

Proposal to Environment Agency

Provision of hydrological data for NaFRA2 in England

Client Contact	██████████	Our Ref.	P20_136v2
Client Requirements	Provision of data as specified within [N2 FEH Data Specification v2.docx] provided by ██████████ on 24 April 2020.		
Project Activities	<ul style="list-style-type: none"> ● Liaison to review and agree data specification and timescales. ● Development of a technical solution to enable the processing of ~36 million ReFH2 model runs within project time scales. For reference the equivalent for NRW NaFRA2 consisted of ~2 million model runs. ● FEH bulk extract for pilot area points. ● ReFH2 rainfall and runoff rural and 100% urban model runs for the pilot area. ● Development of a tool to snap the requested grid reference to the nearest grid post on the IHDTM drainage network to enable bulk extract of FEH Catchment Descriptors. This tool will implement the same approach used in the FEH Web Service. No QA is required to assess if the nearest grid post represents the appropriate catchment area. ● Development of a tool to climb the catchment boundary at the identified nearest grid post and extract a single catchment boundary shape file for each location. ● FEH bulk extract of catchment descriptor csv files and catchment boundary shapefiles for the pilot catchments. ● FEH bulk extract for final ~160k points. ● ~36 million ReFH2 rainfall and runoff model runs for the rural component only for ~160k points and 224 unique scenarios. ● FEH bulk extract of catchment descriptor csv files and catchment boundary shapefiles for the final ~300k catchments. ● Preparation of a concise technical report describing the data produced and the file referencing nomenclature. 		
Deliverables	<ul style="list-style-type: none"> ● As defined within the data specification within [N2 FEH Data Specification v2.docx], the following will be provided for the pilot area covered by [NaFRA2_Pilot_Areas_24042020.zip] and the final geographical area covered by [National_Data_Request_Polygon_Final.zip]: <ul style="list-style-type: none"> ○ Total rainfall depths (mm) and rainfall time-series using the FEH13 depth-duration-frequency (DDF) model on a 1km x 1km regular grid. ○ The total runoff volume (mm) and runoff time-series calculated using the ReFH2.3 losses model for each of the rainfall scenarios for the rural component (i.e. one runoff time-series per 1km grid square per scenario totalling ~36 million). ○ 100% urban total runoff volume (mm) and runoff time-series calculated using ReFH2.3 for each of the rainfall scenarios for the pilot area only. ○ An ArcGIS vector polygon shapefile of the 1km grid, which includes a key field (concatenation of the easting and northing of the cell centroids) used to identify all rainfall and runoff results. ● Catchment descriptor csv and boundary shape files in the format as provided by the FEH Web Service along Main River/primary watercourse network (~300k requested locations along 75,000km length of river). ● Technical report describing the data produced and the file referencing nomenclature. 		

Programme	Rainfall-runoff hydrology data	
	29-May	Delivery of pilot area rainfall-runoff hydrology data
	05-Jun	EA/JBA provide feedback on sample data
	14-Aug	Delivery of rainfall-runoff hydrology data for the 18 'no regrets' present day scenarios identified in Section 1.1.1 with England-wide spatial coverage
	17-Aug	EA/JBA issue a post-blueprinting update to the data specification that defines the additional rainfall-runoff scenarios required with England-wide spatial coverage
	30-Oct	Delivery of complete rainfall-runoff hydrology data set out in the 17 Aug data request with England-wide spatial coverage
	Fluvial hydrology data	
	26-Jun	JBA provide x,y locations (plus unique ID) for Catchment Descriptor and upstream catchment boundary data extraction (pilot areas)
	31-Jul	Delivery of Pilot catchment descriptor csv and boundary shape files
	07-Aug	EA/JBA provide feedback on sample data and x,y locations (plus unique ID) for Catchment Descriptor and upstream catchment boundary data extraction (England-wide)
	16-Oct	Delivery of catchment descriptor csv and boundary shape files for all reaches (England-wide)
	Reporting	
	30-Oct	CEH/WHS deliver draft final technical report
Price (excl. VAT)	Task	
	Value (excl VAT)	
	Total	
	£24,620	

Assumptions	<ul style="list-style-type: none"> ● This proposal excludes data licence fees which will be subject to separate agreements. ● Licence agreements will be in place prior to the provision of any data. ● The final dataset will consist of up to 160,000 points, 224 unique scenarios, and ~300,000 catchments. Any increase above these may incur additional processing costs. ● UKCEH will directly provide the IHDTM drainage network as a vector dataset for the required geographical area and a table of BFI, Q5 and Q10 values at all NRFA gauging stations. 						
Payment Terms	<table> <tr> <th>Invoice to be issued within 30 days of:</th><th>Value (excl VAT)</th></tr> <tr> <td>████████████████████</td><td>██████</td></tr> <tr> <td>████████████████████████████████████████</td><td>██████</td></tr> </table> <hr/> Payment due within 30 days of invoice.	Invoice to be issued within 30 days of:	Value (excl VAT)	████████████████████	██████	████████████████████████████████████████	██████
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Terms of Engagement	Standard						
Issue Date	4 May 2020						
Approved by	████████████████						

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Signed Acceptance

Project Title	Provision of hydrological data for NaFRA2 in England		
Our Ref.	P20_136v2	Your Ref.	
Price	£24,620		
Acceptance (Signed)			
Print Name			
Name of Company			
Date			

You must be authorised to sign on behalf of the company.

By signing this acceptance, you are entering into a contract with WHS and you accept responsibility for the payment of invoices subject to our terms and conditions.

Invoice Details

Name of Company (if different to signatory's)	
Invoice Address	
Invoice Email Address	
Invoice Instructions	

All invoices will be submitted electronically to the email address provided above therefore please ensure a central accounts email address is given (if applicable).



The WHS Quality & Environmental Management system is certified as meeting the requirements of ISO 9001:2015 and ISO 14001:2015 providing environmental consultancy (including monitoring and surveying), the development of hydrological software and associated training.



Registered Office Maclean Building, Benson Lane, Wallingford OX10 8BB
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WHS TERMS AND CONDITIONS FOR CONSULTANCY SERVICES

1 NO OTHER TERMS

- 1.1 The Conditions apply to the supply of the Consultancy Services to the Customer and supersede any terms and conditions provided or referred to by the Customer, including any of the Customer's standard terms provided with any purchase order, invoice or other documentation.

2 CONSULTANCY SERVICES

- 2.1 The Customer engages Wallingford HydroSolutions Ltd (henceforth referred to as WHS) to provide the Consultancy Services to the Customer as from the date of acceptance and in accordance within the agreed program of work.
- 2.2 This Agreement relates to the supply of the Consultancy Services. The supply of any other services, including any variations to the Consultancy Services, will be subject to a separate agreement to be negotiated between WHS and the Customer.

3 CHARGES

- 3.1 The Customer will pay the Charges and will reimburse WHS on demand for all travel, subsistence or other expenses incurred by WHS' employees or consultants in connection with the provision of the Consultancy Services and the supply of the Deliverables including, without limitation those expenses incurred in complying with the Customer's requests.
- 3.2 WHS may invoice the Customer monthly for any Charges and expenses and the Customer will pay each of WHS' invoices within 30 days after the date of the invoice.
- 3.3 The Charges all other charges payable under this Agreement are exclusive of value added tax, sales tax or similar taxes which the Customer will pay at the rate and in the manner from time to time prescribed by law.
- 3.4 Where the Customer requests that WHS procures a sub-contractor, for example for the provision of specialist surveys/investigations, a 10% contract administration charge shall be applied to the value of the sub-contract.

4 WARRANTIES

- 4.1 WHS will provide the Consultancy Services with reasonable skill and care.
- 4.2 Because of the uncertainty of future events and circumstances WHS does not guarantee that its forecasts, projections, advice, recommendations or the contents of any report, presentation or other document will be achievable.
- 4.3 If the Customer makes or has anyone else make any modification to any of the Deliverables, WHS will have no further liability or responsibility in respect of that Deliverable, will be released from any obligation to provide any service in respect of that Deliverable, and will be entitled to raise additional charges in return for any services which WHS does so provide.

5 PROPRIETARY RIGHTS IN THE DELIVERABLES

- 5.1 In return for the full payment of the monies due to WHS under this Agreement, WHS agrees to assign the Intellectual Property Rights in the Deliverables to the Customer.
- 5.2 The Customer acknowledges that it will not have any rights in respect of any products, materials or methodologies used by WHS in creating the Deliverables, and the Customer agrees to keep them confidential.
- 5.3 WHS agrees to keep confidential and not to use except for the purpose of performing the Consultancy Services, any confidential information which it may receive from or on behalf of the Customer or any confidential information of the Customer which may come into its possession in the course of performing the Consultancy Services.

6 DURATION AND TERMINATION

- 6.1 Despite anything else contained in this Agreement, each party may terminate this Agreement immediately on giving notice in writing to the other party if:
 - a) the other party commits any breach of any term of this Agreement and in the case of a breach which is not persistent and which is capable of being remedied, has failed, within 30 days after WHS has requested the Customer in writing, to remedy the breach; or
 - b) the other party has a receiver or administrative receiver appointed over it or over any part of its undertaking or assets, or it passes a resolution for winding-up (except for the purpose of a bona fide scheme of solvent amalgamation or reconstruction), or if a court of competent jurisdiction makes an order to that effect, or if it becomes subject to an administration order, or if it enters into any voluntary arrangement with its creditors, or if any similar process to any of the above is begun in any jurisdiction, or if it ceases or threatens to cease to carry on business.
- 6.2 Any termination or expiry of this Agreement (however it happens) will not affect any accrued rights or liabilities of either party, nor will it affect the coming into force or the continuance in force of any provision of this Agreement which is expressly, or by implication, intended to come into or to continue in force on or after termination.
- 6.3 Conditions 4 and 5 will survive the termination of this Agreement or the completion of the Consultancy Services and continue indefinitely.

7 DELAYS

- 7.1 Despite anything else contained in this Agreement, WHS will not be liable for any delay in performing or failure to perform its obligations caused by circumstances beyond its control (including, without limitation, any act or omission on the Customer's part or on the part of any third party, and any defect, error, fault or deficiency in any software not provided by WHS or in any equipment), and WHS will be granted a reasonable extension of time for the performance of its obligations, the reasonableness of that extension to be assessed not only in the context of the project in hand but also in the context of WHS' other commitments.
- 7.2 WHS will endeavour to comply with any timetable or dates which WHS has given to the Customer for the performance of the Consultancy Services and the supply of the Deliverables, but these are estimates only, and WHS will not be liable for any delay or failure to supply or perform in accordance with that timetable or those dates.

8 LIABILITY

- 8.1 Nothing in this Agreement limits or excludes WHS' liability for the death or injury of any person caused by WHS' negligence, or for any fraud.
- 8.2 Despite anything else contained in this Agreement, WHS will not be liable to the Customer for loss of profits, loss of savings, loss of use, loss of business, loss of opportunity, loss or spoiling of data, loss of contracts, or for any indirect or consequential loss, whether arising from negligence, or breach of contract, or in any other way, even if WHS was advised of or knew of the likelihood of that loss or type of loss arising.
- 8.3 WHS' liability to the Customer (whether in contract or tort, including but not limited to negligence, or arising in any other way, and whether or not of a kind foreseeable by WHS) will be limited to damages which will not exceed, in aggregate, the three times the fees paid to WHS by the Customer under this Agreement.
- 8.4 The Customer acknowledges that the above exclusions and limitations on WHS' liability have been drawn to the Customer's attention and that WHS is willing to undertake greater liability provided WHS is able to obtain insurance to cover fully its potential liabilities to the Customer and the Customer pays for that insurance.

9 WHS' STAFF

- 9.1 Although WHS will endeavour to maintain the continuity of its personnel involved in providing the Consultancy Services to the Customer, WHS reserves the right to determine which of its employees and consultants performs those services.
- 9.2 The Customer will not, either during the period when WHS is providing the Consultancy Services, or for 6 months afterwards, without first obtaining WHS' written consent:
 - a) solicit, or endeavour to entice away from, or discourage from being employed or engaged by WHS, anyone who is or has been involved in the provision of the Consultancy Services or the Deliverables under this Agreement; or
 - b) employ, engage or endeavour to employ or engage anyone who is employed or engaged by WHS and is or has been involved in providing the Consultancy Services or the Deliverables under this Agreement.

10 GENERAL

- 10.1 **Notices.** Any notice to be given under this Agreement must be in writing and sent by pre-paid first class post or international courier to the nominated postal address of the relevant party. A notice sent in accordance with this clause will be deemed to take effect on the third day after the day of posting.
- 10.2 **Headings.** The headings in this Agreement are for ease of reference only and do not affect the interpretation of this Agreement.
- 10.3 **Assignment etc.** No party may assign or otherwise transfer this Agreement or any of its rights or obligations under it, whether in whole or in part.
- 10.4 **Illegal/unenforceable provisions.** If the whole or any part of any provision of this Agreement is void or unenforceable in any jurisdiction, the other provisions of this Agreement, and the rest of the void or unenforceable provision, will continue in force in that jurisdiction, and the validity and enforceability of that provision in any other jurisdiction will not be affected.
- 10.5 **Waiver of rights.** If a party fails to enforce or delays in enforcing an obligation of any other party, or fails to exercise or delays in exercising a right under this Agreement, the failure or delay will not affect their right to enforce that obligation or constitute a waiver of that right. Any waiver by a party of any provision of this Agreement will not, unless expressly stated to the contrary, constitute a waiver of that provision on a future occasion.
- 10.6 **No agency etc.** Nothing in this Agreement is intended to create, imply or evidence any partnership or joint venture between the parties or the relationship between any of them of principal and agent. No party has any authority to make any representation or commitment or incur any liability on behalf of any of the others.
- 10.7 **Entire agreement.** This Agreement constitutes the entire agreement between the parties relating to its subject-matter. Each party acknowledges that it has not entered into this Agreement on the basis of any warranty, representation, statement, agreement or undertaking except those expressly set out in this Agreement. Each party waives any claim for breach of, or any right to rescind this Agreement in respect of, any representation which is not an express provision of this Agreement. However, this clause does not exclude any liability which any party may have to any other (or any right which any party may have to rescind this Agreement) in respect of any fraudulent misrepresentation or fraudulent concealment prior to the execution of this Agreement.
- 10.8 **Variations.** No variation of this Agreement will be effective unless it is made in writing and signed by each party or its authorised representative.
- 10.9 **Third parties.** No person who is not a party to this Agreement has any right to prevent the variation or cancellation of any provision of this Agreement or its termination, and no person who is not a party to this Agreement may enforce any benefit conferred upon them by this Agreement, unless this Agreement expressly provides otherwise.
- 10.10 **Governing law, etc.** This Agreement will be governed by and construed in accordance with English law. The English Courts will have exclusive jurisdiction to deal with any dispute which has arisen or may arise out of or in connection with this Agreement, except that any party may bring proceedings for an injunction in any jurisdiction.
- 10.11 **Your Contact Details.** By requesting this proposal your contact details have been automatically added to our CRM database. We will use your email address to issue you with our company newsletters and any related information, for example events we are attending that we think you might like to be aware of. You can opt out at any point from any market communications or by writing to us at: sales@hydrosolutions.co.uk. Please visit our Terms of Use on our website: <https://www.hydrosolutions.co.uk/terms/> for further information on your rights.