

Round [redacted] Performance Assurance Exec. Summary



C [redacted] - [redacted]

R6 Performance Trend =



- World-Class Performance
- Value-Added Performance
- Compliant Performance
- Non-Compliant Performance

| Inputs | Outputs | Function | Performance Trend | Commentary |
|--------|---------|-----------------------|-------------------|--|
| | | Target Zero | | |
| | | Commercial | | |
| | | Environment | | <ul style="list-style-type: none"> ▪ C [redacted] scored world class in audits & inspections, training & awareness, managing incidents, noise & vibration and energy management and scored beyond expectations in the majority of other areas. Key focus areas for [redacted] include waste management and compliance with NRMM requirements. |
| | | Quality | | |
| | | Community Relations | | |
| | | Social Sustainability | | |

Performance Assurance Round

Record of reviews



| Function | Date of review | Reviewed by | In attendance |
|-----------------------|----------------|-------------|---------------|
| Target Zero | | | |
| Commercial | | | |
| Environment | | | |
| Quality | | | |
| Community Relations | | | |
| Social Sustainability | | | |

Current document history:

| Revision: | Effective date: | Author(s): | Reviewed by: |
|-----------|-----------------|------------|--------------|
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Performance Assurance Round

World Class Performance Log



| Function | Contract Number | Description | Contact Details |
|-------------|-----------------|-------------|-----------------|
| Environment | | | |
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Round Performance Assurance – C

Environment



| Performance Area | Input Performance Level | Output Performance Level | Performance Review Commentary | Performance Actions |
|---------------------------------|-------------------------|--------------------------|--|---------------------|
| <p>1.Audits and Inspections</p> | <p>3</p> | | <p>Audits</p> <ul style="list-style-type: none"> Audit schedule seen which has been updated for 20██ – CCS May █, Crossrail audit scheduled for June █, continuing to undertake quarterly audits on EMS last undertaken March 20██ by ████ on – EMP, waste management, N&V with no non-conformances found & one audit scheduled for June – BREEAM, environmental training & competence, incident reporting & communication. Audit tracker remains in place Continuing to undertake topical audits – a Noise & Vibration Works information audit was undertaken by Environment Advisor in April █ Monthly WTN compliance audits/checks completed with contractor feedback BPM checks by specialists, also every month BPM full check against consent Supplier audits – ████ Oct █, ████ Dec █, ████ March █, ████ (possible new waste contractor) in April █, ████ due May 1█ & ████ April █ Sharing audit findings with other CRL contractors and also notify other contracts if undertaking audit. C███ have set up communication with other CRL contractors to conduct joint audits of waste facilities to reduce the burden on waste facilities/reduce duplication CCS Sept █ Gold award Cross audits of other Crossrail contractor sites where also share best practice RIVO updated correctly for audits for ████ – ████ <p>Inspections</p> <ul style="list-style-type: none"> A minimum weekly inspection is carried out by the Environment Manager or Advisor SHE inspections are also carried out weekly. These can include a member of the construction team; an operative; client; environment team member; H&S team member. These are displayed on a rota and also include leadership tours which senior management attend on a monthly basis. Trends are discussed in construction meetings/with senior management in leadership meetings and board report █████ managers meeting includes site update/challenges/good practices (8 weekly) Inspection pro-forma changed to reflect all environmental categories and align with RIVO trending/KPIs. Form now split into Good Practice / Observations and RIVO Incidents. Looking to change pro-forma to reflect ████ reporting system rather than RIVO Trending graph produced which breaks down observations/good practice and RIVOs, then briefed onsite operatives. Monthly feedback on welfare screen Supply chain continuing to conduct inspections and including environmental content & only obtain a 5 in the supply chain leadership board if they include detailed environmental content. The inspections are reviewed on a monthly basis with the supply chain members Point of work risk assessments/inspections taking place which include environment & H&S content. These are undertaken by different supervisors for different work packages Inspection findings are disseminated via email to leadership/management to action. Also sub contractor members are tasked with closing out their actions RIVO correctly updated for inspections for ████ – ████ | |

Round Performance Assurance – C

Environment



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|----------------------------------|-------------------------|--------------------------|--|---|
| <p>2. Training and Awareness</p> | <p>3</p> | | <p>Training</p> <ul style="list-style-type: none"> Training matrix in place and updated regularly (last in April 2014). Improvements being made to diversify training to encompass specific training as opposed to generic SEATs BREEAM training session being booked in for May/June. BREEAM specialists coming in to do a team brief to make staff aware of the importance of BREEAM mandatory eLearning sustainability training for senior members of staff. Supply chain members are signed up and using modules on the supply chain school website. This was communicated to them through monthly supply chain meetings. Now have a in-house SEATS trainer with 3 courses run and 3 more planned throughout the year which has been provided to C staff, supply chain and external employees. The trainer will also be assisting other Crossrail projects with their SEATS training and delivering courses at and throughout the year Toolbox / Briefings Register has been created which identifies which toolbox talks and briefings have been reactive / pro-active. The toolbox talk register aligns with the projects SHE risk profile along with the awareness raising SHEC calendar where feasible. TBT's recently on noise, pollution, dust, waste, ecology Carried out in house spill response drill on day and night shift with lessons learnt & best practice distributed. A video was compiled for the most recent one and this was very effective for the feedback sessions with the marshals An environmental briefing was carried out to all office staff in January 2014 to identify key areas for improvement which staff wanted to see. As part of the presentation each person also committed to making and environmental pledge. Following this a list of items to work on was compile and close out actions tracked Supply chain are encouraged to carry out TBT to their workforce on environmental matters and can only score top points in contractors league table if complete 1 TBT/month <p>Awareness</p> <ul style="list-style-type: none"> Behaviour survey carried out both on site and in the office in February 2014 was repeated in September with over 100 participants. This along with the environmental improvement briefing in January 2014 provided the team with more information on the environmental training people wanted. They now have a programme in place for SEATS training, BREEAM training and Procurement training through the supply chain school Have 8 environmental champions. A night shift noise champion and ecology champion have been added since last year. BPM checks are carried out with the noise champions Green Line achieved Won a award in 2014. This was for our environmental engagement with site operatives and supply chain. Have a S61 quick guide poster at each ticket hall on site boards/supervisor office. This provides the operatives with a quick visual guide to all the key S61 requirements Developed a consents timeline so that everyone is aware of the timeframes to obtain various consents and licences | <p>Other suggested performance improvement actions:</p> <ul style="list-style-type: none"> Consider applying for Green Systems scheme |

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| <p>3. Environmental incidents</p> | | | <ul style="list-style-type: none"> Incident plan has been updated Near miss reporting scheme is in place in both paper and tablet format however near miss surgery no longer weekly-instead have SPSS voice Revising 'What good looks like' booklet to Rev 3 Environmental monthly awards now include details of what they won award for Lessons learned shared on clamshell hydraulic leak at [redacted] and [redacted] was shared with CRL contracts Spill response video with feedback for day & night shifts – good points and improvements-another spill drill scheduled for May 2016 Campaign through behavioural surveys on what you'd do if scenarios...Behavioural survey asked questions on what you would do in the event of noise complaints etc. incidents on site to gauge the level of understanding and correct response (see section on training and awareness for survey) New Drain clay mats procured which are evidenced in the water management section. Spill response process streamlined with the flowchart attached inside spill response bins. Drainage plan displayed on site along with the incident plan and quick guides (see noise and vibration section for S61 quickguide) Monthly briefings to office staff and Weekly briefings to site on RIVOs / Observations All observations from site inspections recorded on RIVO to assist with trending and easily identifiable as environmental. Proactive TBTs (Nov 15) to encourage the reporting of observations / incidents on site. Examples provided and posters on site to demonstrate types of observations | |
| <p>4. Procurement</p> <p>Sustainable Sourced Timber</p> <p>Recycled content of materials</p> | | | <p>Sustainable Sourced Timber</p> <ul style="list-style-type: none"> A robust process is in place for Chain of Custody checks by timber champion who looks at delivery notes and CoC numbers Tracker for timber in place which has been shared with [redacted] [redacted] use [redacted] & an audit has been carried out Toolbox talks delivered on timber compliance awareness RIVO data correctly inputted for timber for 07.02.16 – 29.05.16 <p>Recycled content of materials</p> <ul style="list-style-type: none"> Netwaste tool further populated. Will be adding all M&E packages and may change once more comprehensive dataset has been achieved. Currently reporting 42% Once all of the materials have been inputted it can be determined where the opportunities are in terms of increasing the recycled content or a justification as to why this is not feasible Sent a spreadsheet to QS's where they were asked to highlight material and labour costs | <p>Other suggested performance improvement actions:</p> <ul style="list-style-type: none"> Use other reusable construction methods to avoid use of timber <p>Other suggested performance improvement actions:</p> <ul style="list-style-type: none"> Demonstrate complete lifecycle of recycled materials has been undertaken |

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| <p>5. Noise and Vibration</p> | <p>3</p> | | <p>Leadership, staffing, interfaces and culture</p> <ul style="list-style-type: none"> Noise and vibration issues well managed, with effective employment of N&V specialist (). Evidence of ongoing focus and continual improvement efforts with regard to BPM and communication of consent requirements e.g. monthly formal reminders, on-site quick guides and toolbox talks / briefings. Cumulative plan developed to pro-actively and effectively to manage potential combined impacts of () and () <p>Engagement with community relations/Local Authority/Stakeholders</p> <ul style="list-style-type: none"> Effective and collaborative engagement with (), community relations personnel and stakeholders, via regular progress and update meetings / community forums. Adherence to complaint procedures and well-defined arrangements relating to community awareness/notifications. Night shift noise champion () appointed <p>S 61 Consent Application Compliance (including construction assessments and accessibility of data to CRL and the Local Authorities), BPM and monitoring techniques</p> <ul style="list-style-type: none"> Consents in place and associated conditions adhered to. Effective management and proactive review of monitoring protocols to ensure requirements are satisfied in terms of s61, D9, TAPS and cumulative impacts. Well managed dispensations, variations and small change notices where appropriate and necessary, provided with adequate review time Monthly reminders sent to the engineers and supervisors on S61 requirements Good communication between environment team & engineers e.g. informing of overruns Planning ahead for noisy works to identify different options for working hours and implementing effective noise control measures e.g. for the slipform works Real-time audio based system has been procured at the most sensitive location WTH site Site BPM checks take place on site Specific monitoring has taken place where equipment was traditionally noisy. Readings were taken to ascertain whether further noise mitigation was required <p>Other</p> <ul style="list-style-type: none"> New poster displayed on both sites which outlines the S61 requirements (quickguide) Proactive discussion with BFK and invite to talk during team briefing on lessons learned and what C412 could do to improve noise management upon taking over at WTH Toolbox talks scheduled and undertaken at both ETH and WTH on noise requirements. Nuisance survey was developed although the take up from the residents was limited as they did not have any issues with the noise levels/type of noise experienced from site. The community liaison manager had spoken with the key residents to gauge interest. Temporary rehousing for residents during the () works at () maintaining active engagement during the process through letter drops; forum to discuss the type of work to be undertaken and gauge their preference for working hours. Cumulative noise plan has been developed as Systemwide are installing ventilation fans at WTH and at ETH they will be pumping concrete. They have been contacted regarding noise triggers & cumulative noise figures have been compiled proactively ahead of works. | <p>Other suggested performance improvement actions:</p> <ul style="list-style-type: none"> Ensure that attended monitoring is adding value, review frequency of measurements and use the specialists time to carry out detailed BPM & source noise checks to validate S61 predictions. Continue regular communication with the local authorities (ideally a regular minuted meeting) to ensure the reporting of monitoring data and trackers of exceedences, complaints and actions. Refresh noise awareness of the team through a campaign of updated SOS briefings, TBTs and noise training for night-time supervisors (and develop/improve a reporting sheet for their investigations into complaints/noise exceedences/BPM checks). Noise Champion visibility and involvement in meetings/planning of works/consents and no. 3 above. Best practice write ups for innovations, effective BPM measures and processes. Regularly update the N+V Action Plan in collaboration with CRL N+V Specialist |

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| <p>6. Waste / excavated material</p> <p>Waste management</p> <p>Performance in meeting targets for demolition and construction waste</p> | <p>2+</p> | <p>2+</p> | <p>Waste management</p> <ul style="list-style-type: none"> Polystyrene –found another site who could use as void fillers but can use on C on site Liaised with supply chain regarding reducing waste. This has resulted in a number of pallets and stacking timber being stacked and taking back for reuse when a new delivery arrives onsite. This has been done for blockwork and also precast concrete slabs Liaising with international supply chain (e.g. for cladding, glass, external cladding and some pre cast materials) regarding transport routes & identified that they will reuse any packaging material. The materials they provide will be transported in blankets made from recycled material. This will then be stacked and returned with the bespoke pallets upon delivery of the next batch of materials Improved waste segregation in the office as part of Business Improvement Plan which identified the current situation and set about clear areas for improvement. These included improved signage, a presentation to inform staff of the importance of correct segregation and environmental effects. An audit was also carried out after these measures were put in place which showed significant improvements Investigating getting a baler onsite for our M & E fit out stage to manage waste onsite more effectively and cut down on void space in waste movements Reused 50 retaining wall units from the decommissioning of the muck bin with the aim of another 40 in the coming weeks. This has provided significant environmental savings, possible public nuisance and saved the construction of new material Currently reviewing waste management plan to take into account the waste arising as move into the design stage. Also looking at tracking possible waste savings as a result of design changes <p>Performance in meeting targets for demolition and construction waste</p> <ul style="list-style-type: none"> 1117.22m3 generated of which 1107.54m3 was diverted (99.1%) | <p>Other suggested performance improvement actions:</p> <ul style="list-style-type: none"> Continue to review ways of reducing waste for fit out works. Review landfill diversion rates and breakdown into route of disposal. Ensure tracking against BREEAM target. |

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| 7. Air Quality | 2 | | <p>Dust management and monitoring</p> <ul style="list-style-type: none"> No dust complaints from ETH or WTH Jet washing on site and damping down is carried out using a misting system and can be demonstrated for different activities 4 Osiris monitors – Two at the WTH and two at the ETH – text alerts are given to environment team and site team Air quality alerts are tracked on trigger log. WCC air quality department are informed when excessive triggers are received or triggers that are not likely linked to works Daily dust logs are maintained completed and kept on site and conducted by air quality champion. These have now been updated to make them more user friendly and clearer. The WTH is also now monitored Green ivy wall still present around welfare units [redacted] and along a section of the hoarding at [redacted] Maintenance/re-calibration of dust monitors is now conducted on a yearly basis. Various air quality and dust TBT have been carried out throughout the year by CSJV and the supply chain | <p>Other suggested performance improvement actions:</p> <ul style="list-style-type: none"> Keep compressors under review to ensure compliance with NRMM requirements Improve compliance rate of 75% (based on 20 [redacted] reports). Continue to forecast and review equipment to ensure it is compliant prior to coming onto site |
| <p>Dust management and monitoring</p> <p>Emissions from vehicles and equipment</p> | 2+ | <p>Emissions from vehicles and equipment</p> <ul style="list-style-type: none"> Robust process for ensuring all plant is compliant or appropriately dispensed. The environmental team manage the NRMM register and keep copies of all relevant paperwork. Checks are carried out as part of weekly inspections and on a quarterly basis for CRL reporting. Engineers liaise with environmental team prior to a new piece of kit being procured. A process flow chart has been compiled for site team Two new concrete pump procured by supply chain [redacted] which are compliant and do not require a DPF Any drivers idling are spoken to and informed of the no idling rule which is also included in method statements New eco crane with stop start technology is being used at the ETH. This has significant fuel, emission and cost savings and has been shared High kw generators with Tier 4 engines have now been obtained and are used where possible Checks are carried out by the Environment Manager on the task briefings produced by the engineers. These include checks on plant spec sheets to confirm compliance or check if more efficient plant can be obtained. Also see improved NRMM process below. All MEWPS in tunnels are electric & duct works have electric MEWPS No new dispensations – just 2 compressors (40Kw and 55Kw) –evidence of lack of appropriately sized compliant generators and compressors on the market –add AdBlue (additive) which reduces particulates | | |

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|------------------|-------------------------|--------------------------|--|--|
| 8. Water | | 2+ | <ul style="list-style-type: none"> ▪ Looked into cost benefit of closed loop water recycling and feasibility. This wasn't feasible so installed milk carton in all site toilets which provided significant water savings (20% water saving per flush) ▪ Spill kit grab bags in place at relevant locations. Currently procuring new fire points which will include spill response points, fire points and first aid points. Two will be placed on each level of the site at ETH, Tunnels and WTH. ▪ A new bund has been constructed around main drain at ETH. A spill kit and a spill kit bag with a putty drain mat have also been put in place. A drain guard matt is also installed in the drain to prevent any possible rubbish entering the drain ▪ pH reading poster attached to siltbuster to ensure readings are being taken appropriately & on site readings taken daily ▪ Water discharge consent compliance being tracked and monitored. ▪ Spill response drill undertaken for night and day and a new one planned • Water Audit conducted & findings shared at [REDACTED] • Water butt installed on site and used as damping down in the walkways ▪ The project has also recently started undertaking the measuring of embodied water of materials used on the project. The area where they have been procured is assessed in terms of how water stressed that area is. Where feasible this can affect the procurement process in terms of looking to purchase materials from a less water stressed area if cost or material specification is not negatively affected. ▪ Water reduction target is based on implementing 3 water saving measures but also track usage against man hours with commentary. ▪ RIVO updated correctly for water usage 07.02.16 – 29.05.16 | <p>Other suggested performance improvement actions:</p> <ul style="list-style-type: none"> ▪ Continue to develop water footprint ▪ Investigate water saving initiatives for testing and commissioning works |

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|---------------------------------------|-------------------------|--------------------------|--|--|
| 10. Contaminated land (if applicable) | N/A | | <ul style="list-style-type: none"> N/A | |
| 11. Biodiversity (if applicable) | N/A | | <ul style="list-style-type: none"> N/A | |
| 12. Energy Management (construction) | | 3 | <ul style="list-style-type: none"> LED tower lighting (super silenced & double banded) used onsite mainly for slipform work EDF Blue Tariff – Low carbon & all on mains PIR sensors in the offices; Photocell sensor lights for security lighting Looking into tunnel strip lights replacing with LEDs. Systemwide coming through and taking over the tunnel areas so they will be putting in LED,s throughout the tunnels. Resource Efficiency / Energy Champion appointed Energy management good practice, findings, audits etc are all shared and discussed at various Environmental manager forums such as the [redacted], [redacted] and [redacted] ones. Looked into the potential of using smart meters on project to ensure real time utility usage for electricity & target energy reduction more precisely. CBA being carried out Looking at using the mosaic system which would significantly cut paper usage, bring about operational efficiency and improve tracking of all toolbox talks, briefings, inductions, alerts, training etc for all staff on the project. [redacted] presented on 13th April 2016. They are currently looking a providing a quote for the system Climate change week - a speaker from [redacted] has been invited to give a talk around how the construction industry can reduce emissions and mitigate against climate change impacts to raise awareness and importance across the project. Resource efficiency will be explored in addition to this to identify opportunities during workshops onsite & in the office A resource efficiency checklist has been populated to aid the identification of opportunities on the project including reducing resource use through engagement; utilities; equipment; accommodation deliveries and working method Electricity and fuel use being recorded and graphed. This is now displayed onsite and in the office to raise awareness of energy usage [redacted] have provided the carbon footprint of concrete mixes supplied RIVO up to date for electricity and energy usage 07.02.16 – 29.05.16 Using the Crossrail Construction Energy Measurement Tool. Carbon saving initiatives include fuel efficient equipment & site offices, lighting, behaviours. References provided. Scope 3 emissions added and continuously updated. End of contract saving predicted at 31.1% | <p>Other suggested performance improvement actions:</p> <ul style="list-style-type: none"> Provide comments to highlight the changes made each quarter to the energy model |