Schedule of Works for concrete 'roadway' slab		Labour (days)	Labour cost	Materials (cost)	Plant (cost)	Total cost for each item
	Definition of the Contract					
1.1	The work required is for labour, plant and materials to construct a concrete 'roadway' in the 3.7m diameter, 70m long steel tubular tunnel at the Health & Safety Executive at Harpur Hill, Derbyshire					
	The Work					
1.2	The work in the tunnel comprises, placement and compaction of Type 1 graded limestone fill, placement of 25mm crushed limestone blinding and a Visqueen slip membrane, prior to casting, finishing and curing a 200mm thick Grade C30/37, B785 steel mesh reinforced concrete 'roadway' slab with doweled movement joints and screw-fixed steel cover plates in rebates at each of the four gaps between tunnel sections.					
	The Customer					
1.3	The Customer is Health & Safety Executive					
	Contractor's Price					
1.4	This price is to be divided into the sections for preliminary & general items (Section 2) and schedule of works (Section 3), such that the total of the two sections adds up to the total price (excluding VAT).					
2	**Preliminaries and General Items**					
	Details					
2.1	The documents from which this Schedule is comprised are					
2.2	Giraffe Research & Design Ltd Drawing No.A103					
2.3	HSE Concrete Specification by Giraffe Research & Design Ltd					
	Pricing Instructions					
2.4	All items that have a monetary value shall be priced in detail.					
	Definitions					
2.5	Where the term 'approved' is used, the Contractor must obtain the written approval of the Customer before relevant materials are ordered and before the relevant works are executed.					
	Pricing and Payment					
2.6	The contract shall be a target price tender, based on labour and plant completed in this schedule, and the estimated materials cost.					
2.7	The Customer reserves the right to proceed with the whole or any portion of the works and no allowance will be made for the loss of profit on omitted works.					
2.8	Payment shall be made at agreed stages of the work or periods to be agreed and in accordance with the pricing in this schedule.					
	Working Period and Completion of the Works					
2.9	The work will be finished within the number of weeks from a start date to be agreed between the Customer and the Contractor, although a start date of 16 March 2020 and a completion date of 31 March 2020 is anticipated.					
	Planning Permission and Building Regulations					
2.10	Planning Permission and Building Regulations approval is not required					
	Using the facilities on the premises					
2.11	The Customer will permit the Contractor reasonable use free of charge for electricity and water.					
	Access and protection of existing property					
2.12	The Contractor's attention is drawn to the difficulty of access to the area of the work. The Contractor shall inspect the location of the site and access for his plant, deliveries, concrete supplier and pump etc. Access is to be agreed with the Health & Safety Executive before the tender is submitted. All damage to roads and tracks at Harpur Hill site will need to be made good after the completion of the work. In any event, protective boarding is to be used to protect any parts of the access road and track that are vulnerable, so any damage is minimised.					
	Product Guarantees					
2.13	The Contractor is to ensure that the Customer receives the full guarantee of all proprietary products, although none are anticipated.					

		Labour (days)	Labour cost	Materials (cost)	Plant (cost)	Total cost for each item
	Insurances					
2.14	The Contractor shall be responsible for all insurances in relation to the work, including public liability and employer's liability insurance.					
2.15	The Contractor shall be liable for and shall indemnify the Customer against and insure against any expense, liability, loss, claim or proceedings whatsoever arising under any statute or at common law in respect of personal injury to or death of any person whomsoever arising out of or in the course of or caused by the carrying out of the work, unless due to any act or neglect of the Customer or of any person for whom the Customer is responsible.					
2.16	The Contractor shall be liable for and shall indemnify the Customer against and insure against any expense, liability, loss, claim or proceedings in respect of any damage whatsoever to any property real or personal insofar as such damage arises out of or in the course of or by reason of the carrying out of the work and is due to any negligence, omission or default of the Contractor or any person for whole the Contractor is responsible.					
	Preliminary Investigation					
2.17	The Contractor shall be deemed to have visited and examined the existing tunnel, its surroundings and to have familiarised himself with the exact construction of the tunnel. The Contractor shall also be deemed to have satisfied himself as to the full extent and character of the work, nature of the site in which the property is located, means of access etc. and to have obtained all the necessary information as to any risks or circumstances affecting his tender, as no claim on the grounds of lack of knowledge in such respects will be entertained.					
2.18	Whilst the following does not relieve the Contractor of any of his duties, the information is given to assist the Contractor understand some of the particular constraints and facets of the work.					
2.19	The contractor first must seal the gaps between tunnel sections, where the sub-base of Type 1 graded limestone and crushed limestone blinding is to be laid. Until the ballast is removed, it is unknown whether there is any seal to the gaps between the tunnel sections under the ballast. However, assuming that gaps exist between tunnel sections below track level, it is suggested that thin galvanised steel sheets (say 225mm wide) tack welded in place along one edge to the tunnel are used to prevent the egress of the					
2.20	It may be that the sand bedding for the instrumentation ducts, the ducts themselves and the mortar surround and finish are constructed after a separate contract has been concluded to fabricate and install tapered steel cover plates over the gaps and misalignments between the steel tunnel sections. Therefore, allowance should be made for completing the instrumentation duct laying at a later date than immediately after the concrete roadway construction, at a date after the tapered steel cover plates have been installed. The pricing of this schedule of works should be undertaken accordingly.					
	Stability and condition of the existing tunnel					
2.21	The Contractor shall be fully responsible for the stability and condition of the existing tunnel, although it is not considered that the tunnel sections are in any way unstable.					
	Making good					
2.22	Any damage that occurs to the tunnel, or the adjacent site or access road (including but not limited to footways, kerbs and roadways) during the work or as a direct result of the work being carried out shall be made good at the Contractor's expense to the full satisfaction of the Customer, or the relevant owners of property or equipment.					
	Removing rubbish					
2.23	The Contractor shall remove all rubbish and debris as the work proceeds and, upon completion of the work, shall clean the work internal and externally, including any areas and property that have been affected by the work but do not belong to the Customer.					
	Notices					
2.24	It is not envisaged that the Contractor will have to submit Notices, other than potentially an F10 Notice under CDM Regulations 2015: If the construction project is notifiable if: It's scheduled to last longer than 30 working days AND has more than 20 workers working simultaneously; OR. The project exceeds 500 person days.					
	Noise and nuisance					
2.25	It is not considered necessary for the Contractor to make provision to reduce the noise of pumps, compressors and other equipment outside normal working hours and at weekends.					

		Labour (days)	Labour cost	Materials (cost)	Plant (cost)	Total cost for each item
	Safety, Health and Welfare					
2.26	The Contractor is to allow for complying with the Statutory and Working Rule Agreements and requirements for the safety, health and welfare of all workpeople, staff and other firms employed by, or working for, the Contractor in connection with the work.					
	Sub-Contracting					
2.27	The Contractor shall advise the Customer of any sub-Contractors he intends to use, in advance of appointing such. The Customer reserves the right to object to any proposed sub-Contractors, although any such objection shall not be unreasonable.					
	Photographic record of condition					
2.28	Before the work commences, the Customer will take, and agree with the Contractor, a photographic record of the condition of all existing property and surfaces surrounding the work, including all areas to be accessed for the work by the Contractor.					
	Tapered steel cover plate fabricator and erector					
2.29	The Contractor is to work with and integrate his work with the tapered steel cover plate fabricator and erector, who will probably be carrying out his work after the concrete roadway has been cast (and has cured) but before the instrumentation duct work commences.					
	Samples for Customers agreement					
2.30	Prior to starting any element of the works on site, the Contractor is to provide samples or detailed descriptions of the cover plates to be fixed to the concrete roadway at the junctions of the tunnel sections, the fixings for the cover plates and ducts) for the Customer to approve in terms of quality and style. The Contractor is to seek the Customer's approval prior to ordering or purchasing all items that are visible in the completed Work or will affect the Customer's use of the ducting					
	Storage of Contractor's materials					
2.31	The storage of materials is at the Contractor's own risk. The Contractor shall take such measures to ensure the protection and security of property in the Customer's ownership					
	Total carried forward to Schedule of Work					

		Labour (days)	Labour cost	Materials (cost)	Plant (cost)	Total cost for each item
3	**Schedule of Work**	**Rate/day:**				
3	The following sections of work will comprise the total target sum price (including VAT where applicable). Reference should be made to the Drawings and Concrete Roadway specification.					
3.1	**Preliminaries and General Items as defined in Section 2 above**					
3.2	Preparation for work prior to installing and compacting Type 1 graded limestone sub-base including:					
	· removal of remaining ballast (none anticipated),					
	· preparation of access road for site vehicles					
	· preparation of site storage area, installation of welfare facilities and all other aspects necessary to carry out the site					
	· carting to tip all elements not to be stored and for re-use.					
3.3	Supply and install galvanised steel cover plates to bridge gaps between tunnel segments, where the Type 1 graded limestone sub-base and crushed limestone blinding are to be installed.					
3.4	Lay and compact Type 1 graded limestone sub-base to a height of 225mm above the invert level of the tunnel					
3.5	Lay 25mm crushed limestone blinding on the sub-base to a height of 250mm above the invert level of the tunnel, to have a flat surface to receive Visqueen 2000 slip membrane					
3.6	Lay Visqueen 2000 slip membrane with taped laps on the crushed limestone blinding, to enable steel mesh reinforcement to be supported off plastic chair spacers.					
3.7	Provide and install timber edge shuttering (screed rails) nominally 100mm high on both sides of the tunnel.					
3.8	Provide and install (shuttering) material to provide movement joints at junctions of tunnel sections and at each end of the tunnel					
3.8	Provide and install sheets (4.8m x 2.4m) of B785 structural steel mesh fabric on chairs such that the longitudinal bars of the mesh have 50mm top cover to the concrete, such that the longitudinal laps are 800mm and the lateral laps are 400mm, and the edge and end					
3.9	Install 400mm long, 12mm diameter steel dowel bars at the four joints between tunnel sections. The spacing of the dowels is to be 400mm laterally and one end of each dowel is to be in a plastic tube, 220mm minimum length to permit the dowel to slide freely.					
3.10	Form rebate shuttering at the movement joints at the gaps in the steel tunnel for the 6mm thick, hot-dip galvanised steel cover plates, all in accordance with the drawings,					
3.11	Provide and cast C30/37 concrete in accordance with the concrete specification, paying particularly attention to using a poker vibrator to well compact the concrete, and wooden float the surface, all in accordance with the specification. Also pay attention to concreting in cold weather - as noted in the specification - and curing the concrete by keeping the surface damp for at least 7 days preferably by covering with Visqueen, or if not by using an agreed spray curing agent					
3.12	When the concrete has sufficiently cured, remove the timber edge (screed boards) along the longitudinal edge and the timber rebate shuttering for the steel cover plates.					
3.13	Supply and fix the steel cover plates in position in accordance with the drawings using a slip membrane on the concrete surface of the					
3.14	Clear the site ready for the steelwork fabricator to install the tapered steel cover plates to the gaps between the tunnel sections.					
3.15	Provide sand bedding for the longitudinal instrumentation ducts at the side of the concrete roadway slab.					
3.16	Provide and install ducting for instrumentation to a specification provided by HSE					
3.17	Screed over the instrumentation ducting with 6:1 sand:cement mortar.					
3.18	Clear the site and remove any extraneous materials to tip					
	Totals					
	Correction and Addenda					
A.1						
	Potential savings & extras					
4.01						
	Total					
	Additional labour and materials:					
	Total additional labour and materials					
	Total labour and materials excluding VAT					
	Grand total excluding VAT					

	Grand total including VAT	**20%**	