Infrastructure

Construction Management Framework Plan

Project: Hoyland

Reference	NEW-HAGS-CMP-XX-RP-ZM-002-Construction Management Framework Plan
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Date	28th June 2021

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Title Construction Management Framework Plan

Client Newlands Developments

Project Hoyland West

Status Construction

Date June 2021

Issue Number	Date	Revision Details
P2	3rd June 2020	
P3	16th April 2021	Masterplan update, revised basin layout & minor compound amendment
P4	28th June 2021	Wording to include the attenuation basin construction and access

Contents

Contents

1.0 Purpose of the Construction Environmental Management Plan (CEMP)

This Construction Environmental Management Plan (CEMP) sets out the overarching systems and controls that will be adopted during the construction of the Hoyland West scheme to minimise any adverse environmental impacts in accordance with Construction Good Practice. The CEMP provides the framework which all construction activities will work too, with individual activities having their own specific Risk Assessment and Method Statement.

Obligations, Compliance and Enforcement

The principles set out by the CEMP and the arrangements established through the CEMP, will be incorporated within all construction contracts arising from the development of the scheme and all contractors, their subcontractors and supplier will be required to comply with the overarching principles and details contained in this CEMP.

Any non-conformance or infringement of the CEMP shall be reported to the Project Manager within 24 hours and proposals for rectifying the non-conformance shall be submitted to the Project Manager within 7 days. The management and reporting of non-conformances will be the responsibility of the Environmental Manager.

The contractor shall submit proposals to the Project Manager, before works commence, for the internal and external auditing of compliance with the CEMP. Copies of all audit reports are to be provided to the Project Manager within 7 days of the audit. Furthermore, the Project Manager will undertake audits as and when he sees fit.

Failure to rectify a non-conformance within an agreed timescale may result in relevant works being suspended until the Project Manager is satisfied that the non-conformance has been corrected, or in extreme cases termination of the contract.

The CEMP will remain valid throughout the construction phase of the scheme.

The Masterplan of the proposed scheme is provided at Appendix 01.

2.0 Description of the Works

The proposed work consists of the following:

- Bulk earthworks to form three development platforms
- Creation of a surface water attenuation basin
- Sitewide surface water drainage linking the attenuation basin to the development platforms
- Sitewide foul sewer including a foul sewer pumping station
- Construction of a Link Road between Birdwell Roundabout and Sheffield Road
- Construction of a new roundabout on Sheffield Road
- Reconfiguration of Tankersley Lane junction
- Sitewide Infrastructure Landscaping

3.0 General Site Management

Roles and Responsibilities

The site wide coordination and implantation of the principles established in this CEMP, will be the responsibility of the Developer's Project Manager with the support of the development's Environmental Consultant.

As each section of work is taken forward an Environmental Manager will be appointed for that section, generally this will be a contractor appointment but in some circumstances the Project Manager may undertake this role or appoint others. The Environmental Manager shall ensure that the principles of the CEMP shall be fully integrated into all site procedures, processes and activities, and ensure that appropriate environmental management systems, under BS 14000 or similar, are put in place CEMP.

The key contacts are:

- Developer - Newland Developments - Ken Brown
- Project Manager - Avison Young- Oliver Shore
- Ecological Consultant - fpcr
- Landscape Consultant - BCA
- Engineering Consultant - RPS - Pete Adcock
- Principal Contractor - Winvic Construction - Mark Skelton

- Principal Designer - t6orran Webb
- Site Manager - Winvic Construction
- Environmental Manager - Winvic Construction - Ian Goodhead
- Health and Safety Manager - Winvic Construction - Ian Goodhead

The key firms and individuals may change as the scheme develops.

Communications

The effective implementation of the CEMP is intrinsically linked to good communications between all the project stakeholders and the public.

To promote effective communications during the contract the following will be implemented at the commencement of each section:

- The Project Manager will brief the contractor's senior management team on the philosophy and content of the CEMP, which will generally include the Director responsible for the scheme.
- The Ecological Consultant shall brief the contractor's senior management team on all ecological aspects of the scheme.
- The contractor's Director shall be responsible for developing a site-specific induction for all those working or visiting his site. The scope of the induction will be agreed in advance with the Project Manager.

The contractor will provide a programme to achieve continuous improvement of environmental matters during the contract. The Developer wishes to see positive training on environmental matters on an on-going basis.

The contractor shall develop an appropriate strategy for communicating with the public both before commencement and during the contract in accordance with the Stakeholder Communication Protocol.

4.0 Construction Access & Traffic Management

4.1 Construction Traffic

Access to Hoyland West will be strictly controlled. All vehicles to Hoyland West will be instructed to leave the M1 at Junction 36 and enter and leave the site from existing access of Birdwell Roundabout. Directional signage will be erected from the M1. Using this existing access will minimise the impact on the local highway network.

Barred Routes

Access to the main site will not be permitted from Sheffield Road or Tankersley Lane.

Monitoring

All workers and suppliers will be advised on a regular basis that they should not use any of the roads not designated to travel to and from the site. The movement of HGV's will additionally be visually monitored on an occasional basis by the site gang person.

Enforcement

LGV enforcement will be undertaken on a 'three strikes and you're out' principle. On the first breach, transgressors will be warned in writing that they have used a "Barred Route" without authorisation. On the second breach a mandatory meeting with the Travel Plan Co-ordinator will be arranged to enforce the issue. On the third breach the driver's permission to enter the site will be withdrawn for three months. After this, should the driver concerned transgress further on any subsequent occasion then permission to enter the site will be permanently withdrawn.

HGV movements will be covered by the same enforcement principles.

Access to and departure from Hoyland West by construction delivery vehicles shall not be permitted before 08.00 hours and after 18.00 hours.

The attenuation basin is remote from the main site and access will be via two routes. Access for the workforce and welfare service vehicles will be via Black Lane, along with some initial deliveries of materials to establish the satellite compound. This route has been agreed with the owners, Wentworth Estates, and a pre-commencement condition survey will be completed prior to use and issued to Wentworth Estates for their records. The route is shown in Appendix 02a.

The second route to the attenuation basin will be from plot 2 of the main development site, via the agreed drainage easement. This route will be used for the movement of earthworks materials to and from the attenuation basin utilising earth moving equipment, and for the transfer and installation of drainage and other materials for all works associated with the attenuation basin. The route is shown in Appendix 02b.

4.2 Traffic Management

All works on the Public Highway shall be carried out in accordance with Chapter 8 and the traffic management arrangements agreed with the Local Highway Authority, Highways England and the Police.

Traffic management will be for three different activities:

- Construction of the new Roundabout on Sheffield Road
- Reconfiguration of Tankersley Lane
- Crossing of Tankersley Lane under traffic signals whilst completing bulk earthworks.

Whilst moving earthworks material across Tankersley Lane it will be necessary to use traffic management. The traffic management will consist of two-way temporary traffic signals which will operate under Vehicle Actuation, which will ensure priority to vehicles using Tankersley Lane. A temporary Pelican crossing will be installed across the footpath so that pedestrians can pass safely. Furthermore, an operative will be stationed at the crossing point to ensure the cleanliness of the carriageway. The traffic management will be removed outside of working hours.

The development shall be carried out in such a manner to ensure that emergency vehicles visiting the development, adjacent properties or passing through or adjacent to the development are always unhindered and provided with free flow passage as far as is practicable.

5.0 Working Hours

Construction work within the development site will be confined to the following:

08:00 – 18:00 hours Monday to Friday,
09:00 – 13:00 hours Saturday,

No works will be undertaken on Sundays or public holidays, save in exceptional circumstances only and with prior notification to the LPA.

Any changes to the above working hours will also be agreed with the local Environmental Health Officer.

6.0 Pollution and Contamination

Pollution and contamination can be pre-existing or caused by construction activities.

The contractor must make himself fully aware of all the ground investigation reports and geotechnical design reports relating to the site.

The contractor shall plan and execute his work to ensure that hazardous or polluting substances do not cause harm to surface water systems, landscaping and associated ecology.

Additional settlement and control ponds will be provided as necessary during a component to prevent pollution entering the existing water courses.

The scheme requires significant earthworks which will inevitably increase the risk of pollution to the surface water system. The contractor shall adopt water pollution prevention procedures in line with good practice. In preparing the procedures the contractor shall consider the following as a minimum:

- Published guidance from the Environment Agency
- Control of water pollution from construction site and other documents published by CIRIA
- The site-specific requirements of the EA
- Arrangements for monitoring water bodies to ensure and demonstrate water quality
- Fueling of plant and equipment
- Maintenance of plant and equipment
- Storage of hazardous materials
- Control of concrete truck washout arrangements
- Flood warnings
- The landscape and ecological environment

The contractor will be required to include water pollution prevention in all inductions and shall arrange update toolbox talks at appropriate intervals during the contract.

All incidents involving water pollution shall be immediately reported to the Project Manager.

7.0 Measures for Controlling Noise and Vibration

7.1 Noise

7.1.1 Responsibilities

The Developer will appoint a Noise Consultant to:

- Oversee compliance with this Construction Environmental Management Plan.
- To provide advice to the contractor.
- To assist in the interpretation of monitoring data.
- To advise on amendments to Method Statements and working plans based on observed data.
- To coordinate Noise issues between different contractors engaged on the development.
- To liaise with adjacent projects that may have an impact of Noise on sensitive receptors.

The appointed contractor shall:

- Appoint a Noise Manager (site based).
- Comply with this Construction Environmental Management Plan.
- Install monitoring equipment which is in accordance with the Dust Sensitive Zones and Monitoring positions (Dust and Noise). As the sensitive receptor is Hoyland Common, three monitoring stations will be established on the eastern boundary of Hoyland West.
- Review monitoring data to ensure the mitigation measures are being effective,
- Implement additional measures if monitoring suggests it to be necessary,
- Maintain a log of all noise data,
- Maintain a log of Noise Complaints including details of how the event was closed out and signed off by the Developers Noise Consultant.
- Maintain a log when noise exceedance limits are breached and record action taken to manage.
- Provide a Noise Report at each monthly progress meeting.

The appointed contractor shall:

- Appoint a Noise Manager (site based).
- Comply with this Construction Environmental Management Plan.
- Install monitoring equipment which is in accordance with the Dust Sensitive Zones and Monitoring positions (Dust and Noise). As the sensitive receptor is Hoyland Common, three monitoring stations will be established on the eastern boundary of Hoyland West.
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- Maintain a log when noise exceedance limits are breached and record action taken to manage.
- Provide a Noise Report at each monthly progress meeting.

7.1.2 Monitoring

Noise monitoring will be provided as noted above, on the eastern boundary of Hoyland West.

The monitoring equipment shall be ***i-dB*** Type 2 noise monitor or similar with continuous monitoring via ***AirQWeb*** software.

Acceptable levels shall be in accordance with BS 5228:2009 + A1:2014.

The monitoring equipment shall send notification if acceptable levels have been exceeded.

Details of typical equipment is provided in Appendix 03.

7.1.3 General Mitigation Measures

The Contractor will implement measures to minimise the disturbance caused by construction traffic and activities.

When planning all activities contractors should predict noise levels and review the likely impacts and what can be done to mitigate any adverse impacts.

If construction activities are likely to cause a potential nuisance at sensitive receptors consideration should be given to noise measurements before and during construction.

The guidance given in BS 5228: 2009 "Code of Practice for Noise and Vibration Control on Construction and Open Sites" relating to "Methods of Work" will be followed and will be incorporated within the method statement which will form the basis for the implementation of construction works. As required by BS 5228, a survey of background noise will be undertaken prior to the works commencing, and acceptable noise levels established in accordance with Table E.1 of BS 5228: 2009. Any material breach of acceptable noise levels notified to the Environmental Manager will be addressed immediately to ensure no recurrence.

In planning their work, the contractor shall consider the following as a minimum:

- Selection of plant and equipment
- Timing of an operation in the programme
- Timing the activity during the day
- Duration of tasks
- Maintenance of plant and equipment
- Use of sound reducing equipment
- Closing equipment during period of non-use
- Location access routes and haul roads

Noise shall be considered in all method statements and risk assessment.

7.1.4 Additional Mitigation Measures

Should monitoring indicate that the measures in Section 7.1.3 are not achieving the required levels then additional measures shall be considered and implemented, these shall include:

- Working Hours
- Task Durations,
- Additional Screening,
- Relocation (if possible)
- Alternative methods and plant.

7.2 Vibration

The Contractor will implement measures to minimise the disturbance caused by construction traffic and activities.

When planning all activities, the contractor will consider vibration and review the likely impacts and what can be done to mitigate any adverse impacts.

If appropriate, a Vibration Impact Assessment should be carried out in accordance with 8S5228.
In planning their work contractors should consider the following as a minimum:

- Selection of plant and equipment
- Methods of working
- Duration of activities
- Working hours

8.0 Measures for Controlling Emission of Dust

8.1 Risk of Dust Emissions

The risk of dust emissions causing loss of amenity and/or health or ecology is related to:

- The activities being undertaken (earthworks, number of vehicles and plant etc.)
- The duration of these activities,
- The meteorological conditions (wind speed, direction and rainfall),
- The proximity of receptors
- The adequacy of mitigation measures, and
- The sensitivity of the receptors to dust.

8.2 Dust impacts considered in the plan:

- Annoyance due to dust soiling,
- The risk of health effects due to an increase in exposure to PM10, and
- Harm to ecological receptors.

8.3 Screening Criteria for potential receptors.

Human receptors, being locations where people spend time and where property may be impacted by dust, within:

- 350m of the boundary of the site, or

Ecological receptors, being habitats that might be sensitive to dust, within

- 50m of the boundary of the site, or
- 50m of the route(s) used by construction vehicles on the public highway, up to 500m from the site entrance.

Areas that are considered within the Dust Sensitive Zones are buildings generally to the east of Hoyland West along Tankersley Lane and Sheffield Road. The western boundary along the M1 corridor is not considered sensitive.

Responsibilities

The Developer will appoint an Air Quality Consultant to:

- Oversee compliance with the Dust Management Plan.
- To provide advice to the contractor,
- To assist in the interpretation of monitoring data, and
- To advise on amendments to the Dust Monitoring Plan based on observed data.
- To coordinate Air Quality issues between different contractors engaged on the development,
- To liaise with adjacent projects that may have an impact on Air Quality and sensitive receptors

The appointed contractor shall:

- Appoint an Air Quality Manager (site based),
- Comply with the Dust Management Plan,
- Install monitoring equipment is accordance with the Dust Management Plan,
- Review monitoring data to ensure the mitigation measures are being effective,
- Maintain a log of all air quality data,
- Maintain a log of Air Quality Complaints including details as to how the event was closed out and signed off by the Developers Air Quality Consultant.
- Maintain a log when dust exceedance limits are breached and record action taken to manage.
- Provide an Air Quality Report at each monthly progress meeting.
- Obtain the agreement of the Air Quality Manager to Method Statements and Risk Assessments for all works within the Dust Sensitive Areas.

Monitoring Measures.

8.3.1 Wind Speed and Direction

A static wind speed monitor shall be provided at the Site Compound.
A handheld wind speed monitor shall always be available on-site.
A record of wind speed and direction shall be recorded twice a day. The contractor, in conjunction with the Air Quality Consultant, shall correlate wind speed, wind direction, PM10 readings and activities. The results of the correlation, which shall be continually refined, shall be used to identify days when the Site Dust Management Status is likely to be Amber or Red, see section 8.3.4.

8.3.2 PM10 at designated locations

Air Quality monitoring equipment shall be installed at three locations along the eastern boundary of Hoyland West.

The equipment shall be similar to a Topas or Osiris manufactured by Turnkey Instruments Ltd.

The instrumentation shall be capable of sending alerts when readings of PM1O exceed 250µg/m3 when averaged over a 15-minute period.

A handheld detector, similar to a Dustmate manufactured by Turnkey Instruments Ltd, shall always be available on site.

A copy of the software necessary to analyse the output from the monitoring equipment shall be available on-site. The format of output reports shall be agreed with the Air Quality Consultant and reported at each Progress Meeting.

Details of typical equipment is provided in Appendix 02

8.3.3 Visual Inspections

At the agreed Air Quality Monitoring locations, a flat smooth surface shall be provided (500mm x 500mm) to allow the Air Quality Manager to visually inspect the level of dust deposition. Albeit a subjective assessment this will provide evidence of dust risk. The results of each inspection shall be recorded.

The Air Quality Manager shall also observe activities twice a day to assess dust risk and the results of each assessment shall be recorded.

8.3.4 Site Dust Management Status

A simple traffic light system shall be adopted for all works within Dust Sensitive Areas:

Green - General Mitigation Measure to apply
Amber - Additional Mitigation Measure shall apply
Red - No high-risk activities shall take place in a Dust Sensitive Area.

The Air Quality Manager shall assess the Site Dust Management Status twice a day and advise the site team management of the status. The site team shall then ensure that the appropriate measure is adopted.

8.3.5 Site Action Level

The Air Quality Manager shall increase the Dust Management Status to Amber on receipt of a warning that the PM10 readings have exceeded 250µg/m3 when averaged over a 15-minute period.

General Mitigation Measures

- Haul roads should not be used in Dust Sensitive Areas whenever possible,
- Haul roads in Dust Sensitive Areas shall be constructed with a surface that will reduce the risk of dust generation and thereafter maintained in an appropriate manner.
- A site speed limited of 20km/hr shall always apply
- Materials should not be stockpiled in Dust Sensitive Areas whenever possible.
- Processing areas should not be established in Dust Sensitive Areas,
- No burning on site shall be permitted,
- Soil stockpiles to be in place between April to October shall be profiled and seeded as soon as possible after completion,
- The final surface of permanent landscaped areas shall be seeded as soon after completion as conditions allow.
- Plant and equipment shall be selected to minimise the generation of dust,
- Methods of contractions shall be adopted to minimise dust generation whenever possible.

Additional Mitigation Measures

- All haul roads shall be damped down,
- The site speed limited shall be reduced to 10km/hr,

- Whenever possible works in Dust Sensitive Areas that could give rise to dust should be stopped or minimised.
- Dust suppression measure shall be used on all crushing/screening plant and equipment.

Contractors will plan their activities to reduce the level of risk and mitigate any residual impacts.

Generally, the most effective method of dust control is damping using a fine spray. The contractor will fully investigate sources of water and where possible use recycled water. Potable water should not be used.

In planning his activities, contractors should consider the following as a minimum:

- Damping down arrangements
- Sources of water for damping down
- Location of haul roads and their surfaces
- Stabilisation of temporary haul roads.
- Sweeping arrangements of hard surfaces
- Site speed limits
- Selection of plant and equipment
- Maintenance of plant and equipment
- Covering of payloads while in transit
- Location and surface treatment of stockpiles
- Burning will not be permitted on site
- Prevailing wind direction
- Programme and seasonal timing

9.0 Contractor's Facilities, Compound, Offices, Fencing, Parking and Storage

It is proposed to locate the Site Compound for the Infrastructure work adjacent to Tankersley Lane. The access to the site compound will be controlled by a gate person.

The site compound will be 75m x 75m, and will include the site offices, car parking and material storage. The perimeter of the site compound will be secured with 1.8m high chain link fencing.

Within the site compound designated walkways will be established to segregate the pedestrians from vehicles.

The site office will be double stacked temporary accommodation, with the first floor containing all the welfare facilities (canteen, toilets and drying rooms) and the open plan office on the second floor.

The car parking area will be in the northern half of the site compound with a bituminous surfacing and capacity to park 75 vehicles.

The southern half of the site compound will be used to storage materials. The maximum height of material storage will be two pallets or 2m, whichever is lower. Bulk loose materials (aggregates, ready mixed concrete) will be delivered directly to the point of use.

Materials that are affected by weather conditions will be stored in steel containers stores.

The management of material storage is a key element to minimising waste and to maximise the efficiency of site operations. The gate person will direct the deliveries to the correct location. Deliveries which are stored in the site compound will be off loaded using either a fork-lift or a lorry mounted crane. The bulk loose material will be discharged directly from the delivery vehicle.

When the work is complete the site compound will be removed, and ground will be engineered to become part of the development platform.

A satellite compound will be established at the attenuation basin location to provide suitable parking and welfare facilities for the workforce at this remote location. This will consist of an unbound surface and a limited number of self -contained welfare units for the duration of the works. The compound will be fully removed prior to completion of the works and the area finished in accordance with the agreed design details.

10.0 Waste Management

It is inevitable that some waste will be produced during the construction works. Throughout the construction process, all activities will seek to minimise the generation of waste, utilising the waste hierarchy where practicable, to manage waste. The waste hierarchy seeks to reduce waste through elimination, reduction, re-use, recycling through to disposal as the final option. Handling and disposal of waste must be carried out under the 'Duty of Care' Regulations and current legislation.

Waste management procedures shall be developed and will include the following topics:

- Identification of the types of waste that may be generated;
- Implementation of re-use and recycling strategies;
- Implementation of waste minimisation strategies;
- Set up of waste disposal facilities;
- Control and management of the disposal of different types of waste;
- Roles and responsibilities;
- Monitoring, reporting and auditing of waste produced on site.

Earthworks/Spoil

The proposed development will seek to minimise the import and export of material, wherever possible. The re-use of materials around the site, as suitable engineering material or infill material, will be carried out whenever possible.

Earthworks material from the pond will be transported to the main development site via the agreed easement route, ensuring maximum re-use of the material and minimising waste off-site.

Reduction

A number of potential options are available to complement construction waste reduction including maximising off-site fabrication, efficient design specification of standardised components/ materials, implementing a just-in-time delivery system to minimise the volume of goods/materials stored on site and therefore exposed to inclement weather conditions and other site damage sources. Procedures will include:

Re-Use

Certain materials may have a relatively high level of re-use (e.g. timber, aggregates, brick and blockwork) within the construction stage operations. Such wastes may arise from spoiled materials, and natural waste from construction processes. Procedures will include:

- Separate skips/receptacles will be provided to receive different types of specific waste which can be re-used on site.
- Licensed waste carriers will be required to identify possibilities of local community re-use of waste materials.

Recycling

Certain materials may have a feasible recycling value (e.g. timber, aggregates, plastics, glass, metals). These may arise from similar construction processes as those identified above for re-use. Procedures will include: -

- Separate marked skips/receptacles will be provided for the depositing of types of waste suitable for efficient recycling; and
- Discussion with licensed waste carriers in respect to the feasibility/efficiency of specific materials recycling.

Disposal

It is inevitable that certain materials will have to be removed from site for disposal as they have no re-use/recovery value. Procedures to be considered in preparing a Site Waste Management Plan will include:

- All wastes which require removal from site for final disposal will be subject to an effective management control regime ensuring statutory compliance. The key components of this regime are illustrated below:

  Appointing competent and suitably registered waste carrier(s);
  Establishing an effective site waste stream strategy (recycling, re-use, disposal);
  Providing an effective waste skip strategy to suit the waste stream strategy and which differentiates between hazardous, non-hazardous and inert wastes;

  Should asbestos be encountered all potentially asbestos containing materials will be disposed of by a suitably licensed contractor in accordance with relevant guidance and legislation;
  Providing adequate information/training to site operatives in respect of the waste stream strategy; and
  Implementing an effective audit procedure, to audit the waste disposal regime from source to licensed disposal facility(s). This will include reviewing all relevant Waste Management Licenses and Waste Transfer Licenses of all waste contractors on the project. In addition, a record will be kept of all Waste Transfer Notes to ensure that all waste movements from the site are properly documented. Non-Conformance Reports would be issued to ensure any deficiencies are corrected.

11.0 Storage of Fuel, Oil and other Chemicals

Indicative locations of Contractor Facilities are shown in Section 9.0.

All fuel, oil and chemicals shall be stored in accordance with the Manufacturer's recommendations and any tanks shall be in accordance with PPG? (above ground oil storage tanks) and PPG22 dealing with spills.

Mobile bowsers will be used to refuel construct plant. All bowsers have a double skin construction and bund capacity to store 110% of their total volume. Drip trays will be used beneath all refueling hoses and no refueling will take place within 100m of a watercourse or drain.

12.0 Temporary Lighting

Generally, no works are planned to be undertaken in periods of darkness and therefore it is unlikely that task lighting will be required. However, unplanned events can occur for which task lighting may be required for short periods; in this event a method statement shall set out the maximum height of lighting lanterns and the average lux levels.

Temporary lighting will be provided in the site contractor compound for security and safety reasons. All security lighting will be focused to the middle of the site compound and will not face any neighboring properties or directly into the public highway.

Task lighting shall ensure that there is no upward light.

Lighting will be switched off when not required for safety or security.

13.0 Prevention of Debris on Highways

The measures and provisions set out in Section 9 and 10 of this Plan will go a long way to prevent the deposition of debris on the highway.

The contractor will provide a Wheel Cleaning facility at the exit to the site compound. At all times delivery vehicles will either be driving on tarmac or Type 1 sub-base, therefore this will minimise the risk of tyres becoming dirty. It is anticipated that there will be a low number of delivery vehicle movements, onto and off site during the Infrastructure work.

The Wheel Cleaning equipment will consist of a high-pressure hose mounted onto a portable water bowser. In the unlikely event that this is not sufficient and dirt escapes onto Birdwell Roundabout, it will be cleaned immediately using a road sweeper.

14.0 Protecting Biodiversity Interests

Landscape

The Landscape Designer will identify existing landscaping or newly planted landscaping that needs to be protected. Protection shall be provided in accordance with BS 5837: 2012 Trees in relation to design, demolition and construction - Recommendations.

Ecology

As no protected species have been found on site, the Contractor hasn't designed mitigation measures. However, if the contractor does find any protected species whilst completing the work, the work will be stopped immediately, and mitigation measures will be designed.

15.0 Temporary Surface Water Management System

The arrangements for the temporary management of surface water shall be set out in a detailed method statement.

The contractor shall prepare and submit to the Project Manager's approval his surface water management plan before any works in a phase commences and the contractor shall thereafter carry out his works in accordance with the approved plan.

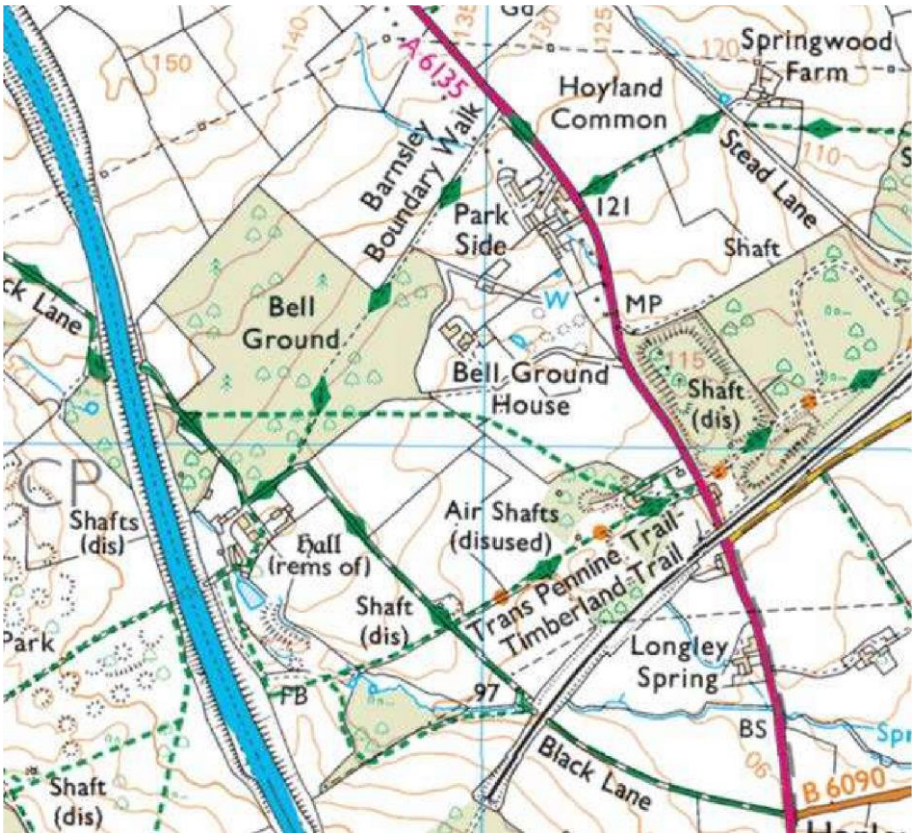
Measures shall be adopted in accordance with PPG5, particularly Section 2.2b (balancing lagoons) and 2.2c (filtration) and CIRIA Report C532 "Control of water pollution from construction sites".

Monitoring points shall be established downstream of any temporary balancing lagoons to monitor water quality so that the effectiveness of the measures can be assessed and improved if necessary. Details of monitoring techniques shall be set out in the detailed method statement.

Testing parameters shall be agreed with the Environment Agency/Local Lead flood Authority ahead of collection of baseline test data.

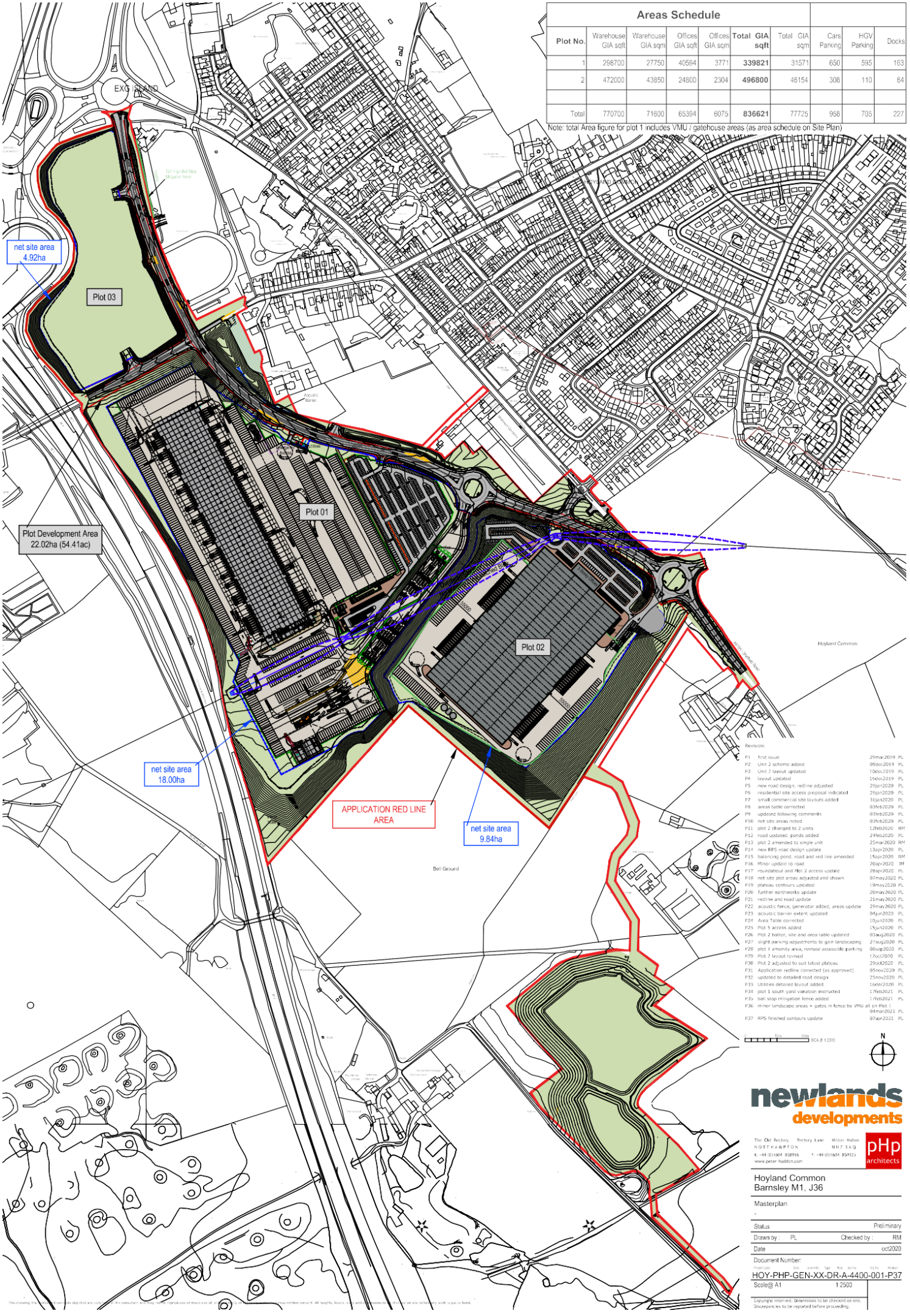
16.0 Public Rights of Way

The existing Public Rights of Way (PRoW) are shown below:



These existing PRoW will remain open throughout the duration of the work. Where the works cross over or run parallel to a PRoW, the PRoW will be securely fenced, and the workforce will be given Toolbox Talks on the management of PRoW.

Appendix 01 - Masterplan



Areas Schedule

Plot No.	Warehouse GIA sqft	Warehouse GIA sqm	Offices GIA sqft	Offices GIA sqm	Total GIA sqft	Total GIA sqm	Cars Parking	HGV Parking	Docks
1	298700	27750	40594	3771	**339821**	31571	650	595	163
2	472000	43850	24800	2304	**496800**	46154	308	110	64
Total	770700	71600	65394	6075	**836621**	77725	958	705	227

Note: total Area figure for plot 1 includes VMU / gatehouse areas (as area schedule on Site Plan)

Revisions:

P1	first issue	29mar2019 PL
P2	Unit 2 scheme added	09dec2019 PL
P3	Unit 2 layout updated	10dec2019 PL
P4	layout updated	19dec2019 PL
P5	new road design, redline adjusted	29jan2020 PL
P6	residential site access proposal indicated	29jan2020 PL
P7	small commercial site layouts added	31jan2020 PL
P8	areas table corrected	03feb2020 PL
P9	updated following comments	03feb2020 PL
P10	net site areas noted	03feb2020 PL
P11	plot 2 changed to 2 units	12feb2020 RM
P12	road updated, ponds added	24feb2020 PL
P13	plot 2 amended to single unit	25mar2020 RM
P14	new RPS road design update	13apr2020 PL
P15	balancing pond, road and red line amended	15apr2020 RM
P16	Minor update to road	20apr2020 JM
P17	roundabout and Plot 2 access update	28apr2020 PL
P18	net site plot areas adjusted and shown	07may2020 PL
P19	plateau contours updated	19may2020 PL
P20	further earthworks update	20may2020 PL
P21	redline and road update	21may2020 PL
P22	acoustic fence, generator added, areas update	29may2020 PL
P23	acoustic barrier extent updated	04jun2020 PL
P24	Area Table corrected	10jun2020 PL
P25	Plot 5 access added	15jun2020 PL
P26	Plot 2 batter, site and area table updated	03aug2020 PL
P27	slight parking adjustments to gain landscaping	27aug2020 PL
P28	plot 1 amenity area, revised accessible parking	08sep2020 PL
P29	Plot 2 layout revised	12oct2020 PL
P30	Plot 2 adjusted to suit latest plateau	29oct2020 PL
P31	Application redline corrected (as approved)	05nov2020 PL
P32	updated to detailed road design	25nov2020 PL
P33	Utilities detailed layout added	16dec2020 PL
P34	plot 1 south yard variation instructed	17feb2021 PL
P35	ball stop mitigation fence added	17feb2021 PL
P36	minor landscape areas + gates in fence by VMU all on Plot 1	04mar2021 PL
P37	RPS finished contours update	07apr2021 PL

SCALE 1:2000

N

newlands developments

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Hoyland Common
Barnsley M1, J36

Masterplan

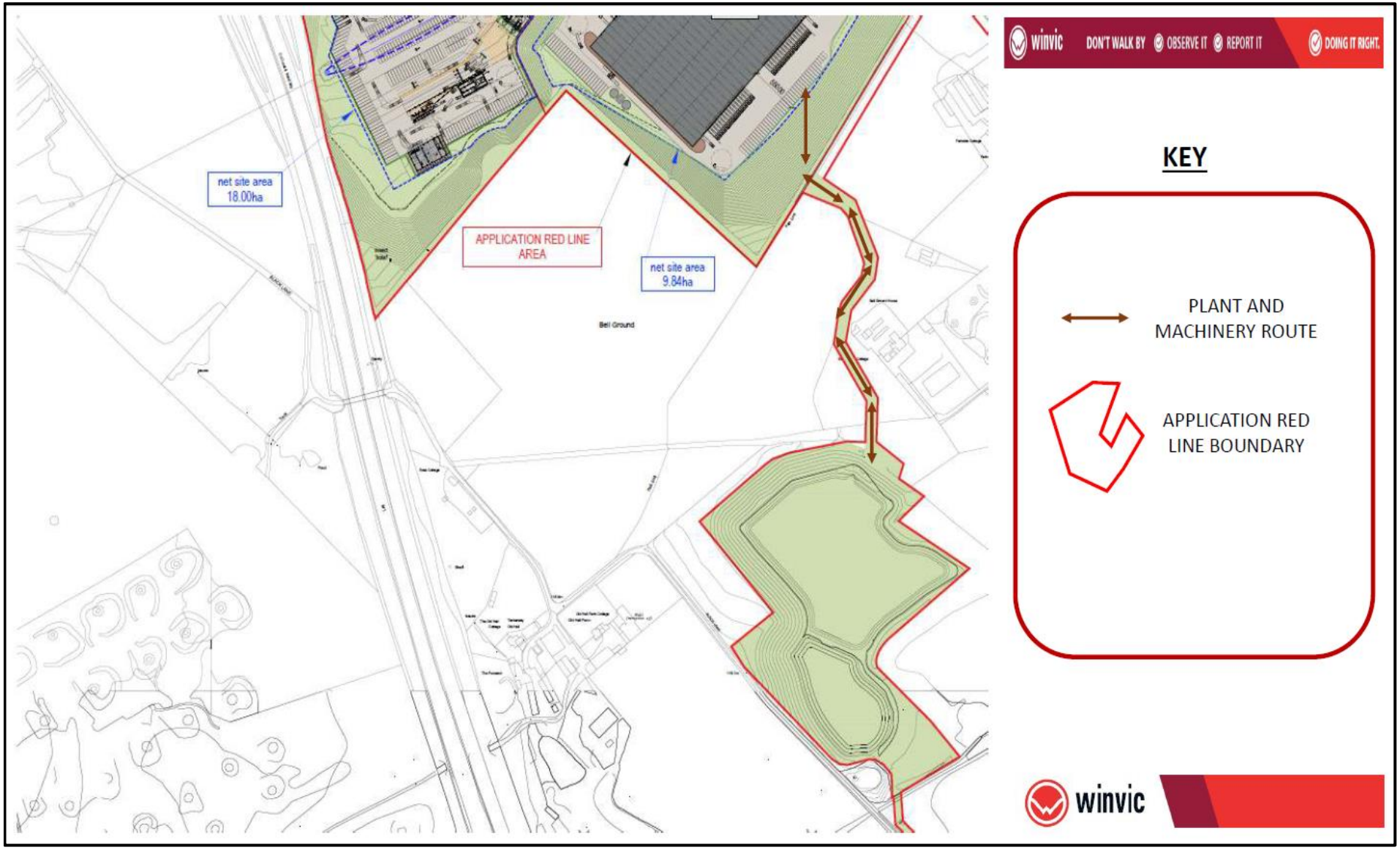
-

Status	Preliminary
Drawn by : PL	Checked by : RM
Date	oct2020
Document Number:	
HOY-PHP-GEN-XX-DR-A-4400-001-P37	
Scale@ A1	1:2500

Appendix 02a - Workforce Access to the Attenuation Pond

winvic
DON'T WALK BY
OBSERVE IT
REPORT IT
DOING IT RIGHT.
KEY
WORKFORCE ACCESS ROUTE
APPLICATION RED LINE BOUNDARY
winvic
net site area 9.84ha
APPLICATION RED LINE AREA
Bell ground
net site area 18.00ha

Appendix 02b - Plant Access to the Attenuation Pond


winvic
DON'T WALK BY
OBSERVE IT
REPORT IT
DOING IT RIGHT.
net site area
18.00ha
APPLICATION RED LINE
AREA
net site area
9.84ha
Bell Ground
KEY
PLANT AND
MACHINERY ROUTE
APPLICATION RED
LINE BOUNDARY
winvic

Appendix 03 - Noise and Air Quality

i-dB Noise Monitor

i-dB Internet Noise Monitor

- **Accuracy:** IEC61672-1 Class 2 as standard
  IEC61672-1 Class 1 as cost option
- **Measurement Range:** 30dB to 120dB RMS
- **Parameters:** LAeq, LAmax, LA10, LA90 and others
- **Operating Temperature:** -10C to 50C
- **Humidity:** Oto 95%
- **Enclosure:** IP65, up to 10m cable

i-dB is Turnkey's new internet noise monitor. It connects directly to any Osiris or Topas continuous multi-fraction PM dust monitor to allow both dust and noise to be continuously monitored and recorded via the internet using our free ***AirQWeb*** software application and a web browser such as Internet Explorer , Chrome or Firefox. An equivalent free 'app' , AirQApp, is also available for Android and iPhone devices .

AirQWeb can be used to graph and tabulate most commonly used noise parameters such as LAeq, LAmax, LA10 and LA90 and others along with simultaneous measurements for PM1, PM2.5, PM10, TSP dust fractions, wind-speed and direction

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APM

Osiris **Monitor**
Sira MC 09015701

Topas Monitor
Sira MC 090158/01

Airborne Particulate Monitors

- **Real time air quality monitoring**
- **Simultaneous TSP, PM10, PM2.5 & PM1**
- **Multi-monitor networks**
- **Spot monitoring, portable or permanent installations**
- **Meteorological instruments**

Turnkey Instruments design and manufacture a range of easy to use instruments which continuously measure and record the concentration of airborne particles. In their environmental mode, these instruments can simultaneously monitor the concentrations of TSP, PM10, PM2.5 and PM1 particles . Alternatively, in their workplace mode, the inhalable, thoracic and respirable fractions can be monitored.

An internal reference filter can be used to confirm the gravimetric calibration of the instruments.

All instruments feature internal data logging for the particle concentrations. Osiris and Topas also allow wind speed and direction, temperature, humidity, rainfall and two external gas or noise meter inputs to be recorded at the same time.

All instruments use our own proprietary nephelometer. A pump continuously draws an air sample through the nephelometer, which analyses the individual particles as they pass through a laser beam. These same particles are then collected on the reference filter. The nephelometer's dedicated microprocessor can analyse individual particles even if there are millions of them per litre. This allows size fractions to be determined at concentrations up to several mg/m ^{3} . Above this there is an indicator range which can be used without sizing up to 60 mg/m^3.

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Osiris (Particulate Monitoring)

The Osiris is a small and compact instrument that can be used to study short to long term particulate monitoring. Powered by various power options to suit your application . The Osiris can be used effectively to determine exceedance areas.

DustMate

DustMate is a hand-held detector ideal for short term sampling. Highly effective for monitoring air quality within buildings and clean rooms. It measures TSP, PM10, PM2.5 and PM1 simultaneously in real time. Data can then be transferred to a PC via PC-Link.

Topas (Particulate Monitoring)

The Topas fixed station monitor is intended for long term installation. Several sites can be networked together to form a city wide monitoring system, which can be controlled by various communication means including GSM, 3G router or radio modem.

Osiris (site sentry, full site monitoring system)

When Osiris is used with i-dB, Turnkey's latest noise monitor, a full site monitoring station can be used to meet all regulations. The system is designed to provide remote online monitoring of dust and noise emissions to meet regulatory requirements. This innovative web based remote system simultaneously measures multi-parameter dust, noise, wind speed and direction, temperature & humidity and rainfall from a single UK based manufacturer. All data is stored on a web based secure system with private login.

Topas (site sentry, full site monitoring system)

When Topas is used with i-dB, Turnkey's latest noise monitor, a full site monitoring station can be used to meet all regulations. The system is designed to provide remote online monitoring of dust and noise emissions to meet regulatory requirements. This innovative web based remote system simultaneously measures multi-parameter dust, noise, wind speed and direction, temperature & humidity and rainfall from a single UK based manufacturer. All data is stored on a web based secure system with private login.

AirQ Software, AirQWeb &AirQApp

Environmental Monitoring Software

AirQ the user friendly and quick reporting PC software, designed in-house will manage and display results from our range of environment sensors.

AirQ can be used to control sensors and record measurements in real time

- "Live" graphs and tables appearing on the PC screen.
- Software automatically starts and stops sensors.
- Change parameters and configurations.
- Upload stored results.
- Powerful database engine.

With **AirQ** a live "on-screen " pollution rose can be created which plots measurements against wind direction on a polar chart.

Networked Environmental Monitoring

Creating a network of sensors is easy. Any number of sensors can be connected to an **AirQ** network created with fixed wiring (up to 10km), licence free radio telemetry (up to 20km), telephone and GSM cellular modems.

A network can include alarm facilities such as beacons or sirens for early warning and response to high readings. It can also active water sprinkler systems for damping down exceedance levels of dust.

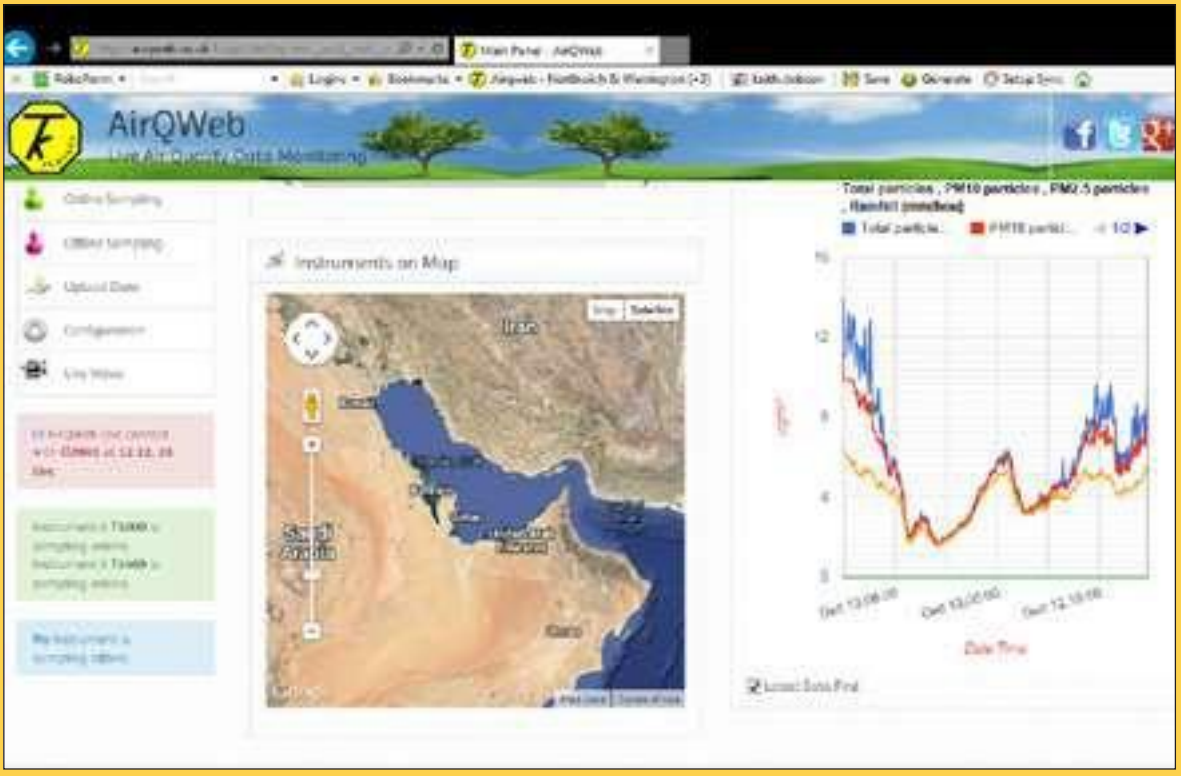
AirQWeb & AirQApp

Units fitted with a web router can be accessed via the internet (M2M simcard with 2GB data, fixed or dynamic public IP address, required).

Also via smartphone app, instant alerts can be sent to your phone before a likely exceedance breach occurs.

Alerts can be set for wind direction and wind speed, as well as dust levels.

A remote pan/tilt rotate IP camera can be added when connected via the web.



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—	--- . ---	I"\CIDIC		[\' --
Standard inlet	TSP (1mm stainless mesh)			
Heated inlet	Heating to 60°C			•
Detector	Turnkey laser nephelometer			
Environmental mode	TSP, PM10, PM2.5, PM1.0			
Workplace mode	Inhalable, thoracic, respirable			
Measurement range	Oto 6000 micrograms per cubic metre			
Detection limit	0.01 micrograms per cubic metre			
Indicator range	O to 60mg/m³ without particle sizing			
Particle size range	0.5 to 20 micron diameter			
Particle counting mode	Three size channels in particle per cc			
Flow rate	600cc per minute			
Reference filter	25mm diameter GFA circle			
Operating temperature	-5°C to +50°C			
Security	Password protection			
Alarm	Siren, text to cellular phone, visual beacon and email			x
Display	Two line alphanumeric with backlight			
Data storage	Internal with separate battery backup	128k byte	128k byte	32k byte
Averaging period	**1** second to 4 hours			
Battery	Sealed lead acid, rechargeable	n/a	Internal 6v 2.8 AH	Belt pack 6v 1.2 AH
Sampling current drain	Including heated inlet and backlight	1.2A	1.2A	200mA (without heated inlet)
External power pack	80 to 260v AC input , weatherpoof	•	•	x
Meteorological inputs	Wind speed and direction, rainfall, temperature and humidity			x
Other logging inputs	Two Oto 5 volt analogue inputs			x
RS232 1/0	9600 baud via PC-link			
Telemetry 1/0	1200 baud opto isolated			x
Analogue output	Oto 4 volt analogue of TSP or PM10 channel, 12 bit resolution	•	•	x
Wall or lamppost box	Lockable steel			x
Case protection	To IP66 (excluding inlet and exhaust)			Carry case
Dimensions	External dimensions in mm	400 x 300	260 x 160 x 150	160 x 100 x 100
Weight	Instrument and enclosure approximate weight in kg	12kg	11.8kg	1.2kg
Power options	Solar, wind, mains and battery			Mains and battery only

Fitted as standard x Not available • Available as option

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Turnkey Instruments Ltd

World Wide Web Interface

- View latest PM readings and associated live site video feed on any web browser, even on your Android or iPhone. Automatically links with Google map of instrument location and satellite images
- Pan (& zoom) video image to remotely inspect site in more detail
- Use **AirQ** to control instrument and continuously monitor dust readings over the internet
- Use **AirQ** to upload stored results from instruments anywhere in the world using your internet connection
- Program automated emails or text messages in the event of alarm conditions
- Multi-drop RS485 to connect multiple instruments at one site to a single internet node at distances of up to 1km
- Worldwide connection with 3G/4G mobile broadband or fixed DSL landline
- Mains or battery powered
- Can be retro-fitted to all existing Osiris/Topas installations

Turnkey Instruments are pleased to announce the availability of an internet device server for their range of environmental instruments. This new proprietary device allows you to conect to any Osiris or Topas dust monitor by means of a standard internet or ethernet connection.

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