invitation to TIE.
  - Copy of or response tabled to CEC is attached for your information.
  - We require standard details for backfill details, gulleys, slabs and kerbs.
  - CEC believe that the RAUC specification in many cases does not give their required standard of reinstatement.

In conclusion, we are keen to continue to work together with you to resolve the many issues listed above and to progress the Works to allow Infracore access but our efforts, and yours, are being severely hampered by the lack of design detail. We believe that a site based design team may be the best way forward to resolve the many issues which continually arise.

We will respond in relation to milestones under separate email.

Regards

Graham

**Graham Christie**

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