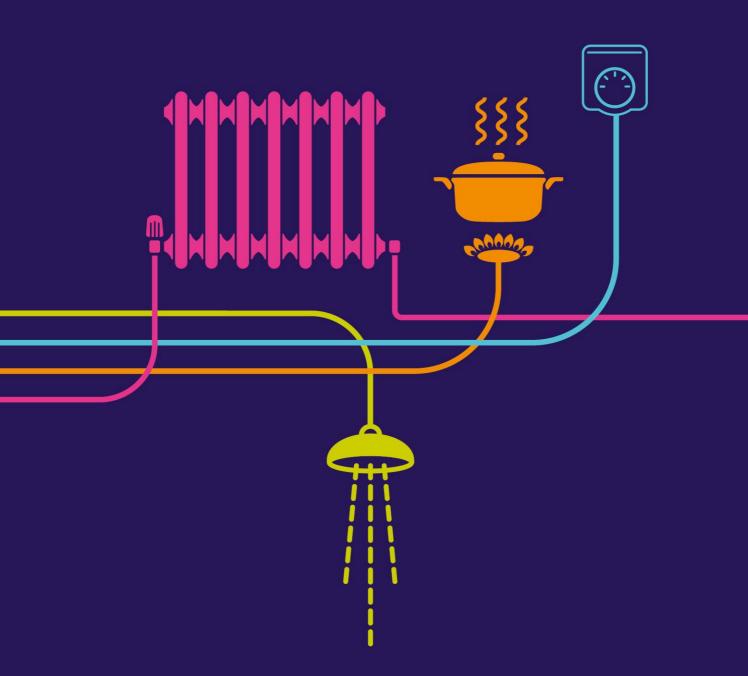
Comments on Relevant Representations

River Humber Gas Pipeline Replacement Project



No.	Party	Relevant Representation	Applicant's Comments
1	Corporation of Trinity House	Trinity House is the General Lighthouse Authority for England, Wales, the Channel Islands and Gibraltar with powers principally derived from the Merchant Shipping Act 1995 (as amended). The role of Trinity House as a General Lighthouse Authority under the Act includes the superintendence and management of all lighthouses, buoys and beacons within our area of jurisdiction. Trinity House wishes to be a registered interested party due to the impact the development could have on navigation within Trinity House's area of jurisdiction. It is likely that we will have further comments to make on the application and the draft Order throughout the application process. Trinity House is also a landowner in the area and our Goxhill Farm property could be affected by the proposed project. This response deals only with Trinity House's interest in the project in relation to the safety of navigation in tidal waters, and not as landowner in the area. Our managing agents will contact you in respect of our property at Goxhill if necessary. Please direct correspondence regarding this application to both of the following email addresses: Thomas.arculus@thls.org and Navigation.Directorate@thls.org	The proposed offshore section of pipeline under the Humber Estuary would be located a minimum of 7m from the true bed of the watercourse and will not interfere with navigation in tidal waters. The only proposed construction activity within the Humber Estuary itself is the temporary abstraction of water to flood the pipeline for testing prior to commissioning. This typically would comprise 8" suction hoses inserted below the low water mark on the Goxhill side of the project. The ends of the suction hoses would be caged in order to elevate them above the Humber Estuary bed to minimise silt disturbance and to prevent solids entering the pumps. The material used for the pump cage will be steel or aluminium. Maximum dimensions for a cage pump will be 1.5x1m. There will be one cage per pump. The footprint and area required for such works are as shown on the Works Plans, Works No. 12 (Doc 2.2A). It is envisaged that these works would be of maximum two weeks duration and will be licensed by deemed marine licence in the Development Consent Order. Therefore there would be no impact on navigation or safety to navigation within Trinity House's area of jurisdiction, due to the proximity of the suction hoses to the river bank.
2	Mr Peter Stancer	Our house is less than 12 meters from the road lorries that will be carrying the spoils along, the road is only just wide enough to travel along with one vehicle, the noise and dirt will be quite intolerable to live with. Our clients up and down the lane fetching caravans in and out from our storage facilitys and clients to our repair bussiness will have to be coming against the fleet of lorries coming down the lane in the opposite direction, we are extremly worried what the constant vibration will do to our old buildings and also to the possible loss of bussiness for us as this is our lively hood, we have no other way into our premises especially for the caravans only to come against the traffic which will be quite impossible, there are other people on this estate that has articulated lorries in and out which also will have to come against the proposed lorries there is no room for passing. I understand that it was stopped from been in the village because of unsuitable roads well our roads are even less suitable than those. We would please ask you to really think again about another more suitable route for the lorries thank you	Measures to appropriately mitigate impacts upon Mr Stancer's property (at the industrial estate near Soff Lane) from traffic and transport will be implemented via the Initial Traffic Management Plan (TMP), paragraph 3.2.5 (Doc 7.2.1), secured by requirement 15 of the draft Development Consent Order (DCO), and the Initial Construction Environmental Management Plan (CEMP) (Doc 7.3), secured by requirement 12 of the draft DCO. These measures will facilitate two-way HGV movements for construction vehicles travelling one-way westbound and vehicles from adjacent properties by highway improvements to the existing track road off Soff Lane and the provision of a new passing place. Within the Initial TMP it is also identified that vehicles leaving the main construction site will be subject to cleaning before entering the public highway (paragraph 13.4.1 and 13.5.2, Doc 7.2.1). A Dust Risk Assessment has been undertaken (Appendix 5.1 (Doc 6.5.1)) which accompanies ES Chapter 5: Air Quality (Doc 6.5) and site-specific measures were recommended to ensure dust from the construction phase, including dust generated by construction vehicles, would not be significant (paragraph 5.8.1, Doc 6.5). These measures include: • Erecting bunding around the site (Site Layout Plans (Doc 2.4B)); • Storing powder materials correctly (i.e. in sealed bags); and • Siting generators in appropriate locations. The effects of noise and vibration on the industrial estate before the Soff Lane Diversion is assessed in ES Chapter 10: Noise and Vibration (Doc 6.10). In summary noise and vibration from haulage routes will be appropriately managed through: • The implementation of a speed-limit of 15mph on surfaced and 10mph on unsurfaced haul roads; • Monthly condition assessments of haul routes to inspect for defects such as pot holes which could cause an increase in vibration levels; and • Maintenance of construction routes to ensure there are no potholes or other significant surface irregularities. Further details of mitigation measures are ou

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			Loss of business is not a material consideration in the determination of a DCO however where a valid claim can be established compensation will be payable in accordance with the Compensation Code.
3	Goxhill Parish Council	Goxhill Parish Council do not consider the incoming route via Thornton - Ferry Roads is suitable. Thornton Road is a residential area with numerous on-road parked cars, public bus stop and school bus stops. The railway bridge on Ferry Road is not of sufficient width for HGVs and cars to pass. Further up Ferry Road there are blind areas where oncoming traffic cannot be seen. On the chicane, there is signage stating "beware of oncoming vehicles in the middle of the road". There are also NO pedestrian pavements in this area. The Parish Council have already proposed an alternative route, which is to have two-way traffic using Chapelfield Road and the new bypass road. This would relieve the populated area of Goxhill from potential damage and danger from the HGV traffic.	The Transport Assessment (Doc 7.2) has determined the suitability of the proposed construction traffic routes taking into account the mitigation measures to be implemented via the Initial Traffic Management Plan (TMP), paragraph 3.2.5 (Doc 7.2.1), secured by requirement 15 of the draft Development Consent Order. A large number of mitigation measures have been incorporated into the design including passing places and other measures outlined in the Initial TMP that have been discussed and agreed with North Lincolnshire Council and are documented in a Statement of Common Ground (Doc 8.1.10). These include measures to appropriately manage impacts on road users such as residents, pedestrians, equestrians and cyclists: • Where parked vehicles or buses are located in the road, which reduces the carriageway width in places to one lane, construction vehicles would wait to give-way to oncoming traffic; • Residents and businesses would be informed when vehicles with abnormal loads would be using these roads; • HGV construction vehicle movements at Goxhill along the one-way construction route along Ferry Road would be between 09:00-15:15 term time Monday to Friday, outside peak hour traffic conditions; and • Drivers will be advised on driver behaviour when approaching notable bends in the carriageway, areas of restricted visibility such as at the railway bridge and when approaching other road users, particularly pedestrians, cyclists and horse riders. National Grid consider that the significant highway works and impacts of a two-way route and bypass suggested by the Parish Council are not justified due to the temporary nature of the construction traffic. Following completion of the construction works, the maintenance vehicles accessing the existing Above Ground Installation (AGI) to undertake maintenance works would be no greater than the existing and so there would be no change to existing conditions along the local roads as a result of the Project. National Grid is currently seeking agreement regarding the above
4	Goxhill PCC	Following initial concerns of the impact on this isolated rural community by the huge increase in heavy goods vehicles using the minor roads through the village and its impact on the community and in particular vibration impact to the 800 year old Grade One listed All Saints Church. We are relieved to see that proposals to avoid the centre of the village are in place, by operating a one way system away from the village centre, with the provision of passing places along the routes to and from the site. Also the provision of a new link road to the east of the village from the dis-used rail loop line to the present Barton-on-Humber Line is appreciated.	National Grid notes the comments and has nothing further to add at this time.
5	Jeff Teasdale	I have no objections to the project in principle. However it is the access to the site at the Goxhill end that is the main problem. The amount of heavy lorries on, at best narrow country roads, and at worst single track roads, much of it along residential roads, is not acceptable. i.e. Thornton, Ferry, and East Marsh Roads. The railway bridge is narrow and 2 lorries passing on it with pedestrians on the narrow	National Grid refers to its comments in response to relevant representations 2 and 3 above. A one-way construction route (except for abnormal loads) has been proposed to reduce the number of construction vehicles travelling along the local highway. The route has also been selected to avoid Goxhill Village (Figure 12.1 of ES Chapter 12: Traffic and Transport (Doc 6.12)). Furthermore, where there are single lane track roads, passing places are to be provided and will be improved as part of mitigation to allow two-way HGV movement (passing places shown on the Works Plans (Doc 2.2A)). Passing places

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		footpath, would be highly dangerous. NB Heavy lorries already use this road in both directions from the tileries etc.	were agreed in consultation with North Lincolnshire Council during a number of meetings in November 2014 and February 2015 (Doc 6.12, Table 12-4).
		Parts of Thornton Road and Ferry Road are often constricted by parked vehicles which cause traffic flow problems even with relatively low level village traffic. Heavy lorries would really struggle to negotiate this section of the route.	National Grid consider that the significant highway works and impacts of a two-way route are not justified due to the temporary nature of the construction traffic. All potential impacts associated with the natural environment have been considered in ES Chapter 7: Ecology and Nature Conservation (Doc 6.7)
		Parts of Thornton Road are not wide enough for 2 lorries to pass without going onto grass verges. The junction at Thornton Road and College Road is notoriously dangerous with a number of serious accidents there. More slow moving heavy lorries exiting onto College Road will cause a serious hazard on a road with fast moving traffic and blind bends and hills. Soff Lane onto College Road is not much better. This may seem to be a quiet rural area and therefore not worthy of worrying too much about a little traffic inconvenience. But there are existing businesses in and around Goxhill, that need to be able to transport their goods. And this is a valuable farming area, huge modern agricultural machinery, meeting a constant stream of heavy lorries, will cause great disruption. The wide verges on the Marsh are also a part of the natural environment, and the important and very popular recreation of horse riding and dog walking. Heavy lorries and horses are pretty incompatible and the potential for serious accidents and injury, caused by spooked horses, is great. Are these traditional uses of public rights of way to be banned for 3 years on the grounds of safety? Who would compensate the many riding schools, stables and studs for the impact on their businesses for 3 years? The provision of a bypass at South End is vital, to avoid a real problem area. However the better solution would be to not use the proposed 1 way system at all. But to make all access along an upgraded Chapel Field Road, made wide enough to take the size of vehicles and to make the bypass at South End of a similar scale and permanent. Plus upgrade the level crossing on Soff Lane to take the heaviest vehicles. The disruption to the village is therefore minimised and an improved access to the industrial units on Soff Lane, on Goxhill Airfield and the expanding developments of Able UK along the river bank, would be a long term benefit. Even better would be access from the river, with the heavy plant, machinery, materials and tunnel units shipped dir	ES Chapter 7: Ecology and Nature Conservation (Doc 6.7). Regarding transport via boat, the nearest available port to the Project would be the jetty at New Holland on the Goxhill side of the Project. The jetty is approximately 10 miles from the Project and is privately owned. Communication with the Ports Authority confirmed that the use of the jetty would not be a viable option. The option was therefore discounted as the jetty is currently at capacity, therefore a further jetty would be required to be built. In addition, there would be the potential for likely significant effects on the Humber Estuary Special Protection Area (SPA), Special Area of Conservation (SAC) and Ramsar site associated with this option. Transport by boat would also require double handling of spoil / materials (i.e. handled by transport to load and unload spoil / materials) therefore the option would still require highway movements. Road infrastructure to the jetty would also need to be assessed as no direct route from the Project is available and suitable roads would mean additional haulage distances to and from the jetty (paragraph 2.8.16, of ES Chapter 2: Scheme Description (Doc 6.2).
6	Libbie Henderson on behalf of Northern Powergrid (Yorkshire) plc	Northern Powergrid (Yorkshire) plc (NPG) wishes to make objections and representations on the powers contained within the draft Development Control Order and within Part 1 of the Schedule numbered 9 of that draft that contains protective provisions for the assets of statutory undertakers. The power to compulsorily acquire land and buildings is seen to have significant adverse effects on NPG's assets and apparatus which will have serious knock-on effects upon its system of electricity distribution. The powers of the Promotor to temporarily and permanently stop up streets in which NPG has apparatus or gains access to its plant and other buildings will also have significant effects on NPG's ability to run and efficient and economic distribution network. At the present time there are no ongoing negotiations or discussions with the Promoter and therefore NPG feels that in order to preserve its position it has no alternative but to make these initial objections and representations.	National Grid issued draft works plans to statutory undertakers, including Northern Powergrid, during statutory consultation in October 2014. In February 2015 the works plans were re-issued and confirmation given from Northern Powergrid that these had been issued to their solicitors and would shortly provide their standard terms of asset protection agreement. A site meeting took place with Northern Powergrid on 26 May 2015 to discuss impacts on Northern Powergrid's apparatus at Goxhill and Soff Lane and an in-principle agreement reached as to the terms of appropriate asset protection. A draft Statement of Common Ground has been issued to Northern Powergrid for comment and was submitted at Deadline 1, and the parties are in the process of negotiating the terms of a confidential asset protection agreement (Doc 7.9A Statement of Common Ground Schedule).
7	East Riding of Yorkshire Council	The East Riding of Yorkshire Council reserves its right to attend the examination hearing. However, the issues relating to this proposal will be covered in the local impact report	National Grid notes the comments and will respond to the Local Impact Report at the relevant examination deadline.

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8	North Lincolnshire Council	North Lincolnshire Council will produce a Local Impact Report covering all elements of the project.	National Grid notes the comments and will respond to the Local Impact Report at the relevant examination deadline.
9	Anglian Water Services Ltd	Please see written representations to follow by e-mail (due to inclusion of map showing Anglian Water assets).	Negotiations with Anglian Water have been ongoing and the parties have reached in- principle agreement in relation to protective provisions to be included in the draft development consent order.
		Anglian Water wishes to reserve the right to attend the preliminary meeting and any scheduled hearings if required.	A draft Statement of Common Ground has been issued to Anglian Water for comment and was submitted at Deadline 1 (Doc 7.9A Statement of Common Ground Schedule).
		Please copy and paste the link below into your browser to view Anglian Water's full relevant representation:	
		http://infrastructure.planningportal.gov.uk/wp-content/uploads/2015/07/Anglian-Water-Relevant-Representation.pdf	
10	Highways England	Highways England is responsible for the operation and safety of the strategic road network (i.e. Motorways and Trunk Roads) in England. We have an interest in the impact of the project on the strategic road network and necessary mitigation required for any adverse impacts on the operation or integrity of our asset during the construction, maintenance	National Grid has been in ongoing discussions with Highways England regarding proposed local works to the strategic road network and Highways England have confirmed that they do not consider that the proposals will have a material impact upon the operation of the strategic road network either side of the Humber Estuary.
		and operation of the project.	However Highways England have requested a minor amendment to the draft Development Consent Order to ensure that they are involved in the agreement of the final construction traffic management plans. The parties are in the process of negotiating the terms of these amendments and the agreed changes will be included in the next revision of the draft order.
11	North Yorkshire County Council	North Yorkshire County Council has been advised of the acceptance for examination of application EN060004 for the River Humber Gas Pipeline Replacement Project. Having reviewed the application, the officer response from the strategic planning perspective is that the proposed development does not appear to give rise to any issues of significance to North Yorkshire County Council.	National Grid notes the comments that North Yorkshire County Council do not intend to be party to the proceedings of the examination.
		While the County Council is a neighbouring authority, it is considered that there are no direct implications for it and, as such, it is not an interested party. On this basis, there is no need for North Yorkshire County Council to be a party to these proceedings.	
12	Historic England	Historic England (formerly English Heritage) is a public body to champion and protect England's historic environment. Although our name has changed our function as the Government's advisory service for England's historic environment remains the same and we continue to provide expert advice on statutory applications; Listed Building and Planning consent notifications and consultations. Our role in the current application is to provide expert advice on the impact of the proposal on the significance of heritage assets during the site assessment and construction phases, on both sides of the River Humber.	National Grid have agreed a Statement of Common Ground with Historic England (Doc 8.1.9) on all matters relating to the application. The Statement of Common Ground includes all points raised by the Inspector in the Rule 6 letter and there are no matters that have not been agreed or that are outstanding.
13 DONG Energy	Heron Wind Limited ("Heron") Njord Wind Limited ("Njord") and Via Ora Limited ("Via Ora") are the three undertakers with the benefit of the Hornsea One Offshore Wind Farm Order 2014 ("Hornsea Project One"). Heron and Njord are owned 100% by DONG Energy Wind Power A/S ("DONG Energy"). Via Ora is owned 100% by Heron. All 4 companies are collectively referred to as the Project One Companies.	Construction of the Hornsea Project One is due to start in 2016 and become operational in 2019. Therefore there would be overlap between the construction periods of the proposed pipeline and the Hornsea Project One. It should be noted however that the project was assessed in ES Chapter 14: Cumulative Effects and no significant effects were predicted (page 33 and 34, Doc 6.14). This was	
		DONG Energy is the leading developer of UK offshore wind farms. In addition to actively developing Hornsea Project One it is also developing Race Bank which is situated in the Greater Wash area to the south of the proposed site for the Gas Pipeline.	largely due to the distance of the Hornsea Project One from this project (i.e. majority of effects of the project would be highly localised and limited to the area immediately within the order limits) and Traffic Management Plans being implemented for both projects.
		This is the relevant representation of the Project One Companies. Hornsea Project One proposes to connect into Killingholme substation located to the south of the proposed Gas Pipeline. It is unlikely that any interaction between the two projects will arise however due	The onshore element of Race Bank is located in excess of 100km from the Project – therefore no cumulative interactions are anticipated.

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		to the proximity of the projects the Project One Companies need to ensure their construction timetable is not interrupted and to encourage any necessary cooperation.	
14	Lincolnshire Wildlife Trust	This relevant representation submitted by the Lincolnshire Wildlife Trust addresses issues relating to the south bank of the Humber Estuary only. Issues relating to the north bank are being addressed by the Yorkshire Wildlife Trust and the Lincolnshire Wildlife Trust wishes to place on record its support for any comments made by Yorkshire Wildlife Trust.	National Grid has considered the relevant representation from the Lincolnshire Wildlife Trust and has the following comments in response in terms of the key topics raised. Humber Estuary SPA With records to a ffects on hinds from the Humber Estuary it has been a great in a
		The Lincolnshire Wildlife Trust is pleased that the pipeline is to be installed within a tunnel bored beneath the riverbed of the Humber, thereby minimising impacts on the Humber Estuary Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar Site and Site of Special Scientific Interest (SSSI). However, we have concerns regarding the	With regards to effects on birds from the Humber Estuary it has been agreed in a Statement of Common Ground that the Wildlife trust defers to Natural England and RSPB on matters relating to mitigation for Special Protection Area (SPA) birds (Doc 8.1.7).
		potential adverse impacts that the onshore works would have on birds from the Humber Estuary SPA through land take of areas used as high tide wader roosts, and through disturbance of birds within the adjacent fields from the noise generated during construction. The bird survey results indicate that fields 4, 5 and 6 are used by significant numbers of golden plover, black-tailed godwit and curlew. Whilst we welcome the measures proposed such as bunds and fencing to reduce noise disturbance to SPA birds we are concerned that the noise levels predicted within these fields could lead to significant disturbance to SPA birds and therefore adverse effects on the integrity of the SPA. We would query the proposal to leave part of field 6 as set-aside for use by SPA birds and whether or not this would be sufficient to mitigate for adverse impacts on SPA birds from noise disturbance. We would wish to be assured that suitable mitigation is proposed to ensure that the development would not lead to significant effects on SPA birds and therefore an adverse effect on the integrity of the Humber Estuary SPA.	With regard to Deepdale Quarry Road Verges Local Wildlife Site (LWS), construction vehicles would not enter grassed verges as the carriageway width is sufficient to accommodate HGV vehicles in both directions. Therefore no passing place is required in this location and no direct land take within the LWS. HGVs would be travelling at speed of 40mph which is lower than the national speed limit and as this is on a bend drivers would be notified within the Drivers Pack of this restriction (Doc 7.2.1, paragraph 13.1.1). Abnormal loads would be traffic managed i.e. with an escort which would remove the risk of encroachment onto the LWS. It has been agreed with the Wildlife Trust that there would be no effects on the LWS (refer to the Statement of Common Ground (Doc 8.1.7A). Water Voles
		Within our response to the Preliminary Environmental Information Report (PEIR) we raised the issue of the potential impacts of construction traffic on Local Wildlife Sites (LWSs)	It has been agreed in a Statement of Common Ground (Doc 8.1.7A) that the Wildlife Trust defers to Natural England on matters relating to water vole mitigation.
		along the proposed construction traffic route. There are roadside verge LWSs along the proposed route that could be adversely impacted upon should the HGVs need to overrun onto the verges. This is of particular concern in relation to Deepdale Quarry Road Verges LWS which is located on the B1206 at two bends in the road which might require long vehicles to drive onto the verge. We are disappointed that the applicant's response to our comment that impacts on LWSs should be assessed in the Environmental Statement is that the Deepdale Quarry Road Verges LWS is over 9km from the scheme and is therefore not deemed appropriate to include in the assessment. We would reiterate the point we made in our PEIR response that should it not be possible for vehicles to avoid impacting on important grassland sites on the roadside verges then mitigation should be proposed to minimise the areas to be impacted upon and for appropriate restoration of the grassland habitat.	Enhancement A number of enhancement measures are proposed for Field 26 (at Paull) (c. 2ha) (Figure 7.6 of ES Chapter 7: Ecology and Nature Conservation (Doc 6.7)), which would help to provide an overall benefit to local biodiversity, in particular reptiles, birds and invertebrates. In addition, where appropriate and subject to landowner agreement, existing hedgerows within the application site boundary at both Goxhill and Paull would be planted up as part of the reinstatement of the application site. This would comprise gapping up of existing hedgerows with native shrub species, preferably sourced locally. This would provide further habitat enhancements for a range of ecological receptors, including terrestrial invertebrates, bats, amphibians, birds and reptiles. National Grid does not believe, based on national and regional policy that a scale of enhancement weighed against the perceived scale of the project is justified when the project is as we believe currently acceptable in planning terms. National Grid therefore do not consider
		With regard to protected species the Lincolnshire Wildlife Trust welcomes the proposals to carry out pre-construction surveys for badgers and water voles. However, we have concerns regarding the potential impacts on water voles from the de-watering exercise. We therefore welcome the proposals to monitor water voles prior to, and during dewatering. Suitable mitigation measures must be put in place should monitoring indicate that the de-watering is leading to adverse impacts on water voles. In addition to mitigation measures for the de-watering exercise, should pre-construction surveys	it necessary to include any further enhancement measures over and above those which have already been included within the Project. It has been agreed in a Statement of Common Ground that Lincolnshire Wildlife Trust and National Grid agree to disagree on the matter of enhancement. Further detail regarding enhancement is provided in the Statement of Common Ground (Doc 8.1.7A).
		indicate that water voles are present in the drains to be crossed then mitigation will be required to ensure there are no adverse impacts on individual water voles and the water vole population in the area through fragmentation. Lincolnshire Wildlife Trust believes that there are significant opportunities for this project	
		to support the enhancement of terrestrial biodiversity in accordance with National Policy Statement EN-1 which refers to the enhancement as well as the conservation of biodiversity. Given the size of this development we are disappointed with the limited enhancements which are currently proposed. We would strongly recommend that the applicants are required to submit further proposals for biodiversity enhancements in the event that consent is granted for the development. For example, rather than restoring	
		enhancements which are currently proposed. We would strongly recommend that the applicants are required to submit further proposals for biodiversity enhancements in the	

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		the creation of species rich grassland or wet grassland which could be of benefit to SPA birds as a roosting site at high tide.	
15	Barton-upon-Humber Town Council		National Grid refers to its comments in response to relevant representations 2, 3 and 5 above.
			All site workers will be mandated to follow the designated route identified within the Drivers Pack provided under the Initial Traffic Management Plan (Doc 7.2.1), secured by requirement 15 of the draft Development Consent Order.
16	Marine Management Organisation	Please copy and paste the link below into your browser to view the Marine Management Organisation's relevant representation:	Negotiations with the Marine Management Organisation (MMO) have been ongoing and agreement in principle has been reached on all matters, including the deemed marine licence in the draft Development Consent Order. A draft Statement of Common Ground
		http://infrastructure.planningportal.gov.uk/wp-content/uploads/2015/06/MMO_Relevant_Representation_Redacted.pdf	(Doc 8.1.5)has been prepared and was submitted at Deadline 1, which will be completed by the MMO upon submission of the next draft order containing the agreed deemed marine licence.
17	Yorkshire Wildlife Trust	Yorkshire Wildlife Trust's Relevant Representations in respect of River Humber Gas Pipeline Replacement Project	Humber Estuary SPA
		Planning Inspectorate Reference: EN060004	It has been agreed in a Statement of Common Ground (Doc 8.1.8) with the Wildlife Trust that Yorkshire Wildlife Trust would like to defer to Natural England and the Royal
		Introduction The Yorkshire Wildlife Trust works across the Yorkshire and Humber region managing 98	Society for the Protection of Birds (RSPB) on matters relating to mitigation for Humber Estuary Special Protection Area (SPA) birds.
		reserves and with a membership of over 39,000. The YWT is the second oldest of the 47 Wildlife Trusts which work in partnership to cover the whole of the UK. The Trust's	Paull Holme Strays Nature Reserve
		principal vision is to work for a Yorkshire rich in wildlife, valued and enjoyed by people.	Residual effects were assessed as negligible within ES Chapter 11: Socio-economics (page 27, Doc 6.11) on Paull Holme Strays Wildlife Trust Reserve and car park. The car
		Yorkshire Wildlife Trust's remit extends to all of Yorkshire and its adjacent sea. Yorkshire Wildlife Trust has not assessed any part of the project outside of this area therefore we	park is outside of the redline boundary, would not be used for construction and would remain open and available to the public throughout the construction works. Access to
		advise that the Planning Inspectorate refers to Lincolnshire Wildlife Trust's Relevant Representation for comments on the Goxhill part of the project. Yorkshire Wildlife Trust fully supports all comments made by Lincolnshire Wildlife Trust in relation to the proposed	the reserve would not be restricted. All potential air quality impacts associated with the construction works, including those that could affect ecologically sensitive sites, were considered within ES Chapter 5: Air Quality (Doc 6.5).
		project.	Following assessment of the impacts, site specific measures were recommended to ensure air quality impacts as a result of construction works would not be significant -
		The Yorkshire Wildlife Trust recognises the need for the project, and welcomes the efforts made in selecting the construction methods to minimise impacts on the Humber Estuary and its internationally important habitats and wildlife. Yorkshire Wildlife Trust considers that additional information is required in order to fully assess all impacts of the project on	these measures are included within the Initial Construction Environmental Management Plan (page 25 and 26, Doc 7.3). National Grid will discuss the issues with the Wildlife Trust in advance of the hearing in order to consider whether any other mitigation would
		the natural environment, which is detailed in the sections below. We would like to request that the Applicant contacts us in order to discuss these points and how such issues can be	be appropriate. Water Voles
	resolved.	Issues raised regarding water voles are agreed and set out in a Statement of Common	
		Humber Estuary Site of Special Scientific Interest (SSSI)/ Special Protection Area (SPA)/ Special Area of Conservation (SAC)/ Ramsar site	Ground (Doc 8.1.8). Enhancement
		The proposed scheme is adjacent to and beneath the Humber Estuary SSSI/SPA/ SAC/ Ramsar site. Whilst we acknowledge that the majority of the direct impacts on Humber	A number of enhancement measures are proposed for Field 26 (at Paull) (c. 2ha)
		Estuary SAC habitats will be avoided through the installation of the pipeline via tunneling we are concerned that there are still potential impacts on the Humber Estuary SPA bird assemblage which have not been resolved.	(Figure 7.6 ES Chapter 7: Ecology and Nature Conservation (Doc 6.7)), which would help to provide an overall benefit to local biodiversity, in particular reptiles, birds and invertebrates. The grassland habitat within this field was considered potentially suitable for reptiles (although none were recorded during the reptile surveys undertaken in
		The Humber Estuary SPA is designated for its important numbers of waterbirds (especially	2014). During the reinstatement of the site, it is proposed to use low nutrient soil (or place subsoil over the topsoil) to ensure that species-rich grassland can develop. In
		geese, ducks and waders) during the migration periods and in winter. It also supports important breeding populations of terns and raptors in summer. The proposed	addition, suitable habitat would be provided in this field for basking, foraging and hibernating reptiles: open grassland habitat would provide suitable basking
		construction work has the potential to result in noise disturbance impacts on SPA bird populations. Section 5.5.3 and Appendix 6 of the HRA Report states that existing	opportunities for reptiles; gapping up of the hedgerows and allowing areas of scrub to develop would provide a varied habitat mosaic, to offer reptiles a variety of basking and
		maximum noise levels experienced at the edge of the SPA and Paull Holme Strays is likely to be higher than that caused by the proposed construction works. Yorkshire Wildlife Trust	refuge / hibernation opportunities. In addition, a number of artificial reptile hibernacula
		advises that additional information is provided on the source of the existing noise in order to fully inform the noise disturbance assessment.	would also be constructed within the field. Over time the field would develop a complex structure of grasses and scrub, increasing its value as a resource for other ecological receptors, such as terrestrial invertebrates, birds and foraging mammals (such as
		Research on bird disturbance on SPA bird populations has shown that loud, infrequent	badgers and bats). A barn owl box would also be installed at the edge of the field to provide additional nesting opportunities for the local barn owl population. Materials

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	noises can be more damaging to birds than constant, low level noises which they may habituate to over time. Section 8.3.22 states that it is not possible to predict the frequency of construction noises and that a qualitative assessment should be made. We therefore advise that an informed estimate of the frequency of loud noises is provided where possible in order to determine whether additional infrequent loud noise disturbance is likely to be significant to Humber Estuary SPA populations.	arising from the construction works would be used to make the barn owl box and to create reptile hibernacula at the site. National Grid would be looking to work with the Wildlife Trust in relation to the long term enhancement and management of this site (there are currently discussions ongoing with the Wildlife Trust regarding this). This represents approximately 2ha of biodiversity enhancement. Given that enhancement measures would be on land owned by National Grid, the work can be secured through DCO Schedule 3 Requirements. The overall above ground permanent land take would be
	Paul Holme Strays YWT reserve Yorkshire Wildlife Trust does not agree with the assessment that all impacts on our Paull Holme Strays reserve can be scoped out at this stage, as made in the Environmental Statement (Document 6.7). Whilst we agree that there will be no direct habitat loss as a result of the proposed development there are potential visitor and access impacts on our reserves which have not been fully addressed. The increase in infrastructure, vehicle movements, noise and dust as a result of the development may have a significant impact on visitor numbers to our reserve and the quality of the visitor experience. Paull Holme Strays is an important nature tourism site in the area and has been identified as a tourist destination for East Yorkshire in the East Riding of Yorkshire Council Tourism Strategy. Our reserve car park is immediately adjacent to the existing Gas Valve Compound and the proposed pipeline and across the road from the proposed works at Paull. The increase in disturbance in this area may therefore reduce the appeal of the site and car park facilities to potential visitors and result in lower visitor numbers to our reserve. We therefore request that the Applicant contacts us to discuss ways to mitigate such impacts on visitor	less than 1ha. Where appropriate and subject to landowner agreement, existing hedgerows within the application site boundary at both Goxhill and Paull would be planted up as part of the reinstatement of the application site. This would comprise gapping up of existing hedgerows with native shrub species, preferably sourced locally. This would provide further habitat enhancements for a range of ecological receptors, including terrestrial invertebrates, bats, amphibians, birds and reptiles. Enhancement measures are in line with the Natural Environment and Rural Communities Act 2006, Overarching National Policy Statement for Energy (EN-1), National Planning Policy Framework and National Planning Practice Guidance. The purpose of the policy in EN-1 is to encourage opportunities to enhance biodiversity, where such opportunities arise as part of the proposed development. There is nothing in EN-1, the NPPF or otherwise to suggest that there is a correlation between the 'scale and value' of a project and the enhancement measures which should be provided. The scale of the
	numbers and experience at our Paull Holme Strays reserve. One potential solution for such issues to provide an alternative access point to Paull Holme Strays away from the vicinity of works. Water voles The Environmental Statement (Document 6.7) has identified water voles as a Key Ecological Receptor (KER) due to the suitability of the ditches for water vole. The Yorkshire Wildlife Trust carried out an extensive survey for water voles in 2013 in the Outer Humber of more than 50 kilometres of ditches, drains and water features. Good populations were found in a number of areas. We previously advised the Applicant to conduct further work to show where sustainable populations of water vole are found and then provide mitigation which could include improving and joining up habitat for water vole. The water vole survey (conducted in May 2014) did not include all of the ditches within the construction area (due to health and safety limitations and the ditches being dry or full of vegetation) therefore the full extent of impacts on water vole cannot be assessed.	project and the enhancement measures which should be provided. The scale of the project would only be relevant where this is reflected in the scale of predicted impact and / or to the extent that this can often be related to the number and extent of opportunities created as a result of the proposed works. For example, the more planting schemes required as part of the proposed works, the more opportunities for biodiversity enhancements would be created. It would be a misinterpretation of the policy in EN-1 to suggest that the higher the cost and/or value of the project, the greater the enhancement measures must be. National Grid believes that 'opportunities' have been taken with regard to delivering enhancement, through the measures outlined above. When the scale and residual impacts of the Project are taken into consideration, National Grid believes that mitigation provided by the Project through the schedule of mitigation commitments (Doc 7.7) is appropriate to the level of the impact. Where opportunities have arisen on land over which National Grid has longer term control we have identified opportunities for enhancement that are commensurate to the temporary nature of the development, the limited new footprint of works on completion and requirement to restore agricultural land on completion of the works.
	The project has the potential to impact water voles due to works being conducted in close proximity to ditches that support water voles and the crossing of 3 ditches at Paull. Yorkshire Wildlife Trust therefore welcomes the proposed pre-construction surveys for water vole and the water vole monitoring during the de-watering scheme. Yorkshire Wildlife Trust is also pleased to note that a 10m buffer will be adopted along the edge of ditches where possible in order to reduce impacts on the ditches and wildlife that utilises them. We are however concerned that the proposed works may result in the fragmentation of	National Grid does not believe, based on the relevant policies identified, that a scale of enhancement weighed against the overall cost and perceived scale of the Project is justified when the Project is currently acceptable in planning terms. It is considered that the Project would not be detrimental to the fulfilment of the conservation objectives for the SPA. The Project would not affect the ability of the populations of SPA species to survive at their current conservation status. It is therefore not considered necessary to include any further enhancement measures over and above those which have already been included within the Project.
	water vole habitat due to the three proposed ditch crossings at Paull. The culverting of ditches can prevent water voles from using ditches within their territories, as culvert pipes smaller than the width of the ditch can result in increased water flow rate within the pipe which is unsuitable for water voles. Water voles may use culverted ditches if the pipe used is short in length so that they can see the light at the other end of it and that it is wide enough not to significantly increase the water flow rate along the ditch. We therefore advise that additional information is provided on the ditch crossings to be undertaken at Paull and the potential impacts on water voles. Yorkshire Wildlife Trust would be happy to assist the Applicant with this assessment. Given the potential impacts on water voles Yorkshire Wildlife Trust is concerned by the lack of water vole habitat enhancement as part of the development. Whilst we	

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		the ditches at the end of the construction phase it is still highly possible that water voles will be impacted during the period when the ditch crossings are in place (approximately 20 months) due to the fragmentation of their habitat. We therefore advise that the Applicant incorporates water vole habitat enhancement works as part of the scheme, which could be in the wider landscape. Such works are supported by EN-1 paragraph 5.3.4 which states that 'The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests' in addition to the NPPF which advises that 'when determining planning applications, local planning authorities should aim to conserve and enhance biodiversity'. Yorkshire Wildlife Trust would be happy to advise on such work.	
		Ecological enhancements The Yorkshire Wildlife Trust is of the opinion that a nationally important infrastructure development of this size should not just mitigate for the development but should also provide enhancement. This approach is supported by the NPPF and other legislation and policy documents. Paragraph 5.3.4 of EN-1 states that 'The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests'. This has not been done in this case. Yorkshire Wildlife Trust would be willing to assist the Applicant in identifying appropriate enhancement opportunities for the scheme. We hope that you find these comments useful. Please do not hesitate to contact the Yorkshire Wildlife Trust should you wish to discuss any of the points made in this Relevant	
		Representation.	
		Yorkshire Wildlife Trust	
18	Natural England	Introduction	Badgers (response to paras 3.4 and 6.1 in the Natural England letter)
		1.1. Natural England is a non-departmental public body established under the Natural Environment and Rural Communities Act 2006 ('NERC Act'). Natural England is the statutory adviser to Government on nature conservation in England and promotes the conservation of England's wildlife and natural features. Natural England's remit extends to the territorial sea adjacent to England, up to the 12 nautical mile limit from the coastline.	As detailed in Section 7.4 of ES Chapter 7: Ecology and Nature Conservation (Doc 6.7), the only badger sett which could be impacted by the Project is the outlying badger sett at Goxhill (Sett C on Confidential Figure 1 of Appendix 7.2 (Doc 6.7.2)). As outlined in Section 7.4 of ES Chapter 7: Ecology and Nature Conservation (Doc 6.7), it is not envisaged at this stage that the sett would be adversely affected and a badger licence required.
		1.2. Natural England is a statutory consultee: 1.2.1. in respect of plans or projects that are subject to the requirements of the Conservation of Habitats and Species Regulations 2010 (as amended) (the "Habitats Regulations") which are likely to have a significant effect on European protected sites – that is, sites designated as Special Areas of Conservation ("SACs") and Special Protection Areas ("SPAs") for the purposes of the EU Habitats and Birds Directives;	However, as discussed and agreed with Natural England, a pre-construction badger survey would be undertaken to confirm the status of this sett to determine if any additional mitigation measures are required. This may include applying for a licence from Natural England. The requirement for this would be secured through a suitable provision in the Development Consent Order. This issue has been discussed with Natural England the position agreed as documented in the Statement of Common Ground (SoCG) (Doc 8.1.4)
		1.2.2. in respect of proposals likely to damage any of the flora, fauna or geological or physiographical features for which a Site of Special Scientific Interest ("SSSI") has been	Tunnel flooding (response to paras 3.2 and 4.1 in the Natural England letter)
		notified pursuant to the Wildlife and Countryside Act 1981 (the "1981 Act"); and	As stated in Section 3.3 and 6.2 of the Habitats Regulations Assessment (HRA) (Doc 5.4), the installation of the pipeline for the pipeline flooding would include up to three
		1.2.3. in respect of all applications for consent for Nationally Significant Infrastructure Projects which are likely to affect land in England.	people walking out onto the intertidal habitat to place the pipeline, and associated pumps, into the Humber Estuary. Further discussion has been held with Natural England regarding this element of the works and agreement has been reached that this exercise
		1.3. It is also the Government's policy to consult Natural England in respect of sites listed for the purposes of the Convention on Wetlands of International Importance especially as Waterfowl Habitat signed at Ramsar on 2nd February 1971 ("Ramsar sites") as if they were European protected sites.	would not be detrimental to the fulfilment of the conservation objectives for the SAC. Nor would this affect the ability of the populations of Special Area of Conservation (SAC) species to survive at their current conservation status. This is documented in the Statement of Common Ground submitted at Deadline 1 (Doc 8.1.4).
		1.4. Natural England's advice in these relevant representations is based on information	Birds and noise (response to para 3.3 and Section 5 in the Natural England letter)
		submitted by National Grid in support of its application for a Development Consent Order ('DCO') in relation to River Humber Gas Pipeline Replacement Project ('the project').	Discussions are in progress with Natural England as part of the Statement of Common Ground and a supplementary HRA Technical Note is in preparation that will provide some points of clarity for Natural England. An updated Statement of Common Ground
		1.5. Natural England has been working closely with National Grid to provide advice and guidance since November 2013. Following the Planning Inspectorate's acceptance of the	will be submitted at Deadline 3 to demonstrate progress regarding this issue.

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		application, Natural England will be working with National Grid over the next three months to develop statements of common ground as part of the examination process.
		1.6. These relevant representations contain a summary of what Natural England considers the main nature conservation issues to be in relation to the DCO application, and indicate the principal submissions that it wishes to make at this point. Natural England will develop these points further as appropriate during the examination process. It may have further or additional points to make, particularly if further information about the project becomes available.
		1.7. Part I of these representations provides an overview of the issues and a summary of Natural England's advice. Section 2 identifies the natural features relevant to this application. Section 3 summarises Natural England's overall view of the application and the main issues which it considers need to be addressed by the Secretary of State.
		1.8. Part II of these representations sets out all the significant issues which remain outstanding, and which Natural England advises should be addressed by National Grid and the Examining Authority as part of the examination process in order to ensure that the project can properly be consented. These are primarily issues on which further information would be required in order to allow the Examining Authority properly to undertake its task or where further work is required to determine the effects of the project and to flesh out mitigation and compensation proposals to provide a sufficient degree of confidence as to their efficacy.
		1.9. Section 4 identifies the matters where further details about the project are required in order to assess its impacts.
		1.10. Natural England intends if possible to continue discussions with National Grid to seek to resolve these concerns through the provision of further assessment and/or information which can then lead to the agreement of outstanding matters in statements of common ground. Failing satisfactory agreement, Natural England advises that the matters set out in sections 4 to 6 will require consideration by the Examining Authority as part of the examination process.
		1.11. The Examining Authority may wish to ensure that the matters set out in these relevant representations are addressed as part of the Examining Authority's first set of questions to ensure the provision of information early in the examination process.
		PART I: OUTLINE OF NATURAL ENGLAND'S PRINCIPAL SUBMISSIONS
		2. The natural features potentially affected by this application
		2.1. The designated sites relevant to this application is the Humber Estuary SPA, SAC and Ramsar site.2.2. The following nationally protected species may be affected by the proposed project:2.2.1. Badger2.2.2. Water vole
		3. The overall position of Natural England 3.1. Natural England's advice is that in relation to nature conservation issues within its remit there is no fundamental reason of principle why the project should not be permitted, but that further information and assessment work is required to ensure that unacceptable environmental impacts either do not occur or are sufficiently mitigated.
		3.2. Natural England considers that further information is required in on the proposed tunnel flooding works in order to determine whether the project will have a likely significant effect on the Humber Estuary SAC. Please see section 4 for further details.
		3.3. Natural England considers that further assessment is required in order to demonstrate beyond reasonable scientific doubt that the project would not have an adverse effect on the integrity of the Humber Estuary SPA. Further clarification is required

Section 8.5.32 of the HRA (Doc 5.4) outlines the potential frequency of noises which birds are currently habituated to. This is based on noise monitoring undertaken during the winter period, as agreed in consultation with Natural England.

Section 8.3.22 of the HRA (Doc 5.4) outlines the noise effects of the Project and this is based on a worst case scenario. As stated in Table 1 of the HRA (Doc 5.4), the noise modelling has included the bunding and fencing around the construction area.

Although LAmax levels of up to 70-80dB could reach adjacent fields (Figure 12 of ES Chapter 7: Ecology and Nature Conservation (Doc 6.7)), the highest noise levels would be concentrated around the source of the noise and would therefore mainly be experienced within the field in which the works were taking place.

Both curlew and mallard form part of the assemblage qualification for Humber Estuary Special Protection Area (SPA), and are therefore not qualifying features in their own right. Data shown on Figures 7.9 and 7.12 of ES Chapter 7: Ecology and Nature Conservation (Doc 6.7) present the counts recorded during surveys and on the basis of this data, we do not support the notion that the fields within and adjacent to the construction area hold significant numbers of these species.

Results for golden plover recorded in Field 6 are shown on Figure 7.8 of ES Chapter 7: Ecology and Nature Conservation (Doc 6.7). Black-tailed godwit results are shown on Figure 7.10 of ES Chapter 7: Ecology and Nature Conservation (Doc 6.7).

As stated in Section 8.3.36 of the HRA (Doc 5.4), approximately 40ha of arable land within the main works footprint would be 'effectively sterilised' as a result of noise disturbance. As previously stated, although LAmax noise levels could reach beyond 70dB outside of the footprint of the construction area (such as Field 4), given that these are one-off loud noises, and the LAmax would only be experienced in a small part of these fields directly adjacent to the construction area, it is not considered that this would result in sterilisation of the fields that are beyond the main works area. Therefore, we do not support the notion that there would be a significant level of disturbance outside of the main construction works footprint.

Work No. 11 (Doc 2.2A) would be left as set aside for the duration of the construction period. This measure was put in place to mitigate for some of the loss of habitat under the footprint of the works (refer to paragraph 8.3.46 of the HRA, Doc 5.4). National Grid believes this is sufficient to mitigate for the loss of habitat under the footprint of the works. With regards to potential noise impacts within Work No. 11 during the construction period, there would be no significant increase in noise levels when compared to other fields in the area.

Therefore, although there may be some temporary, localised short-term displacement of birds from the fields within and directly adjacent to the proposed works, it is not anticipated that the Project would be detrimental to the fulfilment of the conservation objectives for the SPA. Nor would it affect the ability of the populations of SPA species to survive at their current conservation status.

It is therefore considered that the embedded mitigation measures, proposed within the Environmental Statement and HRA are considered to be sufficient. As such, any additional mitigation measures in the form of habitat enhancement away from the Project area are therefore considered disproportionate to the scale of impact (even in the worst-case scenario) and are deemed unnecessary given the level of embedded mitigation already proposed.

Draft DCO (response to paras 7.1 and 7.2 in the Natural England letter)

Wording will be drafted for inclusion within Schedule 3 of the draft order entitled 'ecology and nature conservation' to include provisions in relation to badger and vole licences; however, other items are covered through the Initial Construction Environmental Management Plan (CEMP) (Doc 7.3) and this is secured through Schedule 3 (12) of the Development Consent Order. This wording will be agreed with Natural England.

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		on the potential disturbance of Humber Estuary SPA birds due to construction noise. Further details are provided in Section 5.	
		3.4. Natural England notes that surveys have revealed the presence of four badger setts in the vicinity of the scheme at Goxhill, one of which is located on the boundary of the main works area. We therefore consider that badgers should be considered to be a key ecological receptor as part of the Environmental Impact Assessment, and should not be scoped out of detailed assessment. However, we agree that the nature of the works that will take place close to the sett on the boundary of the works area are not likely to cause disturbance to badgers. We agree that further surveys will be required to confirm the status of badger setts prior to construction.	
		3.5. Natural England agrees that pre-construction surveys for water voles are required in order to determine mitigation requirements, which may include the need for a Natural England licence.	
		3.6. Natural England agrees that other protected species can be scoped out of detailed consideration as set out in Section 7.4 of the Environmental Statement.	
		PART II: OUTSTANDING MATTERS REQUIRING ATTENTION	
		4. Further details about the project in order to enable assessment	
		Humber Estuary SAC 4.1. Further information is required regarding the proposed flooding of the tunnel in order to determine whether there will be any impacts on inter-tidal habitats which are an interest feature of the SAC. Whilst we understand from the nformation in sections 3.3.28, 3.3.29 and 6.2.3 of the Habitat Regulations Assessment report that tunnel flooding works will occur over a period of two weeks only, it is not clear how much further disturbance to the intertidal habitats will result due to the vehicle movements associated with the installation and removal of the pipes. Clarification of such movements will allow an assessment to made of whether the works are likely to have significant effects on the interest features of the Humber Estuary SAC.	
		5. Further evidence or assessment work required	
		Humber Estuary SPA	
		5.1. Natural England considers that further assessment of noise impacts during the construction phase is required in order to determine whether there will be adverse effects on the integrity of the Humber Estuary SPA.	
		5.2. Table 12 in the Habitats Regulations Assessment Report shows that a number of species which are qualifying features of the Humber Estuary use the area of the SPA in the vicinity of the project construction works. We note from Section 5.5.3 and Appendix 6 of the HRA Report that the maximum noise levels (LAmax) experienced at the boundary of the SPA on both the Paull and Goxhill sides, and Paull Holme Strays from existing sources is likely to be higher than that caused by the project construction works. Section 8.3.22 states that it is not possible to predict the frequency of construction noise and that a qualitative assessment should be made. However, we advise that an indication of the likely approximate frequency of construction noises at LAmax is given. Combined with further information on the existing sources of noise to inform the qualitative element of the assessment , this will help to determine whether the project will impact on the use of the SPA by qualifying species.	
		5.3. Section 8.3.36 of the HRA report indicates that approximately 40ha of arable land within the main works footprint would be 'effectively sterilised' as a result of noise disturbance. It is not clear from Figure 12 whether the effect of the bunds in reducing noise impacts have been taken into account. The survey results indicate that fields 4, 5 and 6 currently provide foraging and roosting habitat for significant numbers of golden plover, curlew and black-tailed godwit in the context of the SPA population, and there is	

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		also a high count of mallard from field 3. Figure 12 indicates that maximum noise levels in parts of these fields would be higher than 70dB for much of the construction period, which we consider to be a significant level of disturbance outside of the works footprint.	
		5.4. We do not consider that the proposal to leave part of field 6 as set-aside for the duration of the construction work, as discussed in Sections 8.3.46 and 9.1.3, provides sufficient confidence that adverse effects on the integrity of the SPA can be avoided on the basis of the information currently available. It is not clear that the set-aside area would provide a large enough area or sufficient quality of habitat to act as an equivalent foraging or roosting resource, in order to mitigate for the effects of disturbance to birds using fields 4, 5 and 6. Subject to clarification of noise impacts as set out above, it may be necessary to consider mitigation in the form of habitat enhancement further away from the works area, where noise impacts will be reduced.	
		6. Matters that must be secured by requirements in the DCO	
		6.1. Pre-construction surveys for badgers and water voles as referenced in Sections 3.4 and 3.5, and the need for any licences if required, will need to be secured by a suitably worded requirement.	
		6.2. Measures to mitigate for impacts on SPA and SAC interest features, to be informed by further details about the project and further evidence and assessment work as set out in Sections 4 and 5, will also need to be secured by requirements in the DCO.	
		7. Comments on the draft DCO	
		7.1. Natural England welcomes Requirement 12 in Schedule 3 of the DCO, which states that a Construction Environmental Management Plan (CEMP) for the works must be produced. We note from Section 2.4.1 of the Draft CEMP that a Project Environmental Management Plan (PEMP) will be produced by the main works contractor. We advise that the PEMP should include details of mitigation measures required for protected species and nationally and internationally designated sites.	
		7.2. We advise that a section is added to Schedule 3 entitled 'ecology and nature conservation' to include the requirements outlined in Sections 3, 4 and 5 above, which addresses the needs of protected species, nationally and internationally designated sites.	
19	EDF Energy	Please accept this as EDF Energy's Relevant Representation on National Grid's proposed River Humber Gas Pipeline Replacement Project.	National Grid note the <u>email</u> from EDF Energy to PINS on 30 July 2015 confirming that EDF Energy are satisfied that the project will not impact on its assets and that it wishes to withdraw its relevant representation.
		EDF Energy owns and operates a number of nuclear, gas and coal power stations across the UK and is making this representation in order to protect EDF Energy assets in the vicinity of the Project.	·
		EDF Energy will engage with National Grid as necessary to ensure that any assets that may be affected are properly protected and that there is nothing in the Order (if made) that could prevent, restrict or otherwise adversely affect them. EDF Energy may wish to secure agreements, and protective provisions if necessary which minimise impacts on its business.	
		EDF Energy intends to update the Examining Authority on matters associated with the Company's interests and progress of discussions, and any subsequent representation. In this regard, please accept this representation as notification of EDF Energy's wish to be considered an interested party with the ability to be heard at relevant hearings during the course of the examination.	
	Office of Rail and Road	Dear Planning Inspectorate	National Grid notes the comments and that a draft Statement of Common Ground is being negotiated with Network Rail (this was submitted at Deadline 1) in relation to the
		Thank you for your letter of 18.5.15 seeking any representations we may wish to make in relation to application reference EN060004. We have reviewed your proposals and supporting documents & note that the Applicant is working with Network Rail and Local	level crossing (Doc 8.1.17).

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		Authorities to ensure public roads remain safe and that the level crossing at Soff Lane can be safely traversed by the construction vehicles to be used. We also note that Capita are in consultation with Network Rail around the structural integrity of the railway bridge at Ferry Road.	
		Kind regards	
		Office of Rail and Road One Kemble Street 2nd and 3rd Floors London WC2B 4AN Tel: 020 7282 3829 e-mail DutyToCooperate@orr.gsi.gov.uk	
F	Public Health England	Public Health England (PHE) welcomes the opportunity to comment on your proposals at this stage of the project and can confirm that we are satisfied with the approach taken in preparing the Environmental Statement (ES) and the conclusions drawn.	Public Health England have confirmed they are happy with the assessments and proposed mitigation in the application, have no concerns regarding public health impacts associated with the project and have not registered as an interested party. It has been agreed that no Statement of Common Ground is required with Public Health England
		Air quality, soil and groundwater	and this correspondence was provided to the Examining Authority at Deadline 1.
		PHE notes the conclusion that, if the proposed mitigation is implemented, historically contaminated land, construction related dust emissions, groundwater contamination and air quality are predicted to have no significant impact on public health	
		Conclusion	
		On the basis of the submitted information PHE is satisfied that the development's potential impacts on public health have been adequately addressed and, where necessary, suitable mitigation has been proposed. For this reason PHE does NOT intend to register any further interest in the planning process although we will of course be happy to provide further comment if so requested by the proposed or planning inspectorate.	
		Please do not hesitate to contact us if you have any questions or concerns.	
E	Environment Agency	We would like to make the following Relevant Representation. In addition to our RR we have appended more detailed comments on each topic area, so the ExA and applicant have these at the earliest opportunity. 1.0 Groundwater (also see Appendix 1)	1.0 Groundwater There are multiple references to the same primary issue, to which all other issues are linked. This issue, Item 1.1, is that "the project is not currently supported by adequate information about its impacts on groundwater".
		 1.1 We have very serious concerns that the project is not currently supported by adequate information about its impacts on groundwater. 1.2 The project will involve construction phase activities which will impact upon groundwater. The tunnel is to be driven south to north and in order to facilitate this, a large sub-surface structure, known as the 'drive-pit', is proposed at Goxhill (in addition to 	Closely related to this point is Item 1.2 that "the Hydrogeological Impacts Assessment is not currently supported by adequate site investigation and therefore does not form a suitable basis on which to assess the proposed design, its environmental effects or the mitigation proposed", and Item 1.3, "A full pump test must be undertaken to provide accurate characterisation of the aquifer [] the resultant impacts and the suitability of mitigation, cannot reasonably be relied upon."
		a smaller 'reception pit' at Paull). In order to construct the drive-pit, groundwater management will be needed to draw-down the water table. The Hydrogeological Impacts Assessment is not currently supported by adequate site investigation and therefore does not form a suitable basis on which to assess the proposed design, its environmental effects or the mitigation proposed.	National Grid is fully cognisant of the importance and fragility of the chalk aquifer as an essential water resource and its vulnerability from excessive dewatering from pumping during construction. It is for this reason that National Grid has put together a strong and experienced technical team to ensure the requirement and responsibility to produce a dry, safe and stable working environment for the workers within the drive pit is fulfilled; with minimal impact to the surrounding hydrological and hydrogeological
		1.3 A full pump test must be undertaken to provide accurate characterisation of the aquifer and, following that, the Hydrogeological Impact Assessment (and any other related chapters) updated. Without this information, predictions made about the extent and length of dewatering necessary, the resultant impacts and the suitability of mitigation, cannot reasonably be relied upon.	environment. Most specifically, National Grid, supported by its technical team, is confident that there is sufficient hydrogeological information, both gathered during the current site investigation and publicly available, to enable the design of a robust groundwater control system that can ensure both the safety and workability to launch the tunnel
		1.4 Depending on the spatial and temporal extent of dewatering needed, this will result in a zone of influence within which groundwater will be affected. Of key interest within this zone of influence will be understanding the impacts on:1) Other users of water in the area, including local food-related industry, public drinking water supplies and small-scale private abstractors;	boring machine and to mitigate the impact on the surrounding aquifer. Where there are uncertainties in the hydrogeological parameters (such as the anisotropy of the Chalk), there is confidence in the proven mitigation measures available for these potential conditions.
		2) Flows within East Halton Beck and other surface watercourses – including their related ecology; and3) The intrusion of saline water from the estuary into the otherwise freshwater aquifers.	National Grid agrees with the Environment Agency that more testing is beneficial with the first stage of this testing undertaken in August/September 2015. However, this continued testing was designed to focus on establishing the important parameters that

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	 1.5 The groundwater management needed to facilitate these works is likely to need an abstraction licence from the Environment Agency if either: 1) Dewatering becomes a licensable activity between now and the project being constructed (this is currently due to be implemented in October 2015); or
	2) Any abstracted water is utilised for other uses, e.g. for hydrostatic testing or cement production.Even if the proposed activities would not fall under the abstraction licensing regime, we will still seek to apply the spirit of the licensing regime through the DCO process.
	1.6 There is currently a limit on abstraction licences in the Humber South Bank area due to the chalk aquifer being over abstracted, as set out in the Environment Agency's 2006 Grimsby, Ancholme and Louth Catchment Abstraction Management Strategy (CAMS). Our updated February 2013 CAMS states that the chalk groundwater resource is fully committed to existing users and the environment.
	1.7 We will only be in a position to support the proposals, either through our role as a statutory planning consultee to the DCO or through our role as regulator under the Water Resources Act, if the application is supported by robust evidence demonstrating that, as a result of the proposed groundwater management: 1) Other licensed and lawful unlicensed water users (including small-scale, private abstractors) will not be unacceptably impacted;
	2) Unacceptable saline intrusion will not occur; and3) Flows in East Halton Beck and other surface watercourses (including their related ecology) will not be unacceptably impacted.
	1.8 We feel it is essential that comprehensive pump-testing is undertaken at the earliest opportunity and that this informs an updated Hydro-geological Impact Assessment. In our view, this will provide the certainty needed to finalise the construction design, assess its environmental effects and demonstrate that the mitigation strategy will be effective and deliverable.
	2.0 Flood Risk (also see Appendix 2) 2.1 The Flood Risk Assessment (FRA) supporting the application is currently inadequate as it does not make use of the best available information and is unclear and inconsistent on
	certain matters. In particular: 1) The FRA does not take account of the latest interim tidal levels for the Humber. The levels are ~300-500mm higher than those assessed in the FRA. As such its assessment may substantially underestimate the risk;
	2) There are inconsistencies in the FRA and other documentation regarding the provision of flood bunds during construction around the drive and reception pits. These should be clarified;3) We have concerns that in the event of tunnel collapse during construction, the tunnel
	would act as a conduit allowing water from the estuary to flow into the floodplain in which there is existing critical infrastructure; 4) We disagree with the applicant that climate change needs not be considered. Climate
	change must be considered for the lifetime of the development. In addition, aspects of the development classed as 'essential infrastructure' (e.g. kiosks) must also be tested against a more extreme flood event; 5) Insufficient minimum cover is proposed for Works 1A as these are in a location where
	the Environment Agency is proposing a managed realignment site which will involve land lowering to encourage tidal inundation. Minimum cover should be increased; 6) There has been insufficient assessment of risk following a breach in the tidal defences. Given that depths of water, based on present day risk, are expected to be between 1.5-

Response Plan;

receptors for this;

1.75m in some areas of the site, it is important that this information is provided. The information should be used to inform the Emergency Warning and Flood Incident

7) The FRA identifies that flood depths from fluvial flooding will be increased as a result of the development. However, insufficient assessment has been made of the potential

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govern the impact on the surrounding environment. This testing will not alter the concept of the groundwater control design proposed.

Groundwater control would comprise abstraction from inside a four-sided impermeable concrete rectangular structure. The concrete walls are to be installed to a sufficient depth (circa 28m below ground level) to cut off the most permeable geological layers (i.e. the weathered Chalk). As a result, the only groundwater that would require abstraction, is that flowing through the lower permeability and anisotropic stratum beneath the concrete walls (secant pile wall – see image below).

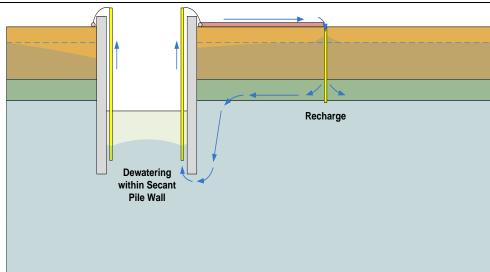


While this approach substantially reduces the rate of flow to the excavation, there will still be a residual groundwater abstraction to maintain dry and safe conditions within the structure.

In the event that the required abstraction rate and drawdown is higher than expected, an additional mitigation strategy is planned whereby the clear abstracted groundwater is pumped back into the permeable aquifer at a distance outside the concrete walled excavation (as shown in the Figures below). As this groundwater is abstracted from filtered wells beneath the excavation, it will be of sufficiently high quality to inject back into the upper higher permeability aquifer (with a comprehensive monitoring regime in place to ensure, no chemical contamination). Following this mitigation strategy will ensure that the overall loss of groundwater from the aquifer will be within an acceptable abstraction limit agreed with the Environment Agency and drawdown at distance will be minimal which will prevent saline intrusion, derogation of existing abstractions and reduction in baseflow to water bodies.

No. **Party Relevant Representation** 8) The 'Indicative Paull Site Layout' shows an area denoted as the 'water discharge work area' which appears to coincide with the existing flood defence and Thorngumbald Pumping Station outfall. More detail is requested to assess any potential impacts; 9) Any mitigation measures deemed necessary in a suitably updated and approved FRA will need to be secured via an appropriate requirement in the DCO. 3.0 Biodiversity (also see Appendix 3) 3.1 Further to the concerns we have raised regarding groundwater, a potential receptor for these impacts is water voles and their habitat within various ditches and watercourses which may be affected by groundwater dewatering. The lack of certainty over these groundwater impacts, therefore extends to the project's predicted impacts on water voles. 3.2 The project's biodiversity impacts generally will need to be re-visited in light of an updated Hydrogeological Impact Assessment, reflecting any revised understanding of the nature and extent of the project's predicted impacts on groundwater. 3.3 There also appears to have been no investigation of potential opportunities to provide ecological enhancement through the scheme, as is required by EN-1 and other local policies. We request that the applicant provides an assessment of all potential opportunities to contribute to ecological enhancement, and reasoned justification as to whether or not the scheme could assist with the delivery of this enhancement. This should be accompanied by a detailed schedule of committed enhancements which are secured through the DCO. 3.4 We would also like to highlight that we have recently delivered a flood defence managed realignment site at Paull Holme Strays which was necessary compensation to ensure that our flood risk management activities in the estuary are compliant with the Habitats Regulations (as set out in our Humber Flood Risk Management Strategy and its associated Habitat Regulations Assessment). The function of this site must be safeguarded from the proposed development, particularly in relation to the disturbance of birds (but may also include vegetation, benthic invertebrates, topography etc). It is therefore essential that appropriate mitigation and monitoring is secured for the construction programme. Natural England will be providing more detailed comments on this matter. We will defer to Natural England at this stage, but reserve the right to provide more detailed comments at Written Representation stage. 4.0 Pollution Prevention (also see Appendix 4) 4.1 We are generally content that the pollution mitigation measures proposed in relation to surface water are sufficiently robust to ensure that any potential impacts can be minimised. However, we would like to see some minor amendments to the CEMP, as set out Appendix 4. 5.0 Waste (also see Appendix 5) 5.1 The application states that some material (tunnel arisings) would be left on site for possible reuse in infilling etc, around the laid pipe. This would be acceptable in most circumstances, however further information would be needed as to what the material would consist of, how long it would be stored and how it is intended to be stored, before determining whether the activity would require an Environmental Permit under the Environmental Permitting Regulations. 6.0 Land Interest (also see Appendix 6) 6.1 We have land interests that may be affected by the project. We have set out in Appendix 6 various points of clarification and requests for minor amendments to the book of reference. 7.0 Disapplication & Draft DCO (also see Appendix 7)

Applicant's Comments





(Photo showing the clarity of the groundwater abstracted by a designed dewatering system.)

Additional Pump Testing (Item 1.3 and 1.8)

The Environment Agency has expressed a preference for a 'full pump test' to be undertaken to improve the hydrogeological understanding.

The original Phase 2 site investigation planned by National Grid included the performance of such a pump test. However, wider investigation by both OGI and Hyder, demonstrated that the most permeable 'chalk bearings' aquifer would require excessive pumping to achieve any measurable drawdown at the proposed monitoring wells, as was experienced at the original pump test for the A63 Castle Street project in Hull, where pumping at 18 litres/second produced only c0.3m drawdown at the monitoring borehole 18m away). The geology at the A63 Castle Street project is similar to that encountered at the Drive Pit location: i.e. Drift Deposits overlying the Burnham Chalk which is weathered at the top. From the information initially gathered by OGI and Hyder, a pumping rate of six million litres per day could be required to achieve a measureable drawdown at the monitoring well to sufficiently characterise the aquifer. Based on our mathematical modelling of both (i) a full pump test, and (ii), the construction dewatering operation, based on the ground parameters assessed by both

No.	Party	Relevant Representation	-
		7.1 We note that the draft DCO includes disapplication of various aspects of the Yorkshire Land Drainage Byelaws 1980. Whilst we do not object in principle to this, we will need to enter into negotiations with the applicant regarding the inclusion of suitable protective provisions. Only when appropriate protective provisions have been agreed will we be able to confirm our acceptance of the proposed disapplication.	F a
		7.2 We note that the above byelaws apply solely to the north bank of the Humber and that no request has been made to disapply the equivalent byelaws on the south bank. We will discuss this with the applicant.	(c
		7.3 We will provide some more detailed comments about the drafting of the DCO in our subsequent Written Representation.	r c w
		Should you require any additional information or clarification, please don't hesitate to contact me on the details below.	I fo
		Yours faithfully	• p
		Mr Sam Kipling Sustainable Places Planning Specialist Direct dial 0113 819 6386 Direct fax 0113 819 6299 Direct e-mail sam.kipling@environment-agency.gov.uk	• a p
		8.0 Appendix 1 - Groundwater 8.1 The Hydrogeological Impact Assessment (HIA)(6.13.3 Appendix 13.3) is an important document. The principal purpose of this document is to identify what groundwater-related impacts could arise in the surrounding area and how mitigation measures could reduce this impact. Information in the HIA draws on data provided in accompanying reports such as '6.8 Geology and Soils' and 'Appendix 8.5 Chalk Report'. It uses this information to describe how the proposed drive pit and reception pit may affect the water environment and the stability of surface structures. The report identifies that the construction phase of the drive pit and reception pit could have wide ranging impacts on surface water and groundwater.	a A tl
		8.2 For this reason the report proposes mitigation measures and explores how these could reduce the impact. The mitigation proposed is to pile at the drive and reception pits, then to dewater before excavations commence. The hypothesis is that the combination of piling and groundwater dewatering within the piled area would minimise groundwater drawdown (i.e. the lowering of groundwater levels) and therefore limit adverse effects on the surrounding environment.	d N
		 8.3 Examples of adverse impacts include: Saline intrusion - the movement of estuary water into the freshwater chalk aquifer from works at the drive pit; Reduced groundwater levels; Reductions in groundwater level or quality and a resultant impact on licensed and unlicensed groundwater users; Reduced flows in surface watercourses (including drainage ditches) and potential effects on ecology. 	t d a C 3
		8.4 The report provides a summary of sensitive water features in the surrounding area. These are licensed and unlicensed abstractions, surface water features and any other pertinent water feature. This information has been gathered from information requests to relevant authorities in the area. This information is important as it seeks to identify the receptors for any potential adverse impacts.	A (h
		8.5 The chalk and sand and gravels are the main water-bearing units that will be encountered during the drive pit and reception pit works. How this water is managed is key to minimising impacts on the water environment. The characteristics of the chalk and	t

Hyder and OGI, the total abstraction rate for a 10 day full pump test exceeds that from an eight week construction dewatering abstraction period.

Additionally the full pump test would provide a mass permeability for the Chalk and Chalk bearings but would not define the isotropy of the Chalk or the permeability of the Chalk at depth below the Secant Pile Wall toe (where predominant flow will be concentrated during construction).

(Note that internal construction dewatering is only required for the period between the completion and curing of the secant pile walls and the construction of the impermeable reinforced concrete base slab which is designed to resist uplift pressure. When this concrete slab has sufficient strength, the pumps will be removed and the wells sealed within the concrete slab. The water head in the aquifer beneath the slab will then rise back to ambient level.)

In light of the above, OGI advised National Grid that it is important to undertake the following:

- A series of mini pump tests which are conducted over a four hour pumping period, followed by a sixteen hour recovery period that will demonstrate the permeability at different depths and inform any further pump testing.
- Following the analysis of the mini pump tests, determine the most appropriate additional testing that is required to establish, with more accuracy, the particular aquifer parameters suitable to demonstrate the level of impact from the construction and dewatering design.

The above approach is not expected to necessitate in a change in the current construction methodology, but instead to refine our understanding, which would result in the optimisation of the approach and allow a more accurate determination of the final abstraction rate for licensing.

As noted in items 1.5 and 1.6, even if groundwater is not utilised for other purposes and the introduction of licensing for construction projects is further delayed, abstraction rates (and drawdown with distance) will be agreed with the Environment Agency through the licensing process. The Environment Agency will be fully involved throughout the licensing process and we will work with the Environment Agency to minimise any further imbalance in the groundwater resource, through proven systems such as recharge and importing of water where appropriate for site use.

National Grid will continue to work with the Environment Agency to provide evidence and confidence in the proposed groundwater control methodology and mitigation measures.

2.0 Flood Risk Assessment

Following discussions with the Environment Agency on the comments raised in relation to flood risk a Flood Risk Assessment (FRA) Addendum (Doc 5.2.1) has been produced and this addresses the points raised by the Environment Agency. This was submitted at Deadline 1.

3.0 Biodiversity

The pump testing (undertaken by OGI in August 2015) and subsequent modelling, has shown that there would be no significant impact on the water levels in the adjacent ditches when undertaking the dewatering exercise (Doc 6.13.3.2). Therefore no potential impacts on water voles as a result of the dewatering would be envisaged.

A number of enhancement measures are proposed for Field 26 (at Paull) (c. 2ha) (Figure 7.6 of ES Chapter 7: Ecology and Nature Conservation (Doc 6.7)), which would help to provide an overall benefit to local biodiversity.

Where appropriate and subject to landowner's agreement, existing hedgerows within the application site boundary at both Goxhill and Paull would be planted up as part of the reinstatement of the application site. This would comprise gapping up of existing hedgerows with native shrub species, preferably sourced locally. This would provide

No. Party	Relevant Representation	Applicant's Comments
	sand and gravels are based on information that has been gathered from the site investigation, literature search and professional opinion and has been presented within the HIA. This information is important because it has been used to infer certain assumptions about how the water environment could behave during the construction phase. The conceptual model and subsequent computer modelling use these hydrogeological characteristics - of the chalk at the drive pit and of the sand and gravels at the reception pit. How the mitigation is predicted to work relies on this evidence. Being confident in this information is therefore critical to being able to assess and agree the suitability of the mitigation proposed. 8.6 The results of computer modelling, as presented in the HIA, are that up to 70 cubic	further habitat enhancements for a range of ecological receptors, including terrestrial invertebrates, bats, amphibians, birds and reptiles. Enhancement measures are proposed in line with the Natural Environment and Rural Communities Act 2006, Overarching National Policy Statement for Energy (EN-1), National Planning Policy Framework and National Planning Practice Guidance. There is nothing in EN-1, the National Planning Policy Framework or otherwise to suggest that there is a correlation as suggested by the Environment Agency between the 'scale and value' of a project and the enhancement measures which should be provided. The scale of the project would only be relevant to the extent that this related to the number and extent of opportunities created as a result of the proposed works.
	metres per day of groundwater for 35 days will need to be abstracted during the drive pit works. It also suggests that 149 cubic metres per day of groundwater will need to be abstracted for the reception pit over 39 days. We consider that there is significant uncertainty about these figures, both in respect to the quantities of groundwater abstraction and the duration of the proposed works. We strongly recommend that pump tests are undertaken to provide more appropriate site-specific evidence to confirm and substantiate the findings of the HIA.	When the scale and residual impacts of the project are taken into consideration, National Grid believes that mitigation provided by the project through the schedule of mitigation commitments is appropriate to the level of the impact. Where opportunities have arisen on land over which National Grid has longer term control we have identified opportunities for enhancement that are commensurate to the temporary nature of the development, the limited new footprint of works on completion and requirement to restore agricultural land on completion of the works.
	8.7 During pre application discussions with consultants for National Grid, we recommended that work should be done to characterise the chalk aquifer. Specifically pump tests should be used to obtain site specific information on chalk permeability. It was felt that this information was key to establishing confidence in the proposed method of drive pit construction. This is because the proposed method of mitigation, by piling around the drive pits, relies on the chalk having horizontal permeability but relatively little vertical permeability. The main zone of the groundwater movement in the chalk aquifer is generally felt to be in the top 50 metres. With piling proposed to a depth of 28 metres, if there is a strong element of vertical permeability then dewatering within the piled excavation may necessitate significantly more abstraction than currently predicted. This could also lead to delays in the period excavation would take, as well as resulting in significant changes to the nature and extent of the predicted impacts. It is therefore critically important to be confident about the chalk characteristics prior to the granting of any consent.	National Grid does not believe, based on the relevant policies identified, that a scale of enhancement weighed against the overall cost and perceived scale of the project is justified when the project is as we believe currently acceptable in planning terms. 4.0 Pollution Prevention National Grid has updated its Initial Construction Environmental Management Plan (Doc 7.3) to include these items and this will be submitted at Deadline 3 to the Examining Authority. 5.0 Waste Further discussion will be sought with Environment Agency to understand risk. CL:AIRE is discussed in paragraph 8.7.24, ES Chapter 8: Geology and Soils (DCO Document 6.8) as an option to keep materials out of the waste stream.
	8.8 The Ground Investigation Report identifies and discusses differences between in situ permeability tests and feedback from drilling operations. The report identifies significantly differing (orders of magnitude) permeability between the tests and feedback. The report continues that, "it is considered that a greater understanding of the permeability will only be possible when full scale pumping tests have been completed as part of the Phase 2 ground investigation." 8.9 Secondly, the driller's logs that have been provided as part of this submission identify much weak chalk, with some losses of core during drilling. This indicates soft, weak chalk that has the potential to provide vertical permeability.	The most likely Tunnelling Method will involve a Slurry Pressure Balance Tunnel Boring Machine. This utilises a bentonite slurry as the transportation medium to remove arisings (in a fluid form) from the Tunnel Boring Machine to the surface, and also utilises the slurry to "balance" the lateral earth pressure in front of the Tunnel Boring Machine. Excavated spoil is mixed with bentonite and raised into suspension, and at the surface the slurry is passed through a Slurry Separation Plant (SSP) that utilises sieves, screens, de-sanding units, de-silting units, hydro-cyclones, centrifuges and filter-presses to remove solids and recondition the fluid before sending back to the Tunnel Boring Machine in a closed loop to begin another excavation cycle. Regarding waste, this means that the pre-treated chalk arisings will initially be a "slurry" or "mud", with a generally fluid consistency, and after initial treatment through the SSP would likely have a moisture content of >35%, shown below;
	8.10 Based on the information gathered to-date, the indication is that adverse impacts would be insignificant and any residual impacts would be for the short duration of excavation and concrete base placement. The predicted pump rate relies on the data gathered so far on chalk characteristics. The additional pump test information would inform the proposed method of drive pit excavation as well as the groundwater conditions to be encountered by the Tunnel Boring Machine. This evidence should provide the confidence needed on whether the proposed method is feasible and whether or not impacts in the area can be adequately mitigated. Without this information to support the proposed methodology we cannot be confident that the proposal will not have significant and unacceptable impact on the wider environment.	the 33r would likely have a moisture content of >33%, Shown below;
	8.11 We would also like to highlight that no new groundwater licences are currently available from the Environment Agency in the South Humber Bank area. Whilst dewatering is not yet a licensable activity, DEFRA have been looking to make it licensable for some time. There is therefore a possibility that by the time construction commences a licence (for groundwater abstraction above 20 cubic metres per day) would be needed in	

No. **Party Relevant Representation** any case. However, even if dewatering remains an unlicensed activity, if dewatered groundwater is stored and used for other purposes on site - which has been proposed - a licence would be needed regardless. There are similar licensing constraints on the surface water system in the South Humber Bank area, however this is not the case in the North Humber Bank area. 8.12 Paragraph 2.3.12 of the Scheme Description states that for the drive pit and reception pit, groundwater control is likely to be achieved by combining four approaches: • Cut off walls (secant and sheet piling); • Deep well dewatering; Sump pumping; and • Passive relief wells within the base of the pit. Although no dimensions are presented in this section, from previous correspondence it is understood that the drive pit will be advanced into the chalk aguifer while the reception pit will remain within the superficial deposits. As a result, we consider that there are likely to be fundamental differences in the behaviour of groundwater at the drive pit compared with the reception pit. It is the behaviour of groundwater which needs to be clearly understood before substantial and irreversible decisions are made on the principle and methodology of pit construction. 8.13 Paragraph 2.3.10 of the Scheme Description states that the tunnel, drive pit and reception pit would be kept reasonably dry during the construction of the tunnel and installation of the pipeline by controlling groundwater in-flow. Key to this is whether or not groundwater can be controlled. Our view is that the nature of the geology and the potential for significant groundwater ingress must be explored through pump testing, prior to the principle and construction methodology being established. Without suitable pump testing being undertaken, we cannot be confident that the proposed mitigation would be effective or what the residual magnitude of impact on the wider environment could be. 8.14 Paragraph 2.4.34 of the Scheme Description states that the pipeline test sections for the Goxhill side require water to be pumped in or out. Paragraph 2.4.38 states that there are three alternative sources. The preferred source is presented in paragraph 2.4.42 and relates to groundwater. The paragraph described that dewatered groundwater from the drive pit and reception pit could be stored on site for use in the hydrostatic testing. We would like to highlight that the quantity of water required for hydrostatic testing may not match the water produced. Secondly, no new licences are available on the Goxhill side of the works due to the Catchment Abstraction Management Strategy status of the area. It is unclear whether storage of up to and over 5.5 million litres of water has been allowed for in the design proposal. 8.15 Paragraphs 2.4.73 to 2.4.76, of the Scheme Description describe the decommissioning proposals of the Goxhill construction Site. The decommissioning or infilling of the drive pit will require special consideration as this will be particularly challenging due to the groundwater conditions. There is no mention of this aspect in the report. Similarly Paragraphs 2.5.37 to 2.5.39 of the Scheme Description do not consider the decommissioning of the reception pit at Paull in any detail. 8.16 With regard to the methodology section of the Geology and Soils chapter (6.8), paragraph 8.3.2 states that the Water Resources Chapter only considers the construction phase of the Scheme as PINS agreed in their Scoping Opinion that operational impacts are unlikely given the nature of the development and could be scoped out of this chapter. In our view, based on the information currently available, the "reconfining" of the chalk aguifer after construction, may present a major challenge with the potential for medium and long term management of groundwater required in and around the sheet piled trench. This issue should be addressed. 8.17 Paragaph 8.3.7 of the Geology and Soils chapter states that the study area includes the area within the application boundary plus a buffer zone of 250 metres. The study area

for this topic is stated as being agreed with the Local Authorities and the Environment

hydrogeology is considerably larger at around 4km.

Agency (Appendix 8.1 - document 6.8.1). It should be noted that the study zone for the

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The use of centrifuges and filter-presses would significantly improve spoil consistency, and should result in chalk "cakes" with a moisture content of <30% (typically a M/C of 26% is aimed for) as shown below;



Solid fractions (i.e. sand, gravel, cobble and broken boulders) will all be recovered as dry aggregates, and as by-products of the slurry separation process.

Once the actual Tunnel Boring Machine as selected by the Main Works Contractor is known, a specific Slurry Separation plant specification can be developed and the amounts of reusable arisings quantified and modelled with much more accuracy. Notwithstanding the possibility of removing any materials from the scope of regulation, and the wider objective to re-use arisings either on site, or another suitable project site for example as fill for land reclamation etc., it should be emphasised that on other major tunnel projects in similar geology (i.e. the Lee Tunnels, and Crossrail C310) the projects set a target for percentage waste-to-landfill at less than 5%, and using similar Tunnel Boring Machine technology, this was achieved and bettered in both cases.

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		8.18 Paragraph 8.4.33 of Chapter 6.8 states that hydrogeology is discussed in detail within Chapter 13. Paragraphs 8.7.1 and 8.10.2 state that once constructed and in	
		operation the pipeline would be buried and all land use returned to its former use with vegetation reinstated. The report considers that there would be no significant effects on	
		the geology and soils during the operational phase. It should be remembered that secant piling and the concrete slab for the trenching works would remain in place and there is	,
		uncertainty regarding the post construction monitoring and maintenance of groundwater within the chalk aquifer. This should be considered in Chapter 13, with any necessary	
		monitoring and/or maintenance secured in the DCO.	
		8.19 Paragraph 8.8.5 of Chapter 6.8 states that geology and soils are considered to have a 'low' value. In our view this conclusion is incorrect. The chalk geology is a principal	
		aquifer and due to its groundwater bearing capacity and importance for water resources, its value should not be assigned as 'low'.	
		8.20 Paragraph 8.10.10 of Chapter 6.8 states that, based on the information available to	
		date and the environmental design and enhancement measures proposed, the potential significant effects that could arise from construction of the scheme are considered to be	
		negligible. The effects for geology are not considered to be negligible and the hydrogeological impacts associated with this are discussed in Chapter 13. This Chapter should cross-reference and account for the potential significant effects on hydrogeology.	
		8.21 We have some concerns about chapter 6.8.5, Appendix 8.5: Chalk Report in relation	1
		to the cross referencing of photographs with driller's logs to confirm the succession of chalk geology. Chapter 7 page 16 recommends that density classifications on the core log	
		need to be supported by the descriptive evidence (e.g. breaking by hand or with a geological hammer). The outcome of this could be fed into Chapter 13 on hydrogeology a	ıs
		the evidence may be useful in understanding the vertical and horizontal components of groundwater flow, which are crucial to understanding the potential impacts of dewatering	J
		of the trench.	
		9.0 Appendix 2 - Flood Risk 9.1 We request the provision of an updated FRA addressing the following points:	
		9.2 The FRA does not take account of the latest interim tidal levels for the Humber, which	า
		are now available. An initial comparison shows that the interim 0.5% Annual Exceedence Probability (AEP) levels are between approximately 300 and 500 mm higher than those	
		levels stated in the FRA. This new information may have implications for many aspects of the FRA and need to be taken account of.	:
		9.3 The flood bunds mentioned in Section 6.1.5 of the FRA are not shown on Indicative	
		Goxhill and Paull Site Layout drawings. Given the detail and complexity of these drawings which show fencing, spoil bunds and the like, we would expect the flood bunds to have	3
		been included. This drawing should be updated to include the bunds so that their relationship with other site features can be seen.	
		9.4 Sections 5.6.4. and 6.1.2/6 of the FRA contain contradictory statements in terms of	
		the provision of 1.4 m high (3.3 to 3.4 mAOD) flood bund around the drive and reception pits. The former states bunds are not required and the latter say they will be provided.	
		Some of the plans don't show a continuous bund around drive pit. Definitive clarification of what is proposed is requested.	of
		9.5 Section 7.6.5 of the FRA discusses the issue of settlement of defences at Paull and	
		distinguishes between historic settlement and settlement attributable to the proposed project. It is worth stating that the settlement detected by the Environment Agency and	
		our consultants in 2014 is some distance to the west of the proposed corridor. The defence immediately above the corridor was not found to have settled historically since	

construction in the early 2000s.

Applicant's Comments

6.0 Land Interest

Comments regarding Land Interest are addressed below

7.0 Disapplication & Draft DCO

National Grid are in the process of negotiating appropriate protective provisions for the Environment Agency and will include these in the next draft order. Amendments are also being agreed to the disapplication provisions and it is agreed that the protective provisions for the Environment Agency will apply in lieu of the disapplied bye-laws.

8.0 Groundwater

National Grid agrees with the statements made by the Environment Agency in Items 8.1 to 8.5.

As stated in Item 8.6, there is a degree of uncertainty with the predictions of flows made within the Hydrogeological Impact Assessment, as there are variable ground conditions. Further sensitivity analysis has been conducted to understand the importance of varying hydrogeological parameters and to direct and refine the further testing required to produce more accurate predictions of impact and optimisation of the mitigation measures. The duration of the abstraction is dependent on the speed of excavation and slab construction and variable ground conditions should not impact upon the construction speed and subsequent abstraction duration.

Sensitivity modelling of the Drive Pit and previous experience with shaft and pit constructions, provides confidence that if the conditions are as determined by Hyder and OGI, the impact will be minimal, and if the conditions are less favourable (high vertical permeability) we have proven mitigation measures available for any conditions to minimise drawdown and return the groundwater back into the system.

The Environment Agency has identified in Item 8.7 the critical factor that determines the hydrogeological impact is the vertical and horizontal permeabilities of the Chalk aquifer at the depth below the Secant Pile Wall. The highest permeability area, the 'Chalk Bearings' will be cut off by the Secant Pile Wall but there are still some uncertainties with the anisotropic nature of the Chalk. The geophysical logging undertaken on Goxhill in Borehole L03, along with available literature, indicates that the majority of discontinuities (through which the majority of groundwater flow is observed) are at a shallow angle (less than 30° from horizontal).

If further testing undertaken by the Main Works Contractor indicates variable ground conditions, then additional mitigation measures (such as additional recharge wells) can be implemented to prevent additional net abstraction of groundwater and drawdown at distance. Additional testing by the Main Works Contractor will be undertaken well in advance of any groundwater control works allowing sufficient time for modifications and refining of the groundwater control and recharge wells design, limiting the impact, if any, on the project programme.

Item 8.9 notes that the driller's logs identify much weak Chalk, with some losses of core during drilling. The loss of core is most likely due to the drilling and retrieval process, with the geophysical logging more representative of the actual ground conditions, which indicate primarily sub horizontal (shallow) fractures. Although potentially weak in nature, the mass Chalk permeability will be very low (<10-7m/s) with primary permeability through the discontinuities (fractures).

8.13 - The Drive Pit and Reception Pit, once excavated to depth, will be fully sealed and designed to withstand both water and earth pressures on the base and sides for the duration of the works (a conservative groundwater level at ground surface is assumed for design). During this time, no pumping or pressure relief will be required with only minimal groundwater encountered as minor seepages through the secant pile concrete walls. These seepages will be at flows much lower than the non-licensable 20m³/day abstraction rate.

The Tunnel Boring Machine will be selected to deal with variable ground conditions and pressures (will be able to handle pressures exceeding the Highest Astronomical tide), with minimal groundwater abstracted during the tunnelling process as the pressure

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		9.6 We disagree with the applicant that climate change need not to be considered. Climat change must be considered for the lifetime of the development and the essential	e re
		infrastructure elements (kiosks stated as having a design life of 40 years in s6.1.8) tested	
		against the extreme water levels arising from the 0.1% and mitigation specified. The FRA	
		states that the document has been produced in accordance with the Overarching National Policy Statement for Energy EN-1 which states 'While climate change mitigation is	8
		essential to minimise the most dangerous impacts of climate change, If new energy	d a
		infrastructure is not sufficiently resilient against the possible impacts of climate change, it will not be able to satisfy the energy needs as outlined in Part 3 of this NPS.' It further	8
		states that this [mitigation or adaptation] should cover the estimated lifetime of the new infrastructure. Section 5.7.5 further supports our requirement that the extreme 0.1%	SI
		scenario should be tested for the most sensitive (essential infrastructure i.e. kiosk)	th T
		components of the development over its lifetime and states that a FRA should 'consider if there is a need to be safe and remain operational during a worst case flood event over the	
		development's lifetime'. Furthermore, no details of the mitigation for the kiosks, deemed	e b a
		essential infrastructure, have been provided, other than to advise that they are flood resilient. We cannot advise on the suitability of approach without these details.	Р
		resilient. We cannot advise on the suitability of approach without these details.	6
		9.7 Although the FRA states that the 'less vulnerable' aspects of the development such as generators will be located on raised platforms, the height of the platforms has not been	
		quantified, so we are unable to advise on their suitability. The mitigation proposed for the	th
		temporary welfare/office facilities should also be specified. If these facilities are solely reliant on a Flood Warning and Evacuation Plan this should be identified so we can advise.	_
			is
		9.8 In addition, the Scheme Description Figure 2.3 'Indicative Paull Site Layout' shows an area denoted as the 'water discharge work area', which appears to coincide with the	C
		existing flood defences and Thorngumbald pumping station outfall. There is no explanatio	n 6
		of the nature and purpose of this area in the accompanying text or any assessment of potential interactions with this existing infrastructure. Additional explanation is needed to	G
		understand the impacts on the flood defence/outfall and Paull Holme Strays designated	oi n
		area.	6 th
		9.9 Document 5.5, 'Details of other consents and licences' refers to the disapplication of	9
		Environment Agency Yorkshire Land Drainage Byelaws (6H). It should be noted that the Yorkshire Land Drainage Byelaws do not extend to the Goxhill side of the project. It	P
		should also be noted that, as stated elsewhere in the submitted documentation, the	SI
		Yorkshire disapplication refers to three particular byelaws: numbers 11, 12 and 20 - applicable to Main Rivers & Sea banks.	1
		9.10 We note that a minimum cover of 1.2m below existing land levels is proposed for the	R
		onshore section at Goxhill (Works 1A). We have previously advised that the Goxhill	1
		onshore length falls within or in extremely close proximity to an area identified as a future realignment site. It is usual practice for such sites to win material locally for realigned tide	al IV
		defences and scrapes and channels are often created to encourage tidal inundation and	7 A
		more rapid evolution of the habitats that realignment sites seek to create. Whilst we welcome the proposal that the tunnel will be filled with water upon commissioning to	1
		address the risk of the tunnel floating, the lowering of existing land levels would place the	<u> </u>
		proposed tunnel at risk of being exposed in this area.	fc
		9.11 The exact location and extent of any realignment site is not yet known but we would	
		like to see the limits of deviation amended in this location, to provide additional protection for the pipeline and for the proposed realignment site. We would not wish the presence of	
		the tunnel to hinder the future delivery of realignment in this area as this would negativel	
		impact on flood risk to third parties by impacting on our delivery of wider flood risk management schemes in the middle Humber Estuary, which is an area containing a wide	N
		range of critical infrastructure. We therefore request that the vertical limit of deviation for	
		Works 1A is amended from 1.2m to 1.7m in order to provide this additional protection.	h
		9.12 We welcome the proposed pre and post construction survey of the defences to	
		monitor for the effects of settlement. We request that a requirement is included within the	е

within the Tunnel Boring Machine head is monitored and controlled at all times to remain in equilibrium with the ground and groundwater pressures outside. As the Tunnel Boring Machine progresses, the tunnel is sealed and grouted preventing groundwater ingress. The tunnel lining is specified so that only minor seepages are allowed.

8.14 – Using abstracted groundwater for hydrostatic testing (and for other uses) will be discussed with the Environment Agency. Alternative sources of supply will be assessed and considered, in conjunction with the Environment Agency, as required.

8.15 and 8.16 – During the design process, the Main Works Contractor will have to supply appropriate and proven measures for backfilling and decommissioning, including their methodologies for reconfining the aquifer and preventing cross contamination. These proposals will be agreed in conjunction with the Environment Agency on confirmation of the final design. Grouting will potentially be used to seal any voids left by the sheet piles on removal to prevent cross contamination and to reconfine the Chalk aquifer.

Please note that hydrogeology is included in ES Chapter 13: Water Resources (Doc 6.13) and considers construction and operational impacts.

Geology and soils are considered only in paragraph 8.3.7 (Doc 6.8) and for this topic the study area is 250m – which is sufficient. Hydrogeology is considered in ES Chapter 13: Water Resources (Doc 6.13) which has the larger study area as appropriate.

The geology at the site is Alluvium (Marine and Estuarine), Glacial Till over Chalk. This is typical of the wider area and has therefore has been given a low importance. ES Chapter 8: Geology and Soils (Doc 6.8) only considers the chalk in geology terms and not its aquifer status as this is considered in ES Chapter 13: Water Resources (Doc 6.13) where the principal aquifer is given a much higher importance.

Geology and hydrogeology are considered separately in different chapters and in terms of geology alone the significant effects from the construction are considered to be negligible with consideration of all the proposed environmental design measures (Doc 6.8). ES Chapter 13: Water Resources (Doc 6.13) considers the effects with regards to the aguifer within the chalk.

9.0 Appendix 2 – Flood Risk Assessment

Please see responses in to 2.0 above. An FRA addendum has been prepared and submitted at Deadline 1 to address these comments.

10.0 Appendix 3 - Biodiversity

Refer to Item 3 above.

11.0 Appendix 4 - Pollution Prevention

National Grid has updated its Initial Construction Environmental Management Plan (Doc 7.3) to include these items and this will be submitted at Deadline 3 to the Examining Authority.

12.0 Appendix 5 - Waste

Further discussion will be sought with Environment Agency to understand requirements for Environmental Permits associated with waste under the Environmental Permitting Regulations once a Main Works Contractor has been appointed. CL:AIRE is discussed in paragraph 8.7.24, ES Chapter 8: Geology and Soils (Doc 6.8) as an option to keep materials out of the waste stream.

13.0 Appendix 6 - Land Interest

National Grid is aware that the EA is intending to transfer a number of land plots to the Yorkshire Wildlife Trust and will update the Book of Reference accordingly once these have been confirmed.

No. Party	Relevant Representation	Applicant's Comments
No. Party	draft DCO to secure this measure. Any such requirement should ensure consultation with the Environment Agency and must secure the implementation of remedial works should settlement be detected. The standard of protection afforded by the existing defences must not be compromised as a result of the works. 9.13 At the decommissioning stage (depending on the exact location and development of the proposed realignment site at Goxhill) we are likely to request that the tunnel end is suitably capped to avoid any future collapse passing under the alignment of flood defences at that time. It may be necessary to include a requirement to cover the need for submission and approval of a pipeline decommissioning scheme, such that this detail may subsequently be agreed. 9.14 We recommend that the ExA takes advice on the Emergency Warning and Flood Incident Response Plan, as the Environment Agency does not fulfil these roles in an emergency. We are therefore not best placed to provide comments or advice. We suggest that the Humber emergency planners at East Riding of Yorkshire Council are contacted. 9.15 We maintain that the proposed bunds of 1.4m (3.3mAODN) which are not indicated on any of the plans and would need continuity to provide any degree of protection from inundation, are not sufficiently high. In the event of tunnel collapse during construction, the tunnel would act as a conduit allowing water from the estuary to flow into the floodplain in which there is existing critical infrastructure and ports which are reliant on the defences. In such an event, the flow of water through this route would not require a significant tidal flood event to cause a problem, as the land levels in the floodplain are lower than normal daily astronomical tides. This indicates that outflow into the floodplain would be for long durations each day. 9.16 The applicant has presented some evidence that tunnel collapse is very unlikely. However we are not in a position to critique this assessment as tunnel construction is a specialist matter	In relation to plots 17 and 44 we are in the process of clarifying these plots where 17 is a drain. The description and PIL details for plot 44 were amended by the Section 59 Schedule of Variation to the Book of Reference submitted in July 2015. In relation to Plots 19 and 30 National Grid is in the process of clarifying the rights and they will be added to the next draft Book of Reference accordingly. Regarding plots 53 and 54 National Grid acknowledges this error and the rights sought for these plots has been corrected to 'Permanent Type 2 - rights for the pipeline' in the latest version of the land plans (Doc 2.1A) submitted at deadline 1. In relation to access to Thorngumbald Pumping Station there is a commitment to maintain access to the flood defences during construction and keep the Environment Agency informed during construction. This point also applies in relation to continued access along the defences at East Hatton Skitter North. Appropriate protective provisions will be included in the draft order to this effect. 14.0 Appendix 7 - Disapplication Refer to Item 7.0 above.

No.	Party	Relevant Representation	Applicant's Comments
		9.20 Works 4D in the DCO describe a "temporary groundwater discharge point at East Halton Beck (Skitter Drain)". This section should be amended to make clear that a discharge will only be acceptable in the flushing basin, or downstream in Skitter Drain. Discharge above this point is unlikely to be acceptable because of the salinity of the water in question. Any such discharge may also require an Environmental Permit under the Environmental Permitting Regulations.	
		10.0 Appendix 3 - Biodiversity 10.1 We have serious concerns over the lack of certainty regarding water vole impacts associated with the scheme. Paragraph 7.8.61 of the Ecology and Nature Conservation chapter (Document 6.7) states that potentially up to 3.5km of ditch habitat may be temporarily lost through dewatering activities at Paull and Goxhill (please also see our detailed comments regarding groundwater impacts). Presently the local hydrogeological conditions are not fully understood, which is accepted by the applicant. Therefore, there is no certainty that dewatering activities will only impact upon 3.5km of watercourse. The mitigation for this loss outlined in paragraph 7.8.62 is to allow water voles to disperse into neighbouring watercourses. Given the likely groundwater connectivity between watercourses in the area, there is no certainty that dewatering will not impact upon neighbouring watercourses, therefore eliminating their potential as water vole refuges. Furthermore, as has been detailed elsewhere in our response, there exists a level of uncertainty over the timescales for dewatering and construction of the drive and reception pits, which could seriously extend the periods of low flow in nearby watercourses.	
		10.2 In order to address this, the applicant should provide a more comprehensive water vole mitigation plan (informed by the additional hydrogeological information requested above), incorporating implementable actions to mitigate for habitat loss, especially given that works proposed to take place over times of peak water vole activity. In addition, the project's biodiversity impacts generally will need to be re-visited in light of any updated hydrogeological information, reflecting any revised understanding of the nature and extent of the project's predicted impacts.	
		10.3 Paragraph 7.7.8 of the Ecology and Nature Conservation chapter states that there will be some habitat improvement in Field 26 at Paull. However, there is no confirmation of the amount of habitat improvement to be provided, or timescales for the work. More fundamentally, there appears to have been no investigation of potential opportunities to provide ecological enhancement through the scheme. The requirement to provide enhancements is enshrined within national and local policy. 5.3.4 of EN-1 states that "the applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests". Furthermore, ENV4 of the emerging ERYC Local Plan Strategy states: "To optimise opportunities to enhance biodiversity, proposals should seek to achieve a net gain in biodiversity where possible".	
		10.4 We would expect the applicant to have produced an assessment of all potential opportunities to contribute to ecological enhancement, and reasoned justification provided as to whether or not the scheme could deliver this enhancement. This should accompany a detailed schedule of enhancements to enable the ExA to determine whether or not the scheme is complaint with 5.3.4 of EN-1 and relevant local policies.	
		10.5 Opportunities for enhancement are likely to grow with the scale of schemes. Therefore we would suggest that the level of ecological enhancement should be commensurate with the scale of the proposed development. Given the location of the proposed pipeline, and the scale of the project, we would expect to see significant enhancement delivered through the scheme, and would strongly urge National Grid to investigate all reasonable opportunities to achieve this, to provide detail on this in the ES, and to provide commitments to delivery through suitable DCO requirements.	
		11.0 Appendix 4 - Pollution Prevention 11.1 We are generally content that the pollution mitigation measures proposed in relation	

No.	Party	Relevant Representation	Applicant's Comments
		to surface water are sufficiently robust to ensure that any potential impacts can be minimised, or that a response to contain any emerging issues can be put in place, via the proposed requirements.	
		11.2 We would however ask that following minor additional contingencies/clarifications are included within an amended CEMP: 1) Con D17: Any contaminants produced using wet cleaning methods should be contained. Dispersant chemicals must not be used in conjunction with any washdown of the affected areas to disperse any residue, unless all materials are to be contained in readiness for correct offsite disposal; 2) We also ask that in relation to section 6.1.3 of the Initial CEMP, namely the reporting of accidental releases to watercourse to the Environment Agency, our 24 hour Incident Hotline Number 0800 807060 is incorporated into the CEMP to facilitate this.	
		12.0 Appendix 5 - Waste 12.1 The application states that some material (tunnel arisings) would be left on site for possible reuse in infilling etc, around the laid pipe. This would be acceptable in most circumstances, however further information would be required as to what the material would consist of, how long it would be stored and how it is intended to be stored, before determining the need for regulation under the Environmental Permitting Regulations. Lengthy and or incorrect storage of these materials could pose an environmental risk and hence may require regulation.	
		12.2 To remove any waste, specifically tunnel arisings, from the scope of regulation, consideration should be given to the implementation of the relevant "Codes of Practice" (CL:AIRE) or Quality Protocols ("WRAP"). This would include soils and subsoils being used on site or being removed from site and used elsewhere.	
		12.3 Tunnel arisings not classed as soils or subsoils are likely to be excluded from the Definition of Waste Code of Practice so further investigation into the possible reuse of these arisings would be needed.	
		12.4 It is likely that any material removed from site and stored elsewhere would require an Environmental Permit or Exemption.	
		12.5 If any controlled waste is to be removed off site, then the site operator must ensure a registered waste carrier is used to convey the waste material off site to a suitably permitted facility.	
		13.0 Appendix 6 – Land Interest 13.1 Yorkshire Wildlife Trust will soon be tenants of most of the Environment Agency's land at Paull Holme Strays and their leasehold interest will need to be added to the book of reference against plots 21, 22, 23, 24, 25, 26, 28, 29, 53 and 54.	
		13.2 The book of reference currently lists the Environment Agency as owner and occupier of plots 17 and 44. We have no interest as owner or occupier in either of these plots as shown on the Land Maps. However, the description of plot 44 in the book of reference does not correspond with the location shown on the Land Map. We need National Grid to clarify this apparent anomaly.	
		13.3 The Environment Agency has a right-of-way over the track crossing plots 30 and 19. These rights need adding to the book of reference.	
		13.4 "Flood defence" needs adding to the description of plot 20.	
		13.5 "Flood defence and intertidal nature reserve" needs adding to the description of plot 54.	

No.	Party	Relevant Representation	Applicant's Comments
		13.6 The Land Map (sheets 3 and 4) state that a leasehold interest is required over plots 53 and 54. We would like to query the accuracy of this statement, as we understand that an easement or deed of grant is required. 13.7 In relation to the temporary works affecting plots 19 to 30 (inc), National Grid must ensure that the Environment Agency has full, free and uninterrupted vehicular access to Thorngumbald Pumping Station at all times. 13.8 We currently have access along the sea defences from East Halton Skitter North and along the access track from East Halton Skitter northerly. We will need to retain a degree of access from East Halton Skitter to the North which should be appropriately referenced within the DCO. 14.0 Appendix 7 – Disapplication 14.1 Our approach to this matter is that where a DCO seeks to disapply our regulating legislation (as is the case in this instance – Yorkshire Land Drainage Byelaws) for managing flood risk, we will only agree to this disapplication where appropriate protective provisions can be agreed within the DCO. Protective provisions will be needed to ensure that works which would have previously been consentable, will require our prior approval and be subject to reasonable conditions. No such protective provisions are currently included so we will need to enter negotiations with the applicant. 14.2 We note that the current request for disapplication applies solely to the north bank byelaws. No request has been made to disapply the equivalent byelaws on the south bank. The equivalent byelaws are the Anglian Region Land Drainage and Sea Defence Byelaws. The most relevant sections are likely to be 6C and 6H. The applicant should be asked to confirm their intentions in this respect	
23	Gordon Carr	The area affected by the proposed work/development is in an area which is home to one of England's most endangered species - the Water Vole (Arvicola Amphibius). Accordingly before commencement of any work a full survey should be undertaken of any water courses or ponds which may be disturbed by the development. 2. The proposals envisage a temporary road being constructed in South End Goxhill. The route of this proposed road is very close to a scheduled monument being the site of a medieval manor complex (moats and fishponds). There is evidence that the complex extended beyond the area of the scheduled monument. Accordingly a survey should be undertaken to determine the extent of the complex before any work is carried out to ensure that any remains are preserved or at least recorded. 3. The proposals suggest that any ponds/pits which are filled in with waste from the development are replaced at some future date as an amenity for the village (Goxhill). Consideration should be given to restoring those medieval fish ponds/moats which have been lost/disturbed over the years.	National Grid refers to responses provided against representations submitted by Natural England, the Environment Agency, the Yorkshire Wildlife Trust and Lincolnshire Wildlife Trust regarding water voles. The route of the Soff Lane Diversion was subject to a geophysical survey (Doc 6.6.5) as part of the assessment to inform the Environmental Impact Assessment. No evidence of any remains associated with the Scheduled Monument were recorded during the survey. The findings of the geophysical survey are currently being tested through archaeological evaluation and any remains that are found in the evaluation, whether or not they are associated with the Scheduled Monument will be the subject of archaeological mitigation. There are no ponds/pits proposed to be filled in with waste from the development.
24	Royal Society for the Protection of Birds (RSPB)	The proposed River Humber Gas Pipeline Replacement Project ("the Project") includes works both within and adjacent to the Humber Estuary. The Humber Estuary is internationally important for wildlife and is designated as: • a Special Protection Area (SPA) under the Conservation of Habitats and Species Regulations 2010 (as amended) ("the Habitats Regulations") for its internationally important populations of both breeding and non-breeding birds; • a Special Area of Conservation (SAC) (also under the Habitats Regulations); • an internationally important wetland under the Ramsar Convention, and • a Site of Special Scientific Interest (SSSI) under the Wildlife and Countryside Act 1981 (as amended). A number of the qualifying bird species for the SPA use fields near to the Estuary, including those in the Project work areas, as well as the intertidal areas, during various tidal and environmental conditions. This provides a functional link between such areas and the SPA.	1. Survey Methodology National Grid considers that the bird surveys undertaken as part of the baseline assessment for the project are appropriate, having developed and agreed the scope in detail with Natural England (Habitats Regulations Assessment (HRA) Doc 5.4, Appendix 7)). The survey methodology and approach to nocturnal surveying was agreed in consultation with Natural England. These matters are under discussion with the RSPB in the Statement of Common Ground (Doc 8.1.6). 2. Noise Disturbance The scope of the noise monitoring has been agreed in consultation with Natural England, and extensive noise modelling has been undertaken as part of the impact assessment for the project (as detailed in Sections 8.3 and Figures 12 and 13 of the HRA (Doc 5.4). In addition, the noise modelling presented in the HRA has used a worst case scenario based on draft plant inventories and the indicative work programme. The actual noise levels experienced during the construction phase are likely to be lower than those

No.	Party	Relevant Representation	Ī
		The RSPB has a number of concerns in relation to the Project and its potential impacts on the Humber Estuary, its associated designations and the habitats and species which they protect. These concerns include:	
		 The bird survey methods used to inform the assessments. The lack of nocturnal bird surveying (as opposed to dawn/dusk surveys) makes the survey methods unsuitable for informing an assessment of impacts on nocturnal feeding species of the Humber Estuary SPA including golden plover and lapwing. The limited survey effort in the spring passage period makes the survey methods unsuitable for informing an assessment of impacts on migratory species for which the Humber Estuary SPA is designated. 	
		 2. Disturbance to non-breeding birds of the Humber Estuary SPA, Ramsar site and SSSI. The proposed works have the potential to create noise disturbance impacts on birds using the intertidal areas at Paull Holme Strays and the terrestrial fields around the Goxhill works site. The RSPB recognises that noise monitoring has been undertaken to investigate these impacts but we consider that the assessments underestimate the likely noise impacts. Paull Holme Strays must be treated as part of the Humber Estuary SAC/SPA/Ramsar due to the protection afforded it as a compensation site under paragraph 118 of the National Planning Policy Framework (NPPF). This is not currently clear in the Environmental Statement (ES) or Habitats Regulations Assessment (HRA). The tunnel flooding works have the potential to lead to visual disturbance to SPA birds using the adjacent intertidal areas. Insufficient information is currently available to properly assess these impacts. 	
		3. Disturbance to breeding birds of the Humber Estuary SPA, Ramsar site and SSSI. • Contrary to the breeding bird data presented in the ES, breeding bird surveys undertaken prior to Ground Investigation works linked to this Project have found the presence of nesting marsh harriers in close proximity to the Goxhill works site. It is therefore necessary to update the assessment of potential impacts on marsh harrier, in terms of its status as both a Qualifying Feature of the Humber Estuary SPA and as a species with special protection under the Wildlife and Countryside Act 1981 (as amended) ("the WC Act") by virtue of its listing on Schedule 1 of that Act.	
		 4. The loss, for the duration of the Project, of land with functional links to the SPA. Fields within and adjacent to the Goxhill works site have been shown to have significant usage by SPA birds including golden plover, black-tailed godwit and curlew. The use of these areas by the Project, and the resultant noise disturbance, will therefore lead to the loss of these areas as a resource for the species in question for the duration of the project. In relation to curlew, and other SPA assemblage species, the RSPB disagrees with the approach of assessing impacts against the assemblage as a whole, rather than against the populations of the assemblage's constituent species. Taking together the two points above, the RSPB does not consider the loss of land with functional links to the SPA to have been given adequate consideration in the ES and HRA. 	
		 5. Insufficient mitigation measures for both breeding and non-breeding SPA birds. The recent marsh harrier findings, highlighted above, will require the development of an appropriate mitigation strategy to address any potential disturbance from the Project and to ensure compliance with the Habitats Regulations and WC Act. This strategy must consider all works phases including the tunnel flooding. Based on the information provided in the ES and HRA, the RSPB's view is that the noise mitigation measures identified do not currently provide sufficient confidence that noise disturbance impacts will be fully addressed. The mitigation proposal to leave part of Field 6 at Goxhill in set-aside is unlikely to provide significant value to SPA birds displaced by the Project. The area identified is small, in close proximity to the Project works area (so subject to visual/noise disturbance) and the proposed habitat provides limited feeding opportunities for the relevant SPA species. The RSPB therefore considers further mitigation as necessary to properly address the disturbance and habitat loss impacts identified above. 	

presented in the current noise modelling. As such, based on the noise modelling undertaken to date, it is not considered that the assessment underestimates the likely noise impacts.

Paragraph 8.3.13 of the HRA (Doc 5.4) notes that Paull Holme Strays is likely to be included in the Special protection Area (SPA) designation in the future. Paull Holme Strays is therefore discussed in the context of the SPA throughout the HRA.

As stated in Section 3.3 and 6.2 of the HRA (Doc 5.4) the installation of the pipeline for the pipeline flooding would include up to three people walking out onto the intertidal habitat to place the pipeline, and associated pumps, into the Humber Estuary. It is envisaged that this would only take up to 2-3 hours to complete. A vehicle would be used to take out and retrieve the pipe and associated pumps at the edge of the Humber Estuary, but no vehicle would be driven onto the intertidal area itself. Given the small-scale, and temporary nature of the flooding (approximately two weeks), it is not anticipated that any short, or long-term significant effects from visual disturbance would affect SPA birds using the adjacent intertidal habitat.

3. Marsh Harrier

National Grid does not consider that an updated assessment is required following the observation of marsh harriers attempting to breed when the GI works were being carried out. The basis for the current assessment was the previous summer of surveys (including both vantage point and transect surveys), which did not record marsh harriers. Whilst the observation from the GI work is an important record, we do not believe it would materially affect the assessment, as the nesting area is over 500m from the works and behind the sea wall – therefore, should marsh harriers attempt to nest again, they would not be affected by the works.

Pre-construction surveys for breeding marsh harrier would, nevertheless, be carried out to determine if marsh harrier are attempting to breed within the reedbed prior to the construction phase. A commitment will be included in the updated Initial CEMP (to be submitted at Deadline 3) to complete surveys and to prepare a mitigation strategy if required.

4. Impact on SPA

National Grid does not consider that the loss of land with functional links to the SPA has not been given adequate consideration in the ES and HRA. Although the fields may have supported notable numbers of golden plover, black-tailed godwit and curlew in the context of the SPA populations, these were only recorded on a very small number of occasions (and therefore only for an insignificant proportion of the time).

Whilst it is certainly possible that, on occasion, relatively large numbers of birds might be disturbed and potentially displaced from the fields close to the Project, such events would be infrequent, especially given the limited frequency of both loud noises and indeed presence of the birds. This would be well within the tolerances of species which, by their very nature, move frequently between fields, either through disturbance caused by other means (e.g. a farmer's tractor) or in search of better foraging or roosting conditions. Whilst such disturbance might exert some minor energetic stress (i.e. through the need to fly elsewhere), this would have a negligible effect, both on individual birds and on the population as a whole, and would have no impact upon the conservation objectives for the SPA populations of these species. No birds would be killed, and none would be affected to such a degree even that their breeding success might be compromised. Therefore, the Project would not be detrimental to the fulfilment of the conservation objectives for the SPA. Nor would it affect the ability of the populations of SPA species to survive at their current conservation status.

5. Mitigation

The Project includes a number of embedded mitigation measures to reduce/eliminate potential noise disturbance, including bunding and fencing and it is not anticipated that noise disturbance would significantly affect birds using the arable fields for roosting and foraging (as discussed under Point 4, above).

No.	Party	Relevant Representation	Applicant's Comments
		As a result of these concerns it is the RSPB's view that the application does not comply with the requirements of the Conservation of Habitats and Species Regulations 2010 (as amended) nor the Wildlife and Countryside Act 1981 (as amended). The RSPB reserves the right to add to/amend its position in light of any new information submitted by the Applicant.	Work No. 11 (Doc 2.2A) would be left as set aside for the duration of the construction period. This measure was put in place to mitigate for some of the loss of habitat under the footprint of the works. The field would be left as stubble for the duration of the construction works, and would provide an alternative roosting and/or foraging site for birds associated with the SPA. Given that this field is currently intensively managed, leaving this area as set-aside would enhance the feeding resource for the local overwintering bird population. This is sufficient to mitigate for the loss of habitat under the footprint of the works. With regards to potential noise impacts within Work No. 11 (Doc 2.2A) during the construction period, there would be no significant increase in noise levels when compared to other fields in the area. Noise modelling has shown that the highest noise levels would be concentrated around the source of the noise i.e. within the footprint of the construction works itself. Visual disturbance would be reduced by the presence of bunding and fencing.
			National Grid therefore consider that the embedded mitigation measures proposed within the ES and HRA are sufficient and appropriate and additional mitigation measures are not deemed necessary, as it is considered that the Project would not be significantly detrimental to the fulfilment of the conservation objectives for the SPA.
25	G J Winchester	My land is class one prime agricultural land it was purchased for me by my late grandfather, who had a saying that " if you buy land no one can take it from you " but along come you people talking of compulsory purchase . I am not in the mood to foreit my land to anyone, simply it is not for sale. I have owned this land for over 30 years and is set up in my own requirement. I have a lot of personal things that I need access to whenever I feel like it. In principle I agree with the project because whatever I or anyone else says it will go ahead if goverment grants permission.	National Grid's land agents have secured heads of terms with Mr Winchester for a private treaty agreement for rights to a road verge passing place interest.
26	Mr JW Burn	We realise the necessity of the above scheme but are concerned on the impact of those living closest to the site From previous experience of work carried out on this gas pipe / gas installation a lot is promised but once planning permission is granted scant regard is given to those who live in close proximity of the site. We have been to all the consultations so far and our concerns have been noted. How are we able to ensure these concerns have been taken into account?"	An Environmental Impact Assessment has been carried out for the project (Vol 6 of the application). The assessment considered potential effects on local receptors and where potential effects were identified, mitigation measures were identified to offset effects. Mitigation measures are summarised in Doc 7.7 and this document also shows how the mitigation measures will be secured and enforced.
27	Mrs Burn	We realise the necessity of the above scheme but are concerned on the impact of those living closest to the site From previous experience of work carried out on this gas pipe / gas installation a lot is promised but once planning permission is granted scant regard is given to those who live in close proximity of the site. We have been to all the consultations so far and our concerns have been noted. How are we able to ensure these concerns have been taken into account	See comments on relevant representation 26 above.
28	Cllr David Wells	Ferry Road and Thornton Road Goxhill are not suitable for the heavy traffic that is currently using the road and has residential properties for 1.7 miles. Particularly on Ferry Road there are corners with restricted visibility and one corner that has warning signs informing drivers to beware of vehicles in the middle of the road. The road is of restricted width and houses are on one side of the road for the distance of Goxhill Village (approximately 1.3 miles with a 30 mph speed restriction). There are also a large number of houses on the other side. Because of the residential nature the road has a number of areas of parked cars making it difficult for cars approaching each other and nearly impossible for the current lorry traffic. Also the road is not far from the School. The better solution would be to upgrade by lengthening the bypass at North End by starting from the junction of Chapel Field Road and Church Side running South then turning South-East and joining Soft Lane at the corner approx. 750 yards South of the junction of Church Side and Soft Lane. The lengthening of the bypass would move the traffic from passing the industrial and residential areas. This upgrade together would require passing places to accommodate 2 way traffic. The Chapel Field Road would also benefit from extra passing places to accommodate the number of vehicles that are proposed.	 National Grid has considered the representations in detail and met with Councillors Wells and Hannigan on 9 September 2015 to discuss them further. A two-way route using Chapelfield Road is not feasible for the following reasons: There are existing utilities in the verge along Chapelfeld Road which would need diverting such as Anglian Water pipes and gas pipelines. The latter would take between 35 and 50 weeks to divert and there would be additional associated nuisance and disruption caused by these works; It would be necessary to seek additional powers in the Development Consent Order for temporary possession of these areas should affected landowners not consent to grant private rights and this does not form part of the current application; The construction works of the project are temporary in nature; For the majority of the works the average two-way construction traffic flows are low and would be controlled through measures proposed in the Initial Traffic Management Plan (TMP) (Doc 7.2.1); and

No.	Party	Relevant Representation	Applicant's Comments
		The residents of Goxhill will have to endure heavy goods traffic passing close to their homes for many months as a result of your project and as part of the proposals the temporary bypass should be made permanent. I have no reservations in fully supporting the above proposal, the proposals are supported by a number of residents and I have received no objections from the public to the proposals. Councillor Richard Hannigan and Councillor Peter Clark my fellow Ferry Ward Councillors also support the proposals. The proposal to change the route of the temporary road and to make it up to a permanent standard will improve the traffic flow in and around Goxhill for many years to come providing a lasting benefit to the Goxhill community. This legacy would make a lasting and meaningful contribution to improving the lives of Goxhill residents following the disruption that is being planned. North Lincolnshire Council would be required to adopt this road once National Grid no longer needed it for this project therefore there would be no long term liability for the upkeep of the road or the cost of removal and reinstating the ground (a difficult task on the clay soils). Bearing in mind the total cost of the pipeline project the cost of upgrading this road to permanent status would be relatively small. I therefore urge you to adopt the changes proposed	• Following completion of the construction works, the maintenance vehicles accessing the existing Above Ground Installation (AGI) to undertake maintenance works would be no greater than the existing and so there would be no change to existing conditions along the local roads as a result of the Project. A large number of mitigation measures have been incorporated into the Project design including passing places and other measures outlined in the Initial TMP (Doc 7.2.1) that have been discussed and agreed with North Lincolnshire Council and are subject of a Statement of Common Ground with the Council (Doc 8.1.10). Further to the above, any highway works on the proposed temporary two-way construction route would need to be built prior to the start of the works and would significantly delay the start date of construction. It should also be noted that abnormal loads would still need to use Ferry Road as they cannot use the rail crossing on Chapelfield Road. In addition, regarding the permanent installation of the temporary Soff Lane Diversion (of which two options have been suggested by North Lincolnshire Council; retaining the temporary diversion and constructing a longer route to the south), there are two main obstacles to the proposals: 1. Technical feasibility If retained as a permanent road, the temporary diversion would need to be designed and constructed to current Design Manual for Roads and Bridges (DMRB) highway standards. New junctions would need to be provided with appropriate road traffic and pedestrian signs for public rights of way that cross the site. If such works would were to be undertaken they would also require a separate Environmental Impact Assessment and would be considered to be a project in its own right. In addition, as per above statutory undertaker apparatus would also need to be diverted. All of the above would cause a disproportionate and prohibitive cost and delay to the critical construction timetable in light of the temporary nature of the construction for this has not been ma
29	Cllr Richard Hannigan	I fully support the proposal put forward by Councillors Wells and Clark. The residents of Goxhill will have to endure heavy goods traffic passing close to their homes for many months as a result of your project. The proposal to change the route of the temporary road and to make it up to a permanent standard will improve the traffic flow in and around Goxhill for many years to come providing a lasting benefit to the Goxhill community. This legacy would make a lasting and meaningful contribution to improving the lives of Goxhill residents. North Lincolnshire Council would adopt this road once National Grid no longer needed it for this project therefore there would be no long term liability for the upkeep of the road. Bearing in mind the total cost of the pipeline project the cost of upgrading this road to permanent status would be relatively small. I therefore urge you to adopt the changes proposed by Councillors Wells and Clark.	See comments on relevant representation 28 above.
30	Cllr Peter Clark	Ferry Road and Thornton Road Goxhill are not suitable for the heavy traffic that is currently using the road and has residential properties for 1.7 miles. Particularly on Ferry Road there are corners with restricted visibility and one corner that has warning signs informing drivers to beware of vehicles in the middle of the road. The road is of restricted	See comments on relevant representation 28 above.

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		width and houses are on one side of the road for the distance of Goxhill Village (approximately 1.3 miles with a 30 mph speed restriction). There are also a large number of houses on the other side. Because of the residential nature the road has a number of areas of parked cars making it difficult for cars approaching each other and nearly impossible for the current lorry traffic. Also the road is not far from the School. The better solution would be to upgrade by lengthening the bypass at North End by starting from the junction of Chapel Field Road and Church Side running South then turning South-East and joining Soft Lane at the corner approx. 750 yards South of the junction of Church Side and Soft Lane. The lengthening of the bypass would move the traffic from passing the industrial and residential areas. This upgrade together would require passing places to accommodate 2 way traffic. The Chapel Field Road would also benefit from extra passing places to accommodate the number of vehicles that are proposed. The residents of Goxhill will have to endure heavy goods traffic passing close to their homes for many months as a result of your project and as part of the proposals the temporary bypass should be made permanent. I have no reservations in fully supporting the above proposal, the proposals are supported by a number of residents and I have received no objections from the public to the proposals. Councillor David Wells and Councillor Richard Hannigan my fellow Ferry Ward Councillors also support the proposals. The proposal to change the route of the temporary road and to make it up to a permanent standard will improve the traffic flow in and around Goxhill for many years to come providing a lasting benefit to the Goxhill community. This legacy would make a lasting and meaningful contribution to improving the lives of Goxhill residents following the disruption that is being planned. North Lincolnshire Council would be required to adopt this road once National Grid no longer needed it for this project the	