MORGAN SINDALL

Method Statement

Method Statement Title: Outfall Chamber Modifications & Cleaning		Scheme Title: Cardiff Central District Sewerage Pumping Station		
		RA/MS Ref. No: 1W6000YR / 4566		
		Start Date: May 2020		
Checked by: Matthew Bennett	Job title: Snr Engineer	Company: Morgan Sindall	Signed: MRB	Date: 05.12.19
Approved by: Andrew Good	Job title: Agent	Company: Morgan Sindall	Signed: A Good	Date: 05.12.19
Approved by: Simon Fisher	Job title: Project Manager	Company: Morgan Sindall	Signed:	Date: 06.12.19
Issued by: Alyssa Morgan	Job title: Document Controller	Issue: Revision 0	Status For construction	Issue Date:
Review Process: (This method statement accepted as current working document)	Name (Print)	Signed:	Status	1st Review Date:
	Name (Print)	Signed:	Status	2nd Review Date:

Issued to:	Job title:	Issue Date:
A Good	Site Agent	

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Control sheet:

Risk Assessment / Method statement – Tracking Sheet

Name	Job title	Signature	Status	Comments
Simon Fisher	Project Manager		A	none

Review process

No	Prompt List	Yes	No	In Part	N/A
1.	Unique project specific number and title identified for the document?	✓			
2.	Does the method statement / risk assessment include suitable arrangements if sub-sub contractors are involved?				✓
3.	Authorisation and distribution personnel identified?	✓			
4.	Brief overview including location and duration of the works described?	✓			
5.	Specific Risk Assessment † attached and satisfactory? Are all the hazards/environmental impacts identified? Have all the risks been evaluated and controls identified?	✓			
6.	High risk/safety critical / COSHH activities identified / controls specified? (Controls eg – Statutory permits/ licences, Security, Testing / commissioning / special training)	✓			
7.	Scope of works identifying / listing all activities? Philosophy identified? Are all parameters identified / listed?	✓			
8.	Temporary Works schemes identified? Philosophy identified? Temporary work drawings listed including relevant calculations? Permits required? Interfaces identified?	✓			
9.	Names / titles / contact details of key personnel / supervisors responsible?			✓	
10.	Resources identified e.g. personnel, supervision, equipment, plant, materials? Craneage – lifting plan in place? Lifting equipment – plan / certificates in place? Access / scaffolding requirements clearly set out?	✓			
11.	Induction / training / permit requirements identified? Permit issue authorisation regime identified? Daily briefing and toolbox talk regime identified?	✓			
12.	General site requirements identifying access / egress / traffic measures? Details of services / works isolation? PPE / evacuation requirements identified? Welfare / first aid facilities identified?	✓			
13.	Monitoring & compliance Monitoring by whom Enforcement – how by whom- equipment (meters / sampling)				✓

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14.	Interfaces / security of the client / public / other contractors identified?	✓			
15.	Environmental controls / Waste Controller / ECCoP identified?	✓			
16.	QC monitoring and inspection / testing regime identified? I&T Plans refs				✓
17.	Contingency plan e.g. emergency / fire / rescue / spill response identified?	✓			
18.	Any special conditions identified e.g. confined spaces, tidal working	✓			
19.	Management of Change – process in place to identify change requirements	✓			
20.	Review date as required	✓			
21.	Approvals statement incorporated?	✓			
22.	Confirmation of Operatives briefing / Operatives induction sheet incorporated?	✓			
23.	Any other (specify)?				✓

† Any Risk Assessment shall be amended / confirmed as site specific.
* Status
- A Work can proceed as described
- B Work can proceed when comments are incorporated
- C Resubmit and agree before work can proceed

Comments

Note
Clearance to proceed with this Method Statement does not relieve the Subcontractor of their contractual obligations, including safety, structural integrity or any implications to permanent works arising from these proposals.

Method Statement

Scheme Title	**Cardiff Central District Sewerage Pumping Station**
Contractor	**Morgan Sindall**

This method statement has been developed further to the completion of the following references risk assessments:

Risk Assessment Number	Title
1W6000/4566	Outfall Chamber Modifications

Section 1 – General Details

Scope of Works:
The project involves the removal of silts and sediments from the existing outfall pipe and associated chamber and the installation of a new outfall grille at the opening on to Splott beach. A new access is also to be created in the roof of the outfall chamber to provide access for proposed cleaning and jetting operations. The main parameters' affecting the works are: • Access to the working area is via the Cardiff wastewater treatment works off Tide Fields Road, therefore consideration must be given to treatment works plant and traffic and associated personnel including visitors etc. to the site. • All works on the scheme will be subject to tidal working restrictions. Tide charts will be used to determine appropriate working times.

Prepared by:	Matthew Bennett		
Position held:	Snr Engineer		
Signed:		**Date:**	03/12/19
Review date:	02/12/20		

Work Supervisor(s);	Matthew Bennett; TBC.
Refer to Method Statement Tracking and Content Sheet	

Section 2 – Programme of Operations

Method Statement

Start date / time:	May 2020				
Preceding Works to be Completed:	Site Establishment				
Duration:	Approx. 6 Weeks				
Permit required:					
Permit to Work (General)	☐	**Permit to Enter (Confined Spaces)**	☒	**Permit to Dig**	☒
Hot Work Permit	☐	**Out of Hours Work Permit**	☐	**Other (specify)**	Permit to Lift
All required Permits will be issued by the Morgan Sindall designated person prior to the works commencing.					

Section 3 – Personnel

Include details of all personnel involved in the task and any special training, skills or qualifications required

The designated site personnel will have experience in the activities that they will be undertaking that are covered by this method statement and risk assessment.

Name	Role	Competence Details
Matthew Bennett	Site Manager	CITB – Site Management Safety Training Scheme, CPCS Crane Supervisor (Lifting Operations). Fire Warden Training, First Aid Training, Genny & Cat Training. New Roads and Street Works (Supervisor). Temporary Works Supervisor.
TBC	Ganger	CITB - Site Supervisor Safety Training Scheme, Cat and Genny Radio Detection, Confined Space, CPCS - Forward Tipping Dumper – Wheeled, CPCS - Ride on Roller, CPCS - Slinger/Signaller, First Aid Training. CPCS Excavator 360 Above & Below 10T Tracked.
TBC	Skilled Operative	CPCS Forward/Tipping Dumper, Slinger Signaller, Confined Space, CPCS Excavator 360 Above & Below 10T Tracked.
TBC	Skilled Operative	CAT & Genny Training, CPCS Forward/Tipping Dumper, Slinger Signaller, Confined Space, CPCS Excavator 360 Above & Below 10T Tracked.
TBC	Skilled Operative	CAT & Genny Training, Confined Space, CPCS - Forward Tipping Dumper – Wheeled, CPCS - Ride on Roller, CPCS - Slinger/Signaller.

Section 4 – Safe System of Work to be Adopted

Method Statement

4.0 Introduction

4.0.1 This method statement (MS) outlines initial proposals for this activity. Where it is identified that there is a need to change the method of work due to unforeseen circumstances for example, then revision, authorisation and issue will follow the same procedure as the original. This method statement is only valid when the person who has prepared it and the person who has authorised it have signed the front sheet accordingly.

4.0.2 Task Statements (TS) will be developed for specific tasks required to carry out the works, as and when required. The MS and TS should be read in conjunction with the site-specific plan and the construction programme. The MS and TS are “live” documents and will be updated as required, with newly identified risks.

4.0.3 The Responsible Person must be in possession of an approved method statement and task statement for the works. The Agent and Foreman / Supervisor shall ensure that the works proceed according to this approved method statement and subsequently developed task statements.

4.1 Risk Assessment

4.1.1 See Appendix A.

4.2 Induction / Training

4.2.1 All site personnel will be familiarised with the site and made aware of any hazards, by way of a site-specific induction.

4.2.2 All operatives working on the tasks described in this method statement, risk assessment and any associated task statement must be briefed on its contents. Operatives must sign the attached briefing attendance sheet to confirm that they have been briefed and understood the contents.

4.2.3 Daily briefings shall be given to the operatives prior to work commencing. Tool Box talks will be planned monthly and given to all operatives on a weekly basis. The Morgan Sindall designated person must be in possession of an approved MS and TS before issuing any permits. All operatives must be briefed on the requirements of the permit before work commences.

Safety Helmets, Safety Footwear, High Visibility Clothing, Safety Gloves and Eye Protection MUST be worn at all times on this site

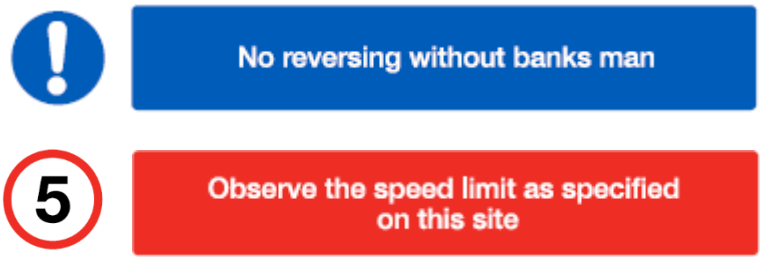
4.3 General Site Requirements

4.3.1 Access and Egress

Site Address is detailed as below:

Morgan Sindall Compound, Cardiff CDSPS (via Cardiff WwTW), Off Tide Fields Road, Cardiff.

Sign posts shall be displayed in advance to inform drivers of the compound & work access. Any large loads leaving the compound may need a Banksman to control any residential traffic on the adjoining road and ensure that the area is clear of pedestrians and children.



The main site working hours will be 07:30 – 17:30 Monday to Friday, however these times may change due to tidal working requirements. Weekend working will be by exception and agreed with the Project Manager/ Senior Contracts Manager.

4.3.2 Safety of Services

Any overhead services will be protected by the means of warning posts and bunting following the line of the cables denoting the location of the cables.

Underground services will be clearly marked by using service drawings and a service locator device, and will be protected accordingly if required. A permit to excavate will be issued for all excavations prior to commencement of excavating.

Not all services encountered will be identified from STAT plans and CAT scan- therefore utilise recognised best practice whilst completing all excavations:

No excavations can commence before a Permit to Break Ground has been issued.

No lifting operations can take place before a Control of Lifting Operations Permit has been issued.

4.3.3 **Safety Works or Isolation Measures**

Working areas will be protected by suitable fencing / barriers. Protection from the public will be provided by Morgan Sindall as necessary. The fencing will be maintained by Morgan Sindall to prevent access during non - working hours. All excavations will be suitably protected at all times and secured out of hours. All Fence panels to be double clipped at all times.

4.3.4 **Site office, welfare and first aid facilities**

A car parking area will be clearly defined along with pedestrian walkways and a dedicated smoking area. Where possible sewage effluent from the toilets to a grey tank shall be provided and emptied on a regular basis. Water required for the welfare unit/canteen shall be obtained from a local hydrant and filled using a towable 1000 litre bowser. A pump shall then be used to supply water to the toilet block and the canteen. If necessary, perimeter fencing shall be erected around the compound using Heras fence panels. Site fencing shall be double clipped and relevant signage shall be put up on panels. Once the site comes to a close the fence panels shall then be stripped and stock piled ready for collection.

4.4 Interface Issues

4.4.1 The site compound and construction site is accessed via the existing road through Cardiff Wastewater Treatment Works. Therefore, when travelling to and from site, all drivers should be aware of the presence of other road users, pedestrians and any other process plant or equipment working in the area. Delivery wagons shall be directed out of the compound by a designated Vehicle Banksman. The scheme is located in a sensitive location and the proposed works must be planned and coordinated thoroughly with good communication maintained so that any disruption caused is kept to a minimum.

The following measures will be implemented and maintained to protect site operatives and the general public both on site and within the site compound.

1. Site Fencing – To prevent unauthorised access to the site, whether intentional or unintentional. The public footpath will be maintained throughout the works.

2. Appropriate signage: To warn both the public and site operatives about potential hazards associated with the works.

3. Appropriate site communication between operatives and plant operators (Banksman/Slinger-Signaller, Voice and hand signals).

4. It is anticipated that all excavation work shall be open cut with the pebbles battered to a safe angle of repose. Should it be deemed necessary, appropriate temporary works shall be used to prevent potential trench collapse and consequent possible harm to operatives, the public, services and infrastructure.

5. Appropriate edge protection – To prevent anyone or anything from falling into excavations or openings/chambers, and to protect anyone or anything (i.e. services) in the excavation from falling objects.

6. Where entry to the excavation is required, then access and egress will be via a suitable secured ladder which is in a good condition and which displays the current safety tag.

7. Where applicable, fuel bowsers will be bunded to prevent contamination of the ground. Where refuelling is carried out using jerry cans, then drip trays, spill kits and a suitable fire extinguisher will be to hand.

8. Noise alleviation measures if necessary to reduce the exposure of nearby properties to excessive noise.

9. Appropriate fire prevention equipment will be available on site (see 7 above).

10. A photographic pre-condition survey has been undertaken in the location of the compound and surrounding areas that the construction works will be undertaken within.

4.5 Methodology

If any of the methodology or construction sequence detail below should change, STOP works immediately, make safe and report to the site supervision.

4.5.1 **Preliminary Instructions**

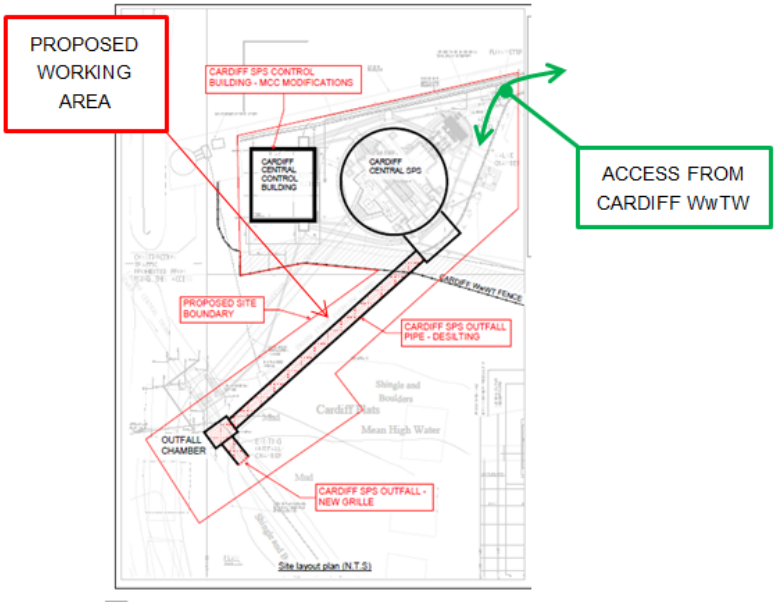
- Prior to Any Excavation work being undertaken A full CAT and Genny survey utilising the supplied STAT plans will be undertaken to identify any services located in the area and then a permit to excavate will be issued and authorised by the appropriate persons prior to any excavation. If required trial holes will be undertaken to find the location of any services.
- Main lifting on the project will primarily be undertaken by the on-site excavator. A valid lift plan will be compiled and completed by an authorised CPCS appointed person complete with a schedule of lifts. All slinging of equipment will be undertaken by a CPCS certified slinger/signaller. The excavator driver must also hold a valid CPCS card and be competent in the proposed works to be undertaken.
- All lifting chains and equipment will have current test certificates and shall display the current colour coded lifting tag. A copy of the test certificates will be held in the site file.

- A Delivery Lifting Plan & Lorry Loader Checking Form must be completed prior to any delivery offloading on site and the supplier must also have a safe system of work for off-loading.
- The majority of the excavation work will be completed by mechanical means in the form of a 360-degree excavator. No mechanical excavation or sharp pointed tools will be permitted within 0.5 meters of any known service. If any services are discovered that were previously unforeseen or lay undetected, excavation will cease whilst further trial hole investigations are carried out. Any services uncovered will be assumed to be LIVE until written confirmation has been received from the service provider that can confirm otherwise.
- All movements by any machine will be carried out under the supervision of nominated and trained Banksman. All operators of plant will be certified, competent and trained with CPCS qualification.
- All working areas will be segregated from pedestrians and vehicular traffic movements at all times. This will be by means of erecting signing and physical guarding in the form of pedestrian barriers/Heras fencing. Clear warning signs will be attached to the barriers to warn people of the inherent dangers within the work area.

4.5.2 **Phase of Works**

Access:

- A suitable access to the works area will need to be established to allow plant and materials to be delivered. This shall be provided via the existing access road through Cardiff WwTW (Tide Fields Road), see above and below:



Cleaning/De-Silting:

4.5.3

- Excavation/clearance of silt from the mouth of the existing outfall pipeline will be dictated by the tidal conditions and any works associated with the outfall will be carried out to suit the low tide conditions. Upon consulting the Tide Tables for Cardiff a suitable working window will be established.

4.5.4

- Access on to the beach will be via the existing ramp from the upper path as indicated below.

4.5.5

- A 20/30t tracked excavator will be situated on the bank to the east of the outfall outlet and will be used to clear approx. 1m depth of debris/silt/sediment from the mouth of the outlet to enable subsequent jetting clearing to be removed from the opening and the associated outfall pipe. Excavated material will be deposited back onto the foreshore for natural dispersion.

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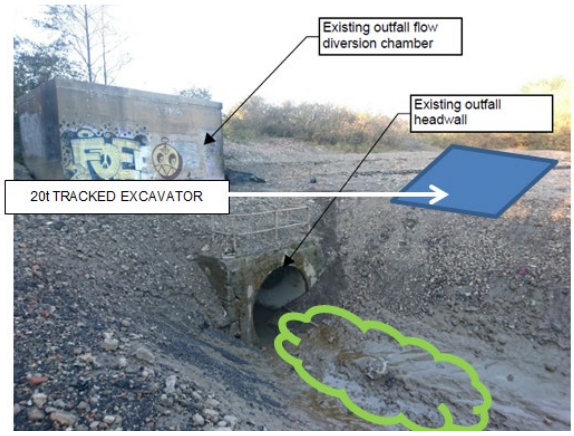

4.5.6
- When the required material has been removed from the mouth of the outlet pipe, an access opening will need to be made into the top of the existing outfall flow diversion chamber.

4.5.7
- Scaffolding will be erected to the perimeter of the chamber to form edge protection for proposed works on the concrete cover slab of the chamber. This will be erected by a competent subcontractor strictly in accordance with their pre-approved risk assessment and method statement.

4.5.8
- To enable the jetting and cleaning of the outfall pipe from the pumping station back to the outfall chamber section of the existing concrete slab will be temporarily removed, see below:

4.5.9
- Temporary lifting accessories will be installed within the existing slab to enable the slab to be lifted off using the excavator and temporarily stored in a safe location on site for replacement on completion of the cleaning works. To facilitate safe lifting operations, the area that the excavator will sit will need to be levelled out using the machine and will be subsequently re-graded to the original profile on completion.

4.5.10
- All access to the outfall chamber and the outfall pipe will be strictly in accordance with Morgan Sindall confined space entry procedures. Works will be closely managed as cleaning works will not be possible during wet weather due to the likelihood of storm spills from the pumping station.

4.5.11
- The jetter will be inserted into the chamber through the new opening and used to jet sediment from the pipe towards and out of, the outfall location.

4.5.12
- It is proposed to utilise final effluent from Cardiff WWTW in the jetting equipment to mobilise the naturally deposited estuarine silts which will be allowed to disperse in to the Severn estuary from where they have originated.

4.6 **Installation of New Outfall Grille**:

4.6.1

- When the outfall pipe has been sufficiently cleaned a new safety grille is to be fabricated and fitted into the outfall opening, example below:

Proposed outfall grille

4.6.2

- The new grille will be delivered to site and off-loaded as necessary. The attendant tracked excavator will then be used to lift the new grille into position complete with appropriate lifting equipment and strictly in accordance with the associated lift plan.

4.6.3

- When in position the grille will be fixed/secured in place as per the manufacturers recommendations. Access to drill and secure the grille will require the use of podium steps.

4.7 **Re-fuelling area**

The site will be established using a suitably sized bunded fuel bowser with spill kits available. Where practicable a designated diesel refuelling area shall be established in the compound to minimise the risk of any spills around site. This designated refuelling area shall be as far from any water course as is possible. If required a smaller towable bowser shall be used to fill plant on Site. No refuelling operations will take place within 20m of the beach. A spill response kit shall accompany the bowser at all times.

4.8 **Waste and Recycling Skips**

Waste and recycling skips/bins will be installed in accordance with the compound layout drawing and will be delineated by signage.

4.9 **Chemicals**

All chemicals that are used during the construction works must be evaluated for environmental risk and potential threat to the environment with emergency procedures in place to respond to and mitigate the effects of any incidents.

Designated storage areas have been established for storage of all materials plant and equipment. This will be clearly labelled on the site layout plan.

All chemicals, oils and fuels must be stored within a purpose made container that is in good condition and clearly labelled with its contents. No refuelling operations will take place within 20m of the beach.

Chemicals should be stored in a secure COSHH store to which only authorised persons will have access.

Only remove enough chemical as required for the activity for which it is intended. Chemicals should be discharged over a drip tray when being used.

Only dispose of waste chemicals as per the manufacturer's recommendations. Oil booms and spill response kits will be kept on site to contain and clean up in the event of a spillage.

All plant to use bio-degradable oils.

4.10 Invasive Species

Invasive species of plant are not present immediately adjacent to the site area, but Japanese Knotweed has been identified approx. 750m away from site. All site members to be aware of the possible presence of invasive species and if they suspect that they may be present, should immediately inform the supervisor. Do not attempt to remove or disturb suspected invasive plants. Should any invasive species be identified in the immediate vicinity an action plan will be development to prevent spreading of the plant.

4.11 Dust

For the works proposed, dust is not likely to be an issue however construction dust will not only affect the workforce but due to the site being in close proximity of a public footpath it may affect the public as well. To mitigate this - Dust suppression will be used at all times when cutting with disc cutters by means of a proprietary water bottle. FFP3 Masks should be used as a minimum when cutting with disc cutters

During dry conditions on site water bowsers will be employed to reduce the amount of dust created by plant movements.

4.12 Muddy Roads and Paths

Every effort will be made to ensure that roads and footpaths affected by our works will be kept clean. Where required, signs will be erected warning of potential dirty roads. Road brushes will be employed when required to remove mud on roads caused by construction activities.

Run-off water from our works will be monitored and contained if required, sand bags will be placed around existing gully pots to stop run off entering the beach areas.

4.13 Noise

Some of the equipment being used on this scheme will inevitably create noises and we will ensure we work within sociable hours. Equipment will be sited so as not to create undue nuisance and will help limit noise levels by sourcing low noise emitting plant and equipment where possible.

4.14 Light

Working hours will be restricted to daylight hours only.

Any site lighting must face away from the beach, there will be no lighting left on out of working hours.

4.15 Work on beach and embankment

All trees, hedges and shrubs within or adjacent to the site, shall be protected from damage during construction work by the erection of ‘Heras’ fencing. Wherever possible the removal of any flora will be limited and removal will only be carried out with the prior approval of the SHEQ Advisor and relevant authority.

The beach will be excavated locally to allow for access to the outfall ensuring only the minimum amount of ground is disturbed. As the beach outfall is tidal our works will be below high water level at times. Plant and construction materials shall be removed from the beach to avoid damage or being dispersed by high water.

All activities will be carried out in daylight hours and will not require artificial lighting of any kind. Overnight lighting will not be required.

Statutory Undertaker	Additional Info.	Number
Openreach (BT)	Urgent repairs and defective apparatus.	0800 023 2023
WPD	Emergency	0800 052 0400
Wales & West Utilities	Emergency	0800 111 999

DCWW Pollution Helpline	Sewerage	08000 853968
DCWW Control Room	General Enquiries	08000 520130

Section 5 – Plant, Equipment

Match plant and equipment to qualified personnel and include any specific PPE details.

The following plant and equipment will be used at various times during this operation:-

Plant, equipment and lifting equipment will only be used by operators who are authorised, trained and have CPCS certification. The operator must inspect all plant and equipment before use and if any damage is found, then it shall be removed from service and the Foreman / Supervisor must be informed.

Plant and Equipment

Equipment description	Test Certificates in date (matched to equipment)	Operator details
20/30t Tracked Excavators c/w various size buckets and lifting gear		CPCS trained and competent operator
Jetvac unit		CPCS trained and competent operator
Lifting Equipment Tagged and Tested		
Associated small tools		
Cat and Genny		

Personal Protective Equipment (PPE)

Equipment description	Specification (e.g. type, grade)	Training required
Fluorescent jackets or waistcoats	*(to BS EN 471 Class 2) (Class 3 on high speed roads))*	
Safety glasses or goggles	*(to BS EN 166-F for general site work)*	
Safety helmets	*(to BS EN3 97)*	
Steel toecapped boots with steel midsole		
Gloves (appropriate for task)		
All Operatives Outerwear Clothing to be IEC 61482-2 Electric Ark Protection for excavations		

Method Statement

Receipt Acknowledgements

Supervisor in charge of the Work

I confirm that I have read and understand the requirements of this method statement and associated risk assessments and will ensure their communication to operatives under my control and to those who may be affected by its requirements

Signed		**Date**	
Print name		**Supervisor**	

Communication

Communicate the contents of the Method Statement to all those involved or affected by the works and record their details below.

The following personnel have been inducted in the procedures required to carry out the operations detailed in this Method Statement.

Note: please complete the original MS attendance sheet [copy to be kept in the on-site file original to be returned to Document Control]. Copies of the original MS are to be distributed to the MS holders.

Note to Contractor: whenever the method of work changes you must seek agreement from MORGAN SINDALL before proceeding. Remember to instruct all new starters and get them to sign below.

Name	Job Description	Signature	Date	Employer	Inductor

Method Statement

NOTE:

1. If you have any doubt about any information given or contained in this Method Statement – ASK FOR CLARIFICATION.

MORGAN SINDALL

Safety, Health and Environment Risk Assessment

Project title and contract no.	Cardiff Central Sewerage Pumping Station	**Risk assessment no.**	1W6000/4566
Activity	Outfall Pipeline Cleaning & New Grille Install	**Location**	Cardiff CDSPS
Person conducting assessment	M. Bennett	**Date**	05/12/19
Person supervising work	TBC	**Date**	

Persons exposed							
Employees	√	**Other workers**	√	**Public/ visitors**	√	**Young persons**	
New / expectant mothers				**Disabled**		**Others**	
Estimated total number of persons at risk				8			

Hazards (what might cause harm?)		**S**	**H**	**E**			**S**	**H**	**E**
1	Adverse Weather Conditions	√		√	**17**	Loading/Unloading	√	√	
2	Cold	√	√		**18**	Materials	√	√	
3	Electricity	√	√		**19**	Moving Parts of Machinery	√	√	
4	Excavation	√			**20**	Proximity to Water			
5	Fire/Flammable Atmosphere	√	√	√	**21**	Scaffold			
6	Floor/Ground Conditions	√	√		**22**	Sharp Objects	√	√	
7	Flying Particle/Dust	√ √√	√	√	**23**	Stairs/Steps			
8	Hand or Power Tool	√	√		**24**	Static Equipment/Machinery	√	√	
9	Hazardous Substance	√	√	√	**25**	Structure	√		
10	Heat/Hot Work				**26**	Temporary Works	√		
11	Lack of Experience	√	√		**27**	Vehicle/Mobile Equipment	√	√	
12	Lack of Training	√	√		**28**	Working Hours/Fatigue	√	√	√
13	Lack of/too much Oxygen	√	√		**29**	Workstation Design			
14	Access	√	√		**30**	Work at Height	√	√	
15	Lifting Equipment Appliances	√			**31**	Tidal working	√	√	√
16	Lighting	√							

Risk Factor

Risk Quantity	No injury, damage or environment impact	Minor injury, damage or environment impact	Major injury, damage or environment impact	Fatality, building loss, catastrophic environment impact
Almost no probability	A	A	A	U
A small probability	A	A	U	U
A small probability	A	U	U	U
Almost certain	A	U	U	U
	Acceptable		Unacceptable	

Risk Level	**Action**
Insignificant	No action required and no documentary records need to be kept.
Acceptable	No further preventative action. Consideration shall be given to more cost effective solutions or improvements that impose no additional cost burden. Monitoring required to ensure that controls in place are properly maintained.
Unacceptable	Work shall not be started or continued until the risk level has been reduced to an acceptable risk level. While the control measures selected shall be cost-effective, legally there is an absolute duty to reduce the risk, this means that if it is not possible to reduce the risk even with unlimited resources, then the work shall not be started or shall remain prohibited.

Notes:

1. Physical Hazards are the nature of issues that may cause harm. Tick box for hazard.
2. Preventative / Control Measures are the actions that will stop it going wrong.
3. Control measures are to ensure that residual risks are reduced to a minimum. Where controls fail to reduce the risk to a acceptable level then refer assessment to your line manager.
4. If the operations are likely to affect the public or the safe operation of a public infrastructure or transport system, the control measures must reduce the likelihood of significant harm to the level that existed before our work commenced.
5. Where young persons or expectant mothers are involved in the activity, ensure that any additional controls are put in place in accordance with local procedures.

6. In addition to the above, consideration must be given to other individuals' susceptibility due to pre-existing health conditions, e.g. bad back, poor hearing. Additional 'human factors' such as ergonomics, workplace design, etc. should also be considered.

7. Where a hazard is identified that is not listed in the Physical Hazards list, enter the hazard description followed by other in brackets i.e. (Other).

Hazard no. (from page 1)	Nature of risk (What might go wrong?)	Risk before controls U / A	Control measures (How do you stop it going wrong?)	Control measure implemented by (name)	Risk after controls U / A
31	**Working with The Tide** Operatives caught out by tide leading to drowning, loss of plant & materials.	U	• Tide Timetables to be given to site team, so that they are able to plan their work to ensure that all personnel/plant/materials are off the beach before the tide has turned.	Site Supervisors	A
32	**Invasive plant species:** • Spreading of Japanese Knotweed and Himalayan Balsam etc. resulting in potential prosecution.	U	• Areas containing invasive species to be demarcated and avoided where possible. • Where avoiding contaminated areas is not feasible, works to be minimised as much as possible. Plant and machinery to be washed down before exiting contaminated areas to help prevent spreading. • Excavated contaminated material to be kept within the contaminated area or if not possible on a DPM membrane to prevent spreading. • Excess materials to be disposed of at a suitable and licensed facility.	Site staff, operatives	A
14,31	**Interaction with public** • Non-Morgan Sindall employees gaining access to the site causing injury to themselves. • Possible death or injury due to falling, tripping and other accidents due to ignorance of the danger on construction sites.	U	• Take all practicable measures to ensure that members of the public cannot gain access to work areas during day or night. • Secure site with 2m high Heras panels. • Provide signs to highlight the dangers present • Security arrangements for site , should also take into account the risk to trespassers	Site Supervisors/ Operatives	A

			• Ensure all excavations are independently fenced within the working area • Appropriate Traffic Management in place.		
6,14,23	**Working on construction sites** • Slips, trips, falls. • Sprains, strains, broken limbs.	U	• Ensure good housekeeping of working areas. • All personnel to have received an specific project and site induction • Designated storage area for materials	Site Supervisors/ Operatives	A
27	**Working with construction plant** • Noise and vibration • Ear damage • Environmental impact i.e nuisance noise and damage to properties from vibration • Dust/debris blown into eyes, off cuts of tying wire flying into eyes. • Catching hands on sharp or rough surfaces. • Injuries to eyes, possible blindness. Cuts, lacerations to hands and fingers.	U	• Ensure all plant has noise reduction measures in place and working correctly i.e. baffles, acoustic jackets. • PPM scheme to ensure plant working correctly. • Correct PPE issue and training. • CPCS trained plant operatives. (or similar approved) • Switch off all plant when not in use. • Vibration and noise monitoring during certain operations. • Pre-condition surveys carried out on surrounding structures and areas •	Site Supervisors/ Operatives	A
27	**Working with construction plant** • Dust/debris blown into eyes, off cuts of tying wire flying into eyes. • Catching hands on sharp or rough surfaces. • Injuries to eyes, possible blindness. Cuts, lacerations to hands and fingers.	U	• All personnel must wear safety glasses/goggles and gloves at all times once they enter the working area in addition to the mandatory high visibility clothing, hard hat and safety boots. • Good housekeeping standards	Site Supervisors/ Operatives	A
27	**Use of construction plant.** • Possible crushing of operatives and pedestrians	U	• All mobile plant must only be operated by suitably licensed and trained operators i.e. CPCS cards. • Operatives to wear high visibility clothing • Banksman to be appointed to supervise works • Segregated pedestrian and vehicle access.	Plant operator, site personnel, banks man. Site supervisors.	A
24	**Trapped/Crushed by:**	U	• Use of permit to load form, known weights of loads • All plant access routes to be inspected for suitability of use	Plant operator, site personnel,	A

	• Plant overturned		and maintained regularly • Competent Banksman to control plant movements • Clear signals between Banksman and plant operator • Do not lift load if on uneven ground	banks man. Site supervisors.	
27	**Collision with operatives and other plant.** • Working in restricted access areas	U	• All moving plant to be controlled by the nominated banksman • Flashing beacons on moving plant. • 5mph speed limit. • Traffic management in place for works	Plant operator, site personnel, banks man. Site supervisors.	A
17, 27	**Plant Movements** Plant striking other plant/materials/operatives	U	• Ensure pedestrians and plant are segregated • Competent trained banksman • High visibility clothing to be worn at all times • Flashing beacons on all plant no green beacon • If necessary close off sections of footpath during operations which plant may cross • Site speed limit 5mph • Plant/equipment to have appropriate test certificates. • Clear signals between banksman and plant operator • All lifting equipment to be fit for purpose and have current certification. Excavator lifting plan to be completed • Plant movements to be coordinated to ensure priority is given to public/3rd party vehicles at all times.	Site Staff and operatives	A
15, 19	**Risk of operatives being struck by a falling excavator bucket or attachment as a result of incorrect attachment or missing locking pins, resulting in death or major injury.** Bucket Failure/Falling whilst digging/grading causing death, major injury Risk of serious injury to the excavator driver when changing attachments to the quick hitch mechanism. Incorrect attachment change not in accordance with	U	• CPCS Trained and Certified machine drivers/Operatives. • Machine operators must be trained and deemed competent to operate the type of quick hitch system fitted to their machine. NB: Operators must demonstrate competence by a change of bucket in the presence of Site Supervisors. • Magnor Plant Operators must be inducted by Magnor plant before being employed on a Morgan Sindall Site.	Site Management Site Management	A

	operators manual resulting in death, major injury to persons within the operating area of the machine Quick Hitch failure as a result of excessive vibration. Failure of Quick Hitch or Attachments due to incorrect fitting Failure of Quick Hitch or Attachments due to crowding		• Machine operators must sign a declaration at induction to confirm that they have been trained in the use of the machine quick hitch (Quick Hitch Equipment Pre – Start Arrival Check Form) and that they have read and understood the operators' manual specific to that quick hitch. • Certificate of thorough examination or certificate of conformity for all excavators. • Manufactures installation and operation manuals for all types of Quick Hitches must be kept within the excavator and not removed from the cab. • PPM's on all plant to include quick hitch checks. • Daily check to be made on quick hitch system and / or when attachment is changed to ensure the safety pin or latch is in place and secure. NB: Operators must physically get out of the cab to check this – Mandatory Instruction) • Visual / physical inspection to be carried out of clamp connection to bucket, when the bucket has been changed and at the start of each shift • Driver to ensure pin (where applicable) has been reinserted as per manufacturer's instructions and ensure safety clip is in place • Manual quick hitch lever - to be inspected by driver after change of bucket without fail to ensure it is in its locked position.	Site Management Site Management Operator Operator Operator Operator Operator	

			• Buckets and other attachments shall be changed in a safe area away from operatives/third parties. • "Shake, Rattle, Roll" test of the fitted attachment, or placing the bucket flat on the ground then trying to un-crowd the bucket so that the bucket tries to disengage from the QH. Test to be carried out when a bucket is changed and at the start of every shift. • "Shake, Rattle, Roll" test to be carried out in a safe area away from traffic, operatives etc. • Bucket to be removed prior to any lifting operation by the excavator • Any excessive movement of bucket connected via a quick hitch to be reported to site supervisor immediately for investigation of working mechanism of the quick hitch. • Any visual indication of hydraulic leak near to quick hitch mechanism to be reported immediately, stop work immediately and do not commence work until authorised to do so by site supervisor. • Special care to be taken when using quick hitch systems: • Manual: This requires the winding of a screw or the use of a bar to open a spring actuated latch. • Automatic: This is operated entirely from the cab of the excavator and usually has an independent locking system which functions automatically and does not rely on hydraulic pressure to hold the latch in the closed position. The operator must ensure the locking system has completed before proceeding with work.	Operator Operator, Site Staff & Operatives. Operator, Site Staff & Operatives. Operator, Site Staff & Operatives. Operator, Site Staff & Operatives. Operator, Site Staff & Operative	

			• Ensure that the correct size of excavator has been chosen to adequately carry out the task.	Operator, Site Staff & Operatives.	
15,17,18,27	**Lifting operations** Load falling due to failure of lifting equipment, or incorrectly slung loads • Serious injury due to crushing, possible death	U	• All lifts to be controlled by trained/competent slinger/signaller. • Lift plan to be completed by crane appointed person and plant certificates to be in place. • No personnel to stand under or near to suspended loads. • All lifting equipment to be thoroughly examined prior to use • All drivers to be competent experienced and trained to CPCS standard.	Appointed person, machine operator, slinger/signaller, Site Supervisors.	A
1,15,17,18, 27	**Lifting operations** • Uncontrolled lifting of loads causing failure of lifting appliances or equipment • Dropping of load in an unsafe manner uncontrolled slewing causing collision with plant or operatives	U	• Trained slinger/signaller to control lifts. • Weather conditions to be monitored. • Lift plan to be produced by appointed person and briefed to all relevant personnel. • Regularly tested appliances and equipment with test certificates, to be used. • Regularly tested appliances and equipment with test certificates, to be used. •	Appointed person, machine operator, slinger/signaller, Site Supervisors.	A
4, 15, 17,	**Lifting operations -** Off-loading / Loading of Cabins • Uncontrolled lifting of loads causing failure of lifting appliances or equipment • Dropping of load in an unsafe manner uncontrolled slewing causing collision with plant or operatives	U	• All lifts to be controlled by trained/competent slinger/signaller. • Lift plan to be completed by crane appointed person and plant certificates to be in place. • No personnel to stand under or near to suspended loads. • Delivery lifting plan & Lorry loader check form to be completed by supervisor. Supervisor to check certs of chains and HIAB before allowing the lift to commence.	Site Staff and operatives	A

15	**Unloading of materials** • Operatives falling off the bed of delivery vehicles whilst assisting with the unloading of materials/plant resulting in serious injury/fatality.	U	• Delivery vehicles to be fitted with integral edge protection barriers. • Under no circumstances are operatives to access the bed of a lorry unless a safe system of work is in place and agreed by the site management. • Hiab off loading form to be completed and authorised. •	Site Supervisors, Operatives.	A
4,6,26	**Excavation works** • Poor ground conditions • Adverse weather conditions causing ground rotation • Ingress of ground water causing undermining • Crushing and /or burial of operatives at the work face. Possible ingress of plant and other operatives due to the surface effect. Usual effect of collapse is multiple fatalities. • Damage to properties due to poor ground conditions.	U	• Use of suitable temporary works as detailed by the Temporary Works Designer. • Regular inspection of temporary works and ground conditions • Arisings suitably stored away from excavations at least 45deg from depth • Excavation area to be isolated with fence and scaffold guardrails if required. • Stop works if ground conditions change and notify site staff • Pre condition surveys of existing properties. • Suitable dewatering systems where required	TW co-ordinator, engineer, site management team	A
3,4	**Excavation works** • Striking buried services • Possible death by electric shock/ disconnection of services to surrounding properties	U	• All excavations will be covered by a permit to excavate. • Prior to issue of the permit all service drawings are to be studied and a thorough C.A.T scan performed. • All services known and found to be marked on site. • Excavation to be carried out by hand when 500mm or less from a known service. • Trench dig to be supervised by a competent trained and experienced person • If unknown service is found, stop and report it to the site management team. • Existing services to be diverted by statutory owner.	Site management team, work supervisor, services coordinator	A

			• Overhead warning goal posts to be present to warn of overhead power lines		
3,4	**Contact with services** • Injury from faulty power tools • Overhead cables • Buried Services	U	• All portable electrical equipment to have current PAT test • Use of intrinsically safe electrical equipment within confined space locations • Pat testing of all portable electrical equipment • Use of PPM scheme • Follow industry recommended standards/procedures for excavating close to buried services • Set out designated passing places beneath overhead cables • Site specific induction - warning of the over head cables • Obtain service drawings • Carry out a CAT/Genny survey using information provided • Use visual aids to assist in determination of service locations i.e. covers, track marks in rd etc. • Locations of buried services to be clearly marked by visual aids, i.e. marker posts, traffic cones, spray paint etc. • All excavations are to be carried out only when a permit to dig has been issued and signed by the appropriate persons • Excavate trial holes by hand as required to prove services • Only hand tools to be used when working within close proximity of known services • Always adopt safe methods of excavation where there is any doubt about the presence of any services • Always treat services as live unless told otherwise by your supervisor or other competent person. • Seek advice from plant owners and work in accordance with their recommendations	Site staff, operatives	A

6,9,18	**Excavation works** • Existing contaminated materials in the ground • Ingestion • Skin irritation	U	• Examination of site investigation information. • Identification of materials encountered by competent person. • If materials are uncovered and not identifiable then works are to cease and seek advice from site management team. Material tests may be required to be undertaken. • COSHH assessment • Good hygiene • Tool box talks • Welfare facilities to include hot and cold running water • Issue PPE & train in use	Site management team, work supervisor, services coordinator	A
4,14,23,30	**Deep excavations** • Falls into excavations. • Serious injury or death due to fall from height. • Falling onto sharp or awkward objects.	U	• Solid barrier to physically prevent falling into excavations • Suitable signage to be erected • Provide substantial covering to possible fall hazard.	TW co-ordinator, engineer, site management team	A
31	**Noise:** • Noise level too high and affecting hearing • Disturbance to wildlife	U	• Noise to be reduced by engineering means wherever practicable, e.g. use of noise reducing blades, purchasing of silenced equipment, maintenance of equipment to manufacturers specification to avoid worsening noise, e.g. ensure rotating parts are checked for balance and replace if necessary. • Control of Noise at work regulations 2005 to apply • Where noise level is above the 1st action level, currently 80dB(A), hearing protection to be provided on request. • Where noise level is at or above the second action level, currently 85dB(A), appropriate PPE must be worn. • Operatives to be supplied and wear ear defenders to provide protection at 500-2000Hz frequency.	Site Supervision	A

			Standard Noise Reduction (SNR) - 28-32dB - Approved to EN 352-2.		
4,6,14	**Falls on same level / Falls from heights** • Trip over • Fall onto sharp objects • Land on uneven surface •	U	• Good Housekeeping, ensure clean and tidy work spaces • Ensure appropriate footwear • Place waste material in the designated areas • Designated walkways to segregate operatives and materials • Suitable edge protection • Signage as necessary • Seal and close chambers when works are not being carried out at these chambers Suitable barriers to segregate ops from sewage. • Ensure all sharp objects have “caps” placed over them • Ladders cannot be used as a working platform, and should be used as access only. Any ladder that is used for access must be tied or footed as a minimum	Site personnel	A
4, 14, 17,	**Working at/ Falls from height** Fall of lorry bed/Fall into trench	U	• Personnel training in working at height. • Ensure working platforms have suitable hand rails. Provision of edge protection of minimum height 950mm at all times. Provision of fall restraint systems (as last resort under hierarchy of control). • Where possible avoid work at height e.g. pre slung cabins delivered to site. Suitable edge protection in place at all times, visual inspection of hand railing periodically. NO FREE STANDING GUARD RAILS ARE TO BE USED ON SITE.	Site personnel	A
14,30	**Use of ladders.** • Fall from height resulting in fatality or major injury.	U	• Ladders are to be in good condition and display a safety tag marked with in date inspection carried out by a competent person. • Ladders are to be tied at the top and should protrude 1m above the top of the access point.	Operatives, Site Supervisor	A

			• They are to be used for access and egress only-no working from the ladders. • No carrying materials when using ladder • If ladder is found damaged, remove it from the site • 3 points of contact when using the ladder at all times		
8,11,12	**Use of abrasive wheels**: Injury to user and other personnel from flying debris or incorrect use of wheel.	U	• Use of goggles (to BS2092) • Wear Mandatory PPE inclusive of Ear defenders • Tool Box Talks • Ensure all necessary guards are in place • PPM scheme • Competent person only to change blade ensuring speed match. • Do not use side of blade for any use • Ensure operatives have received abrasive wheel training • Match speed of blade to speed of power tool •	Site staff, operatives	A
7,22	**Contact with flying particles:** Injury from cutting/grinding/breaking operations	U	• Use dust suppression as required • Wear safety spectacles/goggles suitable for the task being carried out • Ensure the manufacturer's recommended/provided guards are present and set correctly on all tools • Ensure a clear area around operation before commencing • Heat resistant clothing • Only trained/competent operatives to use equipment • When using disc cutters always cut away from other operatives and inform anybody in the immediate area that cutting will soon commence	Site staff, operatives	A
18	**Material Storage:** • Improper storage/stacking of materials which could overturn/topple resulting in serious injury/fatality to nearby site personnel.	U	• A designated storage area will be fenced off using pedestrian barriers • Good housekeeping must be maintained at all times. • Visual check on lifting points to ensure integrity • Materials to be stacked on firm level ground.	Site Supervisors, Operatives	A

			• Sheet piles are not to be stacked above 500mm in height • Timbers are to be used to separate each stack of sheet piles.		
31	**Manual Handling**: • Operatives suffering musco-skeletal injuries • Damaging items being lifted such as heras fence panels when putting up the perimeter fencing.	U	• Provide regular manual handling training/toolbox talks • Assess load to be lifted and use mechanical means of lifting if possible • Complete MH risk assessment if mechanical lift is not possible • Break down load to a more manageable size • More than 1 op to complete lift if load is awkward or irregular in shape • Carry out task specific manual handling risk assessment • Assess the load and decide if it needs to be lifted	Site staff, operatives	A
8	**Use of small tools:** • Injury due to faulty equipment • HAV's exposure limits exceeded	U	• All guards are to be in place as per manufacturers recommendations • Tool box talks on safe use of equipment etc • Remove any faulty tools/equipment etc from service immediately and inform your supervisor • PAT testing to all portable electrical Equipment • Use of correct PPE to suit equipment being used • Correct training for items being used • PPM's for each item to be completed by a competent person • Keep hands warm during colder weather • Limit "trigger" time for equipment being used • Rotate workforce • Exercise hands to increase blood flow • Suitable hand protection to be supplied and worn	Site staff, operatives	A
9	**Environmental threat**: • Spill resulting in pollution • Surface run off resulting in pollution	U	• COSHH assessments for all COSHH items • Use of environmentally friendly products where possible. • Dispose of all waste materials to designated skips etc.	Site staff, operatives	A

			• Emergency spill kits are to be maintained at every work location or be easily accessible at all times from a centralised location • Equipment to be stored on designated drip trays/ bundied areas		
9	**Contact with/exposure to hazardous substances**: • Injury/poisoning/ingestion of COSHH items • Weils Disease/infection caused by contact with sewage	U	• Use alternative less harmful substances • Complete COSHH assessment and brief operatives accordingly • Training as required • Wear appropriate PPE • Only authorised personnel to use substances • Tool box talks (COSHH) • Disposal to designated COSHH skips and further disposal to licensed tip ensuring a completed waste transfer note has been completed • Do not use materials until fully aware of the associated risks • Good hygiene – wash any area that came into contact with substance thoroughly	Supervisors/ Operatives	A
9,	**Refuelling of excavator & Dumpers** • Spillages resulting in pollution	U	• Spill response kits available at all times and around any potential pollution areas i.e. surface drains that connect to the watercourse • All refuelling operations to be undertaken at the site compound • Refuelling operations must always be manned, never left alone, or the fuel trigger jammed open. • Check hoses and valves regularly for signs of wear and re-new as and when required. • If a spill should occur please use the following STOP, CONTAIN and NOTIFY.	Site Staff and operatives	A

Method Statement required?	Yes	X	No		**Method Statement number:** 1W6000/4566

Additional Risk Assessment (Tick box as required)						**PPE (Tick box as required)**							
Noise		COSHH		Handling		Helmet	√	Respiratory		Boots	√	High Vis	√
Asbestos		Lead		Radiation		Hearing		Eye	√	Harness		Others	

	Name	**Signature**	**Date**
Person completing the assessment:	M. Bennett	M. Bennett	05/12/19
Person reviewing the assessment:	A. Good	A. Good	05/12/19
Date to be reviewed:	05/12/20		