Minerals and Waste Joint Plan

Sustainability Appraisal

Strategic Flood Risk Assessment

Volume II - Sequential Test Results

June 2018

Strategic Flood Risk Assessment (Level 1)

Volume 2: Minerals, Waste and Flood Risk: Supporting Document

SEQUENTIAL TEST RESULTS FOR SUBMITTED SITES

To support the Joint Minerals and Waste Plan produced by North Yorkshire County Council, City of York Council and the North York Moors National Park Authority.

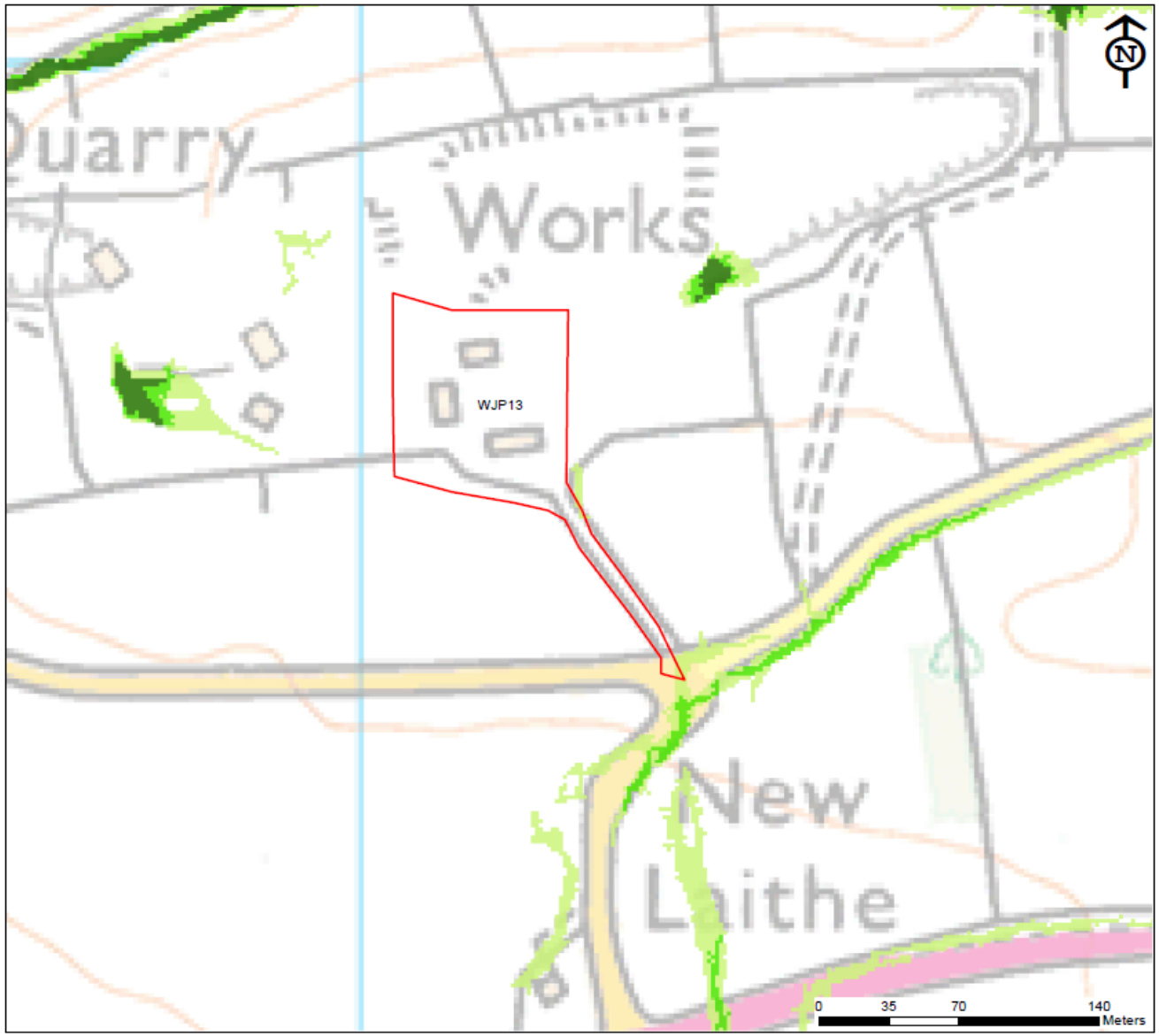
Contents

1. Craven Sites

Key to Sequential Test Results		
Pass	**Pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities.**	**Site is not suitable or would require an Exception Test demonstrated through a Level 2 SFRA to proceed.**

Site Reference: WJP13 Halton East, near Skipton	
Site Information	Planning permission C5/34/2013/14104 currently limits the higher vehicle numbers and hours of operation until February 2019 after which it would default back to the terms of planning permission C5/34/2011/12077. Proposed access: Existing entrance at the Four Lane Ends junction of Low Lane (C399 road from Embsay) with the U2313 (unclassified road to Halton East village) thence via Low Lane south to the A59. Current use: Waste transfer station Site area: 0.85ha Waste annual tonnage import: 40,000 Estimated date of commencement: 2019 Proposed Life of Site: 20 years plus
Proposed Land Use	Retention of waste transfer station for household and some commercial waste with higher vehicle numbers and hours of operation.
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. <5% of the site is at low risk (1:1000 (0.1%)) of surface water flooding. Site is in a 1km square identified as susceptible to Clearwater and superficial deposit flooding across <25% of the 1km square. However, no additional risk factors are noted and this development is above ground so is likely to be at a lower risk.
Relevant Local SFRA	North West Yorkshire

1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. In the North West Yorkshire SFRA functional floodplain is defined as undeveloped areas in Flood Zone 3, maps were not available for review at the time of writing. The North West Yorkshire SFRA is in the process of being revised therefore we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP01, WJP02, WJP03 and WJP25. WJP01 is at slightly lower risk from surface water flooding with WJP25 being at a similar level of risk. WJP03 is at a slightly higher level of risk from surface water flooding and is also within Flood Zone 2 to a minor extent. WJP02 is within Flood Zones 2 and 3. Therefore this site should be considered alongside WJP25 but after WJP01 and before WJP03 and WJP02.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment is not required as this site is in Flood Zone 1 and is less than 1ha. Surface water runoff from this site should be managed using SuDS where appropriate.



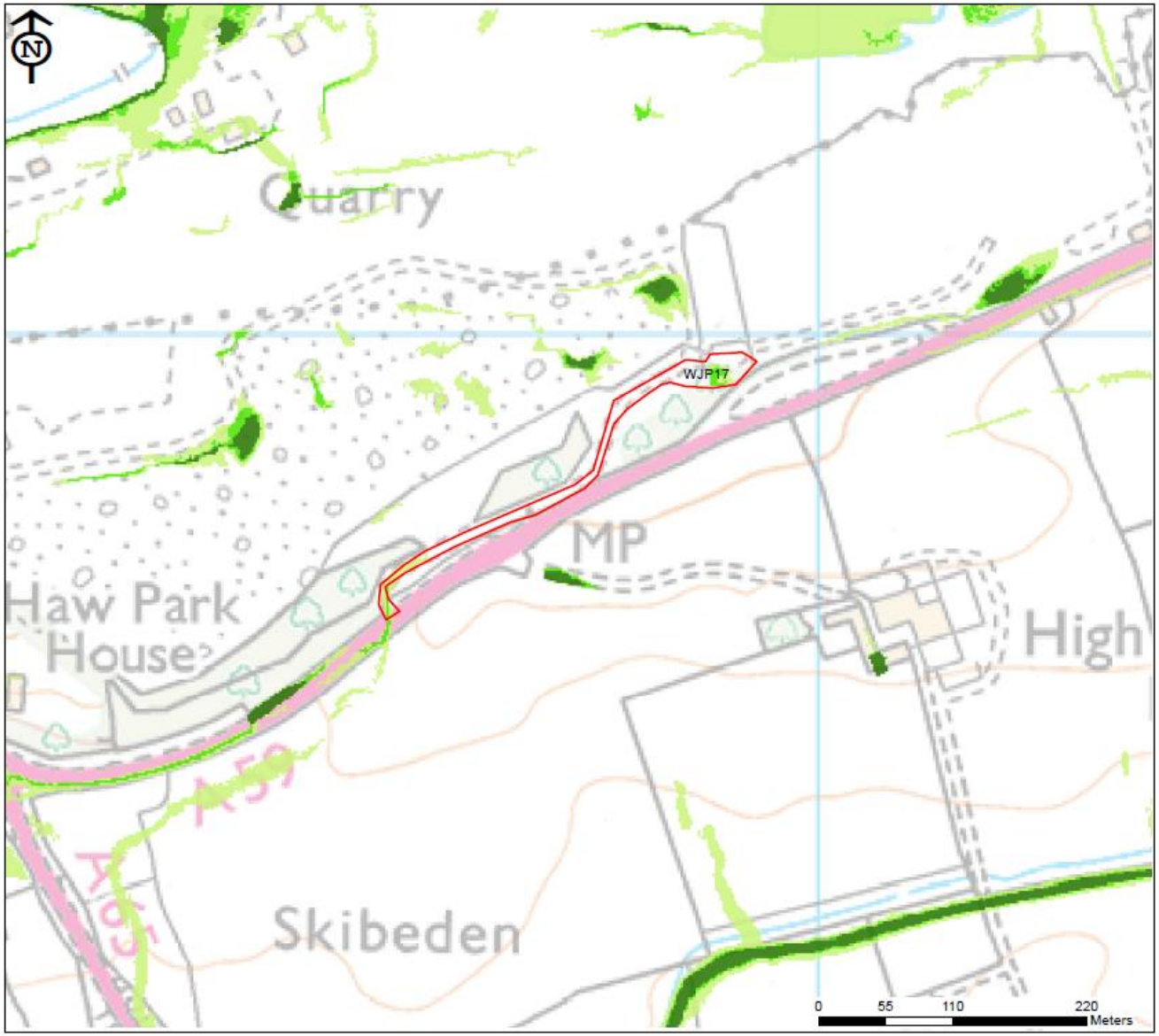
North Yorkshire County Council

Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: WJP17 Skibeden, near Skipton	
Site Information	Landfill site is closed and undergoing restoration. Proposed access: Existing access at Skibeden HWRC onto A59 (approximately 330m east of junction between A59 and A65). Current use: Household Waste Recycling Centre for waste transfer of household and some commercial waste. Site area: 0.39ha Waste annual tonnage import: 5,000 Estimated date of commencement: 2015 Proposed Life of Site: Unknown at present
Proposed Land Use	Retention of Household Waste Recycling Centre (HWRC) for waste transfer of household and some commercial waste.
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. About 5% of the site is subject to medium risk (1:100 (1%)) surface water flooding. Low risk (1:1000 (0.1%)) affects a further 10% of the site. Site is in a 1km square identified as susceptible to Clearwater and superficial deposit flooding across >25% to <50% of the km square. No additional risk factors are noted. Proposals are above ground so risk is likely to be lower.
Relevant Local SFRA	North West Yorkshire
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. In the North West Yorkshire SFRA functional floodplain is defined as undeveloped areas in Flood Zone 3, maps were not available for review at the time of writing. The North West Yorkshire SFRA is in the process of being revised therefore we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	No. No other HWRC site has been identified as suitable for SFRA assessment and this site is located in Flood Zone 1.

Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment is not required as this site is in Flood Zone 1 and is less than 1ha. Surface water runoff from this site should be managed using SuDS where appropriate.



North Yorkshire County Council

Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
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- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

2. Hambleton Sites

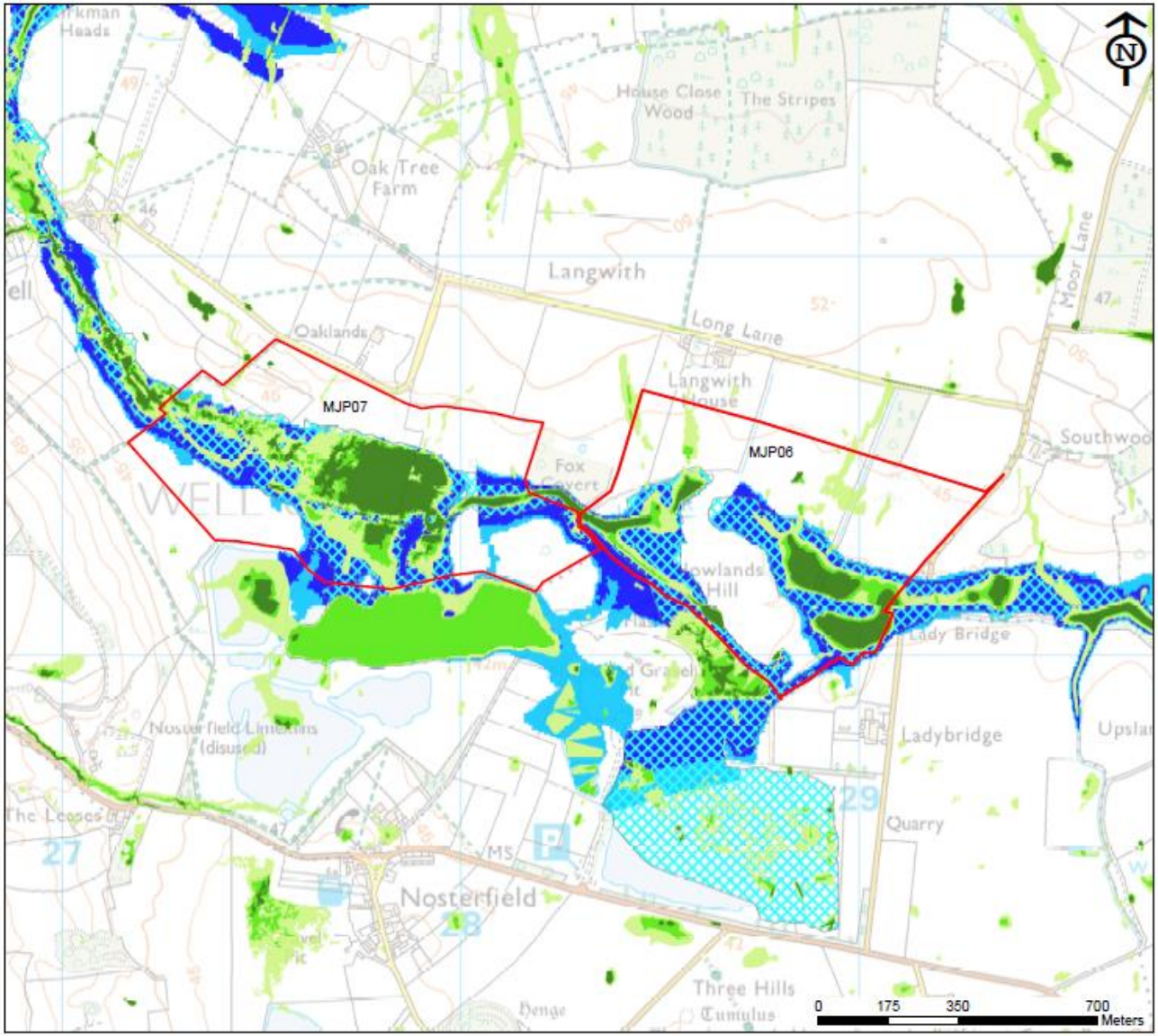
Key to Sequential Test Results		
Pass	**Pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities.**	**Site is not suitable or would require an Exception Test demonstrated through a Level 2 SFRA to proceed.**

Site Reference: MJP06 Langwith Hall Farm, east of Well	
Site Information	Proposal includes diversion of the Ings Goit stream. Planning application (NY/2011/0242/ENV) is awaiting determination for a similar, but not identical area. An application (NY/2014/0271/ENV) for the continuation of extraction from the existing site and the retention of the plant site until 31 January 2018 was granted planning permission in February 2016. Proposed access: No direct access to public highway proposed from MJP06 site, rather material would be taken direct to the existing processing Nosterfield Quarry plant site by an internal route and would then use the existing Nosterfield Quarry access on to B6267 (approximately 500m east of Nosterfield village). Current use: Agriculture Site area: 43.1ha Minerals Estimated Reserve: 2,300,000 tonnes Annual output of 500,000 tonnes Estimated date of commencement: 2016 Proposed Life of Site: Four to five years
Proposed Land Use	Extraction of sand and gravel as a proposed extension to existing quarry.
NPPF Vulnerability Classification	Water compatible

Overview of flooding	About 25% of this site is in Flood Zones 2 and 3. About 15% - 20% of the site is subject to surface water flooding, much of which is at high risk (1:30 (3.33%)) of flooding. However, as extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. Strategic groundwater flooding maps show that most of the site lies in a 1km square where >25% to <50% of the km square has conditions that might support superficial deposits flooding. The southern tip of the site (about 5% of the area) is in a 1km square where >75% of the km square has conditions that might support superficial deposits flooding. A recent application which included this site showed that extraction would take place below the water table which during the maximum extent of the development would lie at 39mAOD (so that application stated that the site would be wet worked)[1]. Working below the water table is a routine element of sand and gravel extraction for many sites.
Relevant Local SFRA	Hambleton
1:20 (5%) flood event or Local SFRA Functional Floodplain	The 1:20 (5%) event extent mapping for this SFRA shows about 25% this site is affected by this level of flood risk. In the Hambleton SFRA, although Flood Zone 3 is defined as being made up of 3 types of land, including functional floodplain and undeveloped areas, maps were not available for review at the time of writing. Hambleton has recently developed a draft revised definition of functional floodplain and, consistent with that revised definition, we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	Climate change is likely to extend the area of Flood Zones 2 and 3, with Flood Zone 3 increasing to the extent of Flood Zone 2. The extent of the 1:20 (5%) event is also likely to increase. However, as extraction is only likely to be for 4 to 5 years from 2016, this is not thought to be a significant issue for this site. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No. This site is water compatible.
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, sites MJP07 and MJP14. MJP07 is at slightly higher risk from flooding and MJP14 is at significantly higher risk from flooding. Therefore this site should be considered alongside but before MJP07 and is preferable to MJP14.

[1] Tarmac Ltd, 2011. Nosterfield Quarry Langwith House farm extension Volume V – Non-technical summary [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=8037]

Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment should further consider groundwater flooding and how SuDS can be used to drain the site. Drainage of site should not increase flooding elsewhere. All sites in functional floodplain must: remain operational and safe for users in times of flood; result in no net loss of floodplain storage; not impede water flows and not increase flood risk elsewhere.



North Yorkshire County Council

Key

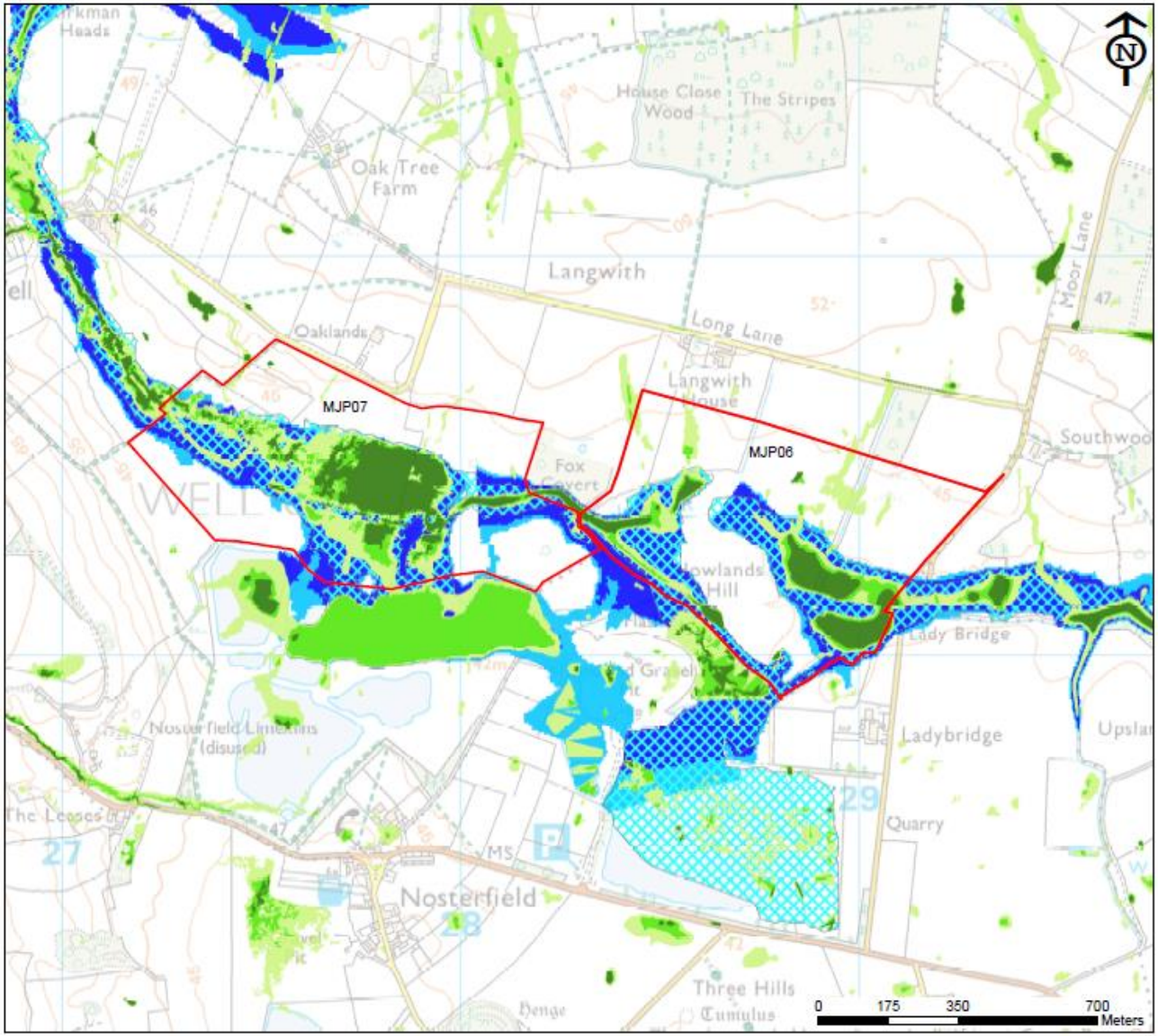
- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP07 Oaklands, near Well	
Site Information	Proposal includes diversion of the Ings Goit stream and extraction would be by suction dredger with material to be pumped by pipeline to the existing conveyor system for transport to the existing processing plant. Proposed access: No direct access to public highway from MJP07 site, rather material would be taken to the existing processing plant site in Nosterfield Quarry by an internal route and would then leave using the existing Nosterfield Quarry access onto B6267 (approximately 500m east of Nosterfield village). Current use: Agriculture Site area: 44.6ha (NOTE AT PREFERRED OPTIONS THE WESTERN PART OF THIS SITE IS PROPOSED FOR EXCLUSION) Minerals Estimated Reserve: 3,602,720 tonnes (submitter information). Proposed reduction to tonnage to a provisional estimate of 1,500,000 tonnes. Annual output of 500,000 tonnes Estimated date of commencement: 2020-21 (to follow MJP06) Proposed Life of Site: Six years
Proposed Land Use	Extraction of sand and gravel as proposed extension to existing quarry.
NPPF Vulnerability Classification	Water compatible

Overview of flooding	About 50% of this site, the central and southern area, is in Flood Zones 2 and 3. About 40% of the site is subject to surface water flooding with approximately 30% at high risk (1:30 (3.33%)) of flooding and 10% at medium risk (1:100 (1%)) or low risk (1:1000 (0.1%)). However, as extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. Strategic groundwater flooding maps show that most of the site lies in a 1km square where <25% of the km square have conditions that might support Clearwater flooding. About 25% of the site (the eastern part) lies in a 1km square where >25% to <50% of the km square has conditions that might support superficial deposits groundwater flooding. A recent application for a site (MJP06) immediately to the east of this site showed that extraction would take place below the water table which during the maximum extent of the development would lie at 39mAOD (so that application stated that the site would be wet worked)[2]. In addition, sand and gravel working to the south of the site has been restored to water suggesting that groundwater will be an issue at this site too. Working below the water table is a routine element of sand and gravel extraction for many sites.
Relevant Local SFRA	Hambleton
1:20 (5%) flood event or Local SFRA Functional Floodplain	The 1:20 (5%) event extent mapping for this SFRA shows about 40% of this site is at flood risk. In the Hambleton SFRA, although Flood Zone 3 is defined as being made up of 3 types of land, including functional floodplain and undeveloped areas, maps were not available for review at the time of writing. Hambleton has recently developed a draft revised definition of functional floodplain and, consistent with that revised definition, we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	Climate change is likely to extend the area of Flood Zones 2 and 3, with Flood Zone 3 increasing to the extent of Flood Zone 2. The extent of the 1:20 (5%) event is also likely to increase. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No. This site is water compatible.

[2] Tarmac Ltd, 2011. Nosterfield Quarry Langwith House Farm extension Volume V – Non-technical summary [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=8037]

Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP06 and MJP14. MJP06 is at slightly lower risk from flooding, however MJP14 is at higher risk from flooding. Therefore this site should be considered alongside but after MJP06 and is preferable to MJP14.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment should further consider groundwater flooding and how SuDS can be used to drain the site. Drainage of site should not increase flooding elsewhere. Climate change effects may also be of lesser significance than stated in this assessment so a site specific flood risk assessment may further clarify the potential for any impacts. All sites in functional floodplain must: remain operational and safe for users in times of flood; result in no net loss of floodplain storage; not impede water flows and not increase flood risk elsewhere.



North Yorkshire County Council

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- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

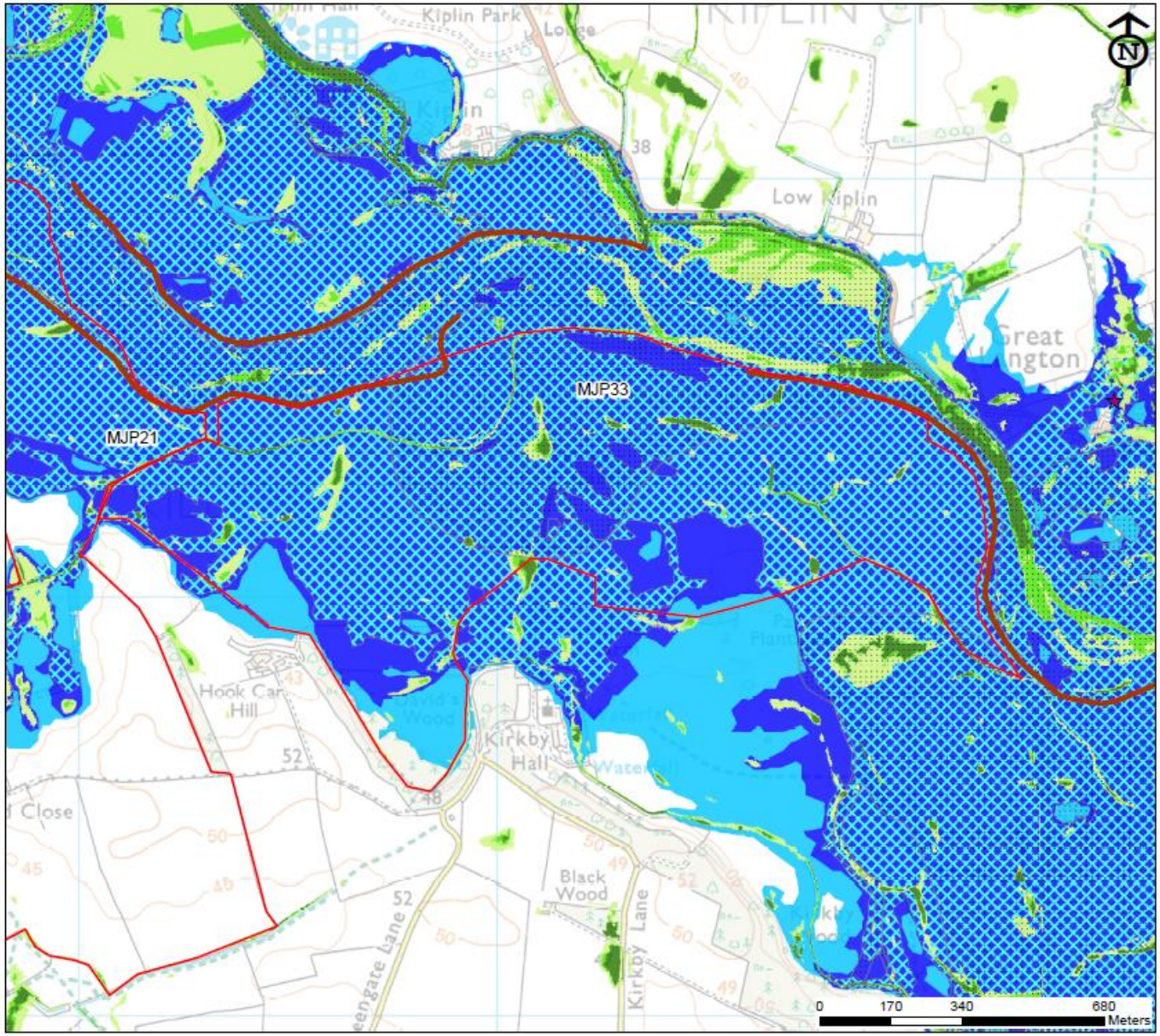
Site Reference: MJP33 Home Farm, Kirkby Fleetham	
Site Information	Proposed access: The site is allocated on the basis that access to the highway for heavy goods vehicles will be obtained via the Killerby site allocation MJP21 and associated access point to the local access road west of site MJP21. Current use: Agriculture and woodland Site area: 114.7ha Minerals Estimated Reserve: 3,500,000 tonnes Annual output of 300,000 tonnes Estimated date of commencement: Anticipated to be about 2019 Proposed Life of Site: 12 years
Proposed Land Use	Extraction of sand and gravel from a new extraction site.
NPPF Vulnerability Classification	Water compatible

Overview of flooding	This site is almost entirely within Flood Zone 3 (approximately 90%). The remainder of the site outside of Flood Zone 3 (about 10%) is either Flood Zone 2 (<10%) or Flood Zone 1 (<5%). Flood defences along the north western boundary of the site may offer some protection (though the standard of protection is not known). Surface water flooding affects small areas (<10%) of the site, with low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)) areas of ponding distributed across the site. However, as extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. This site lies across six 1km squares of differing groundwater vulnerability according to the Environment Agency's 'Areas Susceptible to Groundwater Flooding' map. The north west of the site lies in area where >50% to <75% of the km square has conditions that could support superficial deposits flooding. The south west lies in an area where >25% to <50% of the km square has conditions that could support superficial deposits groundwater flooding. The north east and south east site lies in an area where <25% of the km square has conditions that might support Clearwater flooding. A nearby site (at Kiplin Hall) has shown that 'generally the natural water table appears to lie between the levels of 36 metres and 38 metres above Ordnance Datum and therefore the depth to the water is between 1 and 2 metres below the flat lying ground"[3]. With this in mind it is thought that the site is likely to encounter groundwater during extraction. A scoping report for sand and gravel extraction at this site suggests that 'as a guide water strikes display a gradual hydraulic gradient in the drift from 37.3mAOD in the west to 31.5mAOD in the east. This represents an easterly hydraulic gradient of 1 in 341"[4]. Again, this would suggest the water table is just below the surface. Working below the water table is a routine element of sand and gravel extraction for many sites.
Relevant Local SFRA	Hambleton

[3] Steetley Quarry Products Limited, 1987, Proposed Extraction of Sand and Gravel and the Erection of Processing Plan and associated facilities on land at Kiplin Hall, Scorton, North Yorkshire, part Hambleton, part Richmondshire Districts North Yorkshire: Written Statement to Accompany Planning Application [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=1615]

[4] Aggregate Industries, 2008. Home Farm, Kirkby Fleetham, North Yorkshire: Town and Country Planning Act (Environmental Impact Assessment) Regulations, 1999 (as amended) Regulation 10 (1) Scoping Report [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=5269]

1:20 (5%) flood event or Local SFRA Functional Floodplain	The 1:20 (5%) event extent mapping for this SFRA shows about 85% of this site is at flood risk. In the Hambleton SFRA, although Flood Zone 3 is defined as being made up of 3 types of land, including functional floodplain and undeveloped areas, maps were not available for review at the time of writing. Hambleton has recently developed a draft revised definition of functional floodplain and, consistent with that revised definition, we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	The remainder of the site outside of Flood Zone 3 (about 10%) is either Flood Zone 2, that with climate change is likely to become Flood Zone 3, or Flood Zone 1, that with climate change is likely to become Flood Zone 2, for the 2020's. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass. This is water compatible development, however, MJP43, followed by MJP17 and MJP21 should be considered before this site from a flood risk point of view.
Exception Test Needed	No. This site is water compatible.
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP17, MJP21 and MJP43. This site is at the highest flood risk compared to MJP43, MJP17 and MJP21. Therefore MJP43, MJP17 and MJP21 are preferable to this site.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment should further consider the standard of protection and purpose of flood defences, groundwater flooding and how SuDS can be used to drain the site. Drainage of site / dewatering should not increase flooding elsewhere. It will be critically important for a site of this size to ensure that floodplain storage capacity is not lost. All sites in functional floodplain must: remain operational and safe for users in times of flood; result in no net loss of floodplain storage; not impede water flows and not increase flood risk elsewhere.



North Yorkshire County Council

Key

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- Historic Flood Record
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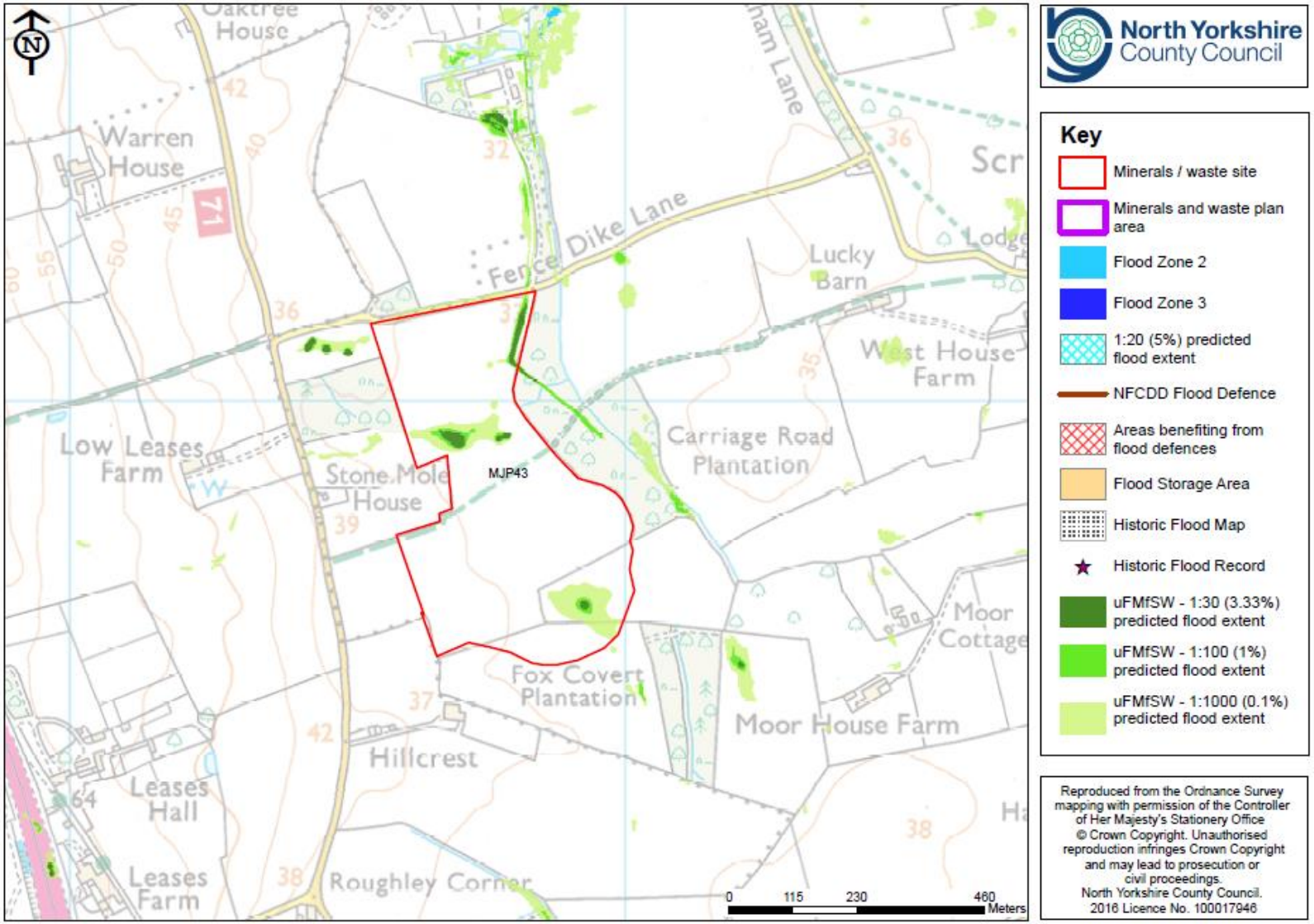
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP43 Land to west of Scruton	
Site Information	Working would involve mobile plant rather than a fixed plant site. Proposed access: Via a new haul road from the site to a new entrance onto Low Street approximately mid-way between Stone Mole and Hillcrest and to the site. Vehicles would then transport the mineral south along Low Street to join the new Bedale-Asikew-Leeming Bar bypass approximately 850 metres south of the site access Current use: Agriculture Site area: 18.1ha Minerals Estimated Reserve: 850,000 – 900,000 tonnes Annual output of 75,000 (first year) rising to 90,000 tonnes Estimated date of commencement: 2018 Proposed Life of Site: 11 – 12 years
Proposed Land Use	Extraction of sand and gravel from a new extraction site.
NPPF Vulnerability Classification	Water compatible
Overview of flooding	This site is 100% in Flood Zone 1. Surface water flooding low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)) affects about 10% of the site. Ditches and small streams on the site are the focal point for much of the surface water flooding. However, as extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. The site lies across three 1km squares on the Environment Agency's 'Areas Susceptible to Groundwater Flooding Map', all of which have details of levels susceptibility to groundwater flooding and are susceptible to Clearwater flooding (<25%).
Relevant Local SFRA	Hambleton
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. In the Hambleton SFRA, although Flood Zone 3 is defined as being made up of 3 types of land, including functional floodplain and undeveloped areas, maps were not available for review at the time of writing. Hambleton has recently developed a draft revised definition of functional floodplain and, consistent with that revised definition, we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.

Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No. This site is water compatible.
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP17, MJP21 and MJP33. MJP17 is at slightly higher risk for river flooding and surface water flooding. Sites MJP21 and MJP33 are at significantly higher risk of river flooding, with MJP33 being at higher risk than MJP21. This site should be considered before MJP17 and is preferable to both MJP21 and MJP33.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment should further consider groundwater flooding and how SuDS can be used to drain the site. Drainage of site should not increase flooding elsewhere. Diversion of ditches / streams on the site should not increase flooding elsewhere.


Oaktree House
Warren House
Fence Dike Lane
Lucky Barn
West House Farm
Carriage Road Plantation
Low Leases Farm
Stone Mole House
MJP43
Moor Cottage
Fox Covert Plantation
Moor House Farm
Hillcrest
Leases Hall
Leases Farm
Roughley Corner
0 115 230 460 Meters
North Yorkshire County Council
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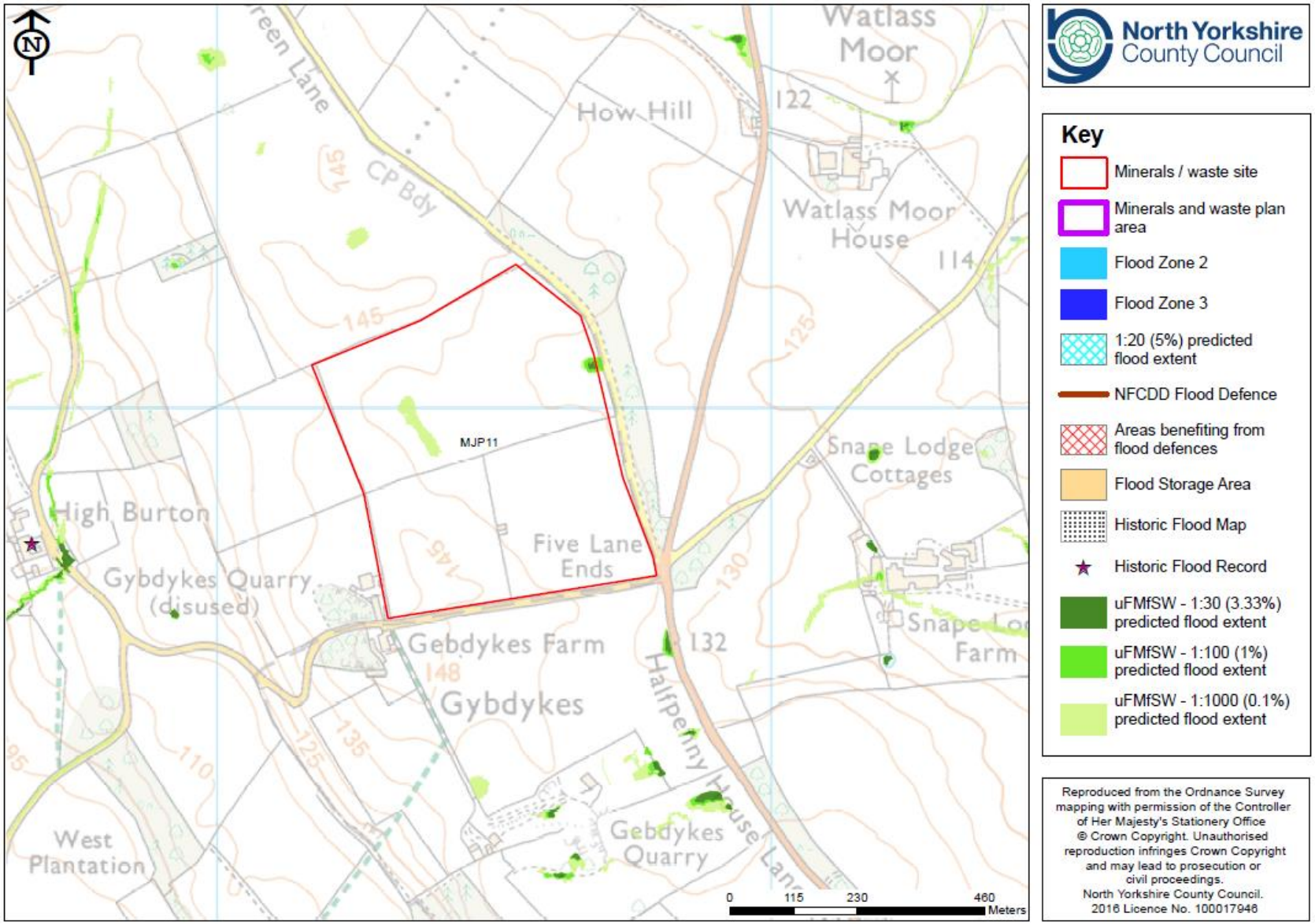
3. Hambleton / Harrogate and Hambleton / Richmondshire Sites

Key to Sequential Test Results		
Pass	**Pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities.**	**Site is not suitable or would require an Exception Test demonstrated through a Level 2 SFRA to proceed.**

Site Reference: MJP11 Gebdykes Quarry, near Masham	
Site Information	Existing quarry site restoration is to agriculture and woodland. The proposed strip of land to the North of the existing quarry will retain the existing screening, the area proposed goes from the boundary of the existing extraction to the boundary of the existing screening. Landscaping will follow along the lines of the existing permission, with low level agricultural restoration. Proposed access: Existing Gebdykes Quarry access onto the B6268 approximately 250m south of the Five Lane Ends junction. The means of, and location of, the crossing from MJP11 northern area into the existing Gebdykes quarry to be confirmed; but may be a conveyor beneath the C133 lane (between Five Lane Ends and High Burton) at a point to the east of Gebdykes Farm. Current use: Agriculture Site area: 27.1ha (25.8ha north of C133 and 1.3ha between existing quarry extraction area and C133 roadside landscape planting). Minerals Estimated Reserve: 3,800,000 tonnes (3,400,000 (to north of C133 road); 400,000 (between existing quarry extraction area and C133 roadside landscape planting)). Annual output of 235,000 tonnes Estimated date of commencement: 2022 - 2025 Proposed Life of Site: 15 years
Proposed Land Use	Extraction of Magnesian limestone as proposed extension to existing quarry.
NPPF Vulnerability Classification	Less vulnerable

Overview of flooding	This site is 100% in Flood Zone 1. Surface water flooding low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)) affects a very small area (<5%). However, as extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. This site is in an area that is not mapped in terms of its susceptibility to groundwater flooding. No reference to groundwater is made in the committee report for the adjacent site[5].
Relevant Local SFRA	North West Yorkshire
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. In the North West Yorkshire SFRA functional floodplain is defined as undeveloped areas in Flood Zone 3, maps were not available for review at the time of writing. The North West Yorkshire SFRA is in the process of being revised therefore we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP10, MJP23, MJP28 and MJP29. This site is at slightly higher risk from surface water flooding than MJP23, MJP28 and MJP29 but at lower risk than MJP10. All the alternative sites are located in Flood Zone 1. Therefore this site should be considered after MJP28, MJP23 and MJP29 but in preference to MJP10.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment would need to further examine risk of groundwater flooding, any future climate change risk, and how SuDS could help manage run off.

[5] North Yorkshire County Council Environmental Services Committee, 1996. North Yorkshire Minerals Local Plan, Gebdykes Quarry, near Masham [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=1591]



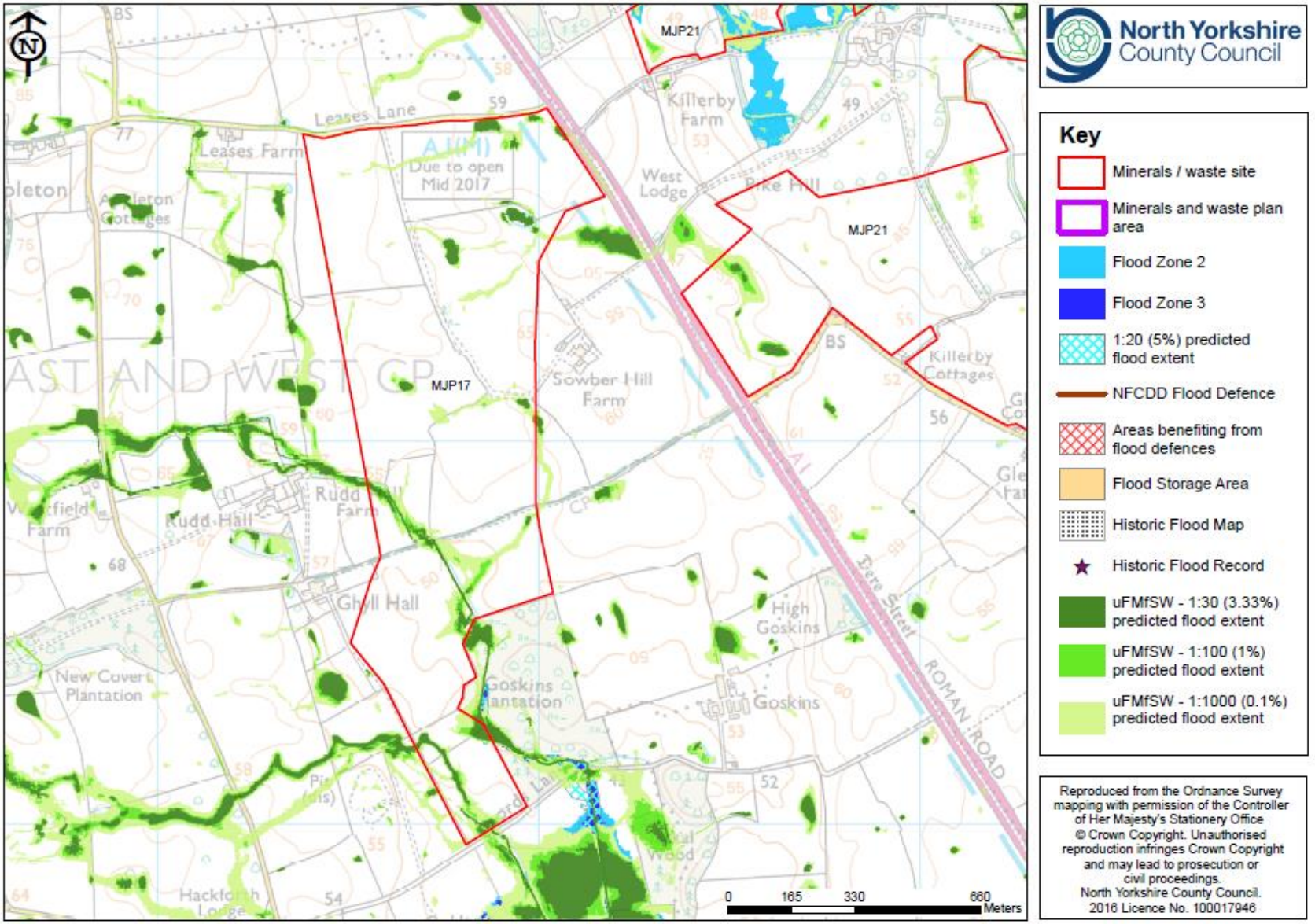
North Yorkshire County Council

Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP17 Land to the south of Catterick	
Site Information	Proposed access: Not known yet but will take account of the new mid-Catterick A1(M) roundabout in order to access the strategic road network and potentially use Lords Lane to access the Local Access Road. Current use: Agriculture Site area: 81.52ha Minerals Estimated Reserve: 3,000,000 tonnes (submitter information) Annual output of 150,000 – 250,000 tonnes estimated Estimated date of commencement: Unknown at present, likely to be in the later part of the join Plan period. Proposed Life of Site: Unknown at present
Proposed Land Use	Extraction of sand and gravel from a new extraction site.
NPPF Vulnerability Classification	Water compatible
Overview of flooding	<5% of the site is within Flood Zones 2 and 3. Surface water flooding low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)) affects about 10% of the site. Ditches and small streams on the site are the focal point for much of the surface water flooding. However, as extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. The site lies across five 1km squares on the Environment Agency's 'Areas Susceptible to Groundwater Flooding Map', four of which have details of levels susceptibility to groundwater flooding and one of which has no data. The 1km square at the extreme south of this site is susceptible to superficial deposits flooding (>25% to <50% of the 1km square is susceptible), while the other 1km squares are subject to Clearwater and superficial deposits flooding >25 to <50% in the centre and <25% in the north-east), apart from a 1km square along the central eastern edge of the site which is susceptible to Clearwater flooding (<25%).
Relevant Local SFRA	Hambleton and North West Yorkshire

1:20 (5%) flood event or Local SFRA Functional Floodplain	<5% of this site is at risk from the 1:20 (5%) flood event. In the Hambleton SFRA, although Flood Zone 3 is defined as being made up of 3 types of land, including functional floodplain and undeveloped areas, maps were not available for review at the time of writing. Hambleton has recently developed a draft revised definition of functional floodplain and, consistent with that revised definition, we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain. In the North West Yorkshire SFRA functional floodplain is defined as undeveloped areas in Flood Zone 3, maps were not available for review at the time of writing. The North West Yorkshire SFRA is in the process of being revised therefore we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	The extent of Flood Zone 3 is likely to increase to that of Flood Zone 2, while Flood Zone 2 may encroach the site further. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass. This site should be considered after MJP43 but is preferable to both MJP21 and MJP33.
Exception Test Needed	No. This site is water compatible.
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP21, MJP33 and MJP43. MJP43 is at a slightly lower level of risk for river flooding and surface water flooding. Sites MJP21 and MJP33 are at higher risk of river flooding, with MJP33 being at higher risk than MJP21. This site should be considered after MJP43 but is preferable to both MJP21 and MJP33.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment should further consider climate change impact to the river flood risk, groundwater flooding and how SuDS can be used to drain the site. Drainage of site should not increase flooding elsewhere. Diversion of ditches / streams on the site should not increase flooding elsewhere. All sites in functional floodplain must: remain operational and safe for users in times of flood; result in no net loss of floodplain storage; not impede water flows and not increase flood risk elsewhere.


MJP21
Killerby Farm
Leases Lane
Leases Farm
Due to open Mid 2017
West Lodge
Pike Hill
MJP21
MJP17
Sowber Hill Farm
Killerby Cottages
Rudd Hall
Rudd Farm
Ghyll Hall
High Goskins
Goskins
New Covert Plantation
Goskins Plantation
Ermine Street
ROMAN ROAD
Hackforth Lodge
0 165 330 660 Meters
North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
uFMfSW - 1:30 (3.33%) predicted flood extent
uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
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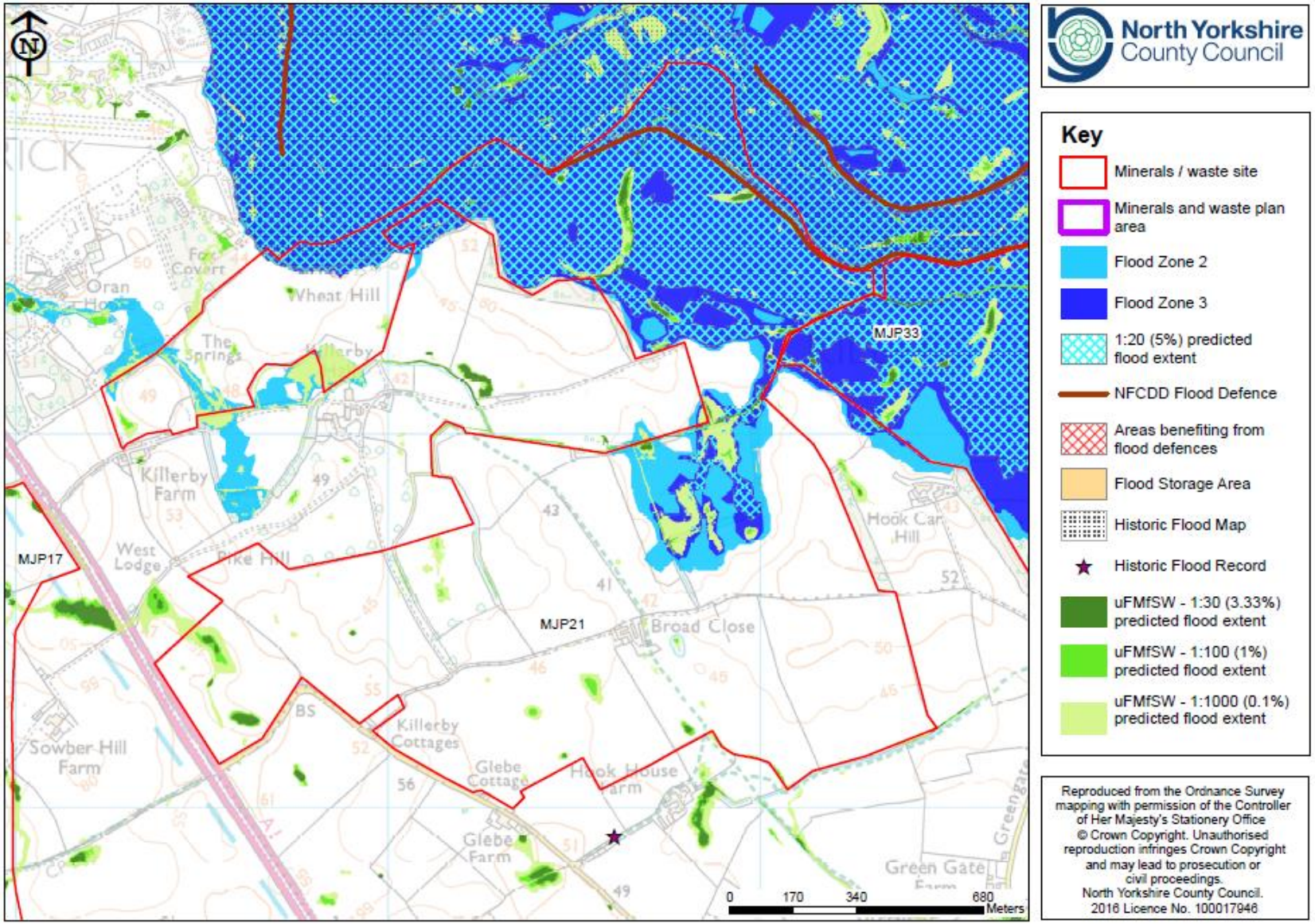
Site Reference: MJP21 Land at Killerby	
Site Information	Application (NY/2010/0356/ENV) is currently awaiting determination. Proposed access: Access to be as in the latest details for application NY/2010/0356/ENV, at the bend at north end of Low Street (C114), with vehicles to go west along Low Street onto the new Local Access Road next to the upgraded A1(M). Current use: Agriculture and woodland Site area: 213ha, of which 122ha is proposed for extraction Minerals Estimated Reserve: 11,370,000 tonnes Annual output of 650,000 tonnes Estimated date of commencement: 2020 - 2021 Proposed Life of Site: Extraction would occur for an initial period of two years, after which the remaining permitted reserves at Ellerton Quarry would be extracted (five to six years), then the remainder of the Killerby reserves would be extracted during a period of 14 years.
Proposed Land Use	Extraction of sand and gravel from a new extraction site.
NPPF Vulnerability Classification	Water compatible

Overview of flooding	About 35% of this site is in Flood Zones 2 and 3. Flood defences are also evident in the north-east corner, though the area is not shown as an area benefiting from flood defences and the standard of protection is not clear. More detailed modelling is available through the 2010 Flood Risk Assessment for this site that showed that some protection is afforded by flood defences[6]. Surface water flooding low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)) affects about 5% of the site. However, as extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. In terms of groundwater flooding site lies across six 1km squares on the 'Areas Susceptible to Groundwater Flooding Map' all of which are areas that support superficial deposits flooding (at varying rates from <25% of a km square to >50% to <75% of a km square), apart from the south west corner which supports Clearwater and superficial deposits flooding (across <25% of the km square). A planning application at this site was accompanied by a Flood Risk Assessment that reported that "groundwater levels across all 3 areas are in the range of 37 to 43m AOD and range 1m to 9m below ground level" with Killerby East being at high risk of groundwater flooding due to good hydraulic connectivity with the river and Killerby West and South being at low to moderate risk[7].
Relevant Local SFRA	Hambleton and North West Yorkshire

[6] Hafren Water, 2010. Flood Risk Assessment for Killerby Quarry, Catterick [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=7585]
[7] Ibid

1:20 (5%) flood event or Local SFRA Functional Floodplain	Much of the area in Flood Zone 3 is also considered to be at a 1:20 (5%) flood risk. However, the presence of a flood defence would mean that although the area could still flood in a 1:20 (5%) event, more frequent events may benefit from the flood defences, so the area behind the defence would not be functional. This has been investigated through a Flood Risk Assessment at the site which states that they are in the form of an earth bank 1m to 2m high which reduces the risk of fluvial flooding. This assessment also refers to a steep bank above the mean stage level for the River Swale which helps protect Killerby West. In the Hambleton SFRA, although Flood Zone 3 is defined as being made up of 3 types of land, including functional floodplain and undeveloped areas, maps were not available for review at the time of writing. Hambleton has recently developed a draft revised definition of functional floodplain and, consistent with that revised definition, we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain. In the North West Yorkshire SFRA functional floodplain is defined as undeveloped areas in Flood Zone 3, maps were not available for review at the time of writing. The North West Yorkshire SFRA is in the process of being revised therefore we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	As this site would be active beyond 2025, river flooding may increase in significance beyond 2025. This would increase the area of Flood Zone 3 into areas that are shown as Flood Zone 2 and would also increase the extent of Flood Zone 2. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass. This is water compatible development, however, MJP43 and MJP17 should be considered before this site but it is preferable to MJP33 from a flood risk point of view.
Exception Test Needed	No. This site is water compatible.
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP17, MJP33 and MJP43. MJP43 and MJP17 are at lower risk than this site. MJP33 is at higher risk. Therefore this site should be considered after MJP43 and MJP17 but is preferable to MJP33.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A flood risk assessment has already been carried out for this site.


North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
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uFMfSW - 1:1000 (0.1%) predicted flood extent
MJP17
MJP21
MJP33
Wheat Hill
Killerby Farm
West Lodge
Pike Hill
Broad Close
Killerby Cottages
Glebe Cottage
Glebe Farm
Hook House Farm
Sowber Hill Farm
Hook Carr Hill
Green Gate Farm
0 170 340 680 Meters
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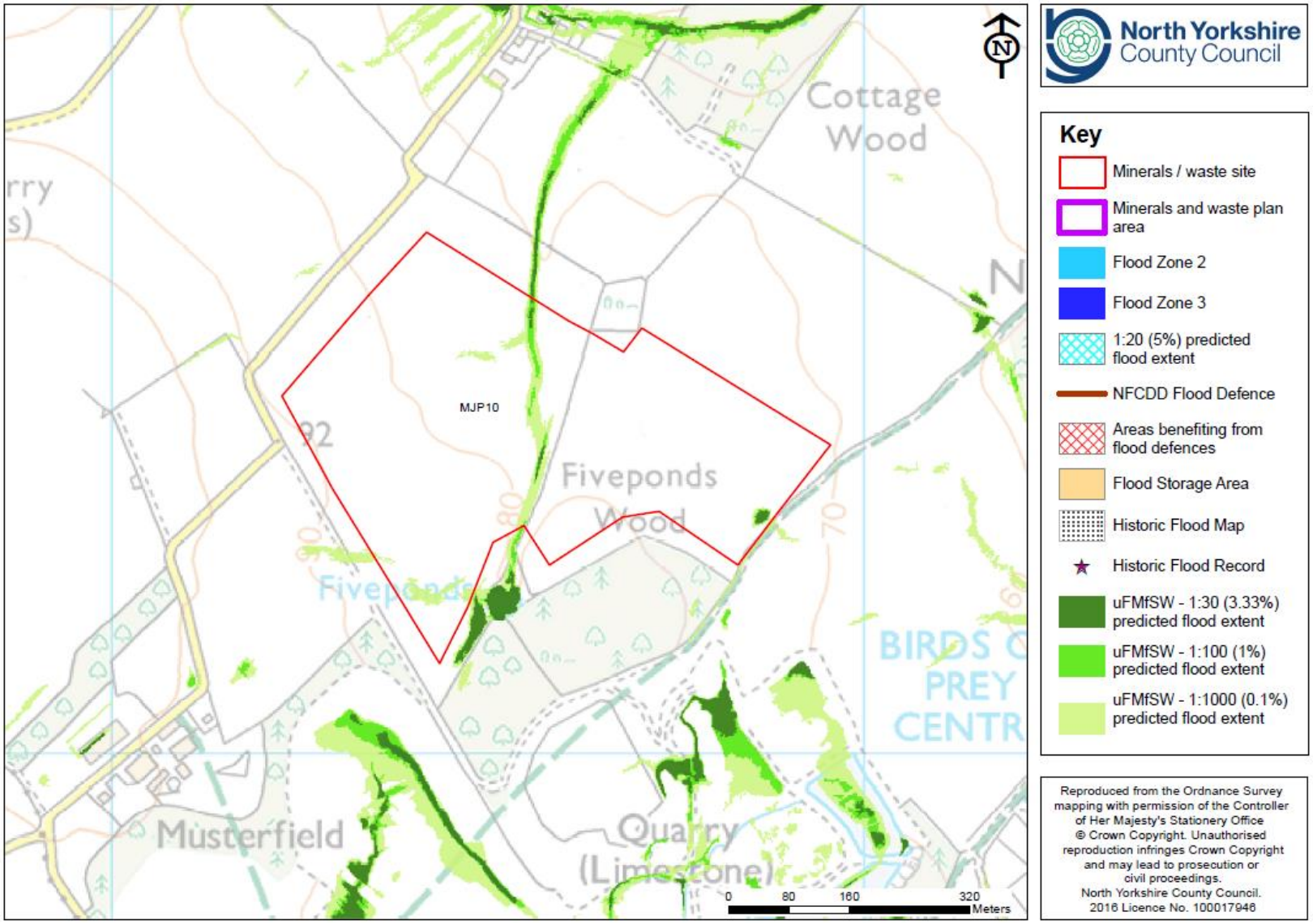
4. Harrogate Sites

Key to Sequential Test Results		
Pass	**Pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities.**	**Site is not suitable or would require an Exception Test demonstrated through a Level 2 SFRA to proceed.**

Site Reference: MJP10 Potgate Quarry, North Stainley	
Site Information	Planning permission was granted on 30 January 2015 for the extraction of limestone from an area of land west of the site at Musterfield (NY/2012/0319/ENV). Proposed access: Access to be into the western field of MJP10 from Potgate Quarry through the Musterfield extension (see below) with mineral to be processed at the existing quarry plant site. Material would then leave the site via the existing access along Water Lane (bridleway) onto the A6108 approximately 100m south of North Stainley. There would be no direct access to MJP10 from the public highway. Current use: Agriculture Site area: 36.5ha of which working area would be 19.4ha Minerals Estimated Reserve: 3,700,000 tonnes Annual output of 235,000 tonnes Estimated date of commencement: 2021 Proposed Life of Site: 16 years
Proposed Land Use	Extraction of Magnesian limestone as proposed extension to existing quarry.
NPPF Vulnerability Classification	Less vulnerable

Overview of flooding	This site is in Flood Zone 1. About 5% of this is site in areas subject to surface water flooding (low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)). The overall percentage of the site area at risk is low but there is a clear surface water flow path across the site which requires mentioning and would need consideration in any proposals. Most of the site lies in a 1km square where <25% of the km square is susceptible to Clearwater groundwater flooding. The eastern part of the site is in a km square where groundwater flooding susceptibility information is not available. A nearby extension to the same quarry reports that "there are no obvious points of groundwater ingress in the quarry excavations and most of the joint surfaces show little or no evidence of solution despite some karstic features in the wider local area"[8] A borehole on this site was dry to 12.19m below ground level so much depends on the depth of extraction.
Relevant Local SFRA	North West Yorkshire
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. In the North West Yorkshire SFRA functional floodplain is defined as undeveloped areas in Flood Zone 3, maps were not available for review at the time of writing. The North West Yorkshire SFRA is in the process of being revised therefore we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	Climate change would not affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP11, MJP23, MJP28 and MJP29. This site is at higher risk from surface water flooding than MJP11, MJP23, MJP28 and MJP29. All the alternative sites are located in Flood Zone 1. Therefore this site should be considered after MJP28, MJP23, MJP29 and MJP11.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment would need to further examine risk of groundwater flooding and how SuDS could help manage run off.

[8] Lightwater Quarries. 2012. Potgate Quarry: Planning Application for an extension to the existing mineral workings with restoration to nature conservation habitats: Environmental Statement prepared by David L Walker Ltd [URL https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=8602]



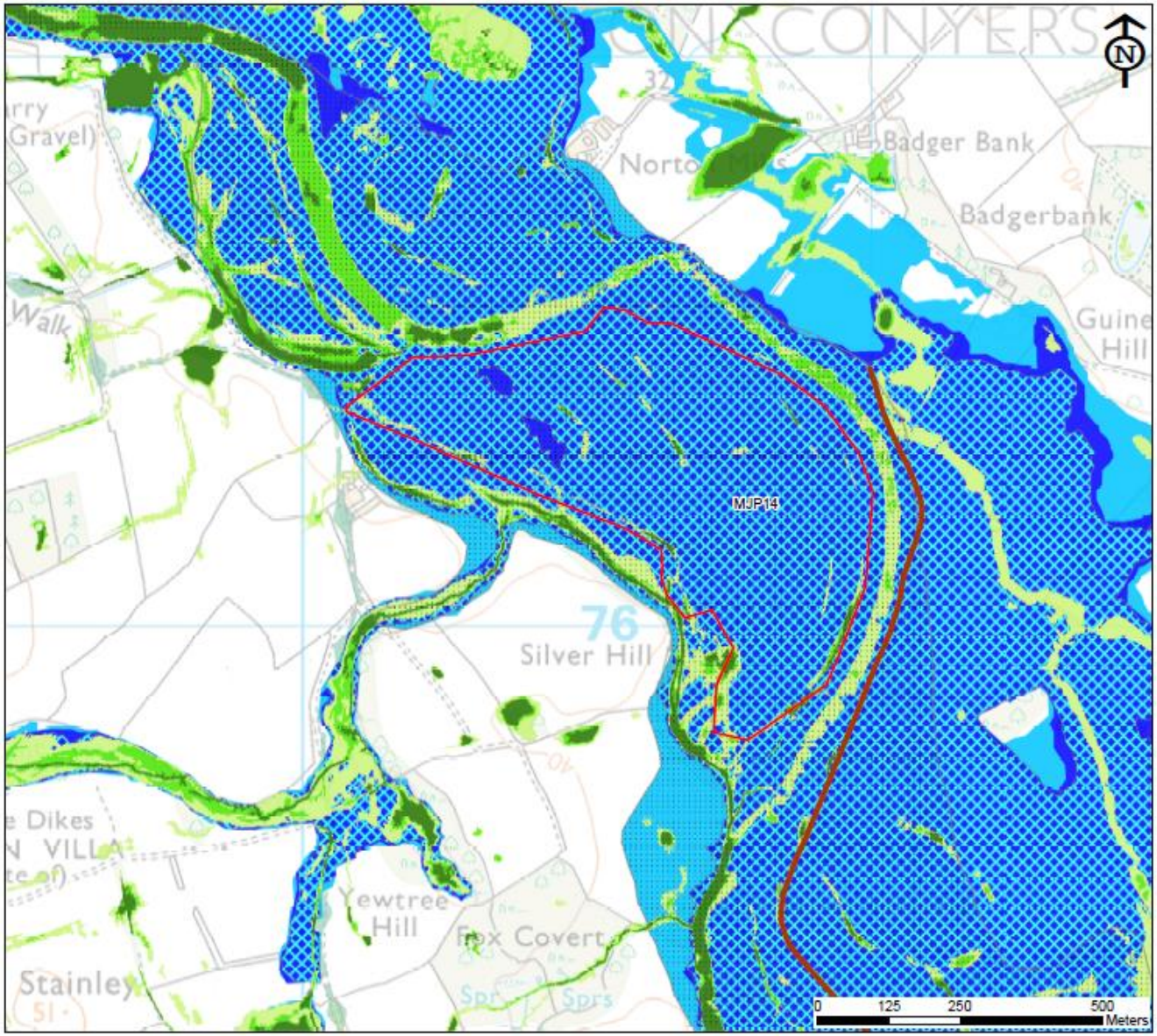
Site Reference: MJP14 Land in vicinity of Ripon Quarry, North Stainley	
Site Information	Pennycroft and Thorneyfields is subject to an application (NY/2011/0429/ENV) which is awaiting determination. Proposed access: Existing Ripon Quarry access onto A6108 (approximately 460m south of North Stainley) with the mineral to be moved from the area to the existing plant site on the south-west side of the River Ure without passage on the highway. Current use: Agriculture Site area: 30.22ha (Pennycroft and Thorneyfields) Minerals Estimated Reserve: 3,500 tonnes Annual output of 250,000 tonnes Estimated date of commencement: 2015 - 2016 Proposed Life of Site: 15 years
Proposed Land Use	Extraction of sand and gravel as proposed extension to existing quarry.
NPPF Vulnerability Classification	Water compatible
Overview of flooding	100% of the site is in Flood Zones 2 and 3. It is also identified as being at historic flood risk. About 5% of the site is also subject to surface water flooding, which includes small areas at high risk (1:30 (3.33%)) of flooding. However, as extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. The site lies across two 1km squares in the Environment Agency's Areas Susceptible to Groundwater Flooding maps, with the southern part of the site is in a km square that is >50 to <75% at risk of superficial deposits flooding. According to the planning application for this site *"in order to facilitate mineral extraction, it is proposed to continue the current practice of lowering the natural groundwater level by dewatering. It is envisaged that the water table will be lowered to around 8.6m below ground level"*[9].
Relevant Local SFRA	North West Yorkshire

[9] Hanson Quarry Products Europe Limited, 2011. Extension to existing sand and gravel workings at Ripon Quarry, North Stainley, North Yorkshire: Environmental Statement Non-Technical Summary [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=8225]

1:20 (5%) flood event or Local SFRA Functional Floodplain	The 1:20 (5%) event extent mapping for this SFRA shows that 100% of this site is at flood risk. In the North West Yorkshire SFRA Flood Zone 3b is defined as undeveloped areas in Flood Zone 3. Although this land is not defined as being at a 1:20 (5%) risk the site should be regarded as potentially being in functional floodplain in line with the North West SFRA.
Climate change	The site is currently 100% at risk from the 1:20 (5%) event and Flood Zones 2 and 3, as such climate change is likely to increase the depth of flooding over the site compared to present day for these event scenarios. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass. This is water compatible development, however, MJP06 and MJP07 should be considered before this site from a flood risk point of view.
Exception Test Needed	No. This site is water compatible.
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability	Yes, MJP06 and MJP07. Both MJP06 and MJP07 are at lower risk from flooding than this site. Therefore MJP06 and MJP07 are preferable to this site[10].
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment has already been submitted for this site which concluded that the site have an evacuation plan be developed, that work stop during high rainfall events, and that works will have little potential to impact on the flows in the River Ure[11].

[10] It should be noted that this is a draft strategic test of sites to inform potential allocations that does not have a bearing the specific flood risk assessment provided with any planning application for the site.

[11] Hafren Water, 2011. Flood Risk Assessment for Ripon Quarry Extension into Pennycroft Area [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=8225]



North Yorkshire County Council

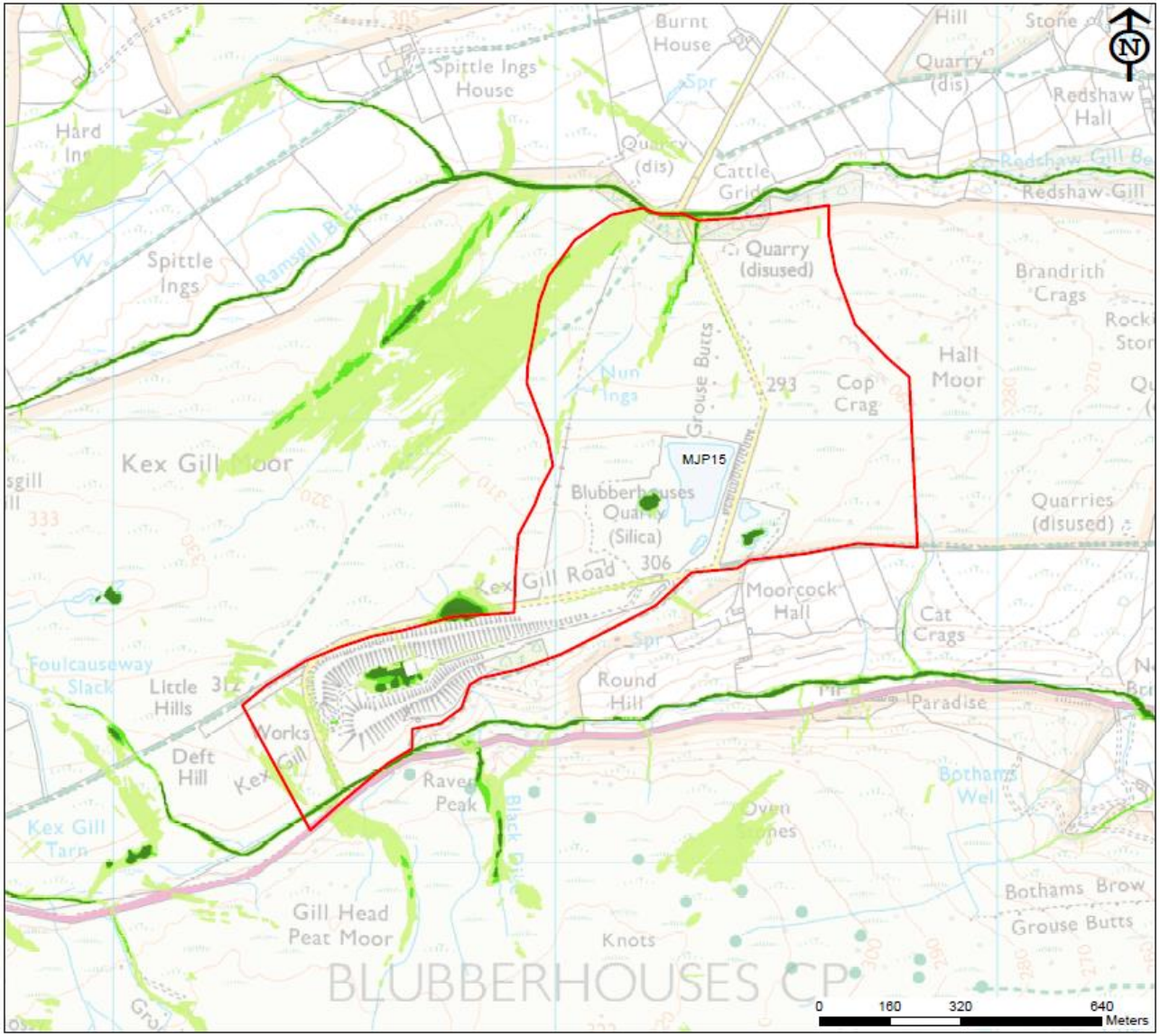
Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP15 Blubberhouses Quarry, west of Harrogate	
Site Information	Existing silica sand quarry that is subject to an application (NY/2011/0465/73) to extend the period of time for working the site until 2036. That application is awaiting determination. Possible restoration to moorland and wet bog. Proposed access: Existing Blubberhouses Quarry access onto Kex Gill Road (U2478 unclassified road) approximately 155m from the junction with the A59, with the use of the existing conveyor tunnel under Kex Gill Road to the area north west of Kex Gill Road. (Note: the development involves the proposed movement of Kex Gill Road as the quarrying progresses to enable extraction (application details NY/2011/0465/73) Current use: Mothballed quarry (including areas partly excavated and areas of moorland) Site area: 83.43ha of which 38.66ha is proposed for extraction Minerals Estimated Reserve: 4,050,000 tonnes Annual output of 250,000 tonnes Estimated date of commencement: Within next 5 to 10 years Proposed Life of Site: 25 years.
Proposed Land Use	Extraction of silica sand
NPPF Vulnerability Classification	Water compatible
Overview of flooding	This site is 100% in Flood Zone 1. About 5% of this is site in areas subject to surface water flooding (low (1:1000 (0.1%)) to high (1:30 (3.33%)) risk). No information is available on the Environment Agency's Areas Susceptible to Groundwater Flooding map for the eastern part of the site. The western half of the site lies across two 1km squares where less than 25% of the area has the potential for clearwater groundwater flooding to occur. A flood risk assessment at the site confirmed that there was no risk of surface flooding. However, borehole data indicates that the natural groundwater table is within the workable sandstone and dewatering will be required to work the quarry dry[12].

[12] Hanson Quarry Products Ltd, 2011. Proposed Renewal of Time Limited Planning Permission Reference C6/105/6A/PA at Blubberhouses Silica Sand Quarry, Kex Gill, North Yorkshire: Environmental Statement [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=8261]

Relevant Local SFRA	North West Yorkshire
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. In the North West Yorkshire SFRA functional floodplain is defined as undeveloped areas in Flood Zone 3, maps were not available for review at the time of writing. The North West Yorkshire SFRA is in the process of being revised therefore we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively. A changed site profile will have affected where water gathers.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, MJP22, MJP30, MJP44 and MJP54. This site has the same level of risk from river flooding as MJP30, MJP44 and MJP54 and is at lower risk than MJP22. This site is at slightly higher risk from surface water flooding than MJP30, MJP44 and MJP54. Therefore this site should be considered after MJP30, MJP44 and MJP54 but before MJP22.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A flood risk assessment has already been carried out for this site.



North Yorkshire County Council

Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
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- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

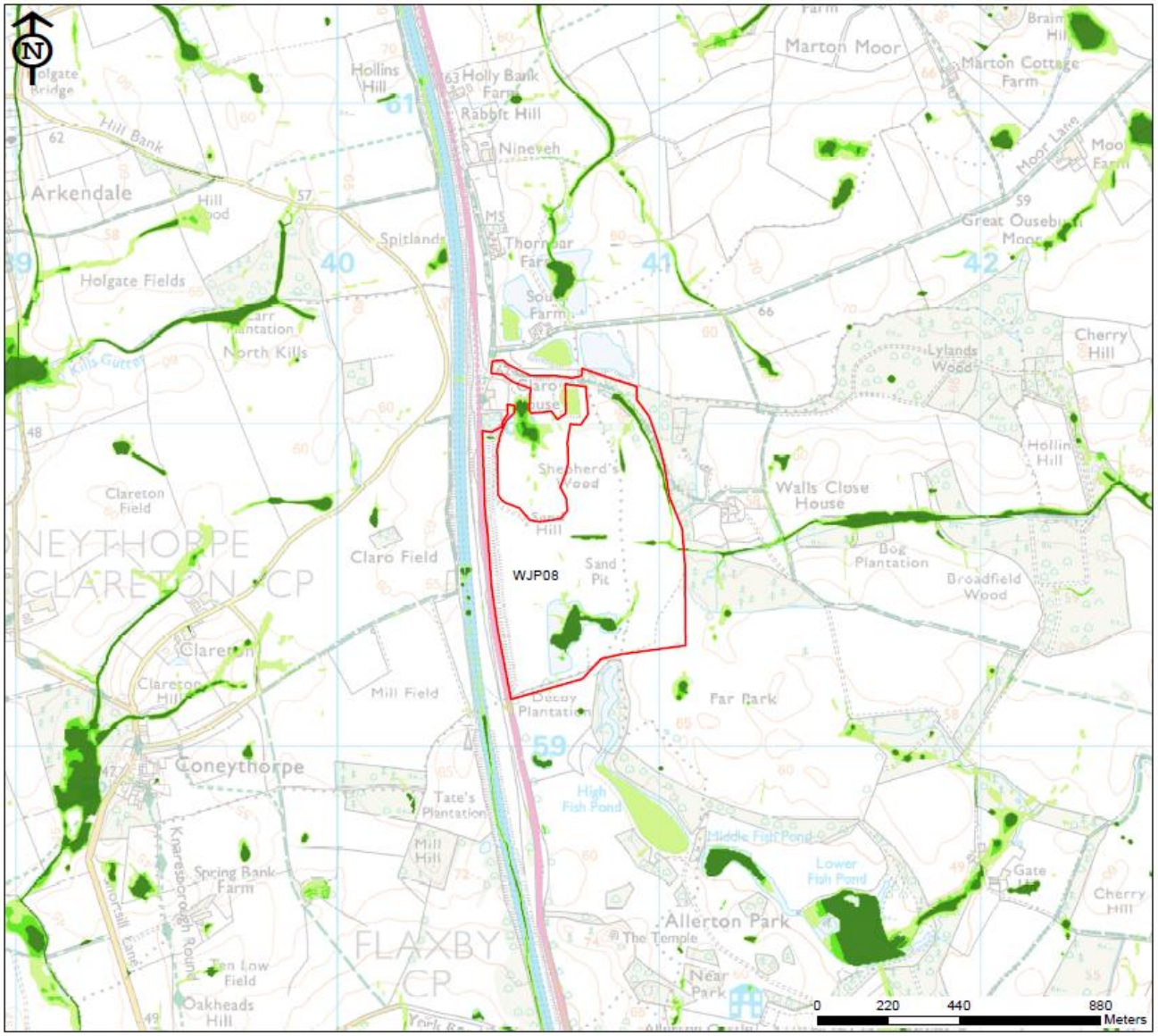
Site Reference: WJP08 Allerton Park, near Knaresborough	
Site Information	Site currently has planning permission until 2018 for landfill. There would be built infrastructure to support the extension to the landfill operations and the recycling operation. The Allerton Waste Recovery Park facility adjacent to the site is currently under construction. Proposed access: Existing at Allerton Park Landfill site onto the A168, approximately 3km north of junction 47 of the A1(M). Current use: Landfill and associated landfill gas utilisation plant Site area: 29ha Waste annual tonnage import: 60,000 (based on current inputs). Current permit allows 365,000 tonnes. Estimated date of commencement: Continuation from 2018 Proposed Life of Site: Until 2033
Proposed Land Use	Retention of landfill and associated landfill gas utilisation plant and use of site for growth of energy/biomass crops beyond 2018. Proposed composting, transfer station and materials recycling facility, recycling (including of minerals for secondary aggregates).
NPPF Vulnerability Classification	Landfill is more vulnerable, other uses are less vulnerable

Overview of flooding	This site is 100% in Flood Zone 1. About 5% - 10% of the site is subject to low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)) surface water flooding. Most of this site is in two 1km squares which the Environment Agency's Areas Susceptible to Groundwater Flooding indicates have a <25% vulnerability to Clearwater flooding. The remainder of the site (along the eastern boundary) is not mapped. A flood risk assessment for construction of lagoons on part of the site did not consider groundwater but considered the site would not be at risk of flooding[13]. Earlier proposals for the extension of sand and gravel extraction at the site found 'hydraulic continuity between the Sherwood Sandstone Aquifer and sand and gravel though concluded that due to the size of the site impacts would be small[14]. However, as this development is unlikely to extend the depths of any features risks are considered to be low, but should still be investigated.
Relevant Local SFRA	North West Yorkshire
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. In the North West Yorkshire SFRA functional floodplain is defined as undeveloped areas in Flood Zone 3, maps were not available for review at the time of writing. The North West Yorkshire SFRA is in the process of being revised therefore we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively. A changed site profile will have affected where water gathers.
Sequential Test result	Pass
Exception Test Needed	No

[13] Hydrologic, 2009. Pro Forma for Undertaking a Flood Risk Assessment [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=5994}

[14] Hanson Aggregates –North. 1999. The extension of sand and gravel extraction and retention of existing and retention of existing quarry facilities at Allerton Park, Knaresborough, North Yorkshire – Environmental Impact Assessment Non-Technical Summary [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=3992}

Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP05, WJP06, WJP11, WJP15, WJP16, WJP18 and WJP19. This site is at similar risk from surface water flooding with WJP19, both of which are located in Flood Zone 1. WJP05, WJP06, WJP11, WJP15, WJP16 and WJP18 are all at higher risk from river flooding than this site. Therefore this site should be considered alongside WJP19 and in preference to and WJP05, WJP06, WJP11, WJP15, WJP16 and WJP18.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment would need to further examine risk of groundwater flooding and how SuDS could be used to sustainably manage surface water runoff.



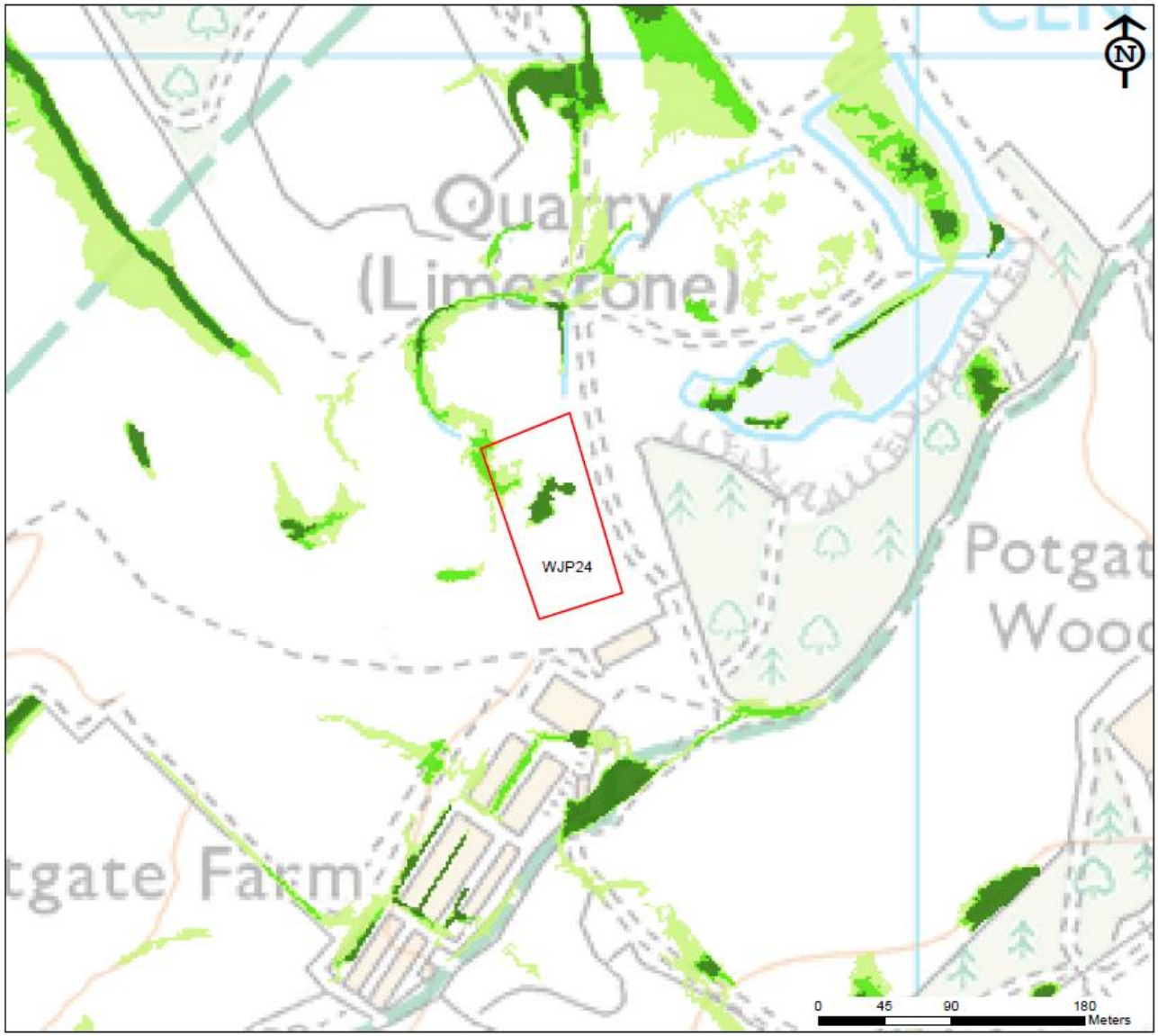
North Yorkshire County Council

Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: WJP24 Potgate (former plant site), North Stainley	
Site Information	The facility would operate in conjunction with Potgate Quarry to extend the life of the Quarry. Note: Site Submission WJP23 for a similar proposal on adjacent land has been withdrawn. Proposed access: Existing Potgate Quarry access via Water Lane (bridleway) onto A6108 approximately 100m south of North Stainley village. Current use: Redundant crushing and screening plant. Site area: 0.75ha Waste annual tonnage import: 30,000 Estimated date of commencement: January 2018 Proposed Life of Site: Tied to Potgate Quarry permission which is 1st June 2022 (if MJP10 is not developed)
Proposed Land Use	Recycling of inert construction and demolition waste for secondary aggregates.
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. About 10% of the site is subject to medium risk (1:100 (1%)) to high risk (1:30 (3.33%)) surface water flooding. Low risk (1:1000 (0.1%)) surface water flooding affects a further 10% of the site. The site is in two 1km squares identified as <25% of the km square being susceptible to Clearwater groundwater flooding.
Relevant Local SFRA	North West Yorkshire
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. In the North West Yorkshire SFRA functional floodplain is defined as undeveloped areas in Flood Zone 3, maps were not available for review at the time of writing. The North West Yorkshire SFRA is in the process of being revised therefore we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No

Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP10, WJP21 and WJP22. WJP10, WJP21 and WJP22 have similar levels of flood risk from surface water. WJP10 is within close proximity to Flood Zone 2 and WJP22 is within Flood Zones 2 and 3 to a minor extent. Therefore this site should be considered alongside WJP21 and WJP10 and is preferable to WJP22.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment is not required as this site is in Flood Zone 1 and is less than 1ha. Surface water runoff from this site should be managed using SuDS where appropriate.



North Yorkshire County Council

Key

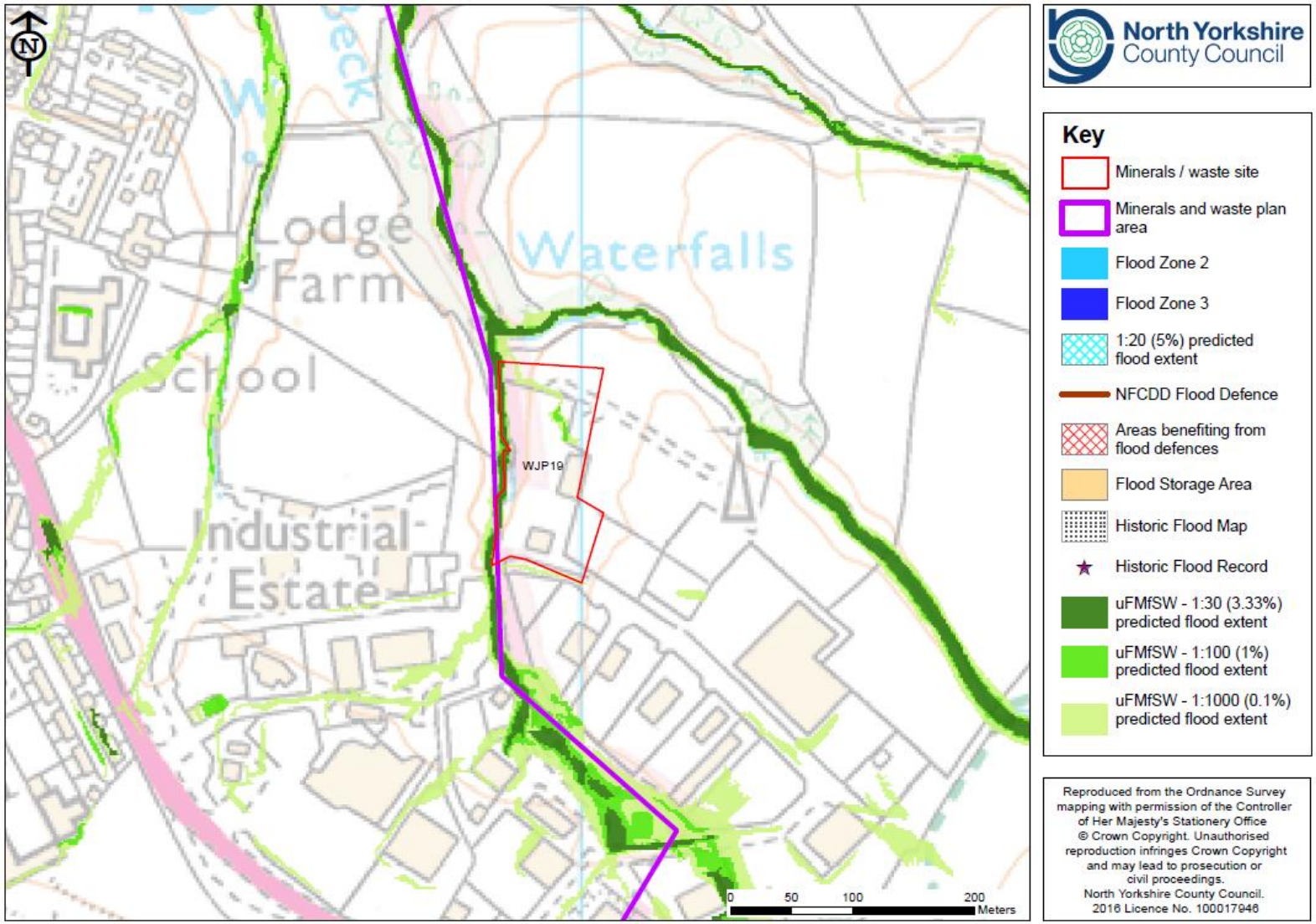
- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

5. North York Moors National Park

Key to Sequential Test Results		
Pass	**Pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities.**	**Site is not suitable or would require an Exception Test demonstrated through a Level 2 SFRA to proceed.**

Site Reference: WJP19 Fairfield Road, Whitby	
Site Information	Proposed access: Existing onto Fairfield Way (unclassified U98) to A171. Current use: Partly existing recycling and transfer of municipal and commercial waste facility and partly grassland. Site area: 1.25ha Waste annual tonnage import: 51,700 Estimated date of commencement: Unknown at present Proposed Life of Site: Unknown at present
Proposed Land Use	Proposed extension to area and changes to existing facility for recycling and transfer of municipal and commercial waste.
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. About 5% of the site is subject to low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)) surface water flooding. Low risk and medium risk (1:100 (1%)) areas are to the north of the site while high risk flood risk areas are along the western site boundary. Site is in 2 1km square identified as susceptible to superficial deposit flooding across <25% of the km square to the west and >50% - <75% of the km square to the east. Proposals are above ground so risk is likely to be less significant.
Relevant Local SFRA	North East Yorkshire
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. The North East Yorkshire SFRA defines functional floodplain as "all areas within Flood Zone 3 which are located outside of currently developed sites and are not defended to a proven standard of protection of at least 5%. This includes all floodplain areas behind agricultural flood banks".

Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively. A changed site profile will have affected where water gathers.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP05, WJP06, WJP08, WJP11, WJP15, WJP16 and WJP18. This site is at similar risk from surface water flooding with WJP08, both of which are located in Flood Zone 1. WJP05, WJP06, WJP11, WJP15, WJP16 and WJP18 are all at higher risk from river flooding than this site. Therefore this site should be considered alongside WJP08 and in preference to and WJP05, WJP06, WJP11, WJP15, WJP16 and WJP18.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment would be required as although this site is in Flood Zone 1 it is greater than 1ha. Surface water runoff from this site should be managed using SuDS where appropriate.


N
Lodge Farm
School
Waterfalls
Industrial Estate
WJP19
0 50 100 200
Meters
North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
uFMfSW - 1:30 (3.33%) predicted flood extent
uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
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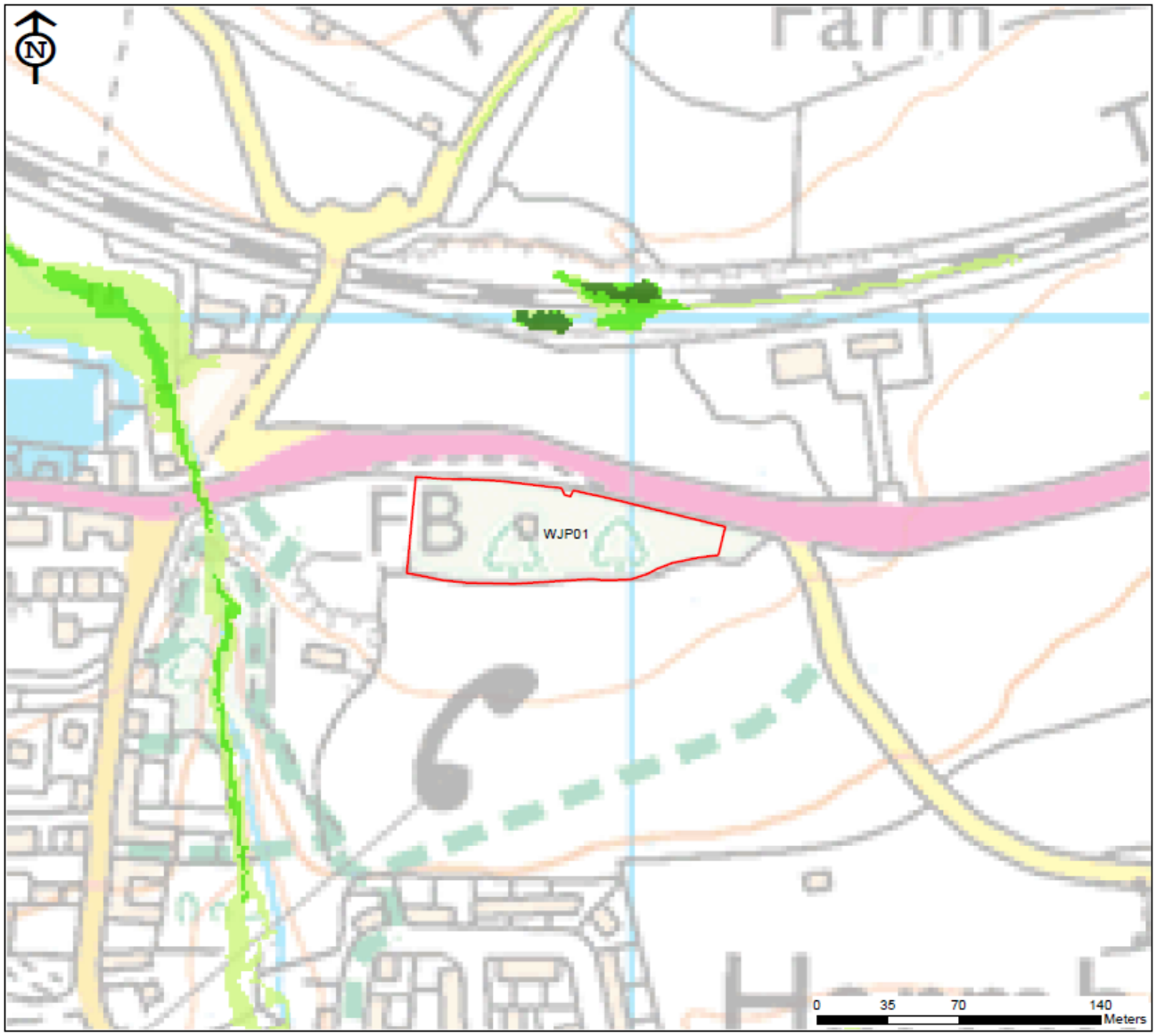
6. Richmondshire Sites

Key to Sequential Test Results		
Pass	**Pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities.**	**Site is not suitable or would require an Exception Test demonstrated through a Level 2 SFRA to proceed.**

Site Reference: WJP01 Hillcrest, Harmby	
Site Information	There is no end-date specified by existing planning conditions for the existing scrap yard facility. WJP01 proposal likely to include a new waste transfer building at east end of site and an office facility near the site entrance. Proposed access: Existing access onto A684 at Harmby, approximately 205m east of the junction with the C42 road to Spennithorne. Current use: Scrap Yard including end of life vehicle dismantling Site area: 0.64ha Waste annual tonnage import: 10,000 – 15,000 Estimated date of commencement: 2017 Proposed Life of Site: Permanent
Proposed Land Use	Waste Transfer Station (including recycling) for commercial and industrial waste including construction and demolition waste.
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. This site is not at risk from surface water flooding. The site lies across two 1km squares with different susceptibilities to groundwater flooding. The western part of the site is in an area in which >25 to <50% of land has conditions that could support Clearwater and superficial deposit groundwater flooding. The eastern part of the site is in an area of >25 to <50% of land is susceptible to superficial deposit flooding. Although there is a relatively low risk of groundwater flooding the site is on a slope which might suggest some increased vulnerability.
Relevant Local SFRA	North West Yorkshire

1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. In the North West Yorkshire SFRA functional floodplain is defined as undeveloped areas in Flood Zone 3, maps were not available for review at the time of writing. The North West Yorkshire SFRA is in the process of being revised therefore we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding may impact the site in the latter plan period, however, the level of risk is likely to be low.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP02, WJP03, WJP13 and WJP25. This site is at slightly lower risk from surface water flooding than WJP13 and WJP25. WJP03 is at a slightly higher level of risk from surface water flooding and is also within Flood Zone 2 to a minor extent. WJP02 is in Flood Zones 2 and 3. Therefore this site should be considered alongside but before WJP13 and WJP25 and in preference WJP03 and WJP02.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment is not required as this site is in Flood Zone 1 and is less than 1ha. Surface water runoff from this site should be managed using SuDS where appropriate.



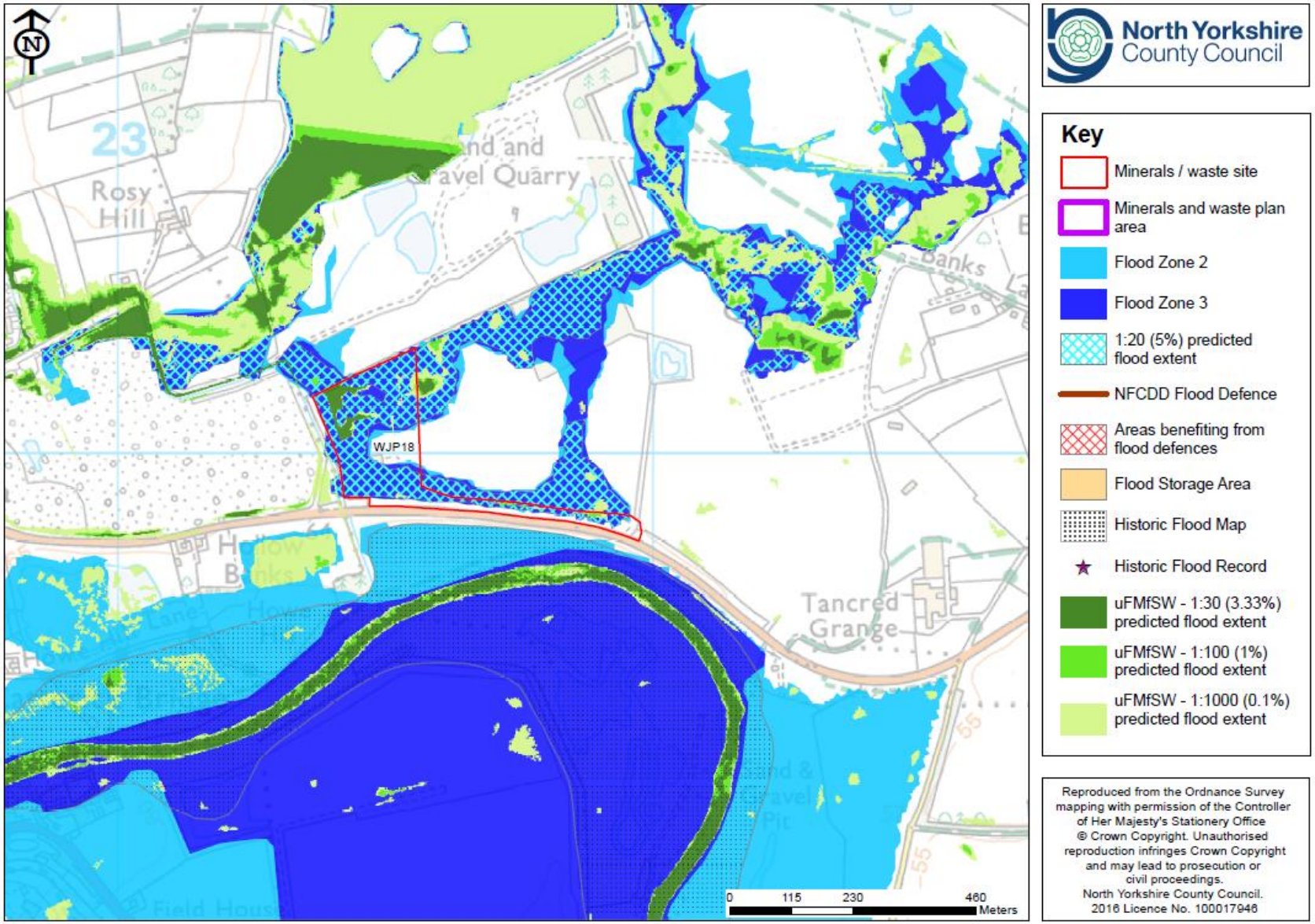
North Yorkshire County Council

Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: WJP18: Tancred, near Scorton	
Site Information	Compost to be used in restoration to agriculture of the landfill site near Tancred Grange. Operation of the transfer station/ recycling facility and composting area is currently permitted until March 2025 with restoration to agriculture. Proposed access: Existing access at Tancred facility onto B6271 approximately 1400m west of Scorton village. Current use: Waste transfer, recycling and open windrow composting. Site area: 1.98ha – Recycling and composting facility Waste annual tonnage import: • 26,999 - Composting • 100,999 - Municipal and commercial recycling-bulking and transfer (All above estimates for 2020) Estimated date of commencement: 2025 Proposed Life of Site: 2031 - 2035
Proposed Land Use	Proposed retention of recycling (including treatment, bulking and transfer) and open windrow composting facilities beyond 2025.
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	About 85% of the site is Flood Zones 2 and 3. Medium risk (1:100 (1%)) to high risk (1:30 (3.33%)) surface water flooding affects about 10% of the site. Site lies across two 1km squares of differing susceptibility to groundwater flooding. The northern part of the site is in a 1km square, >50% to <75% of which is vulnerable to superficial deposits groundwater flooding and southern part of the site, including the site access, is in an area where >75% of the area is susceptible to superficial deposits flooding. Although there is a higher risk of groundwater flooding the above ground nature of the development makes it less vulnerable (though this risk should be further investigated to determine if design measures for mitigation are needed).
Relevant Local SFRA	North West Yorkshire

1:20 (5%) flood event or Local SFRA Functional Floodplain	The 1:20 (5%) event extent mapping for this SFRA shows that about 80% of this site is at flood risk. In the North West Yorkshire SFRA functional floodplain is defined as undeveloped areas in Flood Zone 3, maps were not available for review at the time of writing. The North West Yorkshire SFRA is in the process of being revised therefore we consider the 1:20 (5%) extent in this location should be considered 'initial' functional floodplain.
Climate change	Climate change is likely to increase the 1:20 (5%) predicted flood event extent within the site. Areas of Flood Zone 3 are likely to increase into areas that are shown as Flood Zone 2 and Flood Zone 2 is likely to increase in extent into the site. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	**Site is not suitable**. Less vulnerable land uses are not permitted at sites within functional floodplain. Sites WJP08 and WJP19 should be considered before this site followed by WJP16, WJP06. WJP15, WJP11 and WJP05 are at similar levels of risk but to a lesser extent. Therefore all of the alternative sites are preferable to this site.
Exception Test Needed	No, however, less vulnerable land uses are not permitted at sites within functional floodplain.
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP05, WJP06, WJP08, WJP11, WJP15, WJP16 and WJP19. WJP08 and WJP19 are in Flood Zone 1 and WJP16 is in Flood Zone 2. WJP06 is in Flood Zone 3 but benefits from existing defences. WJP15, WJP11 and WJP05 are at similar levels of risk but to a lesser extent. Therefore all of the alternative sites are preferable to this site.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	The flood risk assessment should establish whether the area marked as being at a 1:20 (5%) flood risk is part of the functional floodplain and if so that area should continue to be avoided with a suitable standoff as waste management uses would not be considered appropriate at those locations. Climate change should also be considered as affecting the extent of the 1:20 (5%) event and of Flood Zones 2 and 3. A flood risk assessment should consider how surface water flooding and drainage will be managed across the site without increasing flooding elsewhere utilising SuDS. Groundwater flooding should be further investigated. All sites in functional floodplain must: remain operational and safe for users in times of flood; result in no net loss of floodplain storage; not impede water flows and not increase flood risk elsewhere.


N
23
Rosy Hill
Tancred Grange
WJP18
0
115
230
460
Meters
North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
uFMfSW - 1:30 (3.33%) predicted flood extent
uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
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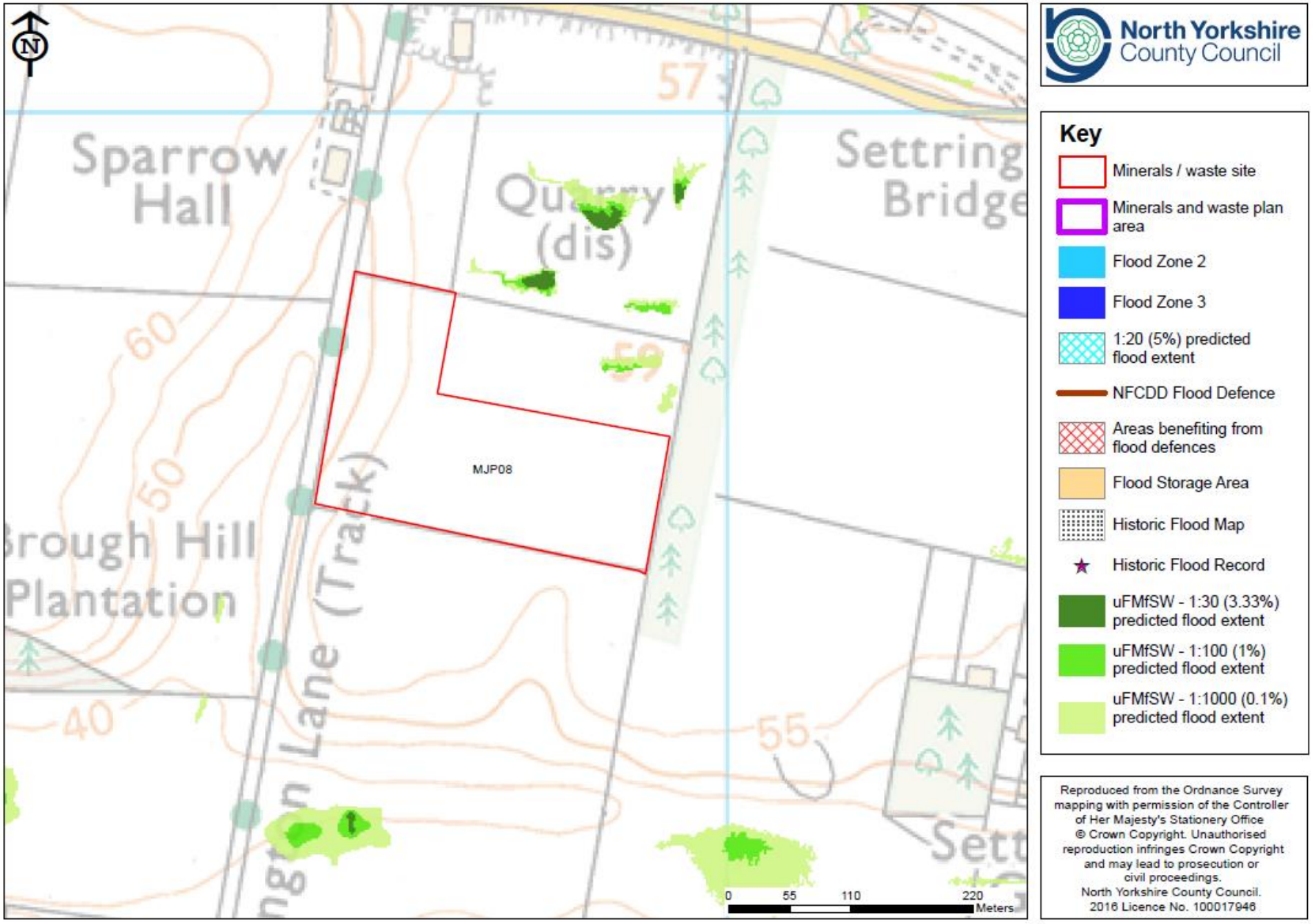
7. Ryedale Sites

Key to Sequential Test Results		
Pass	**Pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities.**	**Site is not suitable or would require an Exception Test demonstrated through a Level 2 SFRA to proceed.**

Site Reference: MJP08 Settrington Quarry	
Site Information	Extraction would be a minimum of 100m from Langton Lane, consistent with the existing quarry operation. The submitter advises that unless for local delivery HGVs are routed via C350 to Settrington (Back Lane C349 & Chapel Road C349) to Forkers Lane/Bull Piece Lane (C349) to Scagglethorpe thence to the A64; or along Grimston Lane to B1248 southwards; or along the C350 to B1248 via Norton to A64 (Brambling Fields junction). Proposed access: There would be no direct access from MJP08 site to the public highway. The site would be worked direct from within the existing Settrington Quarry and stone would leave using the existing quarry access onto the C350 road (between Settrington and B1248 from Norton) approximately 75m east of Langton Lane (U8022 unclassified road). Current use: Agriculture Site area: 5.6ha Minerals Estimated Reserve: 1,700,000 tonnes Annual output of 80,000 – 120,000 tonnes Estimated date of commencement: 2018 Proposed Life of Site: 20 – 25 years
Proposed Land Use	Extraction of Jurassic limestone as proposed extension to existing quarry and importation of soils for use in restoration.
NPPF Vulnerability Classification	Less vulnerable

Overview of flooding	This site is 100% in Flood Zone 1. This site is not at risk from surface water flooding. According to the Environment Agency's 'Areas Susceptible to Groundwater Flooding' map the site is in a 1km square in which <25% of the area is susceptible to Clearwater groundwater flooding. As the site is at the top of a hill groundwater flood risk is considered low, though much will depend on the depth of the quarry. Excavation in the existing site to the immediate north (which is at a similar elevation) is to 25mAOD which was above the water table[15].
Relevant Local SFRA	North East Yorkshire
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. The North East Yorkshire SFRA defines functional floodplain as "all areas within Flood Zone 3 which are located outside of currently developed sites and are not defended to a proven standard of protection of at least 5%. This includes all floodplain areas behind agricultural flood banks".
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding may impact the site in the latter plan period, however, the level of risk is likely to be low.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP12. This site is at the same level of risk for both river and surface water flooding and at similar risk from groundwater flooding as MJP12. Therefore this site should be considered alongside MJP12.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment should consider any potential risk from groundwater flooding and seek to manage any runoff utilising SuDS where appropriate, ensuring that flood risk is not increased at any receiving waterbody.

[15] North Yorkshire County Council Environmental Services Committee, Development Control Sub Committee. 1 February 2000. Proposed Extension Settrington Quarry for Fenstone Minerals Ltd (Ryedale District – Rillington Electoral Division) [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=3998]


Sparrow Hall
Quarry (dis)
Settring Bridge
MJP08
Brough Hill Plantation
Lane (Track)
57
60
59
50
40
55
0
55
110
220
Meters
North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
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uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
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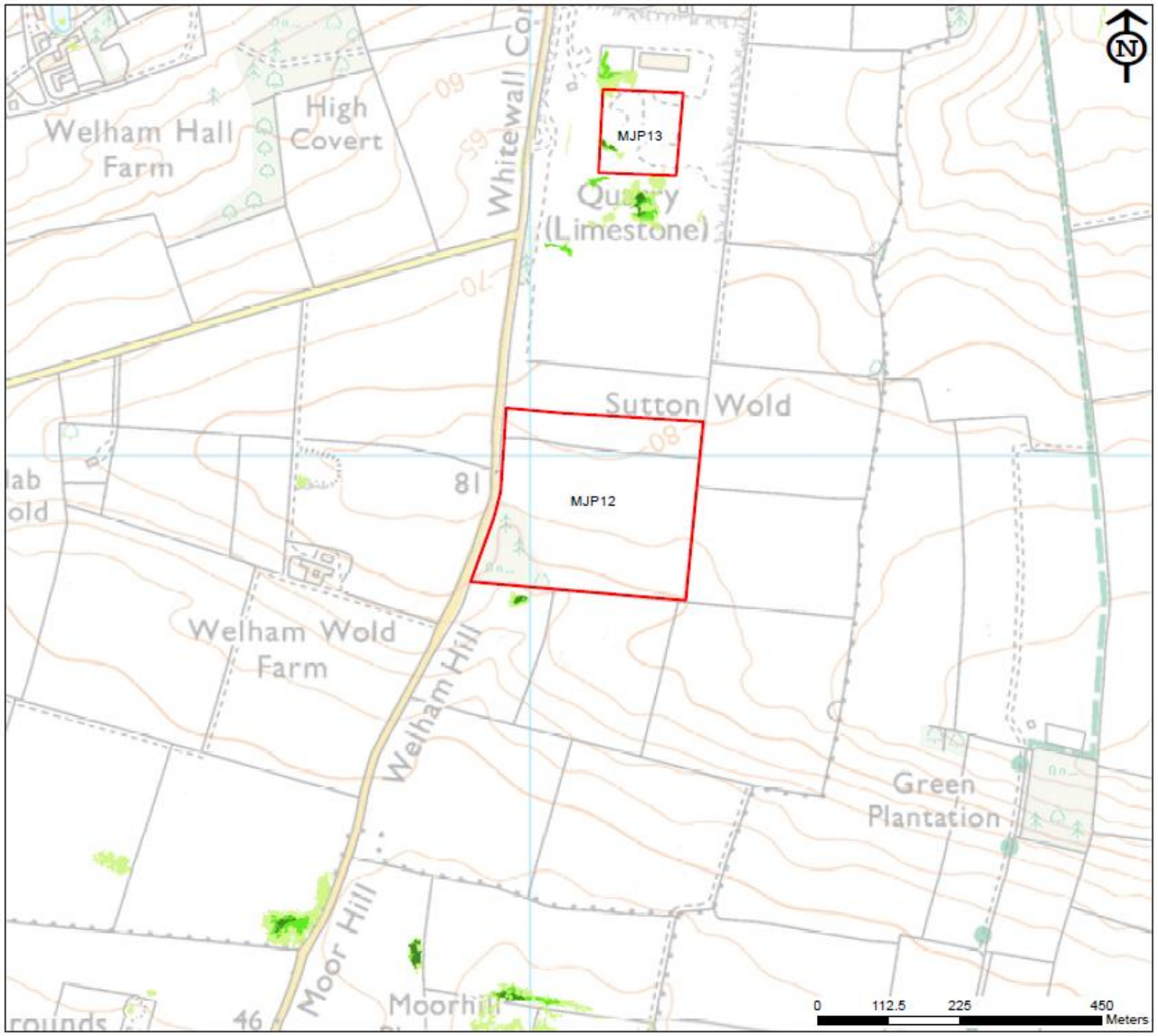
Site Reference: MJP12 Whitewall Quarry, near Norton	
Site Information	Extraction of Jurassic limestone as proposed extension to existing quarry. Restoration likely to be compatible with approved scheme for the existing quarry, which is undulating grassland with tree and shrub planting. The southern half of MJP12 would not be extracted, but would be used for screening purposes only. Proposed access: The existing quarry access approximately 330m south of the edge of Norton onto Whitewall Corner Hill road (C177), with no access to MJP12 site direct from public highway. Current use: Agriculture and woodland Site area: 9ha Minerals Estimated Reserve: 2,000,000 tonnes Annual output of 250,000 tonnes Estimated date of commencement: Prior to 2023 Proposed Life of Site: 2031
Proposed Land Use	Extraction of Jurassic limestone
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. This site is not at risk from surface water flooding. In terms of groundwater flooding according to the Environment Agency's Areas Susceptible to Groundwater Flooding map the site lies between four kilometre squares which are subject to different types of groundwater flooding. The north-west of the site lies in a 1km square where <25% of the area is susceptible to clearwater and superficial deposits groundwater flooding. The north-east of the site lies in a 1km square where <25% of the area is susceptible to clearwater groundwater flooding while no data is available for the south western and south eastern 1km squares. The adjacent quarry (for which this site is an extension) provides a further indication of local groundwater levels, and a 2007 supporting statement for an extension to that quarry notes that the water table was recorded at 25 metres AOD[16]. This site is significantly higher than this (currently 75 to 80m AOD) so it is unlikely that even a deep quarry would be at risk of groundwater flooding.
Relevant Local SFRA	North East Yorkshire

[16] W. Clifford Watts Limited, 2007. Proposal for Extension to Whitewall Quarry [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=5092]

1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. The North East Yorkshire SFRA defines functional floodplain as “all areas within Flood Zone 3 which are located outside of currently developed sites and are not defended to a proven standard of protection of at least 5%. This includes all floodplain areas behind agricultural flood banks”.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding may impact the site in the latter plan period, however, the level of risk is likely to be low.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP08. This site is at the same level of risk for both river and surface water flooding and at similar risk from groundwater flooding as MJP08. Therefore this site should be considered alongside MJP08.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment should consider any potential risk from groundwater flooding and seek to manage any discharge from the site utilising SuDS where appropriate (unless it is wet worked), ensuring that flood risk is not increased at any receiving waterbody.



North Yorkshire County Council

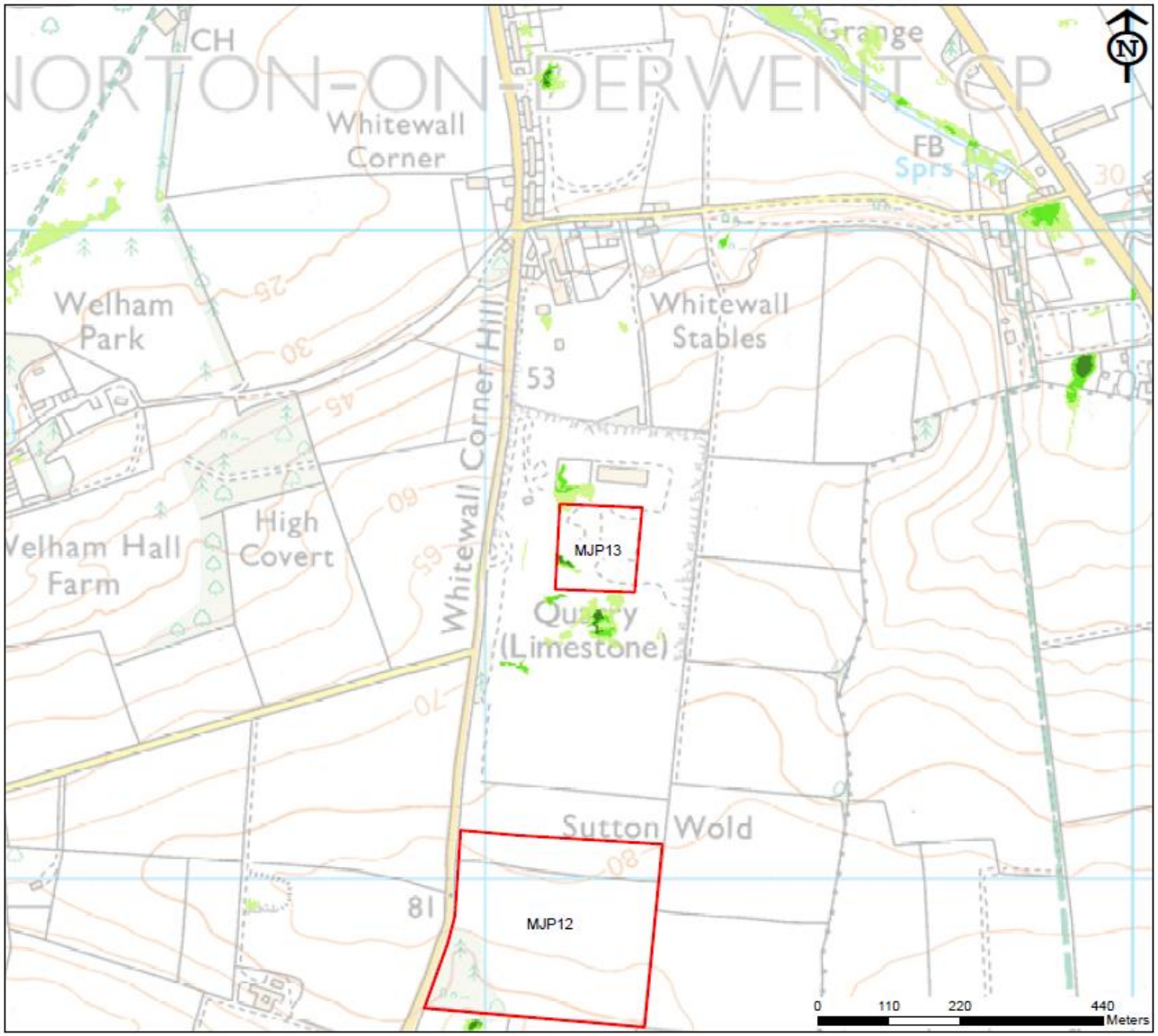
Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP13 Whitewall Quarry, near Norton (recycling)	
Site Information	Expansion to area used for recycling of construction, demolition and soil waste for secondary aggregates within existing quarry void. Possible restoration is to the approved scheme for the existing quarry, which is undulating grassland with tree and shrub planting. Proposed access: Existing quarry access, approximately 330m south of edge of Norton onto Whitewall Corner Hill road (C177). Current use: Part quarry, part existing recycling area Site area: 2.25ha Waste annual tonnage import: 20,000 tonnes Recycled materials annual output: 20,000 tonnes Estimated date of commencement: Prior to 2023 Proposed Life of Site: 2023 (which is the permitted lifespan of the existing quarry).
Proposed Land Use	Expansion to area used for recycling of construction, demolition and soil waste for secondary aggregates within existing quarry void.
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. About 5% of this is site in areas subject to surface water flooding (low (1:1000 (0.1%)) to high (1:30 (3.33%)) risk). In terms of groundwater flooding according to the Environment Agency's Areas Susceptible to Groundwater Flooding map the site is in a 1km square where <25% of the area is susceptible to 'clearwater' groundwater flooding. A 2007 supporting statement for an extension to the quarry in which this site is located notes that the water table was recorded at 25 metres AOD while the extension site was significantly higher than the water table (at 43m AOD)[17]. It is assumed the quarry floor at this location is at a similar elevation. Therefore it is unlikely that groundwater flooding would be a significant issue.
Relevant Local SFRA	North East Yorkshire

[17] W. Clifford Watts Limited, 2007. Proposal for Extension to Whitewall Quarry [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=5092]

1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. The North East Yorkshire SFRA defines functional floodplain as “all areas within Flood Zone 3 which are located outside of currently developed sites and are not defended to a proven standard of protection of at least 5%. This includes all floodplain areas behind agricultural flood banks”.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding may impact the site in the latter plan period, however, the level of risk is likely to be low.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP26 and MJP27. This site is at slightly lower risk than MJP26 and MJP27 from surface water flooding. All three of the sites are in Flood Zone 1. Therefore this site should be considered before both MJP26 and MJP27.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required. This should address the issues of draining clean surface water without causing additional flood risk (SuDS should be investigated).



North Yorkshire County Council

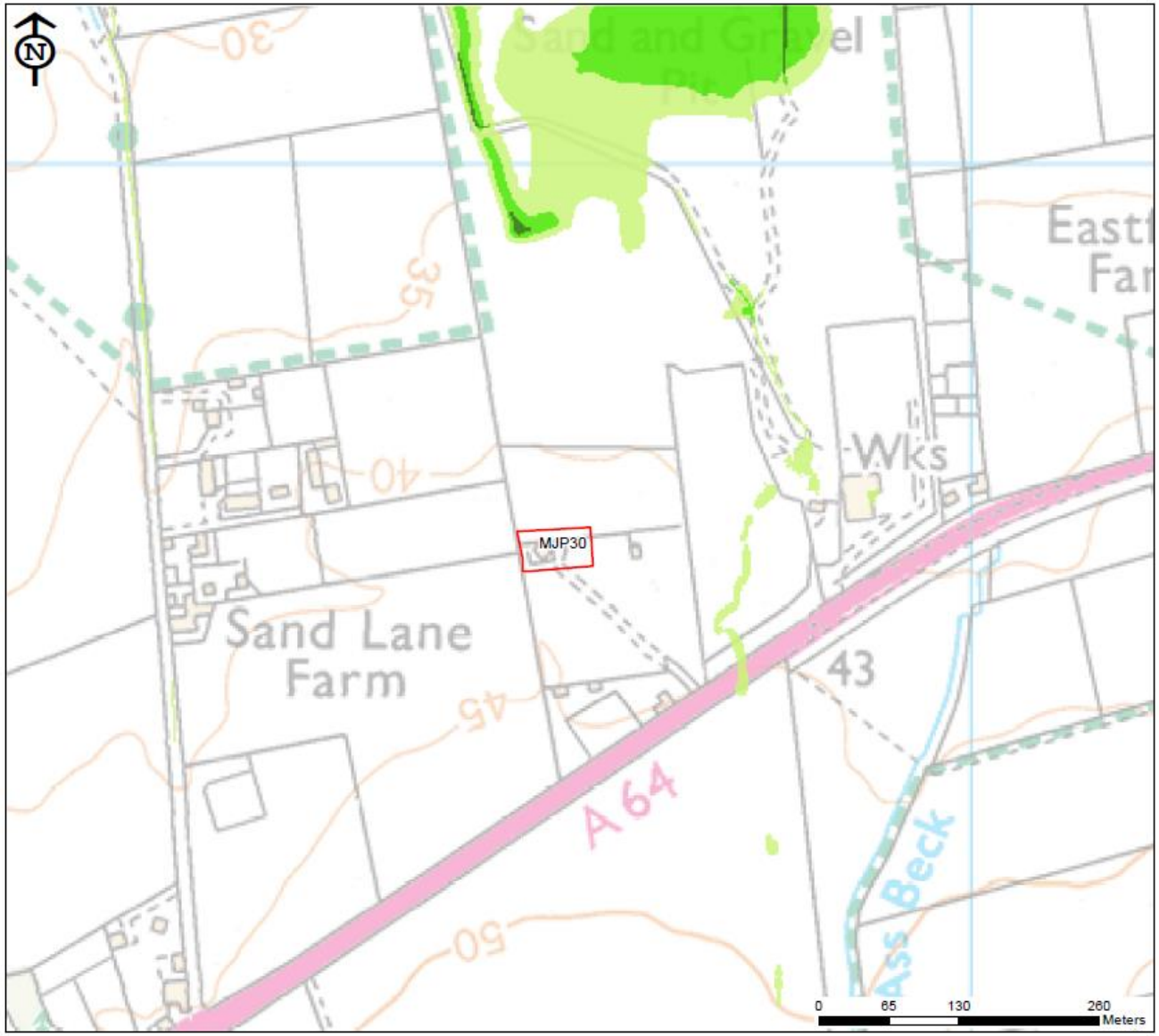
Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP30 West Heslerton Quarry	
Site Information	Planning permission to replace the bungalow may be sought in the future. Proposed access: There would be no direct access to the MJP30 site; rather the mineral would be taken direct into the existing West Heslerton Quarry without transport on the public highway. Material would then leave via the existing Quarry access onto A64 approximately 490m east of West Heslerton village. Current use: Bungalow and associated land Site area: 0.29ha Minerals Estimated Reserve: 30,000 – 50,000 tonnes Annual output of 35,000 tonnes Estimated date of commencement: 2019 Proposed Life of Site: One year
Proposed Land Use	Extraction of sand as proposed extension to existing quarry
NPPF Vulnerability Classification	Water compatible
Overview of flooding	This site is 100% in Flood Zone 1. This site is not at risk from surface water flooding. In terms of groundwater flooding according to the Environment Agency's Areas Susceptible to Groundwater Flooding map the site is in a 1km square where >75% of the area has conditions that could support superficial deposits groundwater flooding. A previous application at the existing quarry adjacent to this site stated that *"although little detailed information is available, rapid recharge by rainfall….combined with the highly permeable nature of unconsolidated superficial deposits, can be expected to give rise to considerable fluctuations in groundwater levels, with localised flooding and seasonal and or intermittent flow in nearby streams. Trial pitting, undertaken in August 1997, showed the depth to the water table at that time to vary considerably across the site, ranging from approximately 1.5 metres below the surface in the worked northern section of the quarry to an estimated depth of up to ten metres in the unworked central and southern parts of the site*"[18]. Groundwater, however, is considered to be an inherent issue with many sand quarries.
Relevant Local SFRA	North East Yorkshire

[18] Hallett-Hughes Associates, 1999, Statement in support of an application for planning consent to extend sand workings at West Heslerton Quarry near Malton North Yorkshire [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=4092]

1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. The North East Yorkshire SFRA defines functional floodplain as “all areas within Flood Zone 3 which are located outside of currently developed sites and are not defended to a proven standard of protection of at least 5%. This includes all floodplain areas behind agricultural flood banks”.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding may impact the site in the latter plan period, however, the level of risk is likely to be low.
Sequential Test result	Pass
Exception Test Needed	No. This site is water compatible.
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP15, MJP22, MJP44 and MJP54. This site is at slightly lower risk from surface water flooding than MJP15, MJP44 and MJP54, all of which are also in Flood Zone 1. MJP22 is at significantly higher flood risk from rivers. Therefore this site should be considered before but alongside MJP15, MJP44 and MJP54 and in preference to MJP22.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment is not required as this site is in Flood Zone 1 and is less than 1ha. However, proposals should consider any potential risk from groundwater flooding and seek to manage any discharge from the site utilising SuDS where appropriate (unless it is wet worked), ensuring that flood risk is not increased at any receiving waterbody. Due to the highly fluctuating groundwater levels in this area the proposals should consider this in the safe site operation plan.



North Yorkshire County Council

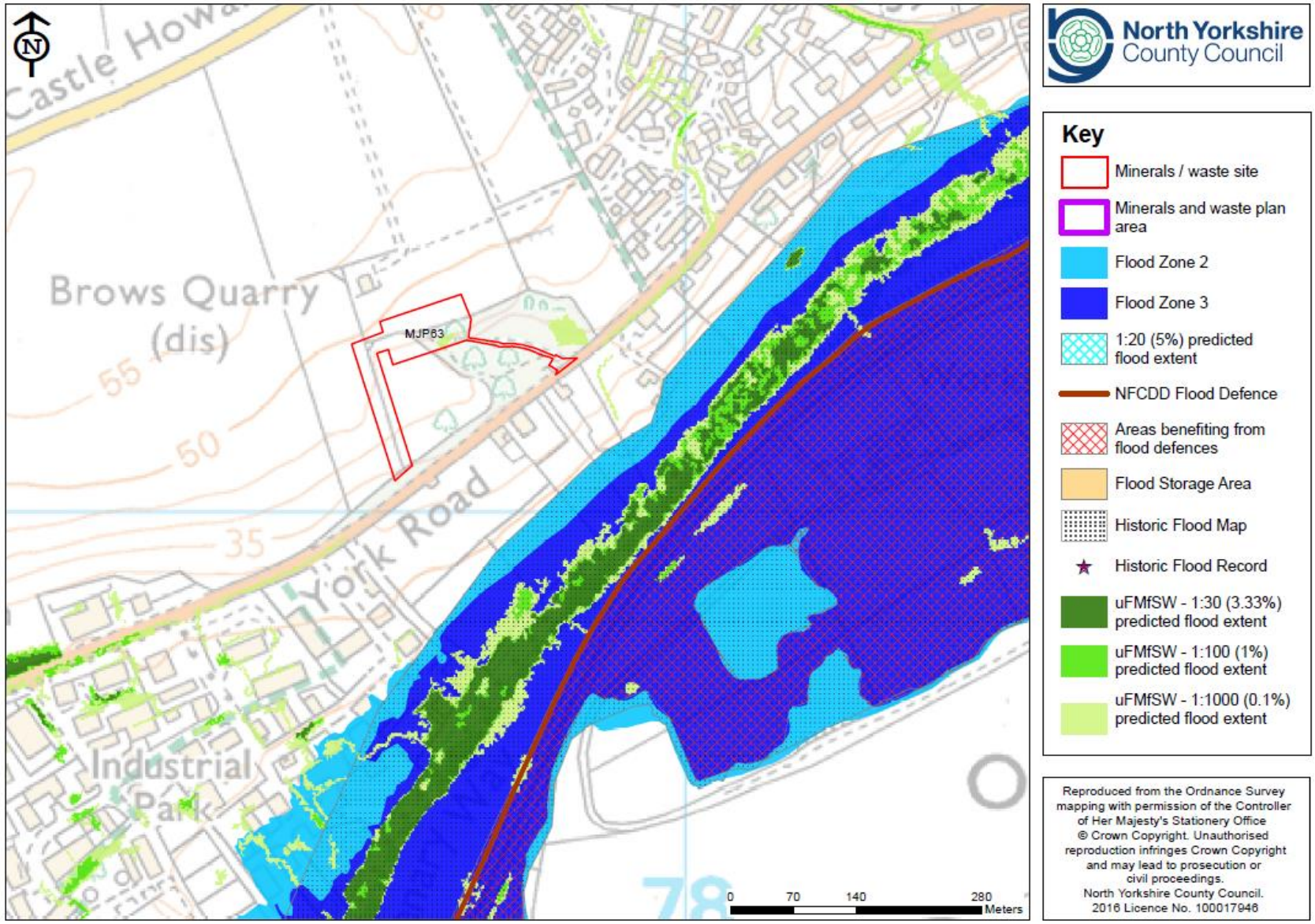
Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP63 Brows Quarry, Malton	
Site Information	Planning permission for the extraction of building stone at Brows Quarry (NY/2007/0293/FUL) was granted in 2009, but the permission was not implemented within the specified timescale so has lapsed. No drilling or blasting proposed. About 50% of the stone quarried will be unsuitable for use as building stone due to quality so the operation would involve the extraction of about 1500 tonnes per year to achieve the output, but the surplus material would remain on site in order to form the sloping sides of the restored site. Proposed access: Main site access would be onto B1248 approximately 220m south-west of Rockingham Close, Malton. However, there would be a temporary access approximately 280 metres to the west of the proposed main site entrance to enable the delivery of the excavator and the formation of the main site entrance from within the site. Current use: Part disused quarry containing woodland and part agriculture Site area: 0.48ha Minerals Estimated Reserve: 37,500 tonnes Annual output of approximately 750 tonnes Estimated date of commencement: 2017 Proposed Life of Site: 25 years
Proposed Land Use	Extraction of building stone from part of a former quarry and a proposed extension to the quarry.
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. <5% of the site is at low risk (1:1000 (0.1%)) of surface water flooding. In terms of groundwater flooding, according to the Environment Agency's Areas Susceptible to Groundwater Flooding map the site is in a 1km square where <25% of the area has conditions that could support 'superficial deposits' groundwater flooding. A previous planning application on part of the site did not raise any groundwater flooding concerns[19].
Relevant Local SFRA	North East Yorkshire

[19] North Yorkshire County Council Planning and Regulatory Functions Committee. 4 August 2009. C3/07/01071/CPO – Planning application for the extraction of building stone on land at Brows Quarry, York Road, Malton on behalf of Fitzwilliam (Malton) Estates (Ryedale District) (Malton Electoral Division) [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=5138]

1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. The North East Yorkshire SFRA defines functional floodplain as “all areas within Flood Zone 3 which are located outside of currently developed sites and are not defended to a proven standard of protection of at least 5%. This includes all floodplain areas behind agricultural flood banks”.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	No. No other building stone site has been identified as suitable for SFRA assessment and this site is located in Flood Zone 1.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment is not required as this site is in Flood Zone 1 and is less than 1ha. Surface water runoff from this site should be managed using SuDS where appropriate.


Castle How
Brows Quarry
(dis)
MJP83
York Road
Industrial
Park
55
50
35
78
0
70
140
280
Meters
North Yorkshire
County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
uFMfSW - 1:30 (3.33%) predicted flood extent
uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
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8. York Sites

Key to Sequential Test Results		
Pass	**Pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities.**	**Site is not suitable or would require an Exception Test demonstrated through a Level 2 SFRA to proceed.**

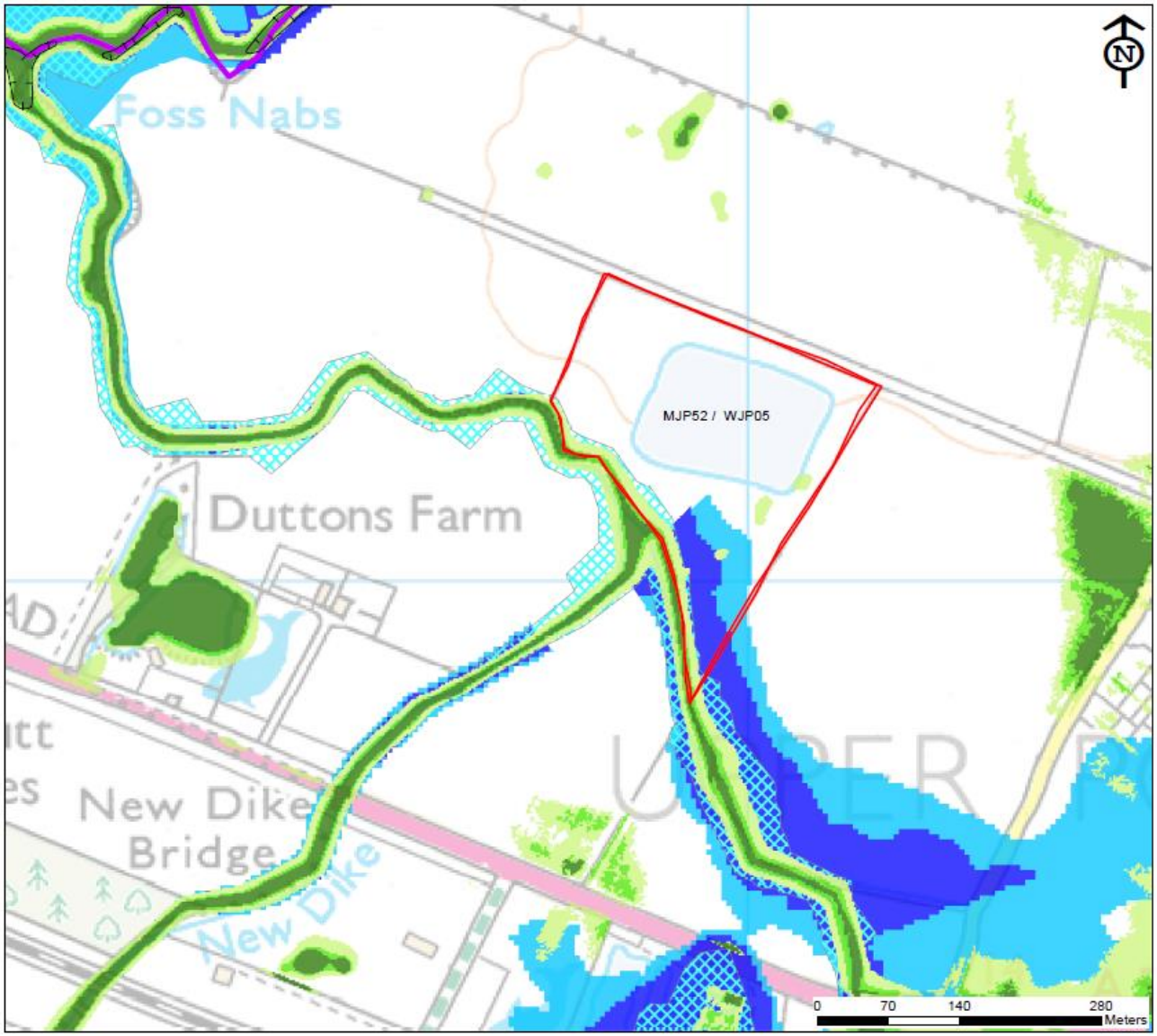
Site Reference: MJP52 Field SE5356 9513, to north of Duttons Farm, Upper Poppleton	
Site Information	Site is also the WJP05 which would follow on from the clay extraction as the means to achieve restoration on the site. There is no existing approved restoration plan for the site. Proposed access: Existing access via Kettlewell Lane onto Newlands Lane then onto the A59. Current use: Agriculture and a lake in the former clay working Site area: 6.28ha Minerals Estimated Reserve: 200,000 tonnes Annual output of 40,000 tonnes estimated Estimated date of commencement: 2017 Proposed Life of Site: Five to 10 years
Proposed Land Use	Extraction of clay as a proposed extension to former quarry.
NPPF Vulnerability Classification	Less vulnerable

Overview of flooding	About 15% of the site to the south lies in Flood Zones 2 and 3. About 85% of the site lies in Flood Zone 1. Surface water flooding also follows the watercourse along the boundary with most of the high risk area being outside of the site boundary, leaving mainly medium risk (1:100 (1%)) and low risk (1:1000 (0.1%)) surface water flood risk in a narrow band along the boundary. Additional patches of low risk surface water flooding are to the eastern side of the site. No more than 10% of the site is affected by surface water flooding (low to high risk (1:30 (3.33%)), though a lake lies in the centre of the site. In terms of groundwater flooding, the site lies in a 1km square in which <25% of land may be susceptible to Clearwater flooding. As a clay site the site is likely to extract below the perched water table, though groundwater flow on clay sites in Clearwater areas is likely to be negligible[20] though basal heave may be an issue depending on the depth of extraction. Therefore groundwater flooding is unlikely to cause any significant problems though should still be investigated. Perched water tables are an inherent property of clay extraction.
Relevant Local SFRA	York
1:20 (5%) flood event or Local SFRA Functional Floodplain	The 1:20 (5%) predicted flood event extent following along the watercourse (Foss Dike) runs along the south western boundary. The 1:20 (5%) event extent mapping for this SFRA shows that about 5% of this site is at flood risk. York's SFRA defines functional floodplain as: • Land which would flood with annual probability of 1:20 (5%) or greater in any year. • Land which provides a function of flood conveyance (i.e. free flow) or flood storage, either through natural processes or by design (e.g. washlands and flood storage areas). • Land where the flow of flood water is not prevented by flood defences or by permanent buildings or other solid barriers during times of flood[21]. While this area is not shown on the York SFRA strategic map as functional floodplain no defences on the National Flood and Coastal Defence database are noted, and no obstructions are observed in this area so the area shown as being at a 1:20 (5%) flood risk should be considered as initial functional floodplain and further investigated.

[20] gov.uk/government/uploads/system/uploads/attachment_data/file/290396/sp2-173-tr-2-e-e.pdf (URL is no longer available)

[21] City of York, 2013. Strategic Flood Risk Assessment Revision 2 [URL: https://www.york.gov.uk/FloodRiskStrategy]

Climate change	Climate change is likely to increase the 1:20 (5%) predicted flood event extent within the site. Areas of Flood Zone 3 are likely to increase into areas that are shown as Flood Zone 2 and Flood Zone 2 is likely to increase in extent into the site. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	**Site is not suitable**. Less vulnerable land uses are not permitted at sites within functional floodplain. Sites MJP45 and MJP55 should be considered before this site.
Actions to pass the Sequential Test	In order for this site **pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities** the redline boundary for any proposal needs to be outside of the 1:20 (5%) flood event or Local SFRA Functional Floodplain. If a proposal redline boundary for this site remains within Flood Zone 3 MJP45 and MJP55 would remain preferable to this site as they are located in Flood Zone 1 and Flood Zone 3 (but benefiting from existing defences) respectively.
Exception Test Needed	Yes, however, less vulnerable land uses are not permitted at sites within functional floodplain.
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP45 and MJP55. Both MJP45 and MJP55 are at lower risk than this site. Therefore MJP45 and MJP55 should be considered before this site.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A flood risk assessment will be required for this site. This should consider how surface water flooding and drainage will be managed across the site utilising SuDS. Groundwater flooding should be further investigated. The flood risk assessment should also establish whether the south western boundary of the site is part of the functional floodplain and if so that area should be avoided with a suitable standoff as landfill and recycling would not be considered appropriate at those locations. Drainage of the site (including any drainage from the lake) must not increase flood risk on the receiving waterbody. Climate change impacts towards the end of the period of operation should be considered further.



North Yorkshire County Council

Key

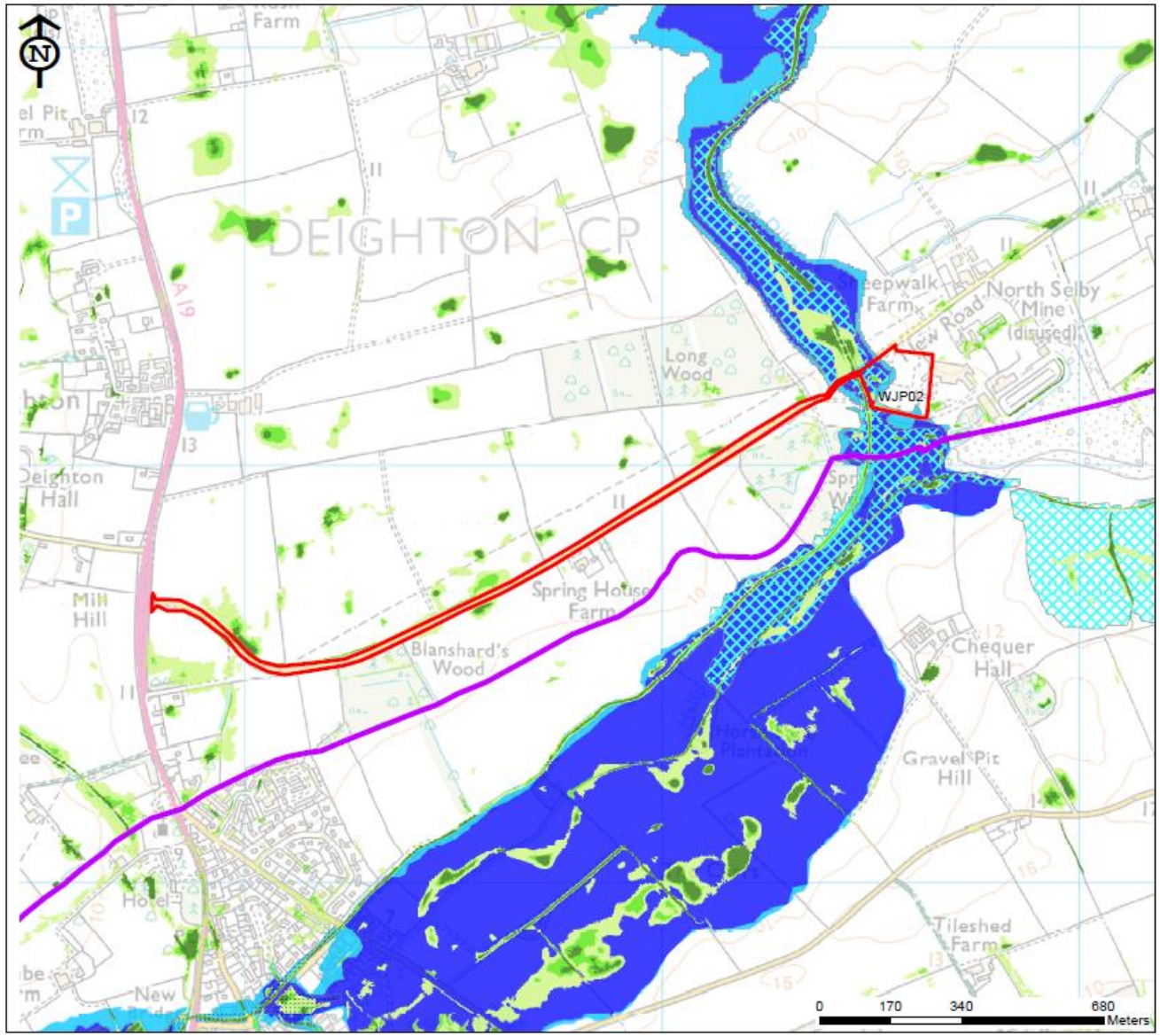
- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- City of York Council functional floodplain
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: WJP02 Former North Selby Mine Site, Deighton	
Site Information	Planning application (12/03385/FULM) for the development of an anaerobic digestion and horticultural glasshouse project including CHP units was granted planning permission in April 2014 for receipt of source segregated organic LACW, C & I food waste and agricultural waste. No extra capacity is proposed as part of this submission in addition to that already permitted. Proposed access: Existing access from former North Selby mine site onto A19 approximately midway between the villages of Deighton and Escrick. Current use: Former coal mine Site area: 24ha Waste annual tonnage import: 60,000 Estimated date of commencement: By April 2017 (based on requirement for implementation specified in decision notice for planning application 12/03385/FULM). Proposed Life of Site: Permanent
Proposed Land Use	Energy from Waste facility
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	The site is located in both Flood Zones 2 and 3 associated with Halfpenny Dike / Bridge Dike to the western side of the main site. About 35% of the main site area being at risk of flooding. The access road is mainly in Flood Zone 1 apart from the section adjacent to the main site area which is also in Flood Zones 2 and 3. The site is <5% at risk of low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)) surface water flooding. The high risk areas are associated with the access road rather than the main site area. In terms of groundwater flooding, the site lies in four 1km square. Three 1km squares where >50% - <75% of land may be susceptible to Clearwater flooding and one 1km square where >25% - <50% of land may be susceptible to Clearwater flooding. The main site area is within the higher risk class with most of the access road being in the lower risk class.
Relevant Local SFRA	York

1:20 (5%) flood event or Local SFRA Functional Floodplain	About 20% of the main site area and the eastern end of the access road is located in the 1:20 (5%) event flood extent. York's SFRA defines functional floodplain as: • Land which would flood with annual probability of 1:20 (5%) or greater in any year. • Land which provides a function of flood conveyance (i.e. free flow) or flood storage, either through natural processes or by design (e.g. washlands and flood storage areas). • Land where the flow of flood water is not prevented by flood defences or by permanent buildings or other solid barriers during times of flood[22]. While this area is not shown on the York SFRA strategic map as functional floodplain no defences on the National Flood and Coastal Defence database are noted, and no obstructions are observed in this area so the area shown as being at a 1:20 (5%) flood risk should be considered as initial functional floodplain and further investigated.
Climate change	Areas of Flood Zone 3 are likely to increase into areas that are shown as Flood Zone 2 and Flood Zone 2 is likely to increase in extent into the site. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass. WJP01, WJP03, WJP13 and WJP25 should be considered before this site.
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP01, WJP03, WJP13 and WJP25. WJP01, WJP13 and WJP25 are all in Flood Zone 1 and at lower risk from surface water flooding than this site. WJP03 is in Flood Zone 2 to a minor extent and is at a similar level of risk from surface water flooding. All the alternative sites are at lower risk of flooding than this site, therefore this site should be considered after the alternatives.

[22] City of York, 2013.

Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required which should confirm the impact of climate change on river flooding at this site. The flood risk assessment should also address the issues of draining surface water using SuDS and without causing additional flood risk. Groundwater flooding should be further investigated. All sites in functional floodplain must: remain operational and safe for users in times of flood; result in no net loss of floodplain storage; not impede water flows and not increase flood risk elsewhere.



North Yorkshire County Council

Key

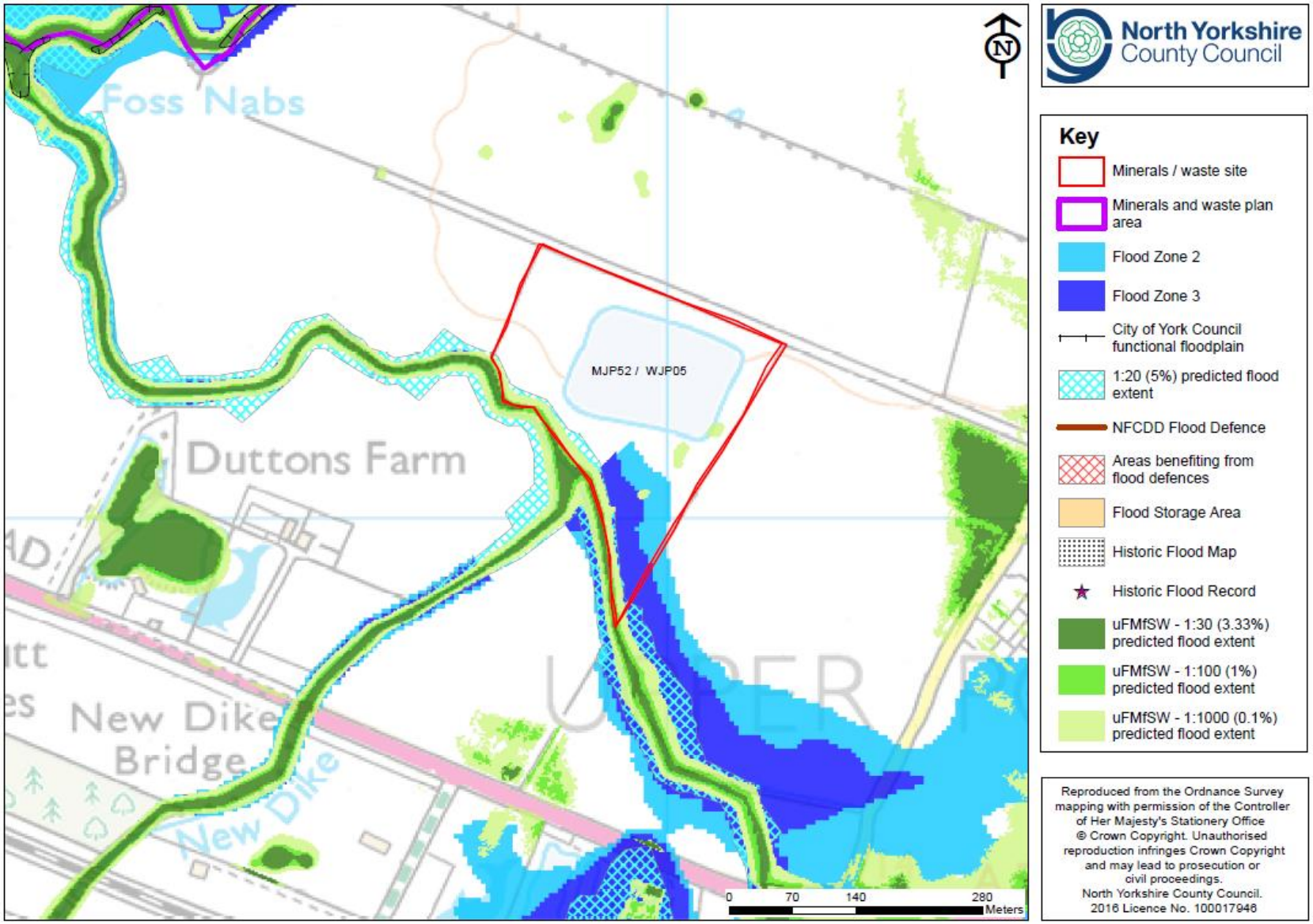
- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: WJP05 Field to north of Duttons Farm, Upper Poppleton	
Site Information	Site is also the MJP52 site area and the proposal would follow on from the extraction as the means to achieve the restoration on the site. Proposed access: Existing access via Kettlewell Lane onto Newlands Lane then onto A59. Current use: Agriculture and a lake in the former clay working. Site area: 6.28ha Waste annual tonnage import: 40,000 Estimated date of commencement: Prior to 2022 Proposed Life of Site: 2022 - 2027
Proposed Land Use	Landfill and recycling of inert waste from construction industry.
NPPF Vulnerability Classification	Landfill is more vulnerable, other uses are less vulnerable
Overview of flooding	About 15% of the site to the south lies in Flood Zones 2 and 3. About 85% of the site lies in Flood Zone 1. Surface water flooding also follows the watercourse along the boundary with most of the high risk area being outside of the site boundary, leaving mainly medium risk (1:100 (1%)) and low risk (1:1000 (0.1%)) surface water flood risk in a narrow band along the boundary. Additional patches of low risk surface water flooding are to the eastern side of the site. No more than 10% of the site is affected by surface water flooding (low to high risk (1:30 (3.33%)), though a lake lies in the centre of the site. In terms of groundwater flooding, the site lies in a 1km square in which <25% of land may be susceptible to Clearwater flooding. As a landfill site on a former clay extraction site groundwater flow is likely to be negligible, though basal heave may be an issue depending on the depth of prior extraction. Therefore groundwater flooding is considered unlikely to cause any significant problems, though should still be investigated.
Relevant Local SFRA	York

1:20 (5%) flood event or Local SFRA Functional Floodplain	The 1:20 (5%) predicted flood event extent following along the watercourse (Foss Dike) runs along the south western boundary. The 1:20 (5%) event extent mapping for this SFRA shows that about 5% of this site is at flood risk. York's SFRA defines functional floodplain as: • Land which would flood with annual probability of 1:20 (5%) or greater in any year. • Land which provides a function of flood conveyance (i.e. free flow) or flood storage, either through natural processes or by design (e.g. washlands and flood storage areas). • Land where the flow of flood water is not prevented by flood defences or by permanent buildings or other solid barriers during times of flood[23]. While this area is not shown on the York SFRA strategic map as functional floodplain no defences on the National Flood and Coastal Defence database are noted, and no obstructions are observed in this area so the area shown as being at a 1:20 (5%) flood risk should be considered as initial functional floodplain and further investigated.
Climate change	Climate change is likely to increase the 1:20 (5%) predicted flood event extent within the site. Areas of Flood Zone 3 are likely to increase into areas that are shown as Flood Zone 2 and Flood Zone 2 is likely to increase in extent into the site. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	**Site is not suitable**. More vulnerable and less vulnerable land uses are not permitted at sites within functional floodplain. Sites WJP08, WJP19, WJP16 and WJP06 should be considered before this site followed by WJP15 and WJP11. However, this site is preferable to WJP18.
Actions to pass the Sequential Test	In order for this site **pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities** the redline boundary for any proposal needs to be outside of Flood Zone 3 and the 1:20 (5%) flood event or Local SFRA Functional Floodplain. If a proposal redline boundary for this site remains within Flood Zone 2 WJP08 and WJP19 would remain preferable to this site as they are located in Flood Zone 1. WJP11 (with revised boundary), WJP15 (with revised boundary) and WJP16 should be considered before this site. This site would be preferable to WJP06 and WJP18.

[23] City of York, 2013.

Exception Test Needed	Yes, however, more vulnerable and less vulnerable land uses are not permitted at sites within functional floodplain.
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP06, WJP08, WJP11, WJP15, WJP16, WJP18 and WJP19. WJP08 and WJP19 are in Flood Zone 1 and WJP16 is in Flood Zone 2. WJP06 is in Flood Zone 3 but benefits from existing defences. These site should be considered before this site. WJP15 and WJP11 are at a similar level of risk but to a lesser extent whereas WJP18 is at a similar level of risk but to a greater extent. WJP15 and WJP11 should be considered before this site, however, this site is preferable to WJP18.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A flood risk assessment will be required for this site. This should consider how surface water flooding and drainage will be managed across the site utilising SuDS. Groundwater flooding should be further investigated. The flood risk assessment should also establish whether the south western boundary of the site is part of the functional floodplain and if so that area should be avoided with a suitable standoff as landfill and recycling would not be considered appropriate at those locations. Drainage of the site (including any drainage from the lake) must not increase flood risk on the receiving waterbody. Climate change impacts should also be considered in the positioning of any landfill site as the landfill will endure long beyond the end date of this site.


Foss Nabs
Duttons Farm
MJP52 / WJP05
New Dike Bridge
New Dike
0 70 140 280
Meters
North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
City of York Council functional floodplain
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
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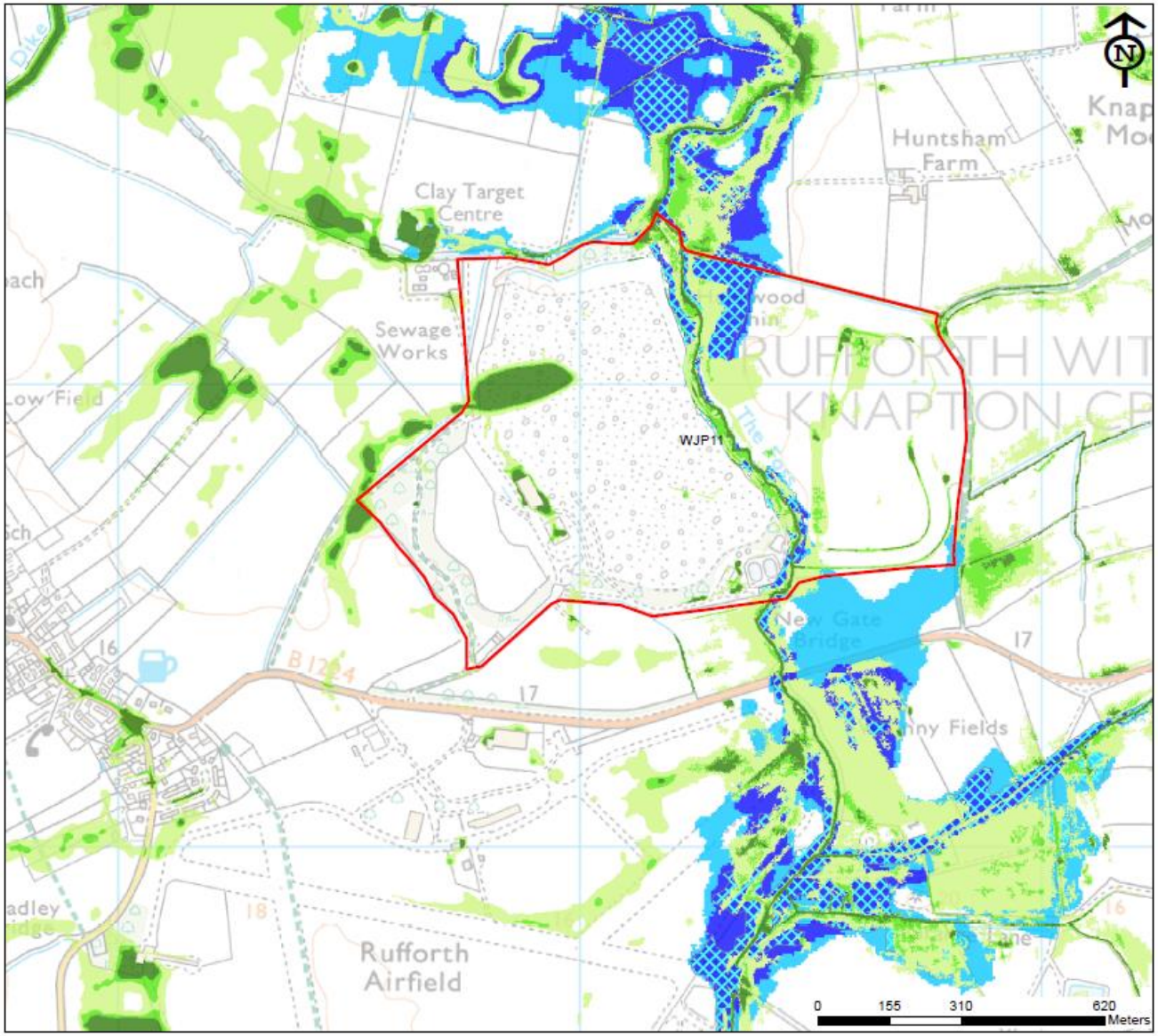
Site Reference: WJP11: Harewood Whin, Rufforth	
Site Information	The application for the construction of a Materials Recycling Facility and Waste Transfer Station (13/00041/FULM) has recently been withdrawn. Proposed access: Existing access on Height Lands Lane onto the B1224, approximately 460m east of Rufforth. Current use: Waste facility for landfill, open windrow composting, recycling (including treatment bulking and transfer) and liquid waste treatment. Site area: 82ha Waste annual tonnage import: • Landfill: 30,000 • Composting: 60,000 • C&I Recycling: 150,000 • Liquid Waste Treatment: 25,000 • MRF: 50,000 • Transfer: 60,000 (All above estimates for 2020) Estimated date of commencement: Continuation from 2017 Proposed Life of Site: 15 - 20 years
Proposed Land Use	Retention of the following facilities beyond 2017 • landfill, • open windrow composting, • recycling (including treatment bulking and transfer) and liquid waste treatment • Energy from Waste (Biomass and Landfill Gas Utilization) • kerbside recycling and waste transfer operation And construction of new materials recycling facility and waste transfer station.
NPPF Vulnerability Classification	Landfill is more vulnerable, other uses are less vulnerable

Overview of flooding	Much of the site is in Flood Zone 1, however, Flood Zone 3 flows through the centre of this site following the Foss and this is fringed by Flood Zone 2. Surface water flooding also overlays the area of river flood risk and also affects patches of the wider site (roughly 10% is affected). Surface water flood risk ranges from low risk (1:1000 (0.1%)) to medium risk (1:100 (1%)). The site lies across four 1km squares identified on the Environment Agency's 'Areas Susceptible to Groundwater Flooding' map, three of which are susceptible to Clearwater groundwater flooding (with one 1km square affected across <25% of its area, two 1km squares affected across >25% to <50% of their areas, and one 1km square which holds no data). A 2012 Flood Risk Assessment for part of southern area of the site reported that "groundwater flooding is not considered to pose a risk due to the groundwater levels underlying the site and the negligibly permeable geology"[24].
Relevant Local SFRA	York
1:20 (5%) flood event or Local SFRA Functional Floodplain	The 1:20 (5%) event extent mapping for this SFRA shows that about 5% of this site is at flood risk. York's SFRA defines functional floodplain as: • Land which would flood with annual probability of 1:20 (5%) or greater in any year. • Land which provides a function of flood conveyance (i.e. free flow) or flood storage, either through natural processes or by design (e.g. washlands and flood storage areas). • Land where the flow of flood water is not prevented by flood defences or by permanent buildings or other solid barriers during times of flood[25]. While this area is not shown on the York SFRA strategic map as functional floodplain no defences on the National Flood and Coastal Defence database are noted, and no obstructions are observed in this area, so the narrow area shown as being at a 1:20 (5%) flood risk should be considered as initial functional floodplain and further investigated.

[24] Golder Associates, 2012. Harewood Whin Materials Recovery Facility and Transfer. ES Chapter ES6 Flood Risk [URL: https://www.york.gov.uk/planning-building]

[25] City of York, 2013.

Climate change	Climate change is likely to increase the 1:20 (5%) predicted flood event extent within the site. Areas of Flood Zone 3 are likely to increase into areas that are shown as Flood Zone 2 and Flood Zone 2 is likely to increase in extent into the site. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	**Site is not suitable**. More vulnerable and less vulnerable land uses are not permitted at sites within functional floodplain. Sites WJP08, WJP19, WJP16 and WJP06 should be considered before this site. This site should be considered alongside but after WJP15 and is preferable to WJP05 and WJP18.
Actions to pass the Sequential Test	In order for this site **pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities** the redline boundary for any proposal needs to be outside of Flood Zone 3 and the 1:20 (5%) flood event or Local SFRA Functional Floodplain. If a proposal redline boundary for this site remains within Flood Zone 2 WJP08 and WJP19 would remain preferable to this site as they are located in Flood Zone 1. It should be considered alongside but before WJP16 and in preference to WJP05, WJP06, WJP15 and WJP18.
Exception Test Needed	Yes, however, more vulnerable and less vulnerable land uses are not permitted at sites within functional floodplain.
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP05, WJP06, WJP08, WJP15, WJP16, WJP18 and WJP19. Sites WJP08 and WJP19 are in Flood Zone 1 while WJP16 is in Flood Zone 2. As such these three sites are at lower risk than this site. WJP06 is within Flood Zone 3 but benefits from existing flood defences. WJP15 is at similar flood risk but to a lesser extent than this site while WJP05 and WJP18 are at a similar flood risk but to a greater extent. Therefore WJP08, WJP19, WJP16 and WJP06 should be considered before this site. This site should be considered alongside but after WJP15 and is preferable to WJP05 and WJP18.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	The flood risk assessment should establish whether the area marked as being at a 1:20 (5%) flood risk is part of the functional floodplain and if so that area should continue to be avoided with a suitable standoff as waste management uses would not be considered appropriate at those locations. Climate change should also be considered as affecting the extent of the 1:20 (5%) and of Flood Zones 2 and 3. A flood risk assessment should consider how surface water flooding and drainage will be managed across the site without increasing flooding elsewhere utilising SuDS. Groundwater flooding should be further investigated.



North Yorkshire County Council

Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- City of York Council functional floodplain
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

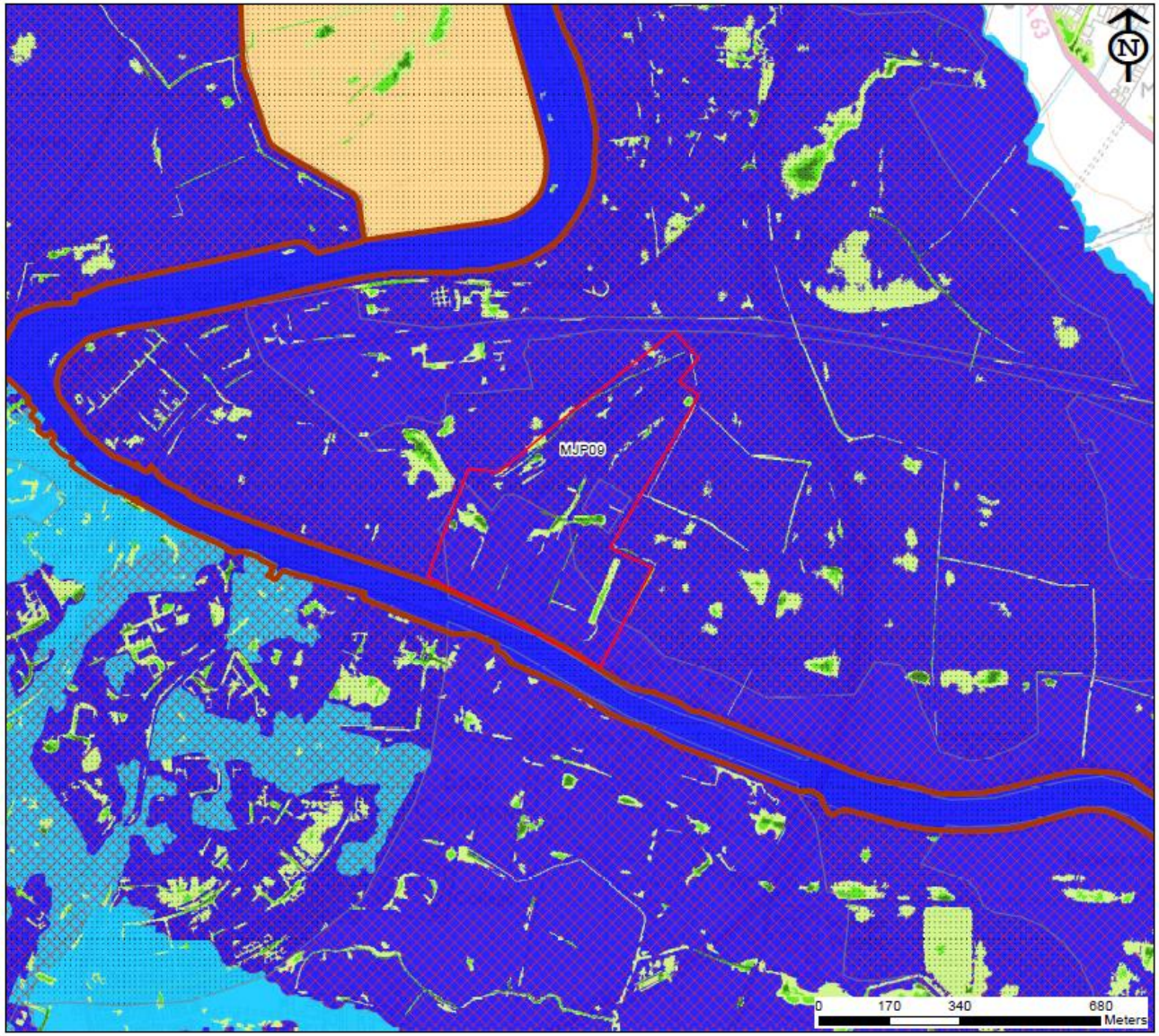
9. Selby Sites

Key to Sequential Test Results		
Pass	**Pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities.**	**Site is not suitable or would require an Exception Test demonstrated through a Level 2 SFRA to proceed.**

Site Reference: MJP09 Barlby Road, Selby	
Site Information	The current lifespan of facility is tied by planning condition to the life of adjacent asphalt plant, but there is no specified end-date for the asphalt plant and further planning permission would only be required in the event of the asphalt plant closing. Proposed access: Existing unnamed road via feed-mill level crossing route to A19 at Barlby. No date yet for an access to be constructed from the junction approximately 470m north of the river Ouse bridge on the A63 Selby Bypass. Current use: Rail and road freight distribution facility, including rail import and handling facility for aggregates Site area: 25ha Minerals Estimated Reserve: N/A Annual output of approximately 170,000 tonnes by road via existing CEMEX operation. None by rail. Estimated date of commencement: Site is already operational Proposed Life of Site: 30 years
Proposed Land Use	Retention of rail import and handling facility for aggregates
NPPF Vulnerability Classification	Less vulnerable

Overview of flooding	This site is entirely within Flood Zone 3 due to river and tidal flood risk. However, the flood zones do not acknowledge the presence and influence of the existing flood defences and the River Ouse Modelled Flood Outline indicates the area is defended to at least a 1:25 (4%) standard of protection. This site is entirely contained within an area benefitting from flood defences. Surface water flooding also affects the site in patches of low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)) spread throughout the site (but covering less than 10% of its total area). About 5% of the site is at high risk (1:30 (3.33%)) of surface water flooding. No local groundwater flooding data is available. According to the Environment Agency 'areas susceptible to surface water flooding' map most of this site lies in two 1km squares where >75% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a relatively high proportion of locations mainly from consolidated aquifers (rather than superficial deposits like sand), subject to local conditions. A small portion of the southern part of this site lies in an area of >25% – <50% vulnerability to Clearwater flooding, and another small area of >50% to <75% vulnerability to Clearwater flooding.
Relevant Local SFRA	Selby
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Site is in area defined as Flood Zone 3, but not defined as functional floodplain (3b) in the Selby SFRA. The site does not show up as possible functional floodplain based on 1:20 (5%) flood modelling and would be excluded in any case due to the presence of a flood defence. Flood Zone 3b is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	This site is already almost entirely in Flood Zone 3. Flood events are likely to be deeper and more frequent as sea level rise and increased river flood risk begins to take effect. The standard of protection associated with the flood defence is indicated in the River Ouse Modelled Flood Outline as being defended to at least a 1:25 (4%) standard of protection; this standard of protection will reduce with climate change. Areas of medium risk (1:100 (1%)) of surface water flooding may become high risk (1:30 (3.33%)) and low risk (1:1000 (0.1%)) areas may become medium risk (1:100 (1%)).

Sequential Test result	Pass. However, MJP24 should be considered before this site.
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP24. MJP24 is at lower flood risk than MJP09 and should be considered before this site.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required should any planning applications come forward at this site. This should address the issues of draining surface water using SuDS and without causing additional flood risk. It should also establish the standard of protection of the adjacent flood defence, calculate the specific risk from tidal and river flooding taking account of climate change and include an emergency plan for the site in case of defence overtopping by tidal or river flooding. Groundwater flooding may also be a risk at this site. This should be investigated and suitably mitigated through design of buildings etc.



North Yorkshire County Council

Key

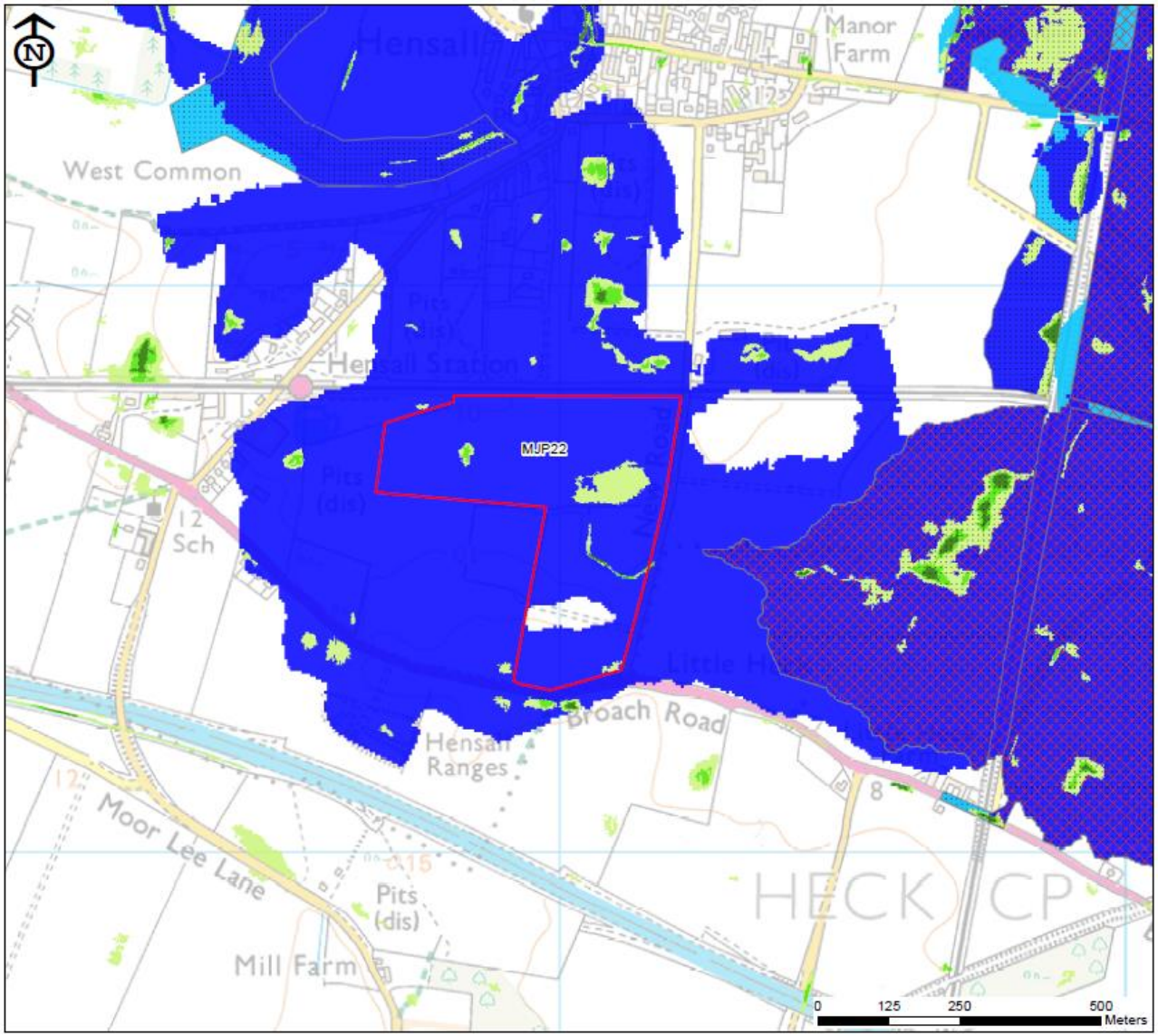
- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP22 Hensall Quarry	
Site Information	Proposed 30m stand-off from railway. Proposed access: Existing Hensall Quarry access onto unclassified New Road (U1077), approximately 75m north of A645 and then south to the junction with the A645. Current use: Agriculture Site area: 14.41ha Minerals Estimated Reserve: 1,545,000 tonnes Annual output of approximately 80,000 – 100,000 tonnes Estimated date of commencement: 2016 - 2017 Proposed Life of Site: 24 years
Proposed Land Use	Extraction of sand as proposed extension to existing quarry.
NPPF Vulnerability Classification	Water compatible
Overview of flooding	About 95% of this site is in Flood Zone 3. There is an area benefiting from existing flood defences to the east of the site, however, the standard of protection of these defences is not known. This site may be at lower risk given that connected Flood Zone 3 closer to the river benefits from flood defences. Four areas of surface water flooding also affect the site, totalling about 5% of the overall site area. The level of risk associated with these is generally low (1:1000 (0.1%)), however two of the areas include small regions of medium risk (1:100 (1%)) and high risk (1:30 (3.33%)) respectively. This site lies across two 1km squares where <25% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a minority of locations mainly from consolidated aquifers (rather than superficial deposits like sand). According to the 2012 planning statement for a neighbouring part of this site groundwater levels are around -1mAOD. For that part of the site at least, where extraction is to -0.5mAOD *"although flooding from a rising groundwater table is a possibility at the site, it is considered unlikely because of a small seasonal variation in groundwater levels of around 0.2m and a long term decline in groundwater levels probably caused by groundwater extraction"*[26]. It is assumed that a similar level of risk could also be present at this site, though this is dependent on the levels of extraction, and the underlying water table, which should be further investigated.

[26] Darrington Quarries Ltd, 2012. Hensall Sand Quarry, Planning application for the importation of compost, mixing of compost and sand, stockpiling and exportation of soil material at Hensall Sand Quarry: Planning

Relevant Local SFRA	Selby
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Most of the site is identified as functional floodplain (3b) in the Selby SFRA. Flood Zone 3b is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	Site is currently in Flood Zone 3 and it is likely that it will remain as Flood Zone 3 after 2025, however, depth and velocity of moving water is likely to increase. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass. MJP15, MJP30, MJP44 and MJP54 should be considered before this site in terms of flood risk.
Exception Test Needed	No. This site is water compatible.
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP15, MJP30, MJP44 and MJP54. This site is at higher risk of flooding than all of the alternative sites, therefore it should only be considered after the alternative sites if more resources of building sand are needed and the site is required to help meet this need.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment is required for this site. A suitable scheme will be required to drain or store surface water from the site that does not increase flooding on any receiving water body. Opportunities to integrate SuDS should be explored. Groundwater flood risk will need to be established at this site within the site specific flood risk assessment. The site specific flood risk assessment should also include a flood evacuation plan due to the presence of Flood Zone 3. All sites in functional floodplain must: remain operational and safe for users in times of flood; result in no net loss of floodplain storage; not impede water flows and not increase flood risk elsewhere.

Statement (August 2012) [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=8600]



North Yorkshire County Council

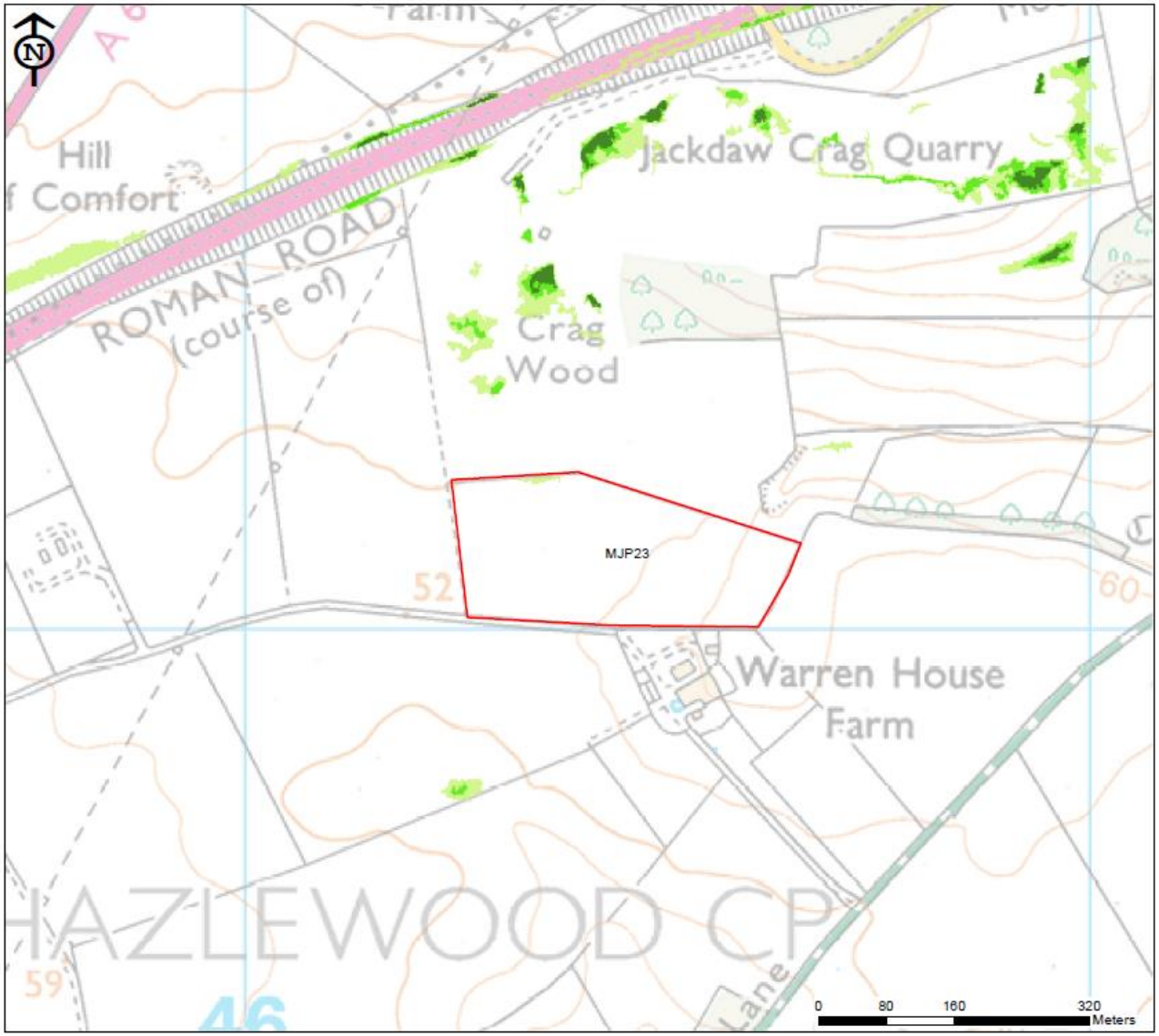
Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP23 Jackdaw Crag, Stutton	
Site Information	A planning application for the area (NY/2009/0523/ENV) is currently awaiting determination. Proposed access: Existing Jackdaw Crag quarry access onto Moor Lane (C305), approximately 35m south of the bridge over A64 which leads to the A659 and the A64. No direct access to proposed area from the public highway. Current use: Agriculture Site area: 6.0ha (south) Minerals Estimated Reserve: 3,000,000 tonnes (submitter information) Annual output of 250,000 – 300,000 tonnes Estimated date of commencement: 2016 - 2017 Proposed Life of Site: 10 years
Proposed Land Use	Extraction of Magnesian limestone as proposed extension to existing quarry.
NPPF Vulnerability Classification	Less vulnerable.
Overview of flooding	This site is 100% in Flood Zone 1. <5% of the site is at low risk (1:1000 (0.1%)) of surface water flooding at the north western site boundary. As such for the present day this site can be considered as not being at risk from surface water flooding. This site lies in a km square where <25% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a minority of locations mainly from consolidated aquifers. A 2009 planning application[27] at the adjacent part of this site has shown that extraction could breach the underlying aquifer, but that it was possible to keep the finished floor level above the highest groundwater levels beneath the quarry, which would make the risk of flooding insignificant.
Relevant Local SFRA	Selby
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.

[27] Darrington Quarries Ltd, 2009. Southern extension to Jackdaw Crag Quarry: Planning Supporting Statement

Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the small area at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP10, MJP11, MJP28 and MJP29. This site is at slightly higher risk from surface water flooding than MJP28, at similar risk from surface water flooding than MJP29 and slightly lower risk than MJP11 and more so MJP10. All the alternative sites are located in Flood Zone 1. Therefore this site should be considered after MJP28, alongside MJP29 and before MJP11 and in preference MJP10.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required. If a hydrological assessment reveals specific characteristics such as a risk of an underlying aquifer being breached this should be taken into account. A suitable SuDS scheme will be required to drain or store water from the site that does not increase flooding on any receiving waterbody.



North Yorkshire County Council

Key

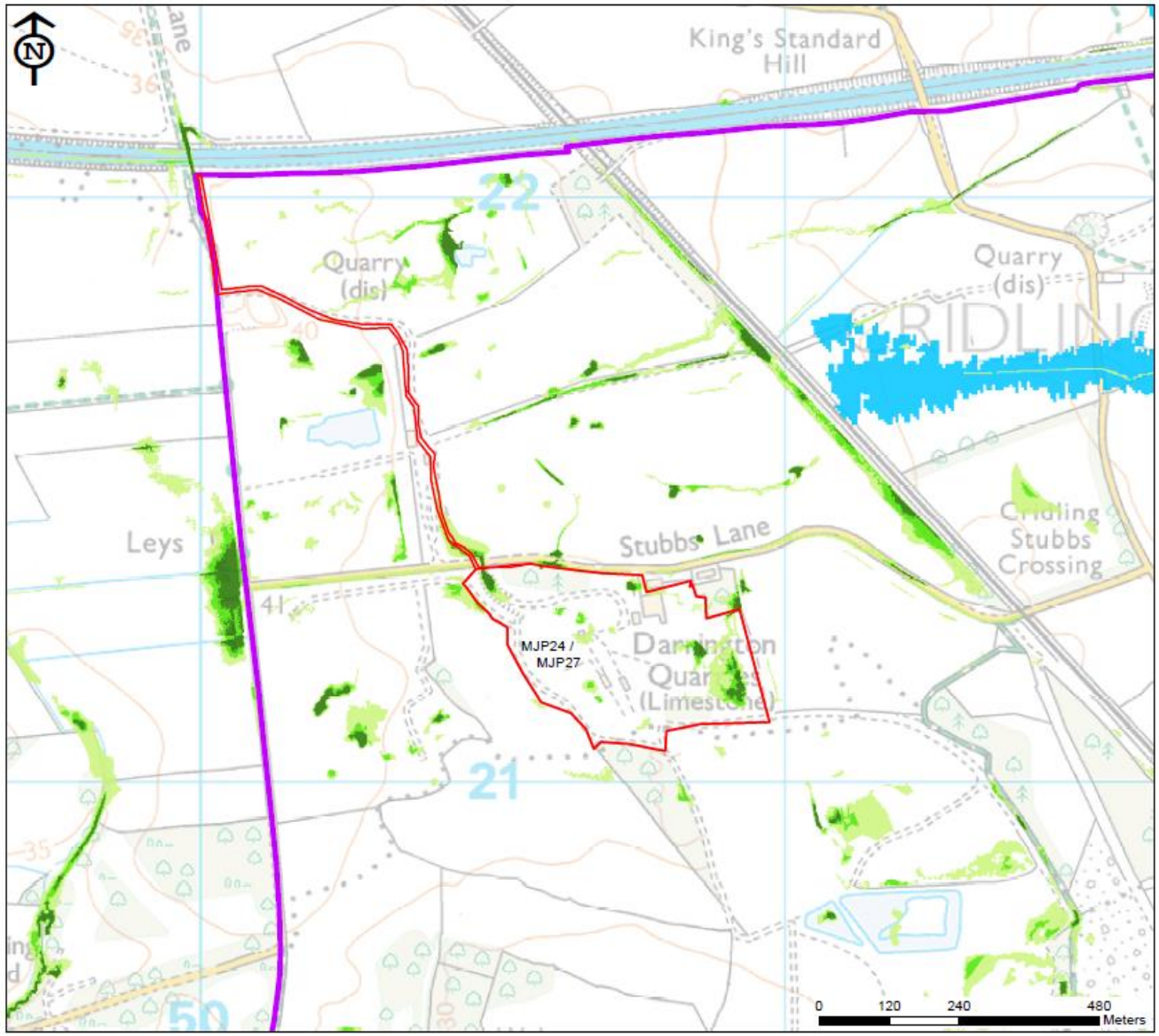
- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP24 Darrington Quarry processing plant site and haul road	
Site Information	An application to retain the plant and haul road at Darrington Quarry (NY/2012/0020/73) is currently awaiting determination. Extraction in Wakefield area currently permitted until 2028. Plant site area is the same location as MJP27 site. Proposed access: Existing Darrington Quarry plant site access onto Stubbs Lane (C335), with the mineral to be brought from the Wakefield quarry site to the north of the M62 via the existing haul road and tunnel under Stubbs Lane. Current use: Quarry plant site and associated haul road Site area: 10.4ha (plant site) Minerals Estimated Reserve: (located in Wakefield Council area) 10,000,000 tonnes (as at 2011) Annual output of 450,000 – 500,000 tonnes extracted from the land in the Wakefield Council area Estimated date of commencement: Site is already operational Proposed Life of Site: 2028
Proposed Land Use	Retention of processing plant site and haul road for processing of Magnesian limestone extracted from the part of Darrington Quarry located in the Wakefield Council area.
NPPF Vulnerability Classification	Less vulnerable

Overview of flooding	This site is 100% in Flood Zone 1. About 10% of this site is prone to surface water flooding. Medium (1:100 (1%)) and high risk (1:30 (3.33%)) surface water flooding covers less than 5% of the site. This form of flood risk is spread across the site, though affects the access road in particular. As extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. The vast majority of this site lies in a 1km square where <25% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a minority of locations mainly from consolidated aquifers. A very small proportion of the access road falls between two 1km squares with the same groundwater flood susceptibility as the main area of the site. Groundwater levels at the adjacent Darrington East quarry site were considered to be below the proposed base of the restored quarry (13mAOD) in an application submitted in 2003[28] though no other local data is available through the North Yorkshire planning website.
Relevant Local SFRA	Selby
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No

[28] ibid

Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP09. MJP09 is in Flood Zone 3 but benefits from existing defences, however, it is at higher risk than this site. Therefore this site is preferable to MJP09. This site is to retain a plant that is tied to an existing quarry. It would be unreasonable to disassociate the plant site from the linked quarry, and to move it elsewhere in the immediate vicinity of the site would only result in an equivalent level of flood risk.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required. This should address the issues of draining clean surface water without causing additional flood risk (SuDS should be investigated).



North Yorkshire County Council

Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
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- 1:20 (5%) predicted flood extent
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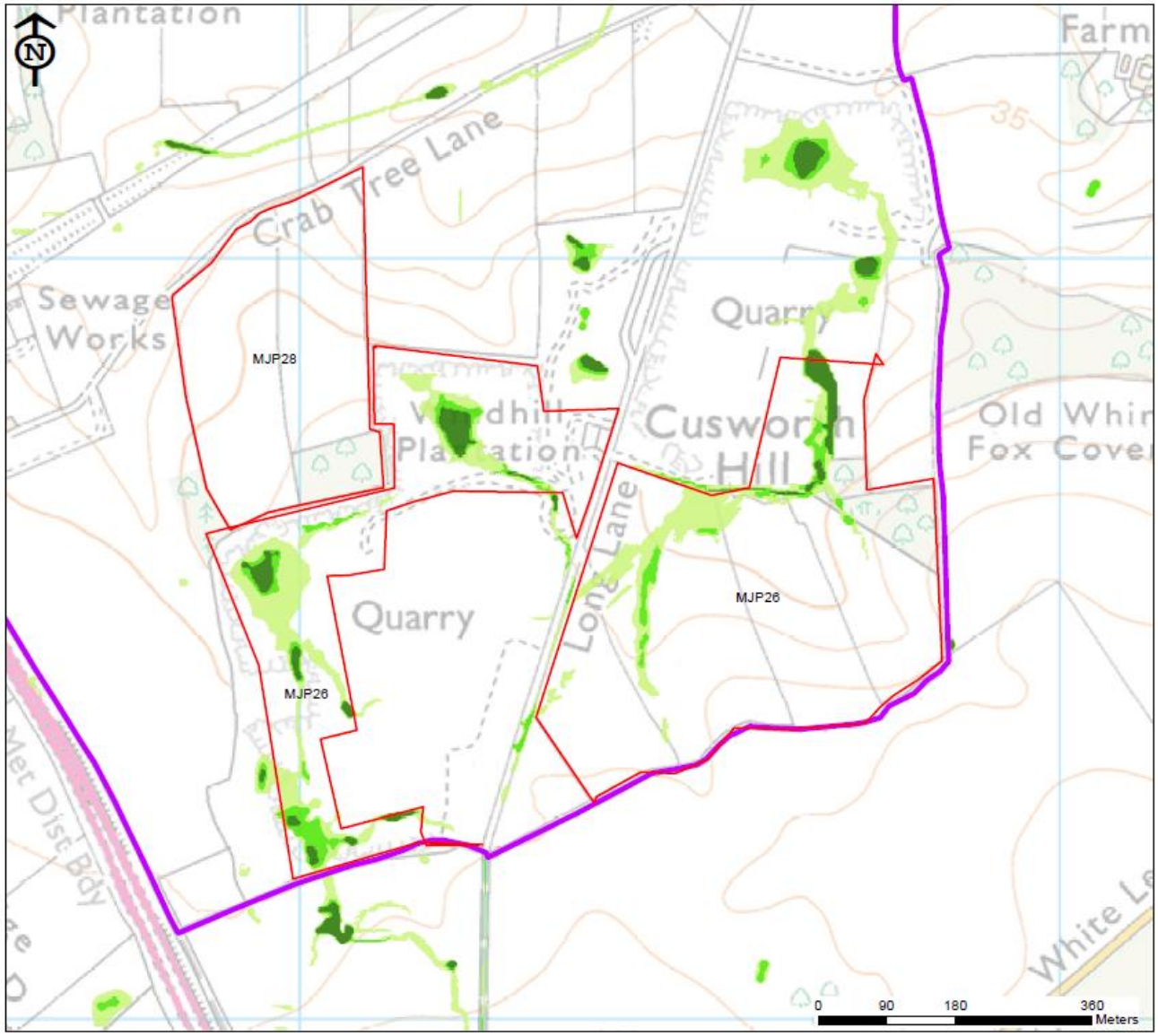
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP26 Barnsdale Bar, near Kirk Smeaton (recycling)	
Site Information	Operator seeking flexibility to locate the recycling facility within the site in order that it is close to areas undergoing restoration at the time, as current recycling area is limited to only one part of the site. Site lies adjacent to the county boundary with the administrative area of Doncaster Council. Proposed access: Existing Barnsdale Bar Quarry access along Long Lane onto Woodfield Road (approximately 115m east of Barnsdale Bar junction of A1 with A639/A6201). Current use: Quarry, former landfill site and inert aggregate recycling facility Site area: 45.6ha Waste annual tonnage import: 100,000 Recycled materials annual output: 100,000 tonnes (aggregate and soils) Estimated date of commencement: Approximately 2016 - 2020 Proposed Life of Site: Throughout the plan period
Proposed Land Use	Recycling of inert waste to produce secondary aggregate.
NPPF Vulnerability Classification	Less vulnerable

Overview of flooding	This site is 100% in Flood Zone 1. Surface water flooding low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)) affects about 15% - 20% of the overall site. One third (33%) of the western part of site is prone to surface water flooding and there is a possible flow path through this part of the site that would need to be addressed in any proposals. Around 10% – 15% of the flood risk to this part of the site is medium risk (1:100 (1%)) to high risk. A smaller proportion of the eastern part of the site, about 10% -15%, suffers from any level of surface water flood risk with about 5% at medium risk (1:100 (1%)) to high risk (1:30 (3.33%)) of surface water flooding. As extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. This site lies across two 1km squares where <25% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a minority of locations mainly from consolidated aquifers. According to a recent hydrological assessment for an adjacent part of the quarry, mineral workings in the past have been maintained approximately 2m above the maximum recorded groundwater levels. However there is a north east gradient, with the highest levels being recorded at the north east of this site (though in this site at least groundwater has remained unaffected by quarrying)[29].
Relevant Local SFRA	Selby
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	It is unclear if this operation would operate beyond the plan period. Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass

[29] FCC Environment, 2014. Proposed Extension of Barnsdale Bar Quarry: Hydrological and Hydrogeological Assessment [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=9532]

Exception Test Needed	No
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP13 and MJP27. This site is at slightly higher risk from surface water flooding than MJP13 and MJP27 and all three sites are in Flood Zone 1. Therefore this site should be considered after MJP13 and MJP27.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required. This should address the issues of draining clean surface water without causing additional flood risk.



North Yorkshire County Council

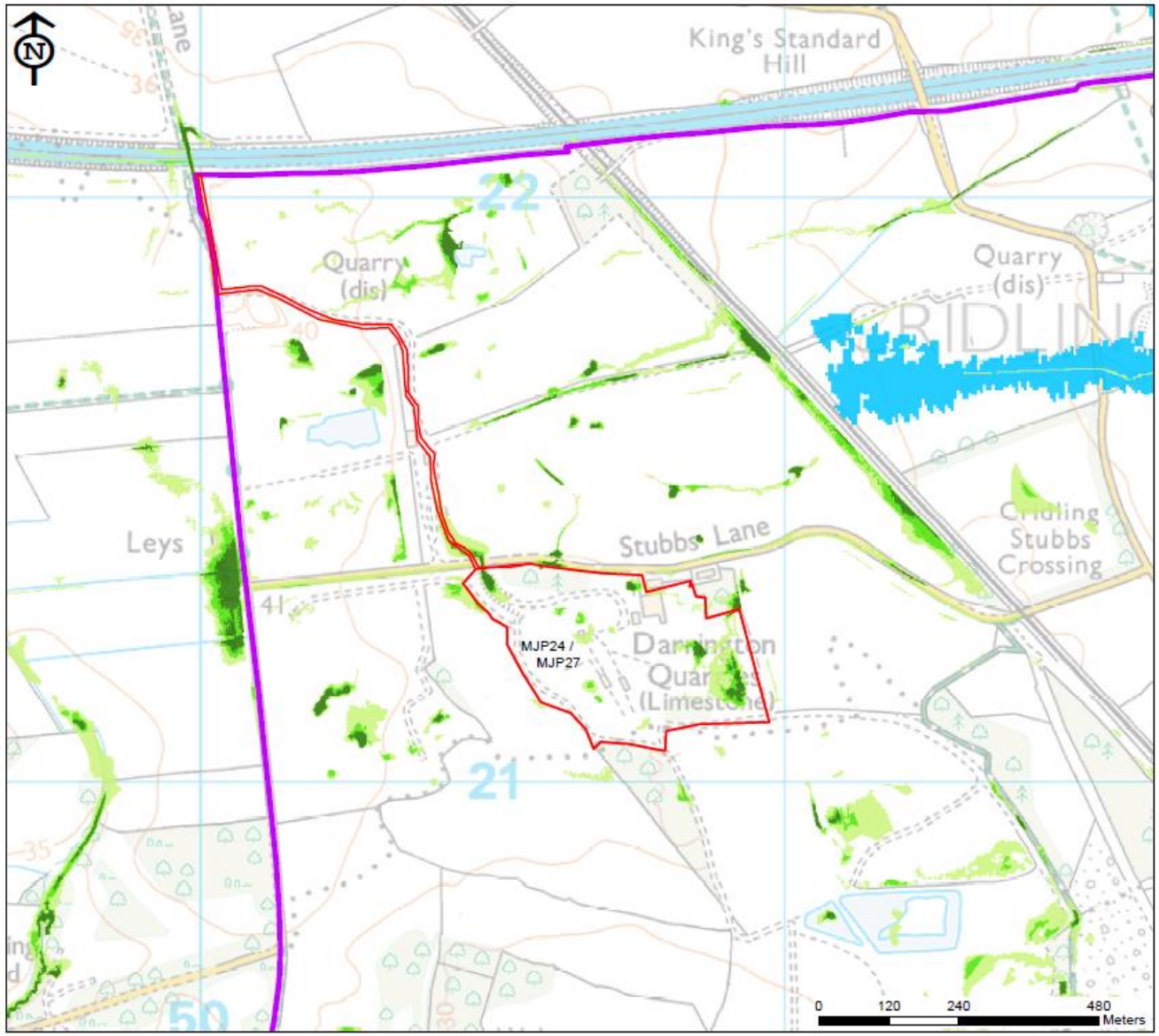
Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP27 Darrington Quarry (recycling)	
Site Information	Proposed access: Existing Darrington Quarry plant site access onto Stubbs Lane (C335). Current use: Quarry processing plant site Site area: 10.4ha Waste annual tonnage import: 100,000 (estimate) Recycled materials annual output: 100,000 tonnes (aggregate and soils) Estimated date of commencement: Unknown at present Proposed Life of Site: 2028
Proposed Land Use	Inert waste recycling facility
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. About 10% of this site is prone to surface water flooding. Medium risk (1:100 (1%)) and high risk (1:30 (3.33%)) surface water flooding covers <5% of the site. This form of flood risk is spread across the site, though affects the access road in particular. As extraction is likely to change the topography of the site where flooding occurs across this site is likely to change as extraction progresses. The vast majority of this site lies across 1km square where <25% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a minority of locations mainly from consolidated aquifers. A very small proportion of the access road falls between two 1km squares with the same groundwater flood susceptibility as the main area of the site. Groundwater levels at the adjacent Darrington East quarry site were considered to be below the proposed base of the restored quarry (13mAOD) in an application submitted in 2003[30] though no other local data is available through the planning record.
Relevant Local SFRA	Selby
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.

[30] ibid

Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP13 and MJP26. This site is at slightly higher risk than MJP13 and slightly lower risk than MJP26 from surface water flooding. All three sites are in Flood Zone 1. Therefore this site should be considered after MJP13 but before MJP26.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required. This should address the issues of draining clean surface water without causing additional flood risk (SuDS should be investigated).



North Yorkshire County Council

Key

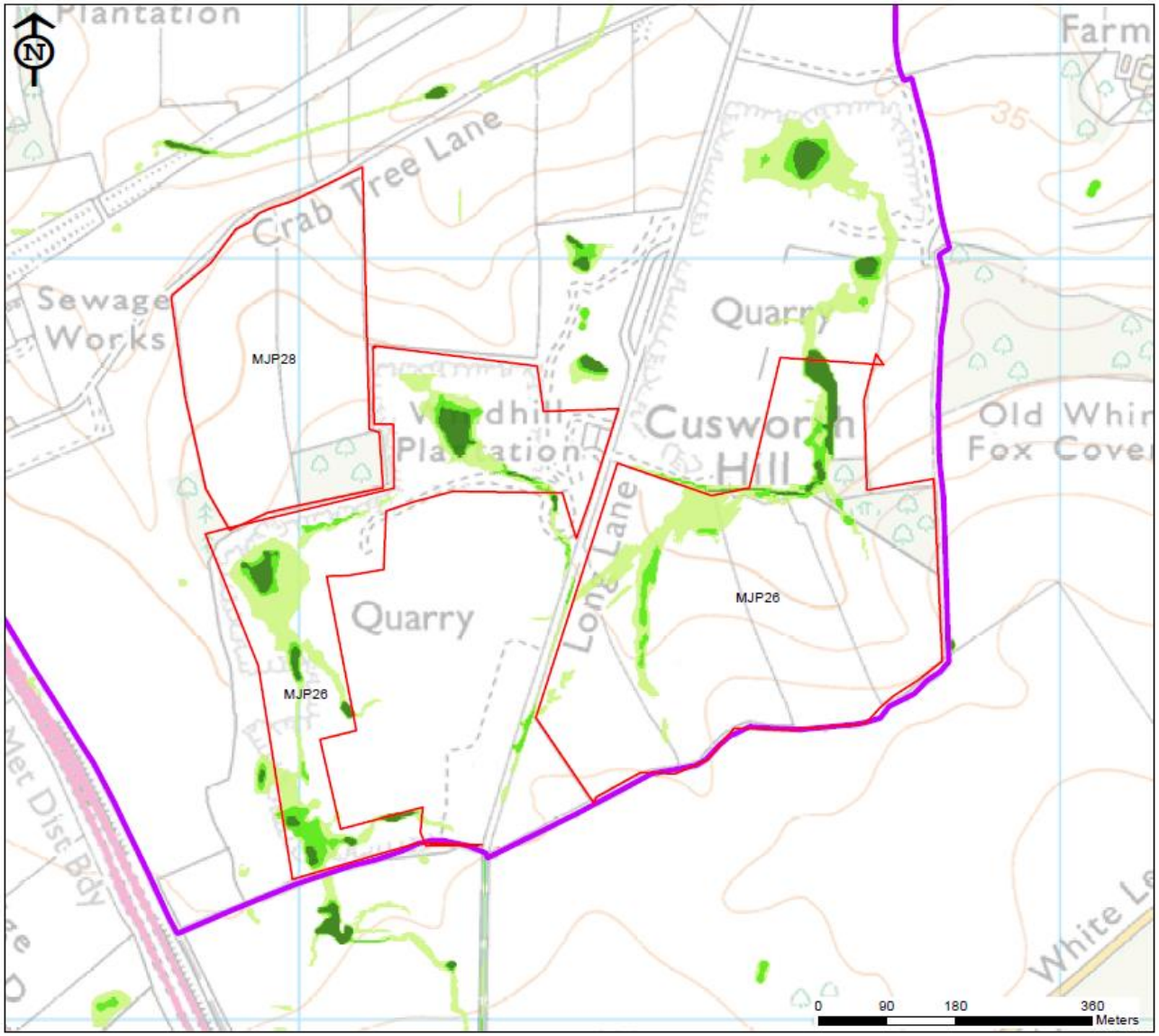
- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP28 Barnsdale Bar Quarry, near Kirk Smeaton	
Site Information	A planning application (NY/2014/0393/ENV) to extract from the MJP28 north area as an extension to the existing quarry was granted planning permission in June 2016. No planning application has yet been submitted for the MJP28 north-west area. Proposed access: No direct access to the public highway from the proposed extraction area, rather access would be from within the existing Barnsdale Bar Quarry and material would then leave using the existing access along Long Lane onto Woodfield Road (approximately 115m east of Barnsdale Bar junction of A1 with A639/A6201). Current use: Agriculture Site area: 9.3ha (north-west) Minerals Estimated Reserve: 1,960,000 tonnes (north-west) Annual output of 175,000 tonnes Estimated date of commencement: 2020 Proposed Life of Site: Six to eight years (north-west)
Proposed Land Use	Extraction of Magnesian limestone as proposed extensions to existing quarry.
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. This site is not at risk from surface water flooding. This site lies across three 1km squares where <25% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a minority of locations mainly from consolidated aquifers. A recent planning application at the site suggests that the site will be maintained approximately 2 metres above the maximum recorded groundwater level and would receive 'little or no groundwater inflow from the bedrock and the thin superficial cover'[31]. The Environment Agency was satisfied with this assessment[32].
Relevant Local SFRA	Selby

[31] DAB Geotechnics / FCC Environment. 2014. Proposed Extension of Barnsdale Bar Quarry: Hydrological and Hydrogeological Assessment [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=9532]

[32] Environment Agency, letter dated 24 March 2015 [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=9532]

1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding may impact the site in the latter plan period, however, the level of risk is likely to be low.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP10, MJP11, MJP23 and MJP29. This site is at slightly lower risk from surface water flooding than MJP11, MJP23 and MJP29 and more so than MJP10. All the alternative sites are located in Flood Zone 1. Therefore this site should be considered alongside but before MJP11, MJP23 and MJP29 and in preference MJP10.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required. Where a hydrological assessment reveals specific characteristics such as a risk of an underlying aquifer being breached this should be considered in the flood risk assessment. A suitable SuDS scheme will be required to drain or store water from the site that does not increase flooding on any receiving waterbody.



North Yorkshire County Council

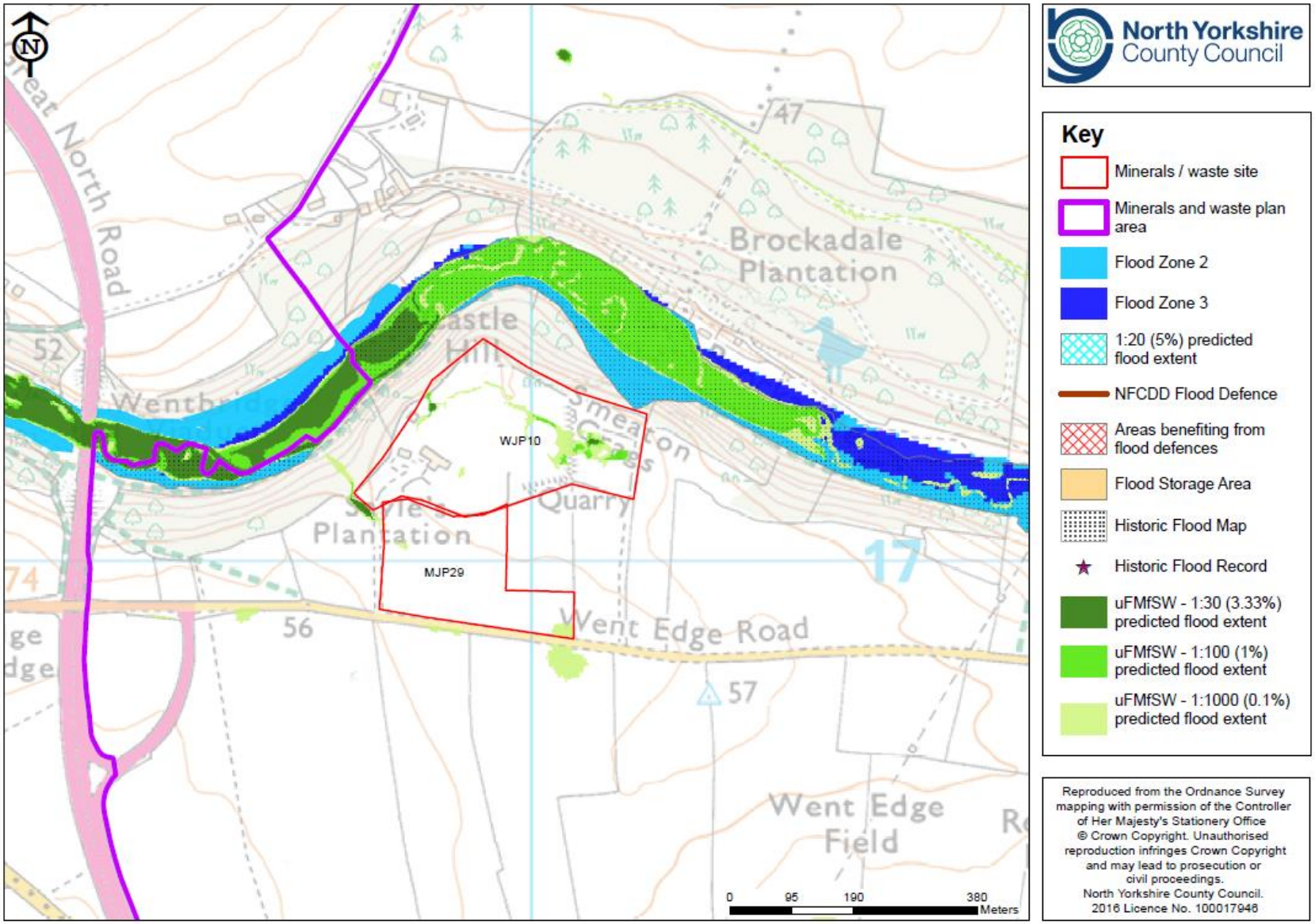
Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: MJP29 Went Edge Quarry, Kirk Smeaton	
Site Information	Existing restoration scheme for quarry is to limestone grassland with blocks of woodland and scrub. Planning application (NY/2014/0113/ENV) to extract 1,610,000 tonnes of limestone from the 1.7 hectares in the north-east part of the MJP29 area as an extension to the existing quarry was granted in September 2015. Proposed access: No direct access to MJP29 site, rather it would be accessed from within the existing Went Edge Quarry and material would leave the quarry via the existing access onto Went Edge Road (C344), approximately 290m east of A1(M) south-bound junction at Wentbridge. Current use: Agriculture Site area: 5.6ha Minerals Estimated Reserve: 1,999,000 tonnes Annual output of 6000,000 tonnes Estimated date of commencement: 2017 Proposed Life of Site: 15 years
Proposed Land Use	Extraction of Magnesian limestone as proposed extension to existing quarry.
NPPF Vulnerability Classification	Less vulnerable.
Overview of flooding	This site is 100% in Flood Zone 1. <5% of the site is at low risk (1:1000 (0.1%)) of surface water flooding. The northern part of this site lies a 1km square where <25% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a minority of locations mainly from consolidated aquifers. A recent planning application at the site has shown that "*The site and the limestone beds are above the groundwater table by at least 12 metres and when the floor is worked to 20 metres AOD it is still 6 metres above the water table measured at its highest level of 14 metres AOD*"[33]. This means that there is unlikely to be an issue with groundwater flooding. No other forms of flooding are noted.
Relevant Local SFRA	Selby

[33] Cromwell Mining Consultants, 2014. Went Edge Quarry Environmental Statement [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=9255]

1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	Climate change would not affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP10, MJP11, MJP23 and MJP28. This site is at slightly higher risk from surface water flooding than MJP28, at similar risk from surface water flooding than MJP23 and slightly lower risk than MJP11 and more so MJP10. All the alternative sites are located in Flood Zone 1. Therefore this site should be considered after MJP28, alongside MJP23 and before MJP11 and in preference MJP10.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required. If a hydrological assessment reveals specific characteristics such as a risk of an underlying aquifer being breached this should be taken into account. A suitable SuDS scheme will be required to drain or store water from the site that does not increase flooding on any receiving waterbody.


N
Great North Road
Brockadale Plantation
Castle Hill
Smeaton Crags Quarry
Plantation
WJP10
MJP29
Went Edge Road
Went Edge Field
47
52
74
56
57
17
0
95
190
380
Meters
North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
uFMfSW - 1:30 (3.33%) predicted flood extent
uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
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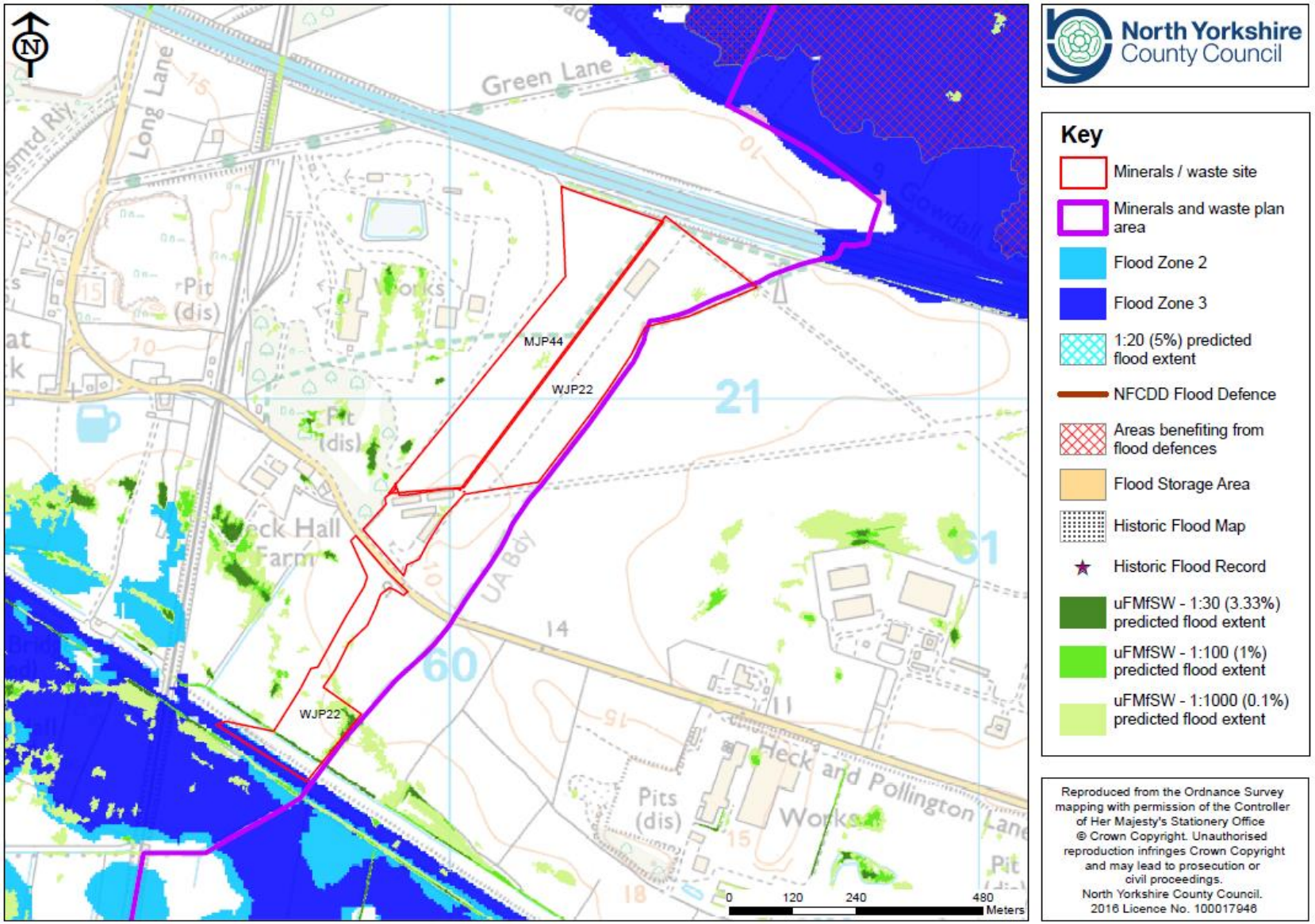
Site Reference: MJP44 Land between Plasmor Block making plant, Great Heck and Pollington Airfield	
Site Information	Manufactured blocks leave the block making plant by road and rail. Proposed access: Access will be direct from the adjacent Plasmor block making plant to the west with sand transported by dump truck or conveyor direct to the plant for use in manufacture of blocks. Manufactured blocks already leave the block making plant by road and rail. Current use: Agriculture Site area: 8.16ha Minerals Estimated Reserve: 900,000 tonnes Annual output of 40,000 tonnes Estimated date of commencement: By 2020 Proposed Life of Site: 22 years
Proposed Land Use	Extraction of sand from proposed new extraction site adjacent to former quarry.
NPPF Vulnerability Classification	Water compatible
Overview of flooding	This site is 100% in Flood Zone 1. Only a very small area (<5%) is affected by low risk (1:1000 (0.1%)) surface water flooding. This site lies across two 1km squares where <25% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a minority of locations mainly from consolidated aquifers (rather than superficial deposits like sand). The planning application for a biomass processing plant adjacent to the site stated that 'The Environment Agency advised that the aquifer level in this area is -12.0m AOD (20m below ground level)'. Additionally, boreholes to 13m in that application were dry[34]. This is unlikely to present a significant issue for a water compatible development, even if it were to go below the water table.
Relevant Local SFRA	Selby

[34] Ethical Partnership, 2009. Planning application for the extension of the biomass and wood fuel processing plant, Pollington Airfield, Selby: Supporting Statement.

1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	Climate change would not affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No. This site is water compatible.
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP15, MJP22, MJP30 and MJP54. MJP30 is at slightly lower surface water flood risk and MJP15 and MJP54 slightly higher, however, all three of these alternative sites are in Flood Zone 1. MJP22 is at significantly higher risk from river flooding. Therefore this site should be considered alongside but after MJP30 and before MJP15 and MJP54 and in preference to MJP22.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required. Opportunities to integrate SuDS should be explored.


North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
uFMfSW - 1:30 (3.33%) predicted flood extent
uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
MJP44
WJP22
WJP22
Green Lane
Long Lane
Heck and Pollington Lane
0 120 240 480 Meters
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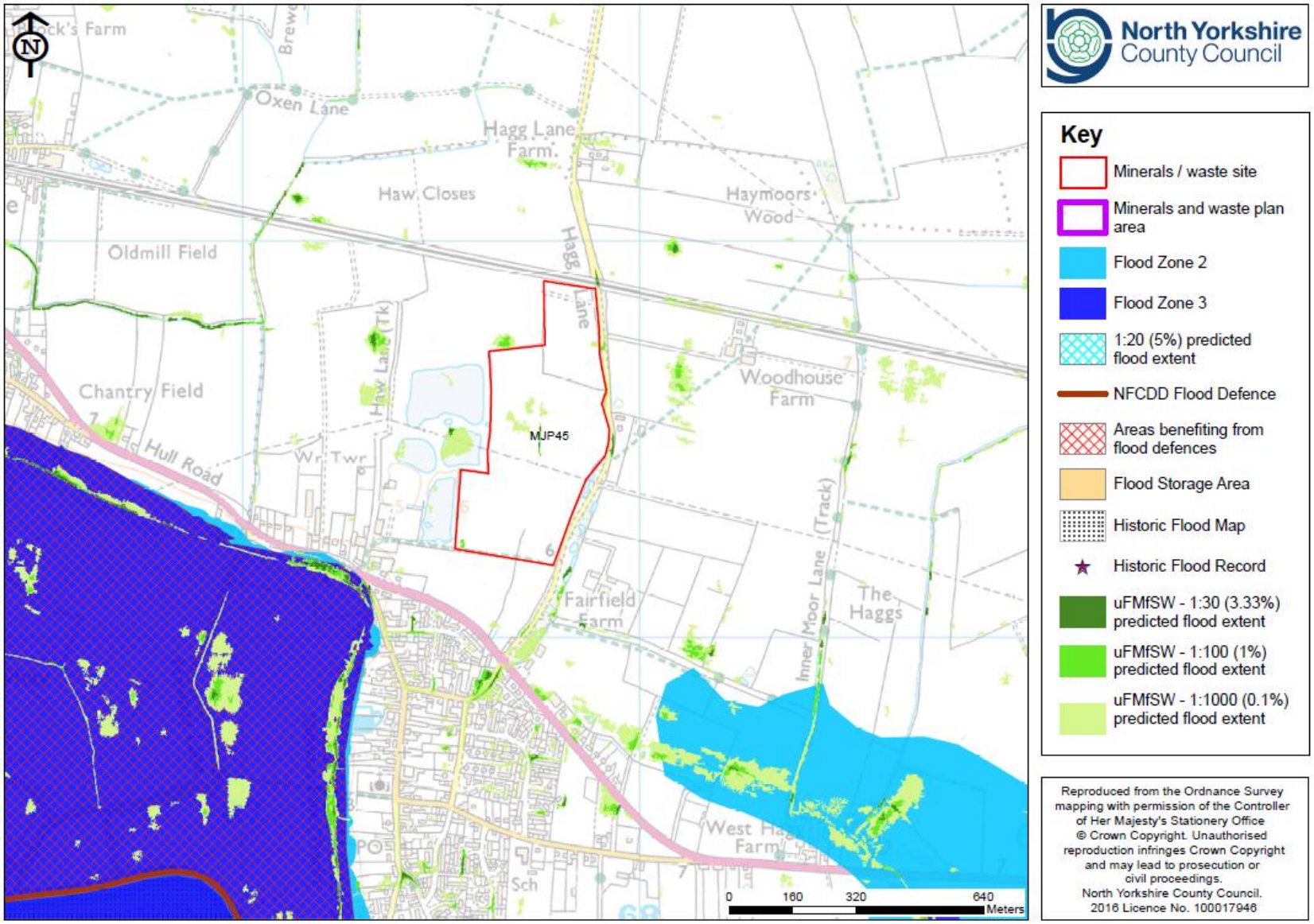
Site Reference: MJP45: Land to the north of Hemingbrough	
Site Information	Planning application NY/2015/0058/ENV was granted in March 2016 (planning permission C8/2015/0280/CPO), so the site area has been reduced to reflect that decision. The company preference is to extract reserves at MJP55 Escrick. However, if the clay within the MJP55 allocation is not available then the MJP45 reserve would be expected to commence within the plan period. Proposed access: Access to be onto A63 to west of Garth House, Hull Road (A63) approximately midway along the southern boundary of the west extension which would be used by HGVs once constructed. Once this new access is constructed the existing Northfield Road access would be used by site staff and visitors only to get to the site offices. Current use: Agriculture Site area: 14.31ha Minerals Estimated Reserve: 500,000 tonnes Annual output of 150,000 – 200,000 tonnes Estimated date of commencement: 2026 - 2035 (based on annual output of 100,000 - 200,000 as per NY/2015/0058/ENV) Proposed Life of Site: 2.5 - 3.5 years
Proposed Land Use	Extraction of clay as proposed extension to existing quarry.
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. <5% of the site is at risk of surface water flooding. This is mostly low risk (1:1000 (0.1%)) with one small area of high risk (1:30 (3.33%)) in the south west corner of the site. These areas are likely to alter in location as levels change across the site. Strategic groundwater flooding maps show that the site is not within an area at risk from groundwater flooding. As a clay site the site is likely to extract below the perched water table (though groundwater flow on clay sites in Clearwater areas is likely to be negligible)[35]. Therefore groundwater flooding is unlikely to cause any significant problems. Perched water tables are an inherent property of clay extraction.
Relevant Local SFRA	Selby

35 gov.uk/government/uploads/system/uploads/attachment_data/file/290396/sp2-173-tr-2-e-e.pdf (URL is no longer available)

1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. The site also lies behind an area shown as benefitting from existing flood defences. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	Climate change to river flood risk is unlikely to not affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP52 and MJP55. This site is at lower flood risk than both MJP52 and MJP55. Therefore this site should be considered before MJP52 and MJP55.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required. If a hydrological assessment reveals specific characteristics such as a risk of an underlying aquifer being breached or causing basal heave this should be taken into account. A suitable SuDS scheme will be required to drain or store water from the site that does not increase flooding on any receiving water body.


North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
uFMfSW - 1:30 (3.33%) predicted flood extent
uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
MJP45
Oxen Lane
Hagg Lane Farm
Haw Closes
Haymoors Wood
Oldmill Field
Hagg Lane
Chantry Field
Hull Road
Hwy Lane (Trk)
Wr Twr
Woodhouse Farm
Fairfield Farm
Inner Moor Lane (Track)
The Haggs
West Farm
0 160 320 640 Meters
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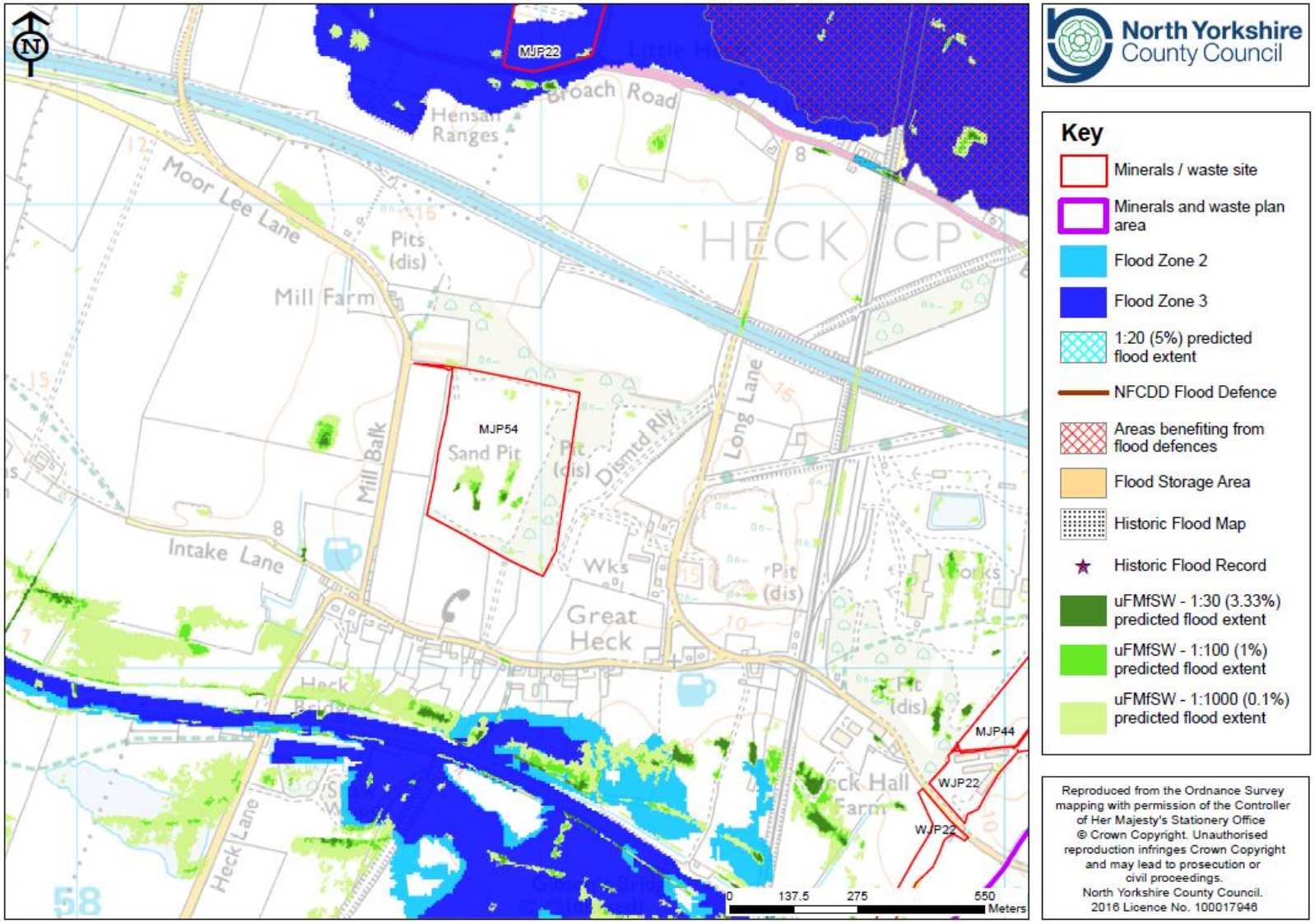
Site Reference: MJP54: Mill Balk Quarry, Great Heck	
Site Information	The existing planning permission is valid until 2042 and there are 220,000 tonnes of already consented reserves remaining at the site which would be worked when the site is re-opened. Proposed access: Existing access at Mill Balk Quarry onto Mill Balk (C339) leading north to A645 at Hensall. Current use: Mothballed sand quarry (since 2008) Site area: 10.3ha Minerals Estimated Reserve: 70,000 tonnes (without current planning permission) Annual output of 50,000 tonnes Estimated date of commencement: Unknown at present, but would be prior to 2030 Proposed Life of Site: Restoration would be prior to end of 2030
Proposed Land Use	Extraction of sand from existing quarry by deepening of part of the site.
NPPF Vulnerability Classification	Water compatible
Overview of flooding	This site is 100% in Flood Zone 1. About 10% of the site is at risk of surface water flooding. Of this <5% is medium risk (1:100 (1%)). Surface water distribution is likely to change during extraction. This site lies across two 1km squares where <25% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a minority of locations mainly from consolidated aquifers (rather than superficial deposits like sand). A recent request for a scoping opinion NY/2013/0262/SCO at the same site has investigated groundwater levels at the site and found them to be at between – 3m and – 4mAOD. However, that same case highlighted that these levels were unusually high and thought to be the result of a local cessation in groundwater pumping[36]. The deepening of this quarry may potentially (depending on depth planned) dip below this level. However extraction of sand is a water compatible use.
Relevant Local SFRA	Selby

[36] MJCA, 2013. Letter to North Yorkshire County Council, dated 8 November 2013 [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=8972]

1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No. This site is water compatible.
Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP15, MJP22, MJP30 and MJP44. MJP30 and MJP44 are at slightly lower risk and MJP15 is at slightly higher risk from surface water flooding than this site, however, they are all located in Flood Zone 1. MJP22 is at significantly higher flood risk from rivers. Therefore this site should be considered alongside but after MJP30 and MJP44, before MJP15 and in preference to MJP22.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A suitable scheme will be required to drain or store surface water from the site that does not increase flooding on any receiving water body. Opportunities to integrate SuDS should be explored. A site specific flood risk assessment will be required. Groundwater flood risk will need to be established and clarified at this site within the site specific flood risk assessment.


MJP22
Broach Road
Hensall Ranges
Moor Lee Lane
Pits (dis)
Mill Farm
HECK CP
MJP54
Sand Pit
Mill Balk
Dismtd Rly
Long Lane
Intake Lane
Wks
Great Heck
Heck
Heck Lane
MJP44
WJP22
WJP22
Heck Hall Farm
58
0
137.5
275
550
Meters
North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
uFMfSW - 1:30 (3.33%) predicted flood extent
uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
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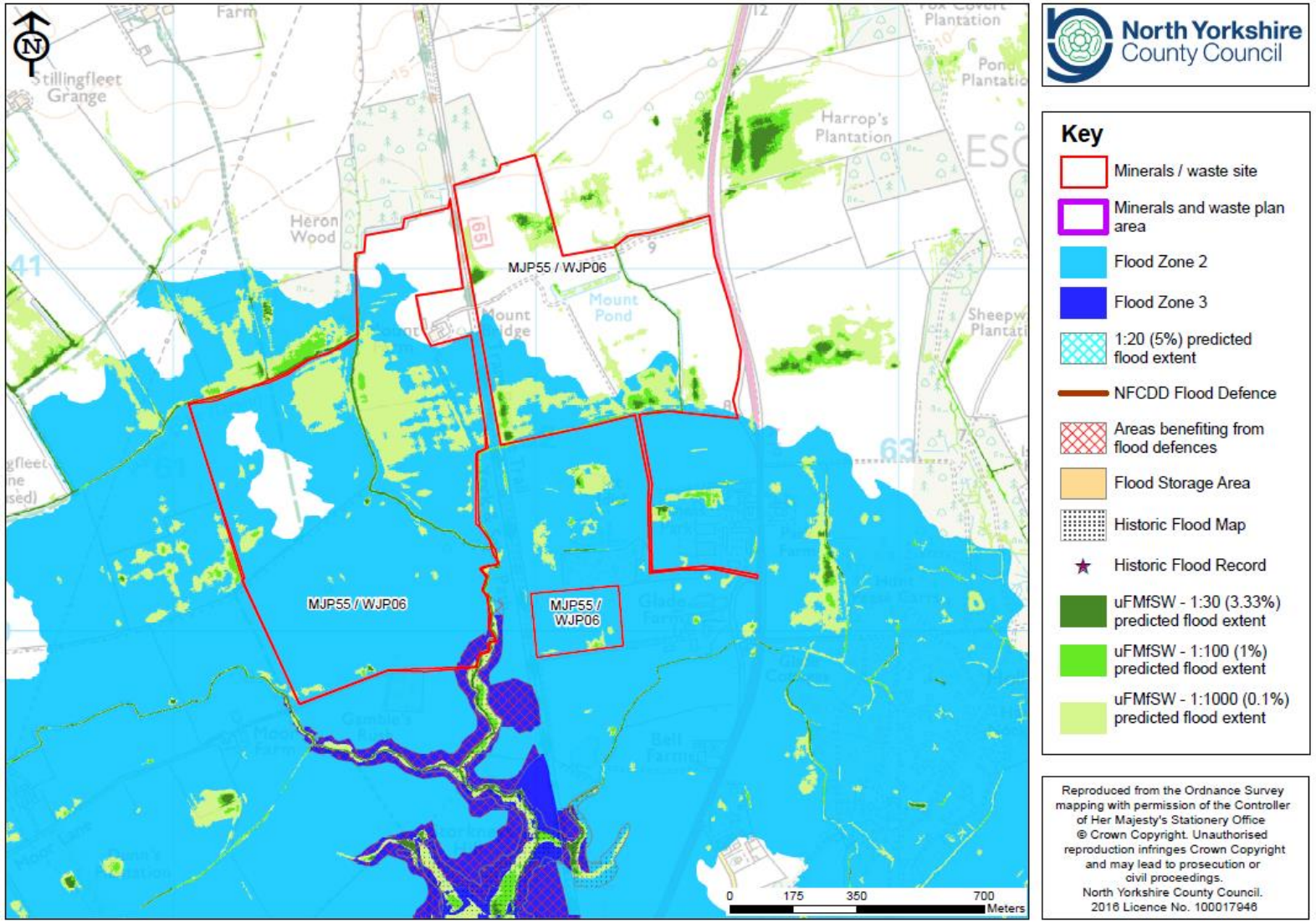
Site Reference: MJP55 Land adjacent to former Escrick Brickworks	
Site Information	WJP06 proposes landfill of the MJP55 site. MJP55 is proposed to enable continued supply of clay to the existing Heck block manufacturing facility operated by the submitter, once the reserves at Hemingbrough Quarry permitted via planning permission C8/2015/0280/CPO have been extracted. Proposed access: Existing access via the former Escrick Brickworks and U722 unclassified road by Escrick Business Park onto the A19. Current use: Agriculture Site area: 112ha Minerals Estimated Reserve: 7,350,000 tonnes Annual output of 200,000 tonnes Estimated date of commencement: Anticipated to be approximately 2023 Proposed Life of Site: 37 years extraction upon commencement with 31.5 years for completion of landfill (WJP06) based on infilling commencing two years after extraction commences and on development of the whole area.
Proposed Land Use	Extraction of clay as extensions to a former quarry.
NPPF Vulnerability Classification	Less vulnerable (WJP06 proposed landfill land use is more vulnerable)

Overview of flooding	About 60% of this site lies in Flood Zone 2 with about 35% being in Flood Zone 1 and <5% being in Flood Zone 3, but benefiting from existing defences. About 15% of the site is at risk from surface water flooding. This is mainly low risk (1:1000 (0.1%)) with small areas of medium risk (1:100 (1%)) and high risk (1:30 (3.33%)). The southern part of this site lies within a series of three 1km squares where >75% of their area has conditions which support Clearwater flooding. Although this is a higher risk area, flooding occurs mainly from consolidated aquifers (rather than superficial deposits like clay). The northern part of the site lies within two 1km squares where the proportion of the area which may support 'clear water' flooding is <25%. As a clay site the site is likely to extract below the perched water table (though groundwater flow on clay sites in Clearwater areas is likely to be negligible)[37]. Therefore groundwater flooding is unlikely to cause any significant problems. Perched water tables are an inherent characteristic of clay deposits.
Relevant Local SFRA	Selby
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	Present day Flood Zone 3 in the vicinity of the site is shown as being within an area benefiting from a flood defence with a design standard of 1:25 (4%). The level of protection is expected to reduce with climate change. The depth of flooding associated with Flood Zone 2 is likely to increase with climate change and the site may be at risk from Flood Zone 3 encroaching from the south east of the site. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass. This site should be considered after MJP45 but in preference to MJP52.
Exception Test Needed	No

[37] gov.uk/government/uploads/system/uploads/attachment_data/file/290396/sp2-173-tr-2-e-e.pdf (URL is no longer available)

Is an alternative site available which could help meet requirements for this mineral, subject to other tests of suitability?	Yes, MJP45 and MJP52. This site is at higher flood risk than MJP45 but at lower risk than MJP52. Therefore this site should be considered after MJP45 but is preferable to MJP52. The site would help maintain supply of clay to existing manufacturing facilities in line with national policy requirements.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required which should confirm the impact of climate change on river flooding at this site. The flood risk assessment should also address the issues of draining surface water using SuDS, without causing additional flood risk. An emergency plan should be prepared in case of a flood event as this site is in Flood Zones 2 and 3. It should be noted that this site is being identified as a preferred area within which a site could be developed – any proposals should consider flood risk sequentially within the site.


N
Stillingfleet Grange
Heron Wood
Harrop's Plantation
Mount Pond
MJP55 / WJP06
MJP55 / WJP06
MJP55 / WJP06
0 175 350 700 Meters
North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
uFMfSW - 1:30 (3.33%) predicted flood extent
uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
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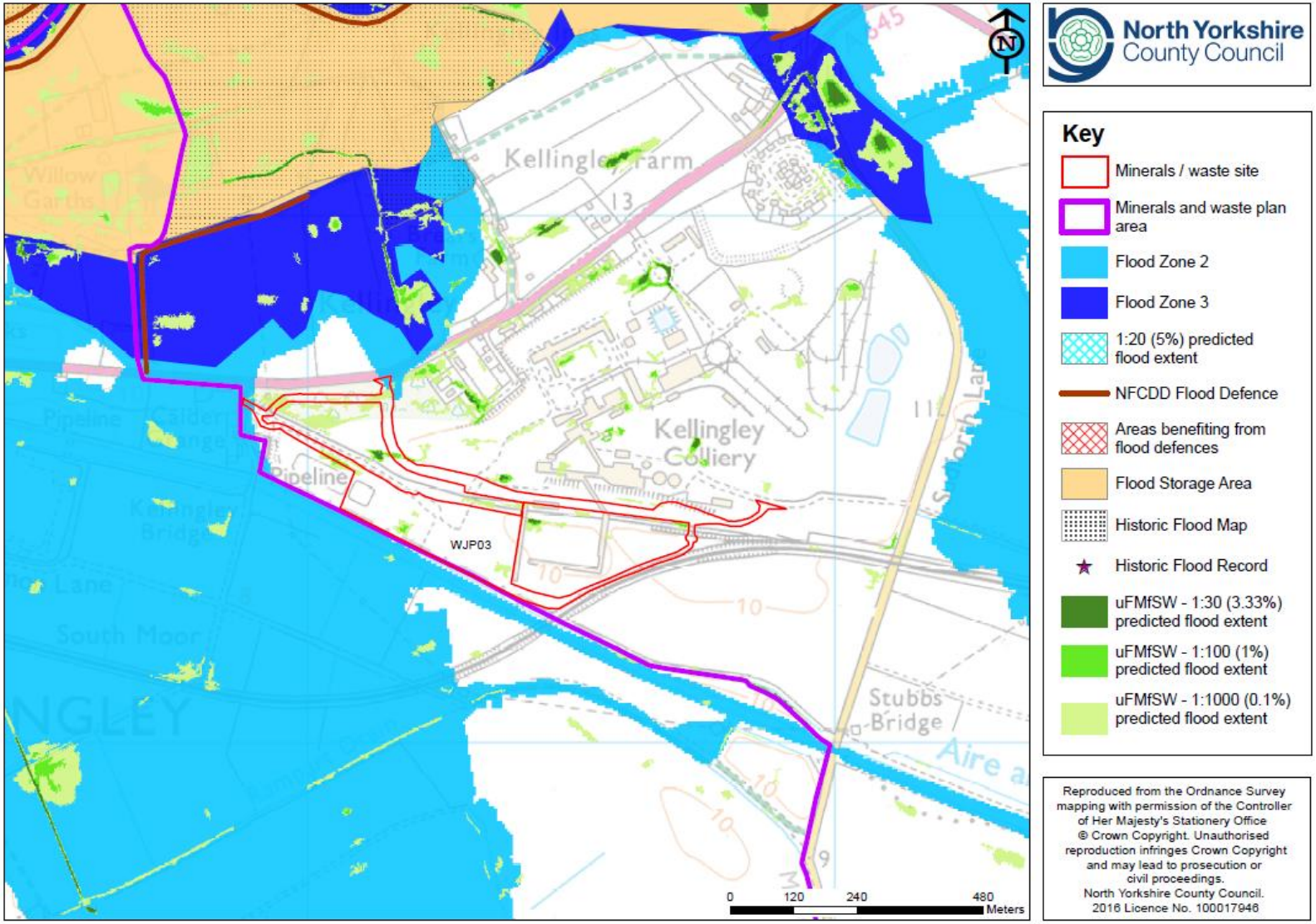
Site Reference: WJP03 Southmoor Energy Centre, former Kellingley Colliery	
Site Information	Planning application (NY/2013/0128/ENV) for this development was granted planning permission (reference C8/2013/0677/CPO) in February 2015. No extra capacity is proposed as part of this submission in addition to that already permitted. Proposed access: New access onto A645 Weeland Road in accordance with decision notice for planning application NY/2013/0128/ENV. Current use: Former coal mine Site area: 12.9ha Waste annual tonnage import: 280,000 Estimated date of commencement: By February 2020 (based on requirement for implementation specified in decision notice for planning application NY/2013/0128/ENV) Proposed Life of Site: Permanent
Proposed Land Use	Energy from Waste facility.
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	<5% of this site to the north west is located in Flood Zone 2. Flood defences are also evident beyond the north-west corner of the site, though the area is not shown as an area benefiting from flood defences and the standard of protection is not clear. <5% of the site is also subject to medium risk (1:100 (1%)) surface water flooding. Low risk (1:1000 (0.1%)) affects a further 5% of the site. Strategic groundwater flooding maps show that most of the site lies in a 1km square where between >25% to <50% of the area has conditions that might support superficial deposits groundwater flooding. The very western site area lies in a 1km square where >75% of the area has conditions that might support superficial deposits groundwater flooding.
Relevant Local SFRA	Selby
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.

Climate change	Climate change is likely to extend the area of the Flood Zones, with Flood Zone 2 likely to encroach further into the site and Flood Zone 3 potentially increasing to the extent of current day Flood Zone 2. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass. This site should be considered after WJP01, WJP13 and WJP25 but in preference to WJP02.
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP01, WJP02, WJP13 and WJP25. WJP01, WJP13 and WJP25 are all in Flood Zone 1 and are at slightly lower risk from surface water flooding. WJP02 is in Flood Zones 2 and 3. Therefore this site should be considered after WJP01, WJP13 and WJP25 but before WJP02.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment was submitted with the planning application. Mitigation for surface water runoff using SuDS provision proposed.


N
Kellingley Farm
Kellingley Colliery
WJP03
Stubbs Bridge
Aire a
0
120
240
480
Meters
North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
uFMfSW - 1:30 (3.33%) predicted flood extent
uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
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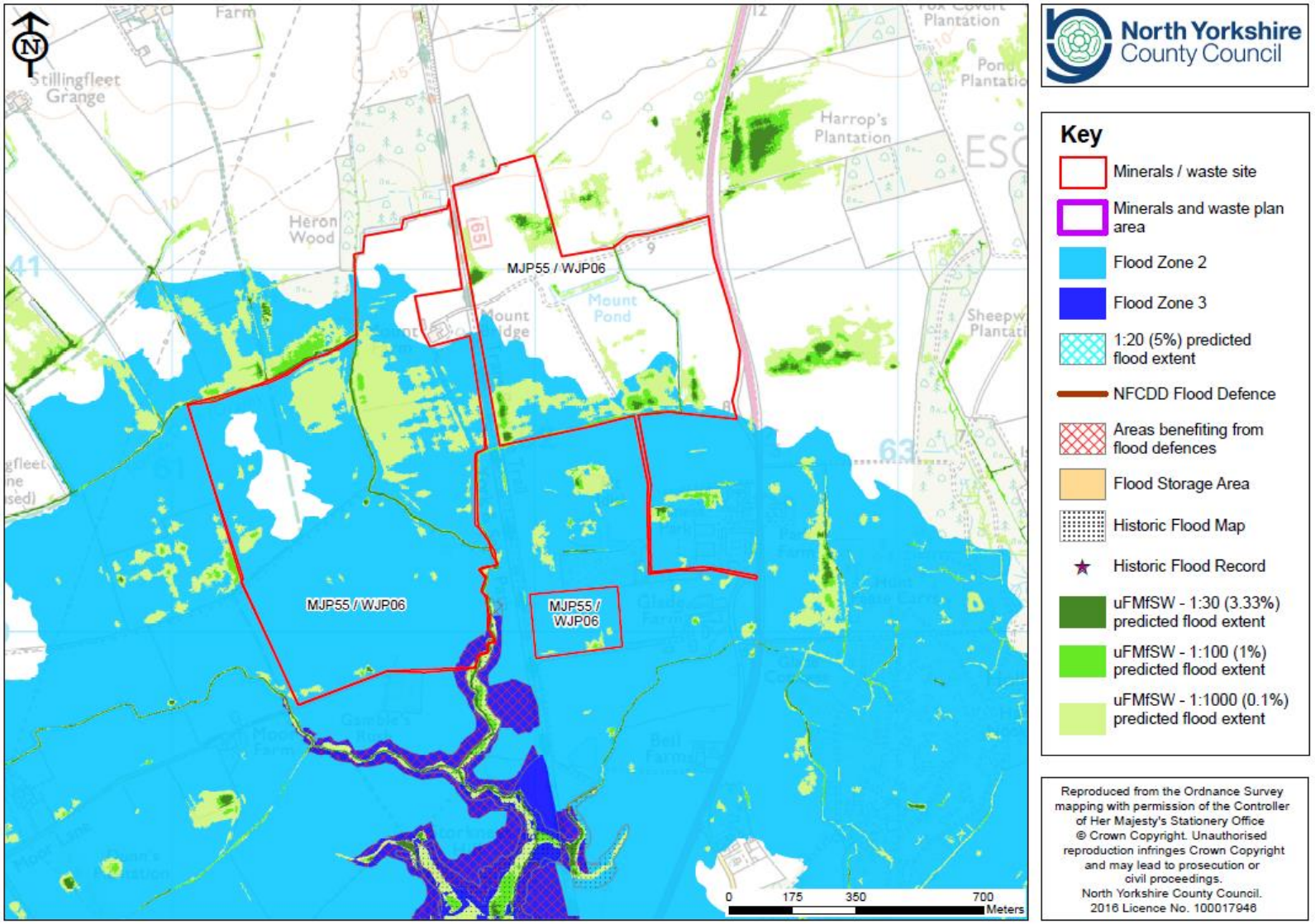
Site Reference: WJP06 Land adjacent to former Escrick Brickworks, Escrick	
Site Information	This site would only be developed if minerals extraction within MJP55 preferred area occurs. Proposed access: Existing access via the former Escrick Brickworks and U722 unclassified road by Escrick Business Park onto the A19. Current use: Agriculture Site area: 112ha Waste annual tonnage import: 200,000 Estimated date of commencement: Approximately 2025 Proposed Life of Site: 31.5 years
Proposed Land Use	Landfill importation of inert waste for use in restoration of proposed clay extraction within preferred area (MJP55).
NPPF Vulnerability Classification	Landfill is more vulnerable, other uses are less vulnerable.
Overview of flooding	About 60% of this site lies in Flood Zone 2 with about 35% being in Flood Zone 1 and <5% being in Flood Zone 3, but benefiting from existing defences. About 15% of the site is at risk from surface water flooding. This is mainly low risk (1:1000 (0.1%)) with small areas of medium risk (1:100 (1%)) and high risk (1:30 (3.33%)). The southern part of this site lies within a series of three 1km squares where >75% of their area has conditions which support Clearwater flooding. Although this is a higher risk area, flooding occurs mainly from consolidated aquifers (rather than superficial deposits like clay). The northern part of the site lies within two 1km squares where the proportion of the area which may support 'clear water' flooding is <25%. As a former clay site in a clear water flooding area the site's vulnerability to groundwater flow is likely to be negligible[38]. Therefore groundwater flooding is unlikely to cause any significant problems.
Relevant Local SFRA	Selby

38 gov.uk/government/uploads/system/uploads/attachment_data/file/290396/sp2-173-tr-2-e-e.pdf (URL is no longer available)

1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	Present day Flood Zone 3 in the vicinity of the site is shown as being within an area benefiting from a flood defence with a design standard of 1:25 (4%). The level of protection is expected to reduce with climate change. The depth of flooding associated with Flood Zone 2 is likely to increase with climate change and the site may be at risk from Flood Zone 3 encroaching from the south east of the site. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	**Site would require an Exception Test demonstrated through a Level 2 SFRA to proceed.** WJP08, WJP19 and WJP16 should be considered before this site. However, this site is preferable to WJP15, WJP11, WJP05 and WJP18.
Actions to pass the Sequential Test	In order for this site **pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities** the redline boundary for any proposal needs to be outside of Flood Zone 3 (including areas benefiting from existing defences). If a proposal redline boundary for this site remains within Flood Zone 2 WJP08 and WJP19 would remain preferable to this site as they are located in Flood Zone 1. WJP05, WJP11, WJP15 (with revised boundaries) and WJP16 should be considered before this site. This site is preferable to WJP18.
Exception Test Needed	Yes, more vulnerable land use types in Flood Zone 3 require the Exception Test to be passed.

Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP05, WJP08, WJP11, WJP15, WJP16, WJP18 and WJP19. WJP08 and WJP19 are in Flood Zone 1 and should be considered before this site. WJP16 is in Flood Zone 2 and therefore should be considered after WJP08 and WJP19 but before this site. However, this site is preferable to WJP15, WJP11, WJP05 and WJP18. As the landfilling of this site is associated with restoration this should be included in consideration for alternative site consideration.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required which should confirm the impact of climate change on river flooding at this site. The flood risk assessment should also address the issues of draining surface water using SuDS, without causing additional flood risk. An emergency plan should be prepared in case of a flood event as this site is in Flood Zones 2 and 3.



North Yorkshire County Council

Key

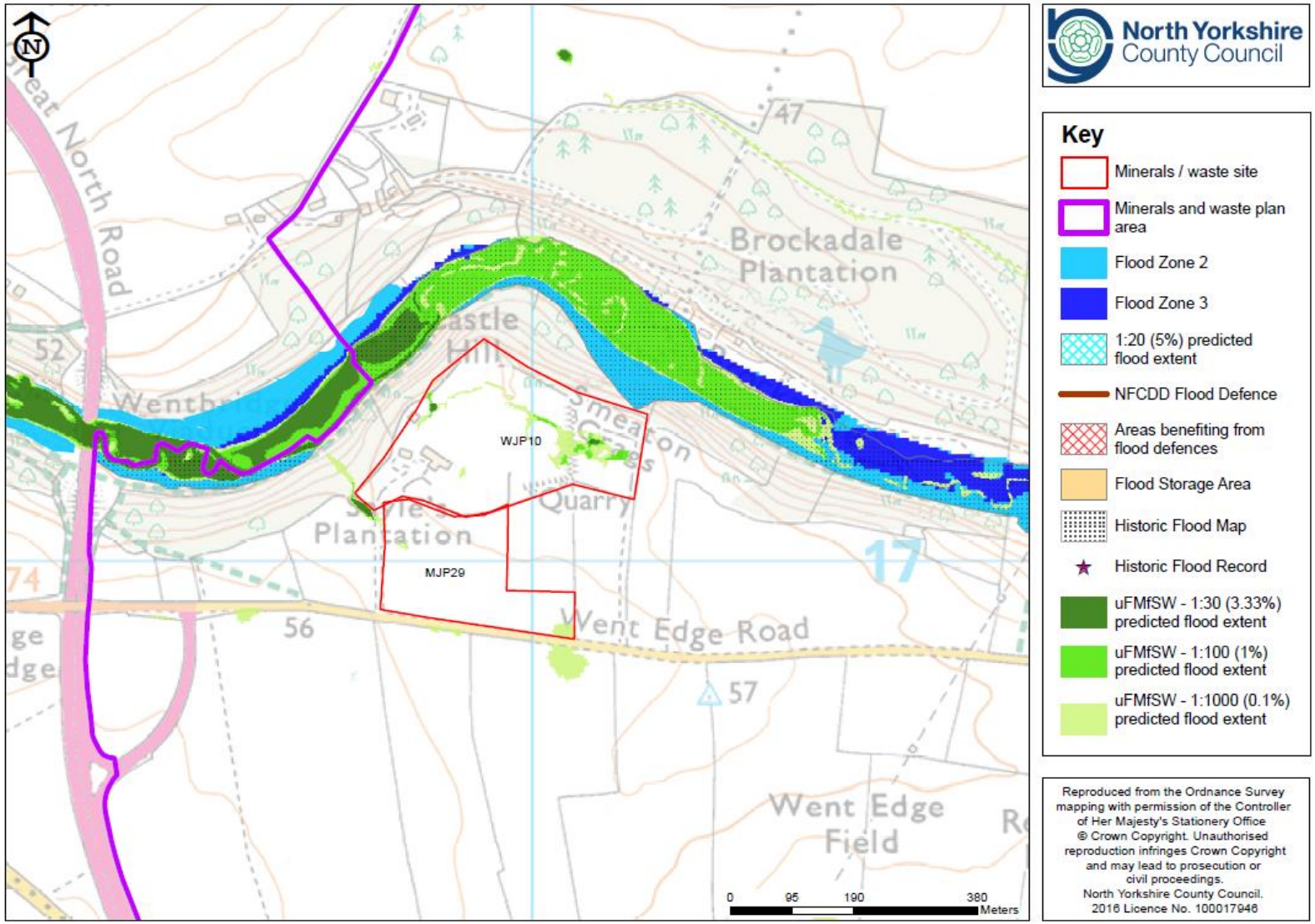
- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: WJP10 Went Edge Quarry recycling, near Kirk Smeaton	
Site Information	Part of the WJP10 site has planning permission for the extraction of Magnesian limestone. Existing restoration scheme for quarry is to limestone grassland with blocks of woodland and scrub. Proposed access: Existing Went Edge Quarry access onto Went Edge Road (C344), approximately 290m east of A1(M) south-bound junction at Wentbridge. Current use: Part of existing quarry and industrial estate Site area: 7.24ha Waste annual tonnage import: 150,000 Estimated date of commencement: Unknown at present Proposed Life of Site: 15 years to 2032 (as MJP29)
Proposed Land Use	Recycling of construction and demolition waste for secondary aggregate.
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. It is affected by small patches of surface water flooding across the site but predominantly in the eastern site area. Flood risk is mostly low risk (1:1000 (0.1%)) but very small areas medium risk (1:100 (1%)) and high risk (1:30 (3.33%)) are present. This site lies across two 1km squares where <25% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a minority of locations mainly from consolidated aquifers. A 2006 Committee Report for a planning application for extraction at this site referred to the Environment Agency's confirmation that the water table was significantly below the base of the site[39]. More recently, according to a recent 2014 planning application for another part of the quarry immediately adjacent to the south, the quarry floor, at 20mAOD, is still six metres above the water table measured at its highest point (14mAOD)[40].
Relevant Local SFRA	Selby

[39] North Yorkshire County Council, 2006. Planning and Regulatory Affairs Committee 29 August 2006: Proposed extraction of limestone from areas 1 and 2 to stabilise the quarry face at Went Edge Quarry, Kirk Smeaton by Meakin Properties.

[40] Cromwell Mining Consultants. 2014. Environmental Statement. Went Edge Area 4 [URL: https://onlineplanningregister.northyorks.gov.uk/register/PlanAppDisp.aspx?recno=9255]

1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	Although the site is in Flood Zone 1 it is in close proximity to Flood Zone 2 to the north east corner. Flood Zone 2 may encroach the site with the impacts of climate change. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP21, WJP22 and WJP24. WJP21, WJP22 and WJP24 have similar levels of flood risk from surface water. WJP 21 and WJP24 are located in Flood Zone 1; WJP22 is within Flood Zones 2 and 3 to a minor extent. Therefore this site should be considered alongside WJP21 and WJP24 but is preferable to WJP22.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required. This should address the issues of draining surface water without causing additional flood risk. SuDS could be used for draining / storing surface water.


N
Great North Road
Brockadale Plantation
WJP10
MJP29
Quarry
Went Edge Road
Went Edge Field
47
52
74
56
57
17
0
95
190
380
Meters
North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
uFMfSW - 1:30 (3.33%) predicted flood extent
uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
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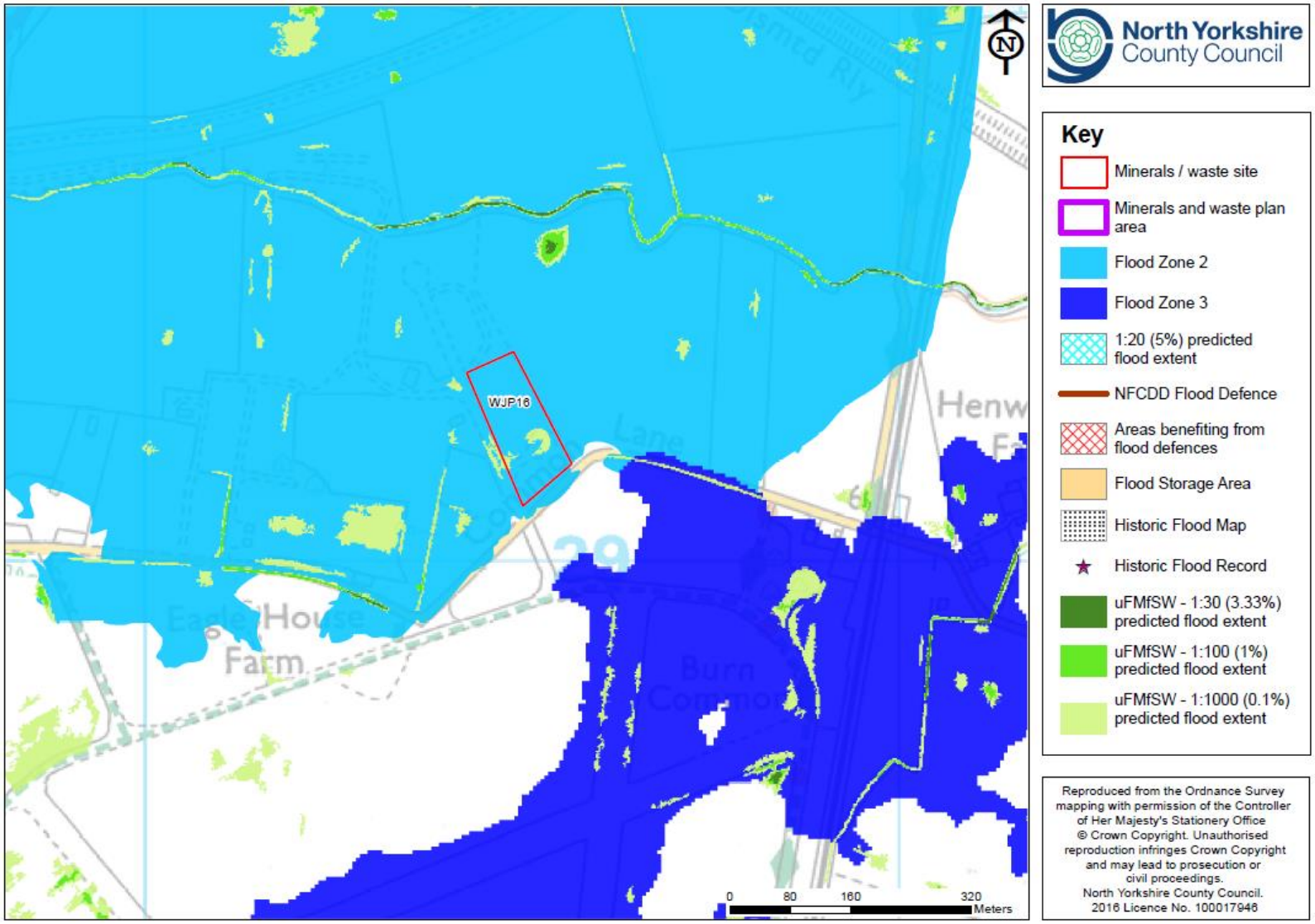
Site Reference: WJP16: Common Lane Burn	
Site Information	Adjacent to an existing waste recycling operation. Proposed access: Existing access onto Common Lane, Burn (C330) approximately 805m east of A19. Current use: Former airfield Site area: 1.42ha Waste annual tonnage import: 65,000 Estimated date of commencement: Within next 5 years Proposed Life of Site: 15 – 20 years
Proposed Land Use	Bulking and transfer of municipal and commercial waste
NPPF Vulnerability Classification24	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 2. About 5% of the site is at low risk (1:1000 (0.1%)) of surface water flooding. This site lies in a 1km square where <25% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a minority of locations mainly from consolidated aquifers.
Relevant Local SFRA	Selby
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	The depth of flooding associated with Flood Zone 2 is likely to increase with climate change and the site may be at risk from Flood Zone 3 encroaching from the south east of the site. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass. Sites WJP08 and WJP19 should be considered before this site. However, this site is preferable to WJP06, WJP15, WJP11 (with the current site boundary), WJP05 and WJP18.
Exception Test Needed	No

Is an alternative site available which could help meet requirements for this facility, subject to other tests of suitability?	Yes, WJP05, WJP06, WJP08, WJP11, WJP15, WJP18 and WJP19. WJP08 and WJP19 are at lower risk than this site. WJP06, WJP15, WJP11, WJP05 and WJP18 are at higher risk than this site. Therefore WJP08 and WJP19 should be considered before this site. However, this site is preferable to WJP06, WJP15, WJP11, WJP05 and WJP18.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required. This should seek to confirm climate change risk to the site and address the issues of draining surface water without causing additional flood risk. SuDS could be used for draining / storing surface water.


WJP16
Eagle House Farm
Burn Common
0 80 160 320
Meters
North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
uFMfSW - 1:30 (3.33%) predicted flood extent
uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
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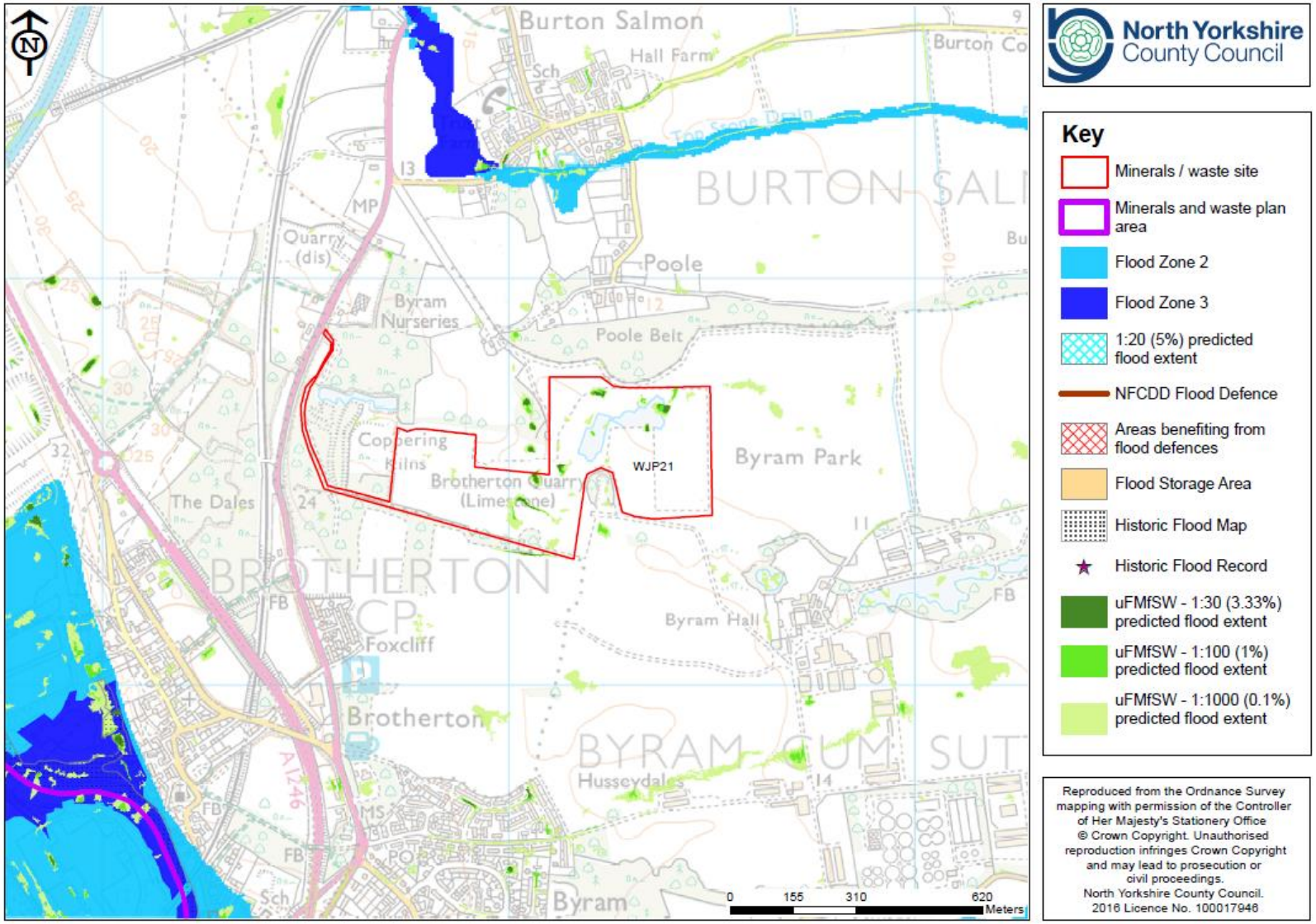
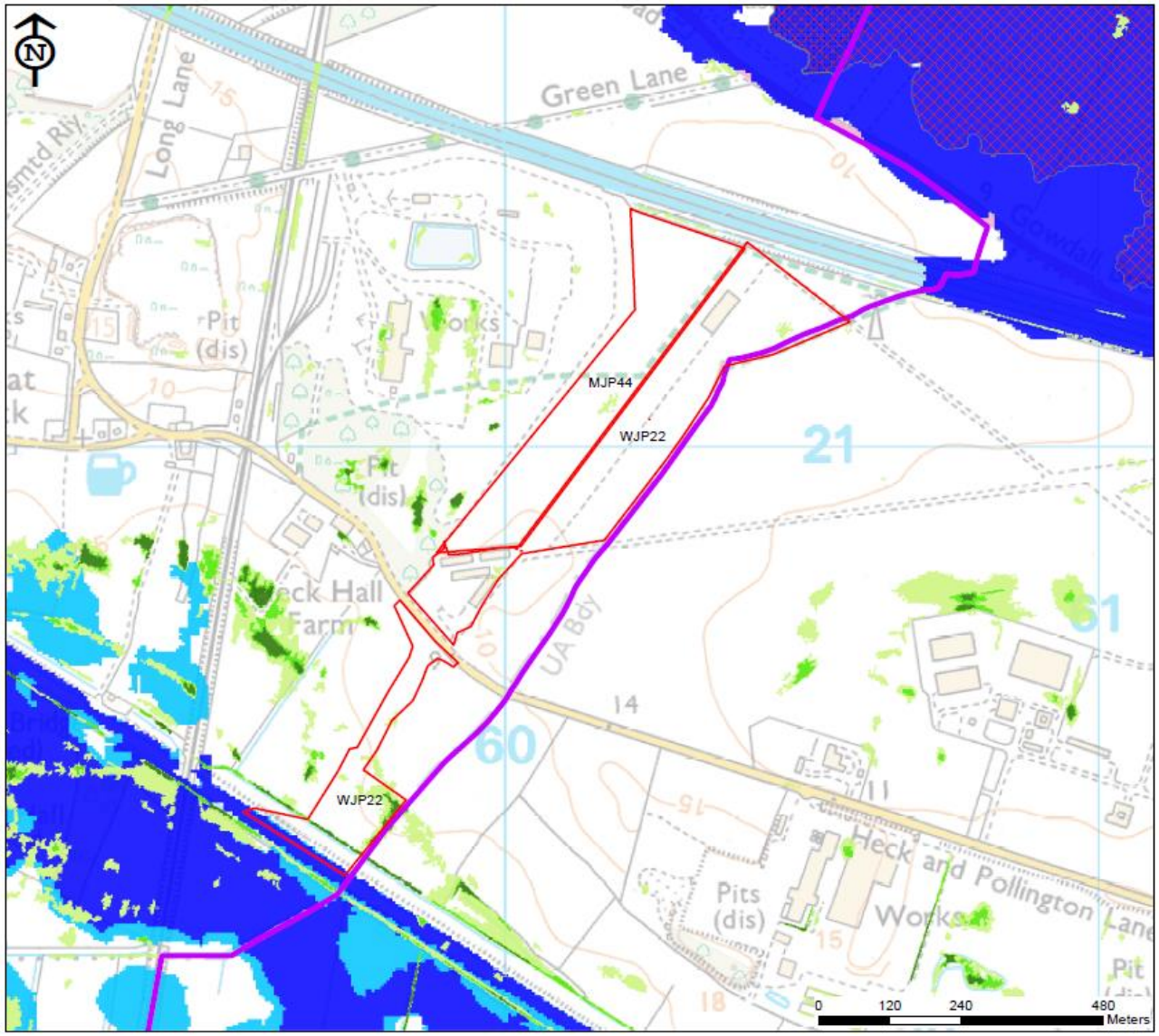
Site Reference: WJP21 Brotherton Quarry, Burton Salmon	
Site Information	Application NY/2013/0324/73, to extend the period of time for extraction and restoration of the eastern part of the site (which involves importing soils for restoration purposes) until 31 December 2020, was granted in October 2014. WJP21 would extend the area of proposed material import to include the western part of the quarry with a potential need for about 400,000 tonnes of inert material to restore the site. Proposed access: Existing Brotherton Quarry access onto A162 (approximately 50m south of Byram Nurseries), between Burton Salmon and Brotherton. Current use: Quarry Site area: 20.5ha Waste annual tonnage import: 250,000 Estimated date of commencement: To follow on from completion of restoration of area permitted under NY/2013/0324/73 Proposed Life of Site: Until 2020
Proposed Land Use	Import of inert waste for restoration purposes - landfill
NPPF Vulnerability Classification	More vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. About 5% of the site is also subject to low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)). <2% of the site area is high risk (1:30 (3.33%)). More than half of the site lies in a 1km square where <25% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a minority of locations mainly from consolidated aquifers.
Relevant Local SFRA	Selby
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.

Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP10, WJP22 and WJP24. WJP10, WJP22 and WJP24 have similar levels of flood risk from surface water. WJP10 is within close proximity to Flood Zone 2 and WJP22 is within Flood Zones 2 and 3 to a minor extent. Therefore this site should be considered alongside WJP24 and WJP10 and is preferable to WJP22.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required. This should address the issues of draining surface water without causing additional flood risk. Foul water will need to be dealt with via an environmental permit.



Site Reference: WJP22 Land on former Pollington Airfield	
Site Information	Planning permission (12.04.09.04/32C) has been granted to construct the biomass energy plant in the East Riding of Yorkshire Council area, but it has yet to be built. The permission area includes the WJP22 site and some land adjacent to the north-eastern boundary. Proposed access: Existing at site onto Heck and Pollington Lane (C340) approximately 490m east of East Coast mainline railway. Current use: Processing plant to create waste wood biomass fuel and processing plant to create waste wood pellets. Site area: 12.83ha Waste annual tonnage import: 160,000 – for wood processing (pellet production) Estimated date of commencement: By 2017 Proposed Life of Site: To 2040
Proposed Land Use	Import of waste wood for wood pellet production. Additional infrastructure associated with wood processing such as site access, waste wood fuel processing building, chip dryer and storage areas.
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is almost entirely within Flood Zone 1 but with the very south western boundary lying in Flood Zones 2 and 3. There are small areas of surface flood risk within the site. One low risk (1:1000 (0.1%)) to the north east and low risk (1:1000 (0.1%)) to high risk (1:30 (3.33%)) areas to the south west. The northern part of this site lies in a 1km square where <25% of the area has conditions that might support Clearwater groundwater flooding. This means the site is in an area where groundwater flooding happens in a minority of locations mainly from consolidated aquifers. The site will mostly consist of surface development, so groundwater flooding is not expected to be significant issue.
Relevant Local SFRA	Selby
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.

Climate change	The extent and depth of flooding associated with both Flood Zones 2 and 3 is likely to increase with climate change. Therefore these are likely to encroach further in to the site over the Plan period with Flood Zone 1 currently adjacent to Flood Zone 2 becoming Flood Zone 2 and current day Flood Zone 2 becoming Flood Zone 3. Current day Flood Zone 3 is likely to increase in flood depth. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass. This site should be considered after WJP10, WJP21 and WJP24.
Exception Test Needed	No
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP10, WJP21 and WJP24. WJP10, WJP21 and WJP24 have similar levels of flood risk from surface water. WJP10, WJP21 and WJP24 are in Flood Zone 1, although WJP10 is within close proximity to Flood Zone 2. Therefore this site should be considered after WJP21, WJP24 and WJP10.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment will be required. This should address the issues of draining surface water using SuDS and without causing additional flood risk.



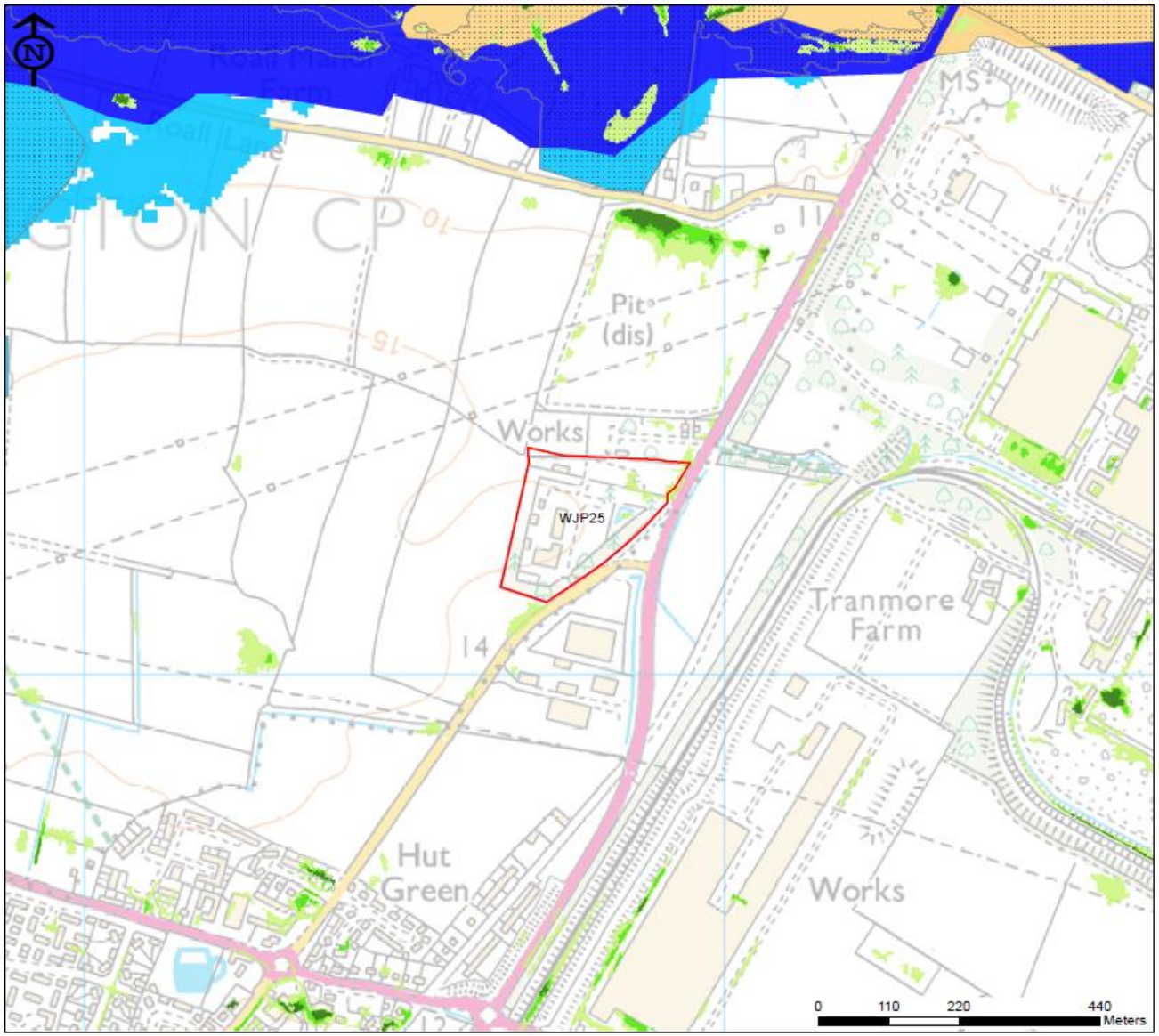
North Yorkshire County Council

Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

Site Reference: WJP25 Former ARBRE Power Station, Eggborough	
Site Information	Planning application (NY/2014/0292/ENV) for this development was granted planning permission (C8/53/125F/PA) in May 2015. A subsequent planning application (NY/2016/0052/ENV) to vary some of the terms of the original permission was granted planning permission (C8/2016/0347/CPO) in May 2016. Proposed access: Existing access onto Selby Road (C410) approximately 125m off A19. Current use: Redundant former Arable Biomass Renewable Energy (ARBRE) facility Site area: 4.2ha Waste annual tonnage import: Up to 200,000 of Refuse Derived Fuel Estimated date of commencement: 2018 Proposed Life of Site: Initial 25 years, extendable to 40 years
Proposed Land Use	Energy Recovery facility with Advanced Thermal Treatment
NPPF Vulnerability Classification	Less vulnerable
Overview of flooding	This site is 100% in Flood Zone 1. <5% of the site is at low risk (1:1000 (0.1%)) of surface water flooding. Site is in a 1km square identified as susceptible to Clearwater flooding across <25% of the area. However, no additional risk factors are noted and this development is above ground so is likely to be at a lower risk.
Relevant Local SFRA	Selby
1:20 (5%) flood event or Local SFRA Functional Floodplain	This site is not at risk from the 1:20 (5%) flood event. Functional floodplain (Flood Zone 3b) is defined in the Selby SFRA as Flood Zone 3 when it is undefended and outside of development limits. The EA urge caution about the use of the Selby SFRA functional floodplain definition which is very precautionary and arguably not representative of where water has to flow or be stored in times of flooding. Selby District Council are currently updating their SFRA.
Climate change	Climate change to river flood risk is unlikely to affect the site in the latter part of the plan period. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	Pass
Exception Test Needed	No

Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP01, WJP02, WJP03 and WJP13. WJP01 is at slightly lower risk from surface water flooding with WJP13 being at a similar level of risk. WJP03 is at a slightly higher level of risk from surface water flooding and is also within Flood Zone 2 to a minor extent. WJP02 is in Flood Zones 2 and 3. Therefore this site should be considered alongside WJP13 but after WJP01 and before WJP03 and WJP02.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	A site specific flood risk assessment was submitted with the planning application. Mitigation for surface water runoff using SuDS provision proposed.



North Yorkshire County Council

Key

- Minerals / waste site
- Minerals and waste plan area
- Flood Zone 2
- Flood Zone 3
- 1:20 (5%) predicted flood extent
- NFCDD Flood Defence
- Areas benefiting from flood defences
- Flood Storage Area
- Historic Flood Map
- Historic Flood Record
- uFMfSW - 1:30 (3.33%) predicted flood extent
- uFMfSW - 1:100 (1%) predicted flood extent
- uFMfSW - 1:1000 (0.1%) predicted flood extent

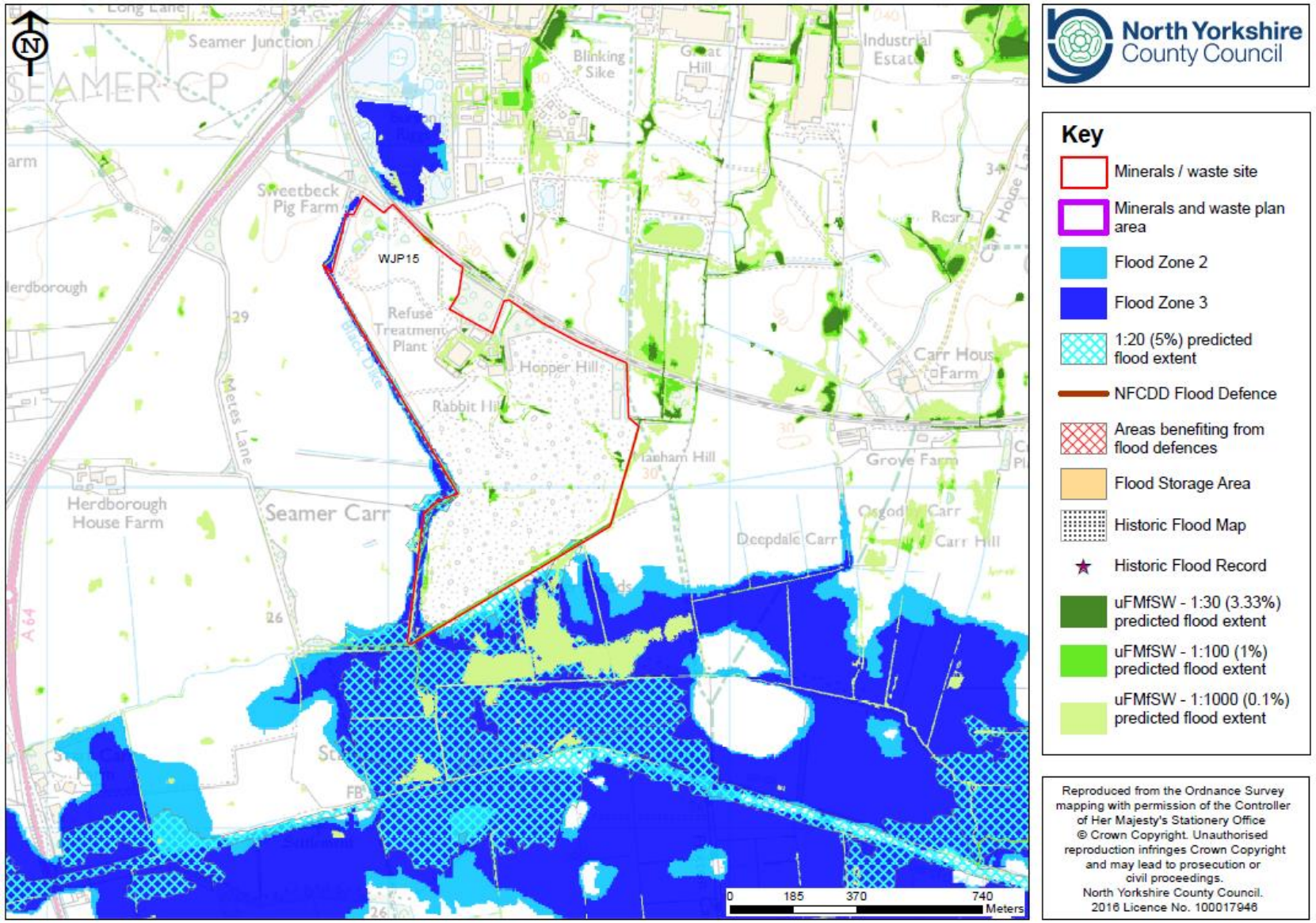
10. Scarborough Sites

Key to Sequential Test Results		
Pass	**Pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities.**	**Site is not suitable or would require an Exception Test demonstrated through a Level 2 SFRA to proceed.**

Site Reference: WJP15 Seamer Carr, Eastfield, Scarborough	
Site Information	Compost to be used in restoration of landfill site, which is being restored to woodland, shrubs and grassland with original recycling building to be retained for continued use beyond the current planning permission end-date of 2020. Other recycling building not time limited. Energy from Waste (GEM plant currently time limited to 2020). Landfill gas utilisation plant to be removed when no longer required for that function. Proposed access: Existing Seamer Carr access via Dunslow Road (U825 unclassified road) onto Cayton Approach and Seamer Carr Road to A64. Current use: Landfill (under restoration), Recycling (including treatment, bulking and transfer), Open windrow composting and Energy from Waste (Biomass and Landfill Gas Utilization). Site area: 107.8ha Waste annual tonnage import (as at 2020): 25,000 Composting; 47,000 Kerbside Recycling - bulking and transfer in existing MRF; 75,000 C&I Recycling and Municipal Residual waste in 'new' MRF. Estimated date of commencement: From 2020 Proposed Life of Site: 15 – 20 years
Proposed Land Use	Retention of existing recycling (including treatment, bulking and transfer), open windrow composting, and energy from waste (biomass) facilities beyond end of current planning permissions which are currently limited to 2020 and new inert waste screening facility.
NPPF Vulnerability Classification	Less vulnerable

Overview of flooding	This site is almost entirely within Flood Zone 1 but small extent of the site area along the western and southern boundaries are lying in Flood Zones 2 and 3. Risk from surface water flooding exists in small patches across the site covering <5% of the area. This is mainly low risk (1:1000 (0.1%)) but occasionally rising to high risk (1:30 (3.33%)). Site lies across two 1km squares in the Environment Agency's 'Areas Susceptible to Groundwater Flooding' map. The northern part is susceptible to Clearwater and superficial deposits flooding (>50% to <75% of the km square is susceptible). The southern part is subject to superficial deposits flooding (<25% of the km square is susceptible).
Relevant Local SFRA	North East Yorkshire
1:20 (5%) flood event or Local SFRA Functional Floodplain	The 1:20 (5%) event extent mapping for this SFRA shows that <5% of this site is at flood risk. The North East Yorkshire SFRA defines functional floodplain as "all areas within Flood Zone 3 which are located outside of currently developed sites and are not defended to a proven standard of protection of at least 5%. This includes all floodplain areas behind agricultural flood banks". This would mean the area of the map currently shown as Flood Zone 3 should be considered as functional floodplain, with the area of 1:20 (5%) modelled fluvial flood risk (that affects a small part of the site) also considered as initial functional floodplain.
Climate change	Climate change is likely to increase the 1:20 (5%) predicted flood event extent within the site. Areas of Flood Zone 3 are likely to increase into areas that are shown as Flood Zone 2 and Flood Zone 2 is likely to increase in extent into the site. Climate change effects on surface water flooding are likely to increase the extents of the areas at risk and also the depth of flooding for each event respectively.
Sequential Test result	**Site is not suitable**. Less vulnerable land uses are not permitted at sites within functional floodplain. Sites WJP08 and WJP19 should be considered before this site followed by WJP16, WJP06. However, this site is preferable to WJP11, WJP05 and WJP18.

Actions to pass the Sequential Test	In order for this site **pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities** the redline boundary for any proposal needs to be outside of the 1:20 (5%) flood event or Local SFRA Functional Floodplain. If a proposal redline boundary for this site remains within Flood Zone 3 WJP08 and WJP19 would remain preferable to this site as they are located in Flood Zone 1. WJP11 (with revised boundary) and WJP16 would also remain preferable to this site. This site be preferable to WJP05, WJP06 and WJP18.
Exception Test Needed	No, however, less vulnerable land uses are not permitted at sites within functional floodplain.
Is an alternative site available which could help meet requirements for this waste facility, subject to other tests of suitability?	Yes, WJP05, WJP06, WJP08, WJP11, WJP16, WJP18 and WJP19. WJP08 and WJP19 are in Flood Zone 1 and are at lower risk than this site. WJP16 is in Flood Zone 2, WJP06 is in Flood Zones 1, 2 and 3 (benefiting from defences), and WJP11 is at slightly higher risk than this site along with WJP05 and WJP18. Sites WJP08 and WJP19 should be considered before this site followed by WJP16, WJP06. However, this site is preferable to WJP11, WJP05 and WJP18.
Site Specific Flood Risk Assessment Requirement and Mitigating Flood Risk	Waste management facilities classified as less vulnerable should not be located in the areas of functional floodplain unless the site specific flood risk assessment can demonstrate that they are not in the functional floodplain. A site specific flood risk assessment should further investigate the extent of functional floodplain along with the risk of groundwater flooding and should consider the potential for managing surface water through the use of SuDS. The management of drainage at the site must not increase flood risk elsewhere.


N
Seamer Junction
SEAMER CP
Blinking Sike
Great Hill
Industrial Estate
Sweetbeck Pig Farm
WJP15
Refuse Treatment Plant
Hopper Hill
Rabbit Hill
Carr House Farm
Grove Farm
Masham Hill
Herdborough House Farm
Seamer Carr
Deepdale Carr
Carr Hill
Meres Lane
A 64
0 185 370 740
Meters
North Yorkshire County Council
Key
Minerals / waste site
Minerals and waste plan area
Flood Zone 2
Flood Zone 3
1:20 (5%) predicted flood extent
NFCDD Flood Defence
Areas benefiting from flood defences
Flood Storage Area
Historic Flood Map
Historic Flood Record
uFMfSW - 1:30 (3.33%) predicted flood extent
uFMfSW - 1:100 (1%) predicted flood extent
uFMfSW - 1:1000 (0.1%) predicted flood extent
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11. Summary

Key to mineral / waste category:

	Sand and Gravel (South)
	Sand and Gravel (North)
	Magnesian limestone
	Jurassic limestone
	Building stone
	Sand / Silica sand
	Recycling of inert waste
	Clay
	Distribution / Processing
	Energy from waste and waste transfer
	Household Waste Recycling Centre
	Landfill
	Recycling

Sequential Test result:

	Pass
	Pass subject to further consideration of the site's contribution to the supply of minerals or waste facilities
	Site is not suitable or would require an Exception Test demonstrated through a Level 2 SFRA to proceed

Sequential Test rank:

Number	Rank in specific mineral or waste category

Summary table of mineral and waste sites

Site	Region	Flood Risk Event / Flood Zone	NPPF Vulnerability Classification	Sequential Test Result
MJP06	Hambleton	1:20 (5%)	Water Compatible	1
MJP07	Hambleton	1:20 (5%)	Water Compatible	2
MJP14	Harrogate	1:20 (5%)	Water Compatible	3
MJP17	Hambleton / Richmondshire	1:20 (5%)	Water Compatible	2
MJP21	Hambleton / Richmondshire	1:20 (5%)	Water Compatible	3
MJP33	Hambleton	1:20 (5%)	Water Compatible	4
MJP43	Hambleton	1	Water Compatible	1
MJP10	Harrogate	1	Less Vulnerable	5
MJP11	Hambleton / Harrogate	1	Less Vulnerable	4
MJP23	Selby	1	Less Vulnerable	=2
MJP28	Selby	1	Less Vulnerable	1
MJP29	Selby	1	Less Vulnerable	=2
MJP08	Ryedale	1	Less Vulnerable	=1
MJP12	Ryedale	1	Less Vulnerable	=1
MJP63	Ryedale	1	Less Vulnerable	1
MJP15	Harrogate	1	Water Compatible	4
MJP22	Selby	3	Water Compatible	5
MJP30	Ryedale	1	Water Compatible	1
MJP44	Selby	1	Water Compatible	2
MJP54	Selby	1	Water Compatible	3
MJP13	Ryedale	1	Less Vulnerable	1
MJP26	Selby	1	Less Vulnerable	3
MJP27	Selby	1	Less Vulnerable	2
MJP45	Selby	1	Less Vulnerable	1
MJP52	York	1:20 (5%) 3	Less Vulnerable	3 3
MJP55	Selby	3	Less Vulnerable	2
MJP09	Selby	3	Less Vulnerable	2
MJP24	Selby	1	Less Vulnerable	1
WJP01	Richmondshire	1	Less Vulnerable	1
WJP02	York	3	Less Vulnerable	5
WJP03	Selby	2	Less Vulnerable	4
WJP25	Selby	1	Less Vulnerable	=2
WJP13	Craven	1	Less Vulnerable	=2
WJP17	Craven	1	Less Vulnerable	1
WJP05	York	1:20 (5%) **2**	More Vulnerable	=6 =6
WJP06	Selby	3 **2**	More Vulnerable	4 4
WJP08	Harrogate	1	More Vulnerable	=1
WJP11	York	1:20 (5%) **2**	More Vulnerable	=6 =6
WJP15	Scarborough	1:20 (5%) **3**	Less Vulnerable	5 5
WJP16	Selby	2	Less Vulnerable	3

Site	Region	Flood Risk Event / Flood Zone	NPPF Vulnerability Classification	Sequential Test Result
WJP18	Richmondshire	1:20 (5%)	Less Vulnerable	8
WJP19	North York Moors National Park	1	Less Vulnerable	=1
WJP10	Selby	1	Less Vulnerable	3
WJP21	Selby	1	More Vulnerable	1
WJP22	Selby	3	Less Vulnerable	4
WJP24	Harrogate	1	Less Vulnerable	2

Contact us

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