

# Wynford Farm, Kingswells

Notice of Review: Proposed Extension to Existing Play Building.

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Client: George Hogg



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# 1. Introduction

- 1.1. Laister Planning Limited has been instructed by our client, George Hogg (the Appellant), to prepare and submit a Notice of Review under Section 43A(8) of The Town and Country Planning (Scotland) Act 1997 (as amended). The Notice of Review is submitted with regard to the refusal of application reference 210265/DPP for the *'Alterations and extension to play barn'* at Wynford Farm, Kingswells, determined on the 19<sup>th</sup> May 2021.
- 1.2. In accordance with The Town and Country Planning (Schemes of Delegation and Local Review Procedure) (Scotland) Regulations 2008 (as amended), this notice is supported by the following information:
  - This Review Statement
  - Notice of Review Form
  - Site Location Plan (drawing reference: 260221)
  - Proposed Site Plan (drawing reference: 4003 Rev D)
  - Existing Ground Floor Plan (drawing reference: 3999)
  - Proposed Ground Floor Plan (drawing reference: 4000 rev F)
  - Proposed Elevations Plan (drawing reference: 4002 rev B)
  - Planning Application Supporting Statement with Appendices

## Site and Surroundings

- 1.3. The application site is an irregular shaped parcel of land accessed by the Borrowstone Road to the west of Brimmon Hill. Wynford Farm sits approximately 1.2km south of Westhill, and 2.1km north west of Kingswells. The city of Aberdeen is located approximately 10km to the east.
- 1.4. The land is subject to some constraints. It lies in the Aberdeen Green Belt, and the Ineos Forties (Cruden Bay to Kinneil) pipeline crosses through the south eastern corner of the site, while the Shell Natural Gas Liquids pipeline can be found approximately 150m east of the Forties line. The application land is within the inner notification zones of the pipelines.
- 1.5. There are no other relevant constraints at the site, including but not limited to National Parks, Country Parks, Tree Preservation Orders, Environmentally Sensitive Areas, Listed Buildings, Listed Sites, Scheduled Monuments, Special Areas of Conservation, Special Protection Areas, Wild Land Areas or World Heritage Sites at or close to the site. The Scottish Environment Protection Agency identifies the application area as being at a low risk of flooding.

## Planning History

- 1.6. There is no relevant planning history prior to 2010.

- 1.7. In 2010 the Applicant was granted planning consent (planning reference P090706) for conversion and extension of an existing farm building in order to provide a farm shop and indoor play centre. Officers noted the following reasons for Local Members decision to support the application, with reason 4 being especially relevant to the current proposal, and we will comment on this in due course:-

“1. The proposed use as a farm shop, café and play barn were considered to be legitimately related to the existing agricultural use and to be an acceptable form of farm diversification;

2. The physical development proposed and design of the building was considered to be acceptable and have no adverse impact upon the landscape character of the green belt;

3. There are similar developments within Aberdeenshire and allowing such a development within Aberdeen City would reduce the distance people would need to travel to use such a facility; and,

**4. After considering the independent report submitted by the applicant which assessed the risk posed by the proximity of the site to the Shell and BP pipelines, the risk posed by the pipelines was regarded as being at the lower end of the scale and of minor significance”.**

- 1.8. Under reference PI30002, an application for the *“Proposed extension to existing playbarn”* was refused by the Local Authority, who considered the proposal was contrary to Policy NE2 (Green Belt), Policy D1 (Architecture and Placemaking), Policy D6 (Landscape), Policy T2 (Managing the Transport Impact of Development) and Policy D3 (Sustainable and Active Travel). The Local Review Body overturned this decision, allowing permission in July 2014. The Officer Report for this Notice of Review (reference 210265/DPP) incorrectly states the Local Review Body upheld the officers decision for reference PI30002.

- 1.9. The reasons the Local Review Body gave for overturning the refusal are summarised as follows:-

i) In the context of the existing property, the proposed development was not oversized, and the extension was to improve the existing facility and not to provide new attractions. Therefore it was not expected that there would be a significant increase in the intensity of the activity. The Local Review Body therefore considered that the development was not against Policy NE2 (Green Belt).

ii) The proposed design would have the appearance of an agricultural building and felt that this was in keeping with the existing building on site, would not detract from the character of the original steading or the surrounding area, and therefore was not in contravention of Policy D1 (Architecture and Placemaking) or Policy D6 (Landscape).

iii) The existing business at the proposed development encouraged group visits and travel by minibus, and therefore did not consider that the

proposal was in contravention of Policy T2 (Managing the Transport Impact of Development) nor D3 (Sustainable and Active Travel).

## The Proposed Development

- 1.10. Application reference 210265/DPP was submitted on the 2nd March 2021 for the “*Full Planning Application for the Extension of Play Building, and Retrospective Application for the Erection of ‘Wee Beasties Shed’*”. During the course of the determination period, the scope of the application was revised to reflect only the alterations and extension to the play barn, which excluded the retrospective element related to the ‘Wee Beasties Shed’.
- 1.11. As set out in the Officer’s Report (Appendix 2), the extension would have a monoslope roof which extends from the existing roof plane and would encompass approximately 324m<sup>2</sup> of the site. The extension would measure approximately 26m by 18m and have a height of 6.4m where it adjoins the existing roof. Proposed materials include roughcast render, insulated steel cladding, timbers windows, and translucent rooflights all to match the existing building.
- 1.12. In reaction to waves of the COVID-19 virus, the attraction has been forced to reduce its staff numbers from 34 to 19, and change table service and other close contact activities. Instead of such engagements, customers are encouraged where possible and where able to use a pager service.
- 1.13. At present, the farm park attraction disproportionately caters for many more people outside than inside. Even though coronavirus restrictions are lifting, the business continues to implement health and safety measures that are implored in government guidance to reduce the amount of physical contact people might have, and to ensure there is sufficient space between guests. It is also a legal requirement for the business to keep its staff and customers safe, and to produce a risk assessment. This risk assessment has resulted in a number of necessary mitigation measures that respond to the ongoing risk of Covid, which together require more space to be provided per person.
- 1.14. As a result of government guidance and the risk assessment, the operator utilises a booking system to ensure the site is not overpopulated and this has resulted in fewer guests visiting the attraction at any one time when compared to pre-pandemic levels. In order for the business to be sustainable, it needs to be able to restore the number of visitors to nearer the original number of pre-pandemic numbers, while providing for safety and compliance with coronavirus precautions and having capacity to react to stricter measures should new vaccine resistant variants circulate in the population. The most practical way of achieving this is to extend the existing play building and to charge a higher admission fee to fund the extension.
- 1.15. On this, the purpose of the proposed development is to increase the ability to utilise government guided COVID-19 precautions, enable effective one-way systems, provide safe social distancing, and restore visitors to close to pre-pandemic numbers.

- 1.16. For the avoidance of any doubt, and in line with many other similar visitor-based businesses, the applicant does not expect to restore the number of guests on the site fully to pre-pandemic numbers. The permanence of this arrangement, with a lower density of guests spread across a larger building, is confirmed by the on site parking arrangements. At present, 70 parking spaces can be found within the site, and two spaces would be lost as a result of the proposed extension, resulting in a total of 68 spaces being available (a reduction of two spaces). The maximum number of people that could visit the attraction would therefore be reduced as a result of the proposal, given its isolated location.
- 1.17. Without these changes, the play barn business may well not be viable in the long-term, as it is essential that the business can operate at close to the levels of visitors that it enjoyed prior to Covid.

## 2. Reason for Notice of Review

- 2.1. The application subject to this Notice of Review (reference 210265/DPP) was refused by officers under delegated powers on 19<sup>th</sup> May 2021 (Appendix 1) for the following single reason:
  - 1) There has been a formal objection from the Health and Safety Executive who raise concerns regarding the safety of the proposal development, as such the proposal does not comply with Policy B6 – Pipelines, Major Hazards and Explosives Storage Sites as contained within the Aberdeen Local Development Plan 2017.
- 2.2. In summary, the Health and Safety Executive (HSE) objection (Appendix 3) advised against the development following an *“assessment indicating that the risk of harm to people at the proposed development site is such that HSE’s advise is that there are sufficient reasons on safety grounds, for advising against the granting of planning permission in this case”*.
- 2.3. The breakdown of this advice is clear HSE object for reasons related to the indoor and outdoor use by the public. Regarding indoor use, the proposed development is between 250sqm and 5,000sqm triggering HSE to advise against development. Regarding outdoor use, because the maximum number of people likely to be present at any one time is between 101 to 1000 people, HSE advise against development.
- 2.4. The method and details used to make the assessment were not available to the applicant during the determination process. On the 18<sup>th</sup> May, one day before the decision notice was issued, officers advised (Appendix 4 [email from Case Officer]):

*“as per Policy B6, this proposal appears to be a potential risk to public safety and on that basis I have no other option but to refuse this application. At this time, I am unable to accept any further changes to this proposal as the report has been finalised and we are in a position to determine the application”*.
- 2.5. The applicant was seeking to prepare an Enumerated Risk Assessment which would have assessed the risk occurring from the proximity of the site to the Shell and BP pipelines, however it was not prepared in time, and it appears the local authority would not have accepted it.
- 2.6. Following determination of the application, HSE provided details of how the proposal was assessed, and why it was categorised as a *“sensitivity level 2 development”* (Appendix 5 [email from HSE]). In summary, their response set out the increased play area would fall into *sensitivity level 2 development*, and its size would fall into *sensitivity level 2 development*. In the Inner Notification Zone, HSE would advise against any *sensitivity level 2 development*.
- 2.7. The appellant therefore has two reasons to request a Notice for Review. Firstly, the local authority has not considered it is material that the application site is in an isolated location which requires a vehicle to be accessed and the proposal will



result in a reduction in the total number of parking spaces. Consequently, there will be a reduction in the maximum number of people at the site, and should there be an incident with the pipeline, there will be fewer people at risk to harm.

- 2.8. Secondly, during the course of the determination of a similar application at the site (reference: P090706), a third-party risk assessment was examined and found to quantify that the similar development is lower than a Sensitivity 2 development. Local Members determined that the risk of P090706 is at the lower end of the scale and of minor significance, as set out in Section 1.7 above. Of course, P090706 sought to increase the number of people at the site, which is not the purpose of this proposal.
- 2.9. For the avoidance of doubt, the INEOS Forties Pipeline System advised that the proposal had been reviewed and that the safety and integrity of the pipeline will not be affected. Additionally, Shell UK Ltd. Advised that there is no reason why the development and associated construction works would directly affect the pipeline servitude strip or the safety or the integrity of the pipeline.

### 3. Planning Policy Context

- 3.1. This section summarises key Development Plan policies as well as other material planning policies, which we consider to be of relevance in the assessment of the current application.
- 3.2. Sections 25 and 37(2) of the Town and Country Planning (Scotland) Act 1997 (as amended) require decisions to be determined in accordance with the adopted Development Plan, unless material considerations indicate otherwise. The Development Plan in this case comprises the adopted Aberdeen Local Development Plan ('LDP') 2017 and the approved Aberdeen City and Shire Strategic Development Plan ('SDP') 2014. The SDP is a regional level plan, identifying four key strategic growth areas, and no policies are relevant to this development proposal. At a national level, planning policy and guidance is provided by the National Planning Framework 3 ('NPF') 2014 and the Scottish Planning Policy ('SPP') 2014.
- 3.3. The Aberdeen Local Development Plan: Proposed Plan 2020 was the subject of public consultation until 31st August 2020, with adoption of the Plan anticipated for Q1 2022. It is not relevant for this proposal.
- 3.4. For the purpose of this review, only Policy B6 – Pipelines, Major Hazards and Explosives Storage Sites of the LDP is relevant. In full, the policy sets out:

*“Where certain types of new development are proposed within the consultation zones of pipelines, major hazards and explosive storage sites, the Council will be required to consult the Health and Safety Executive (HSE) to determine the potential risk to public safety. The Council will take full account of the advice from the HSE in determining planning applications. In addition to consultation with the HSE, the Council will consult the operators of pipelines where development proposals fall within these zones. Pipeline consultation zones are shown on the LDP Constraints Map”.*

- 3.5. The supporting text for the policy is found at Section 3.74 of the LDP, and states:

*“Within Aberdeen City, there are a number of high pressure pipelines and sites where hazardous substances or explosives are stored. For each of these sites a consultation zone has been established by the Health and Safety Executive to ensure that only appropriate new or replacement development takes place and that there is no increased risk to public safety [our emphasis]”.*

- 3.6. For the avoidance of doubt, the proposal has been assessed against the entirety of the development plan, including specific regard to Green Belt, Design, Transport and all other relevant matters. The proposal is compliant with all these policies, and they require no further discussion as the Council has not referenced any other issues in its reason for refusal.

## 4. Main Assessment

- 4.1. The planning context has been set out in the previous sections of this supporting statement. The proposed development has been refused for one reason. This section assesses the application against the refusal reason and its justification.
- 4.2. As stated above, the Local Authority has refused the application because the Health and Safety Executive (HSE) have advised against the development. Policy B6 says the Council will take full account of the advice from the HSE in determining planning applications. Therefore the proposal is considered contrary to Policy B6.
- 4.3. The HSE objection can be found at our Appendix 3, and their justification for the objection can be found at Appendix 5.
- 4.4. Beginning with HSE's justification to object to the proposed development, it is set out:

*"Although in your planning statement you are not increasing the car parking area you are still increasing the overall area of the barn and outdoor play area and as it is a children's play area this would fall into a sensitivity level 2 development for outdoor use by public and for indoor use by public as it's between 250 m2 and 5,000 m2 this also falls into a sensitivity level 2 development. As the majority of these areas are in the inner zone of these pipelines then this would lead to our advise against decision. HSE would advise against any sensitivity level 2 developments located within the inner consultation zone."*

- 4.5. The Local Authority and HSE therefore appear to consider the development is *Sensitivity Level 2 development* because it is a play area, and because of its size. *Sensitivity Level 2 development* will always be advised against in the inner notification zone. Unfortunately the Local Authority and HSE have not considered a Land Use Planning Assessment prepared by Atkins in 2009 (Appendix 6) and summarised by the applicant (Appendix 7) for planning reference P090706. That permission was for the *"Proposed conversion of existing steading and extension to form farm shop/café and playbarn"*, and the extension measured 365m<sup>2</sup> (the application subject to this review is smaller, measuring 324m<sup>2</sup>).
- 4.6. In Section 4.2 of the Atkins report, it is set out *"HSE uses a crude quantitative measurement in order to obtain a rapid assessment of the 'case' societal risk of a development called the Scaled Risk Integral (SRI). It is a measure of societal risk, and a high value would indicate that substantial numbers of people would be exposed to the risk."* In that case, the SRI was calculated at 499,500 representing a hypothetical worst case scenario with 200 visitors at the site. The SRI value (499,500) is less than the value that HSE would consider a call-in. Furthermore, it is acknowledged in the Atkins report Conclusion (Section 7) that the development type does not fall into those which are typically used by vulnerable people, for example, hospitals, nursing homes, prisons and schools, which is how the proposal has been assessed, as every child is accompanied by an adult.
- 4.7. Section 4.2 of the Atkins report sets out the formula for calculating the SRI as:

$$SRI = \frac{(P \times R \times T)}{A}$$

$$\frac{(n + n^2)}{2}$$

where, P = population factor, defined as

n = number of persons at the development

R = average estimated level of individual risk in cpm (based on Dangerous Dose)

T = proportion of time development is occupied by n persons

A = area of the development in hectares

- 4.8. On this it is obvious that, among the other variables, an increase or decrease in the population will directly influence the SRI value. In generating an SRI value of 499,500 for permission reference P090706, a worst case scenario was chosen which considers a population of 200 people at the proposed development at any one time and assumes they are all vulnerable people. In this case however, the number of people that visit the site at peak time is currently 144 total visitors, which is expected to reduce to 139 visitors at peak from the loss of two parking spaces (Appendix 2, Officer Report page 5). Additionally, each visiting child must be accompanied by an adult, so it is reasonable to assume that around half of the visitors are adults, whose children would obey them and follow emergency actions if an incident occurred.
- 4.9. In our Section 1.7 above, it is set out that Local Members considered the Atkins reports' values and conclusion in the determination of application reference P090706. Members agreed the risk posed by the pipelines was regarded as being at the lower end of the scale and of minor significance.
- 4.10. The key differences between P090706 and this proposal (ref: 210265/DPP) are twofold. Firstly, the proposed extension subject to this review is 41m<sup>2</sup> smaller than that approved under P090706 (324m<sup>2</sup> vs 365m<sup>2</sup>). Secondly, the maximum number of parking spaces will be reduced as a result of this proposal, directly decreasing the maximum number of people that can be on the site at any one time (because its isolated location does not provide opportunities for alternative travel) and confirming the permanence of the current operating procedures, where fewer people will be in the play barn as a whole, spread across a larger area. Because of the overall reduction in the number of people using the play barn, the SRI would be smaller than that under P090706, which was already of minor significance. The reason that HSE have objected in this case is due to the total number of people who could be at the site, not the change in the number of people at the site, and the size of the development, but that does not account for a reduction in the risk and is a limitation of using a formulaic method of assessment. It simply makes no sense to increase the level of risk when the overall number of people on site will be lower. The only change is that the building is larger and the number of car parking spaces is reduced.
- 4.11. HSE could have applied the 'extension rule' which is referred to in the HSE Land Use Planning methodology. It states:

*“If the proposal is for an extension to an existing development, and the proposed extension is of the same Development Type as the existing development that is going to be extended and the population at the development will not increase by more than 10% (or, if the population data is not readily available, the total floor area will not increase by more than 10%), then the consultation should be treated as though the proposed extension had a Sensitivity Level one less than the Sensitivity Level of the existing (i.e. not that of the proposed) development.*

*If this results in a reduced Sensitivity Level, which combined with the zone that the extension is in, produces a DAA response, then this will replace the initial AA response”*

- 4.12. As such, if the population will not increase by more than 10%, the proposal may have been considered a *Sensitivity Level 1 development* by HSE, which would not have been advised against. In this case, the reduction in the size of the car park will result in a reduction in the maximum population at the site. However, the Officer Report (Appendix 2, page 6) has advised that the application of the ‘extension rule’ would be inappropriate as there is no means available to limit or regulate the population. Moving away from the total population, the focus turns to the total floor area. As the total floor area is proposed to extend by more than 10% (26%), HSE advise against development.
- 4.13. However, it is incorrect that the population of the site cannot be regulated, as it is directly controlled by the number of car parking spaces available at the site. The removal of parking spaces is shown on the proposed plans, and the applicant would require planning permission from the Local Authority to increase the size of the car park. The net result will therefore be a reduction in the number of people at the site which cannot be increased unless the applicant secures planning permission to increase the size of the car park. Therefore the proposal should have been considered a *Sensitivity Level 1 development*.

## 5. Conclusion

- 5.1. This Notice of Review is submitted with regard to the refusal of application reference 210265/DPP for the '*Alterations and extension to play barn*' at Wynford Farm. The proposed extension measures approximately 324m<sup>2</sup> (or an increase of approximately 26% in floorspace) will match the existing structures form and appearance, and will require the loss of two car parking spaces. The development is intended to allow the business to operate with a similar number of visitors to the existing situation, with those visitors spread over a larger area, as the permanent operating model of this business going forward will be having a reduced density of visitors who are paying a slightly higher price for a safe and premium experience.
- 5.2. The loss of parking will result in the typical maximum number of guests reducing from 144 to 139 at any one time.
- 5.3. The local authority refused the application on 19<sup>th</sup> May 2021 for one reason. The Health and Safety Executive (HSE) objected to the development, causing a conflict with Policy B6 of the local development plan. The reason for this objection is due to the size of the proposed development being between 250sqm and 5,000sqm, and due to their being between 101-1000 people at any one time at the site. HSE has therefore determined the proposal is *Sensitivity Level 2 development* in the Inner Notification Zone, requiring their "advise against" response.
- 5.4. However, this view is not cognisant of a third party report produced by Atkins which assessed a similar but larger proposal that would increase the population under application reference P090706. In the report, it is demonstrated that the proposal was *Sensitivity Level 1 development*. In the determination of a previous application at the site to change the use and extend the building resulting in a population increase and a larger extension (reference P090706), Local Members considered the report and agreed the risk was at the lower end of the scale and of minor significance.
- 5.5. In this case, the proposed development will reduce the maximum number of people who can visit the site at any one time by reducing the size of the car park.
- 5.6. Further, HSE have not applied their 'extension rule' which can reduce the Sensitivity Level if the population would not increase by more than 10%. We have set out the population will decrease, however this has not been considered by the Local Authority because their view is that the population cannot be regulated. However, it has not been considered that the appellant would need to apply for planning permission to increase the size of the car park, and the appellant would need to carry out the development in accordance with the submitted plans, if the proposal were allowed. There are no other methods of travelling to the site other than the private car. Visitor numbers will be regulated by requiring bookings online, which will ensure that the car park capacity is never exceeded. On this, the number of people visiting the site can be regulated.
- 5.7. The appellant therefore considers that the proposed development will result in an improvement to the risk by reducing the total number of people visiting the site at

any one time. The proposal will improve indoor COVID-19 safety through methods such as increasing space between visitors and staff and enabling one-way systems. It will allow the business to permanently move to its new, lower density operating model and will secure its future. This development is essential to the future of this business.

- 5.8. For the reasons set out in this report, the appellant considers that the proposal is a *Sensitivity Level 1 development*, just as Local Members considered P090706 a lower risk than what was set out by HSE.

# Appendices

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# Appendix 1 Decision (210265/DPP)

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**Notice**

## **DECISION NOTICE**

### **The Town and Country Planning (Scotland) Act 1997 Detailed Planning Permission**

David Hancock  
RPS Group  
RPS  
20 Western Avenue  
Milton Park  
Abingdon  
OX14 4SH

on behalf of **Mr Hogg**

With reference to your application validly received on 11 March 2021 for the following development:-

#### **Alterations and extension to play barn at Wynford Farm, Borrowstone Road**

Aberdeen City Council in exercise of their powers under the above mentioned Act hereby **REFUSE PLANNING PERMISSION** for the said development in accordance with the particulars given in the application form and the following plans and documents:

<u>Drawing Number</u>	<u>Drawing Type</u>
2011013 4003 Rev D	Site Layout (Proposed)
2011013 4000 Rev F	Ground Floor Plan (Proposed)
2011013 4002 B	Multiple Elevations (Proposed)

#### **REASON FOR DECISION**

The reasons on which the Council has based this decision are as follows:-

1. There has been a formal objection from the Health and Safety Executive who raise concerns regarding the safety of the proposal development, as such the

proposal does not comply with Policy B6 - Pipelines, Major Hazards and Explosives Storage Sites as contained within the Aberdeen Local Development Plan 2017.

**Date of Signing** 19 May 2021



**Daniel Lewis**  
Development Management Manager

### **IMPORTANT INFORMATION RELATED TO THIS DECISION**

#### **DETAILS OF ANY VARIATION MADE TO ORIGINAL PROPOSAL, AS AGREED WITH APPLICANT (S32A of 1997 Act)**

None.

#### **RIGHT OF APPEAL THE TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997**

If the applicant is aggrieved by the decision of the planning authority –

- a) to refuse planning permission;
- b) to refuse approval, consent or agreement required by a condition imposed on a grant of planning permission;
- c) to grant planning permission or any approval, consent or agreement subject to conditions,

the applicant may require the planning authority to review the case under section 43A(8) of the Town and Country Planning (Scotland) Act 1997 within three months from the date of this notice. Any requests for a review must be made on a 'Notice of Review' form available from the planning authority or at [www.eplanning.scot](http://www.eplanning.scot).

Notices of review submitted by post should be sent to Strategic Place Planning (address at the top of this decision notice).

#### **SERVICE OF PURCHASE NOTICE WHERE INTERESTS ARE AFFECTED BY A PLANNING DECISION**

If permission to develop land is refused and the owner of the land claims that the land has become incapable of reasonably beneficial use in its existing state and cannot be rendered capable of reasonably beneficial use by the carrying out of any development that would be permitted, the owners of the land may serve on the planning authority a purchase notice requiring the purchase of the owner of the land's interest in the land in accordance with Part 5 of the Town and Country Planning (Scotland) Act 1997.

# **Appendix 2 Officer Report (210265/DPP)**

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## Strategic Place Planning

Report of Handling

<b>Site Address:</b>	Wynford Farm, Borrowstone Road, Kingswells, Aberdeen, AB15 8RQ
<b>Application Description:</b>	Alterations and extension to play barn
<b>Application Ref:</b>	210265/DPP
<b>Application Type:</b>	Detailed Planning Permission
<b>Application Date:</b>	11 March 2021
<b>Applicant:</b>	Mr Hogg
<b>Ward:</b>	Dyce/Bucksburn/Danestone
<b>Community Council:</b>	Bucksburn And Newhills
<b>Case Officer:</b>	Aoife Murphy

### **RECOMMENDATION**

Refuse

### **APPLICATION BACKGROUND**

#### **Site Description**

The proposals are associated to Wynford Farm and Playbarn, which is located on the C93C (Borrowstone Road - Clinterty to Kingsford) to the west of Brimmond Hill. The wider grounds adjoin the western boundary of the Aberdeen City Council administrative area, some 30-40m west of the development location. Wynford Farm is approximately 1.2km north east of Westhill and 2.1km north west of Kingswells.

The farm complex itself comprises a 2-storey farmhouse and a converted and extended stabling / portal framed sheds that forms the farm shop, café and playbarn. There are several trees along the eastern boundary, between the buildings and the road. Just north of the site on the opposite side of the road are large modern agricultural storage buildings, associated to the operation of the farm.

It is noted that there are a number of existing sheds and structures on site, which are located to the west of the existing building and car park. These sheds appear to house birds and other types of animals and creatures as part of a visitor attraction. There is also a large play area to the west of the building, which includes sandpits and a pond to the south west of the site. An overspill car park is located to the south of the site and is not accounted for within the existing parking numbers, which equates to 70 spaces at present.

The Ineos Forties (Cruden Bay to Kinneil) pipeline crosses through the south eastern corner of the site, from north to south. The proposed works are within the inner notification zone of the pipeline, for the purposes of Health and Safety Executive consultations. Additionally, the development area

is within the inner zone of the Shell Natural Gas Liquids pipeline that runs around 150m east of the Forties pipeline.

### **Relevant Planning History**

130002 – Detailed Planning Permission for extension to existing playbarn – Refused 17 March 2014. Appeal Upheld by LRB – 25 July 2014.

120696 – Detailed Planning Permission for extension to existing hardcore car park including change of use from agricultural land to car parking (Retrospective) – Withdrawn, 23 April 2015.

090706 - Detailed Planning Permission for conversion of existing steading and extension to form farm shop/cafe and playbarn – Approved 19 August 2010. Notified to Scottish Ministers but not called in.

## **APPLICATION DESCRIPTION**

### **Description of Proposal**

Detailed planning permission is sought for the extension to the existing building's west elevation to allow for an extension to the playbarn's floorspace. The extension would have a monoslope roof which extends from the existing roof plane and would encompass approximately 344m<sup>2</sup> of the site. The extension would measure approximately 26m by 18m and have a height of 6.4m where it adjoins the existing roof. Proposed materials include roughcast render, insulated steel cladding, timbers windows, and translucent rooflights all to match existing.

With regards to parking, while 70 spaces can be found within the site, two spaces would be lost as a result of the proposed extension, resulting in a total of 68 spaces being available.

The applicant has advised within their supporting statement that there is no intention to increase the number of visitors at this business, the additional playbarn floorspace is however sought to allow for safe movement of people within the facility and to allow for enhanced COVID-19 precautions.

### **Amendments**

A new shed adjacent the proposed extension was also proposed, but this has since been removed from the application proposal and the description amended accordingly.

### **Supporting Documents**

All drawings and supporting documents listed below can be viewed on the Council's website at: <https://publicaccess.aberdeencity.gov.uk/online-applications/applicationDetails.do?activeTab=documents&keyVal=QPDVL0BZH7P00>

Planning Statement, prepared by RPS Group, 22 February 2021.

## **CONSULTATIONS**

**ACC - Environmental Health** – has no comments to make on this proposal.

**ACC - Roads Development Management Team** – initially raised concerns regarding insufficient parking requirements, however upon receipt of further information and upon reviewing the amend proposal, the Service has advised that the existing parking arrangement, minus 2 spaces as a result of the development, is sufficient for the floorspace proposed.

**ACC - Waste and Recycling** – has provided general comments regarding waste facilities for commercial premises.

**Bucksburn and Newhills Community Council** – no comments received.

**Health and Safety Executive** – has highlighted the need to consult with the operators of the two adjacent pipelines and states that there are sufficient reasons on safety grounds, for advising against the granting of planning permission in this case.

**INEOS Forties Pipeline System** – has advised that the proposal has been reviewed and that the safety and integrity of the pipeline will not be affected.

**Shell UK Ltd.** – has advised that there is no reason why the development and associated construction works would directly affect the pipeline servitude strip or the safety or the integrity of the pipeline.

## **REPRESENTATIONS**

None

## **MATERIAL CONSIDERATIONS**

### **Legislative Requirements**

Sections 25 and 37(2) of the Town and Country Planning (Scotland) Act 1997 require that where, in making any determination under the planning acts, regard is to be had to the provisions of the Development Plan and that determination shall be made in accordance with the plan, so far as material to the application unless material considerations indicate otherwise.

### **National Planning Policy and Guidance**

Scottish Planning Policy was approved on 18 December 2020. In February 2021, a Judicial Review of the decision of the Scottish Ministers on 18 December 2020 to amend Scottish Planning Policy (2014) as set out in 'Scottish Planning Policy Finalised Documents' and to publish 'Planning Advice Note 1/2020' was lodged with the Court of Session. As it stands, SPP2020 remains in place and is a relevant consideration in the determination of all planning applications.

### **Aberdeen Local Development Plan (2017)**

Policy NE2 - Green Belt

Policy D1 - Quality Placemaking by Design

Policy T2 - Managing the Transport Impact of Development

Policy B6 - Pipelines, Major Hazards and Explosives Storage Sites

### **Proposed Aberdeen Local Development Plan (2020)**

The Proposed Aberdeen Local Development Plan was approved at the Council meeting of 2 March 2020. A period of representation in public was undertaken from May to August 2020. The Proposed Aberdeen Local Development Plan constitutes the Council's settled view as to what the final content of the next adopted Aberdeen Local Development Plan should be and is now a material consideration in the determination of planning applications. The Aberdeen Local Development Plan 2017 will continue to be the primary document against which applications are considered. The exact weight to be given to matters contained in the Proposed Aberdeen Local Development Plan (including individual policies) in relation to specific applications will depend on whether –

- such matters have or have not received representations as a result of the period of representations in public for the Proposed Aberdeen Local Development Plan;

- the level of representations received in relation to relevant components of the Proposed Aberdeen Local Development Plan and their relevance of these matters to the application under consideration.

The foregoing can only be assessed on a case by case basis. Policy NE1 - Greenbelt, Policy D1 - Quality Placemaking, Policy T3 - Parking and Policy B6 - Pipelines, Major Hazards and Explosives Storage Sites are relevant in this case.

## **Other Material Considerations**

HSE's Land Use Planning Methodology

## **EVALUATION**

### **Principle of Development**

The site falls within the Green Belt and therefore must be considered against Policy NE2 - Green Belt. NE2 advises that no development will be permitted in the Green Belt for purposes other than those essential for agriculture; woodland and forestry; recreational uses compatible with an agricultural or natural setting; mineral extraction/quarry restoration; or landscape renewal. The policy does allow for some exceptions, but the only one which applies to this proposal relates to development associated with existing activities in the green belt. A development will only be permitted if the following criteria are met:

- a) The development is within the boundary of the existing activity;
- b) The development is small-scale;
- c) The intensity of activity is not significantly increased;
- d) Any proposed built construction is ancillary to what exists.

Before assessing whether the proposal meets the criteria highlighted above, the Planning Service have been advised that the applicant has no intention to increase the number of visitors at this business. The proposal is however sought to allow for safe movement of people and to allow for enhanced COVID-19 precautions. Given the ongoing situation with COVID-19 it is acknowledged that businesses need to make alternative arrangements to allow for compliance with precautions put in place by the Scottish Government. However, in this case, this proposal is for a permanent extension to be retained in perpetuity, so while the applicant states that there is no intention to increase visitors, if the proposal is approved and the current situation changes, the applicant could at any time increase the number of visitors to the site without requiring planning permission. As such, the Planning Service needs to consider whether the extension is appropriate as a permanent solution.

In relation to the criteria above, the existing activity is noted as being a farm shop/café and playbarn and given the location of the development, which would both extend and be within close proximity of the existing building, it is considered that the development is within the boundary of the existing activity and is therefore consistent with point a) above.

As outlined in the supporting statement, the proposed extension seeks to increase the floor area by approximately 324m<sup>2</sup>. This is a slightly lower than the area measured by the Planning Service, which is approximately 344m<sup>2</sup>, however it is acknowledged that there may be some discrepancies with the tools used to measure the plans. If taking the applicant's measurement of 324m<sup>2</sup>, this represents an increase to the floor space of 26.3%. For a development such as this, the intensification of the activity is linked to the scale of the development and it is considered that an extension of this size has the potential to result in an increase to the established use.



In terms of considering the requirement of criteria b) regarding small scale development, it is considered that the proposed 326m<sup>2</sup> additional floor area, within the context of this being a 26% increase in the existing farm shop / café / playbarn area, is small-scale.

Turning to point c) the applicant has advised that the use of the site will remain as a farm-park attraction and taking into consideration the applicant's intention not to increase visitor numbers, the applicant has advised that the number of visitors will be capped by the parking provision which decreases from 70 to 68 on the revised plans, which sees the overall capacity of 144 visitors reduced to 139/144 visitors. However, that is not to say that the number of people within the site could not be increased should other travel arrangements be used. Regarding this point, the Planning Service has also looked into whether conditions could be utilised to satisfy concerns, however, given the proposal is for a permanent intervention, limiting the life of the permission would not be considered appropriate. In addition, limiting the number of people visiting the site would not be suitable/controllable or within the remit of the Planning Service. As such, neither approach would meet the 6 tests for appropriate conditions as outlined in Circular 4/1998: The use of conditions in planning permissions, therefore, this option cannot be utilised. However, based on information to hand, the Planning Service accepts that the additional floorspace proposed will not result in a significant increase in the intensity of activity, i.e. the number of people using the extended playbarn.

Finally, it is accepted that the proposed use of the extension would be related to the existing operation and use at the site, therefore the proposals would satisfy the requirement of point d) above.

It is therefore considered that the extension would be compliant with the four criteria of Policy NE2 and the principle of development is acceptable.

### **Design**

It is considered that the proposed development would continue the design, form and finish of the existing building. Policy D1 - Quality Placemaking by Design seeks to ensure that high quality design is utilised, which is informed by the surrounding context. This aspect also needs to be assessed in conjunction to the wider remit of Policy NE2 in terms of the scale of development.

Originally the site was occupied by traditional built development, which has been extended over time, resulting in a modern 'farm-style' building which is attached to a traditional vernacular steading. By virtue of its scale and matching design to the existing building, it is not considered that the proposed development would considerably increase the impact on this part of the Green Belt.

In terms of design, it is considered that both the extension and shed would be similar in design to the existing building and due to their location and solely from a visual perspective, the development would not detract from the visual appearance of the existing building.

### **Transport Impacts**

The proposal sees no increase to the existing parking provision, this was a concern raised by the Council's Road's Service. The justification initially given was that there would be no increase in the number of visitors to the site, however as explained above this cannot be controlled, as such the proposed development would have a resultant impact on the existing parking situation. During the application process, it was decided to amend the proposal and remove an aspect of development, the smaller shed. The removal of this resulted in the reduction of the proposed floor space which meant that few spaces would be required in the site. The applicant now proposes 68 spaces (with two lost as a result of the siting of the proposed extension), which is considered to be acceptable to the Roads Service.

Overall, it is therefore considered that the proposal complies with Policy T2 - Managing the Transport Impact of Development.

### **Pipelines**

The site is located in close proximity to both the Shell and Ineos FPS pipelines and as per the requirements of Policy B6 - Pipelines, Major Hazards and Explosives Storage Sites, the Council has consulted with the Health and Safety Executive (HSE) and the pipeline operators. Both Shell and Ineos FPS has advised that they have no objection to the proposed development. However, the HSE has advised against the granting of planning permission due to safety concerns in the event of an pipeline incident. The HSE do allow for some small extensions but these are where the increase of floor space would be a limited to less than 10%. As outlined above, this development sees an increase of 26.3%, well above that allowed by HSE.

The applicant has disputed the objection made by HSE, advising that it is objecting because the development represents increase in floorspace of more than 250sqm. The HSE advice is based on there being 101 to 1000 people at the site, however the applicant suggests that if the increase of people is less than 10%, than HSE might revisit their advice. The advice the applicant is referring to is contained within the HSE's Land Use Planning methodology, which states that *"If the proposal is for an extension to an existing development, and the proposed extension is of the same Development Type as the existing development that is going to be extended and the population at the development will not increase by more than 10% (or, if the population data is not readily available, the total floor area will not increase by more than 10%), then the consultation should be treated as though the proposed extension had a Sensitivity Level one less than the Sensitivity Level of the existing (i.e. not that of the proposed) development.*

*If this results in a reduced Sensitivity Level, which combined with the zone that the extension is in, produces a DAA response, then this will replace the initial AA response"*

The Planning Service has had extensive correspondence with the HSE since March 2021 regarding this site, given their initial consultation response, the information outlined in their guidance, the changes to the proposal and due to the information submitted by the applicant with regards to numbers of visitors. On 10 May 2021, the HSE advised that would continue to advise against the grant of planning permission. The application of the 'extension rule' as detailed in their methodology, would be inappropriate in this case given that there is no means available to limit or regulate the population numbers. Therefore, if applying the extension rule, the use of the area of the proposed extension would be the most appropriate option and as outlined above the proposal would see an extension of more the 10%, which, in this case, results in the HSE advising against the development.

Given the outstanding objection by HSE, the proposal is not considered to comply with Policy B6 - Pipelines, Major Hazards and Explosives Storage Sites.

### **Proposed Aberdeen Local Development Plan**

In relation to this particular application, the policies in the Proposed Aberdeen Local Development Plan 2020 substantively reiterate those in the adopted Local Development Plan. As such, the proposal is not considered acceptable in respect of the Proposed Plan for the reasons previously given.

### **Conclusion**

The proposal has been considered against the relevant policies of the Aberdeen Local Development Plan 2017 and is not considered to be acceptable, given the formal objection from the Health and Safety Executive and given that the policies in the Proposed Plan substantively reiterate those contained within the current Local Development Plan, the proposal also fails to comply with the relevant policies of the Proposed Aberdeen Local Development Plan 2020. There

are no other material considerations that can be considered which would see the development become acceptable. It is therefore recommended that planning permission be refused.

### **RECOMMENDATION**

Refuse

### **REASON FOR RECOMMENDATION**

1. There has been a formal objection from the Health and Safety Executive who raise concerns regarding the safety of the proposal development, as such the proposal does not comply with Policy B6 - Pipelines, Major Hazards and Explosives Storage Sites as contained within the Aberdeen Local Development Plan 2017.

## **Appendix 3 HSE Objection**

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Aberdeen City Council  
Aberdeen City Council - Development Management Team  
Aberdeen  
Aberdeen City  
AB10 1AB



## Advice : HSL-210512142922-369 ADVISE AGAINST

**Your Ref:** 210265/DPP

**Development Name:** Wynford Farm

**Comments:** Extension to the existing building

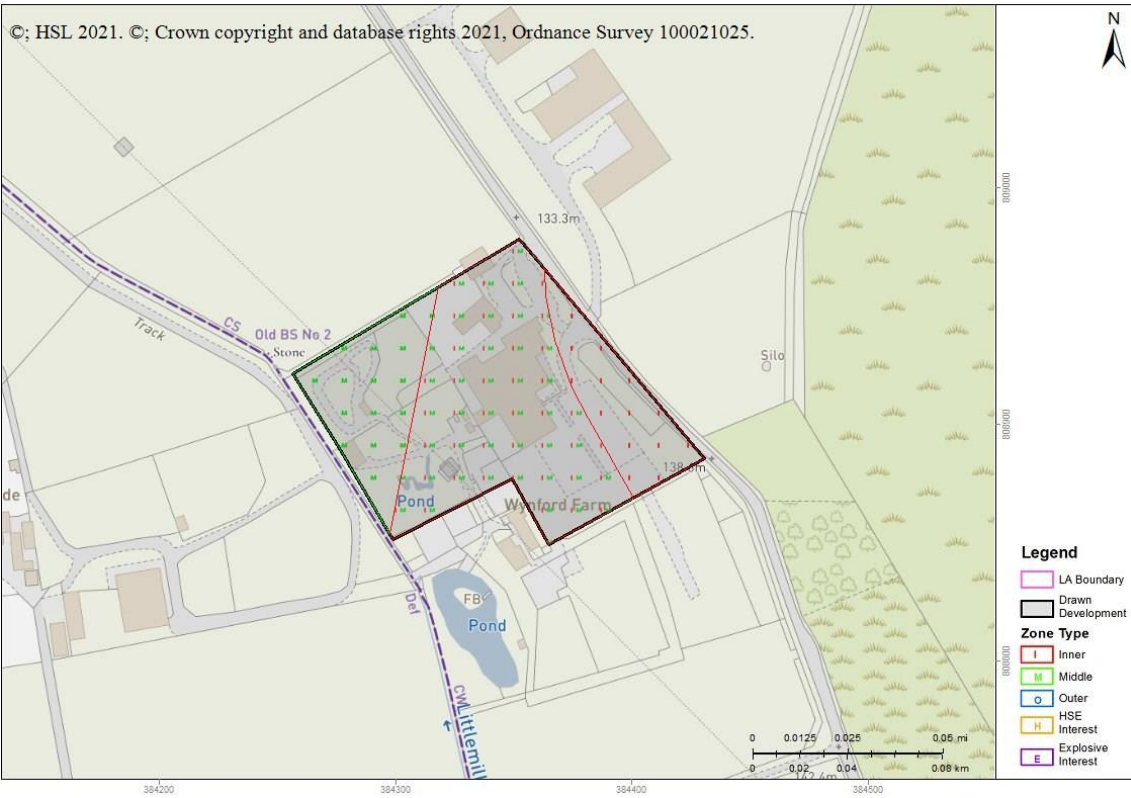
Land Use Planning Consultation with Health and Safety Executive [Town and Country Planning (Development Management Procedure) (England) Order 2015, Town and Country Planning (Development Management Procedure) (Wales) Order 2012, or Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013]

The Health and Safety Executive (HSE) is a statutory consultee for certain developments within the Consultation Distance of Major Hazard Sites/ pipelines. This consultation, which is for such a development and also within at least one Consultation Distance, has been considered using HSE's planning advice web app, based on the details input on behalf of Aberdeen City Council.

HSE's Advice: Advise Against. The assessment indicates that the risk of harm to people at the proposed development site is such that **HSE's advice is that there are sufficient reasons on safety grounds, for advising against the granting of planning permission in this case.**

Major hazard sites/pipelines are subject to the requirements of the Health and Safety at Work etc. Act 1974, which specifically includes provisions for the protection of the public. However, the possibility remains that a major accident could occur at an installation and that this could have serious consequences for people in the vicinity. Although the likelihood of a major accident occurring is small, it is felt prudent for planning purposes to consider the risks to people in the vicinity of the hazardous installation. Where hazardous substances consent has been granted (by the Hazardous Substances Authority), then the maximum quantity of hazardous substance that is permitted to be on site is used as the basis of HSE's assessment.

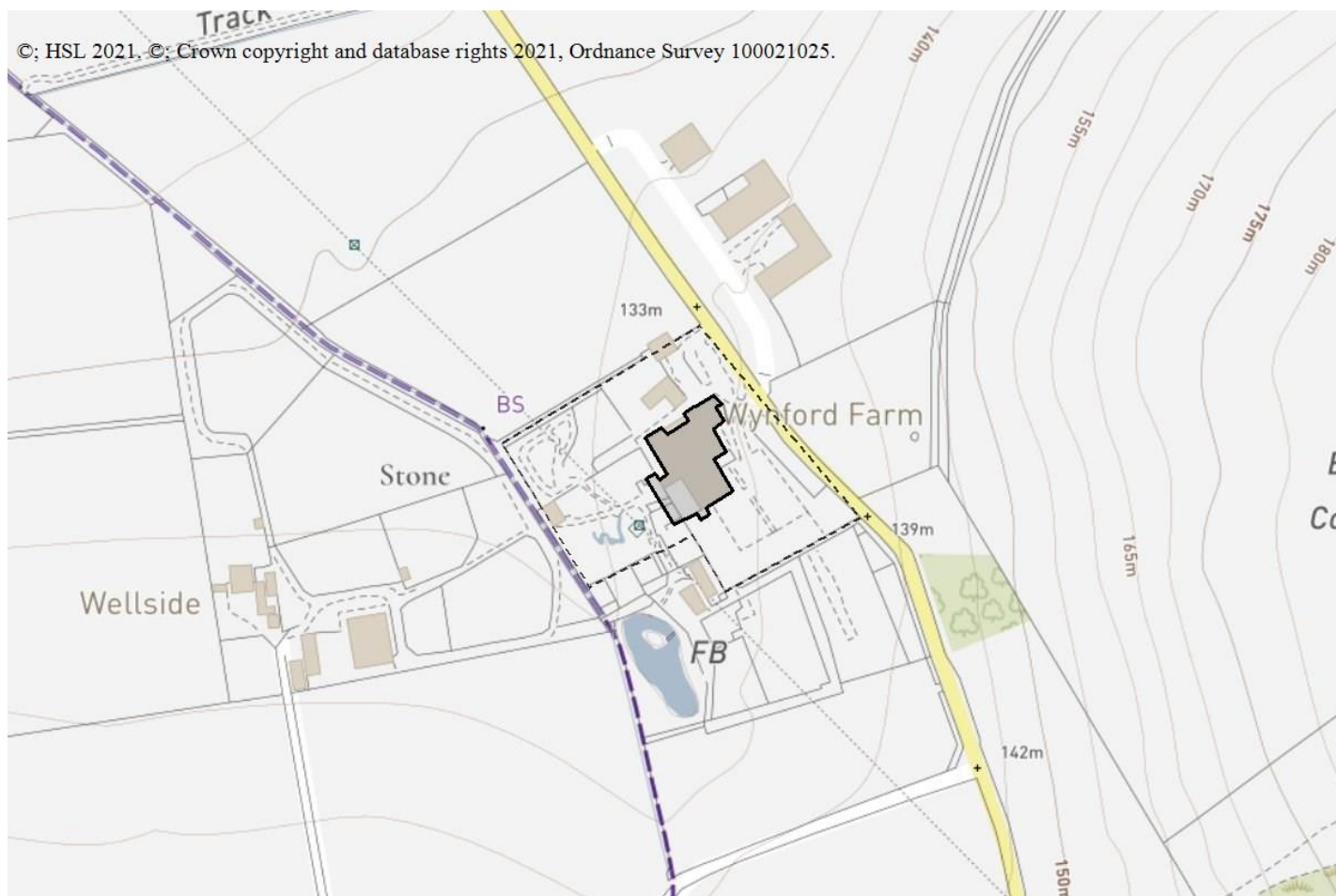
If, nevertheless, you are minded to grant permission, your attention is drawn to the Direction in the Annex to Scottish Planning Circular 3/2009. This instructs that the Scottish Ministers must be automatically notified: "where a planning authority proposes to grant planning permission for development falling within any of the descriptions of development listed in the Schedule to this Direction". This includes "Development which has been the subject of consultation with the Health and Safety Executive ..... where the Health and Safety Executive has advised against the granting of planning permission or has recommended conditions which the planning authority does not propose to attach to the planning permission." The planning authority is required to notify the Scottish Ministers and cannot grant planning permission before the expiry of a period of 28 days beginning with the date notified to them by the Scottish Ministers as the date of receipt by them of the information which the planning authority are required to submit under the Direction. The Scottish Ministers may within that period, or an extended period, call in the application for their determination or clear it back to the planning authority. The planning authority should also notify the HSE. The notification should be sent to CEMHD5, HSE's Major Accidents Risk Assessment Unit, Health and Safety Executive Redgrave Court, Merton Road, Bootle, Merseyside, L20 7HS or by email to lup.padhi.ci5@hse.gov.uk and should include full details of the planning application, to allow HSE to comment if necessary about the specific case.



**Breakdown:**

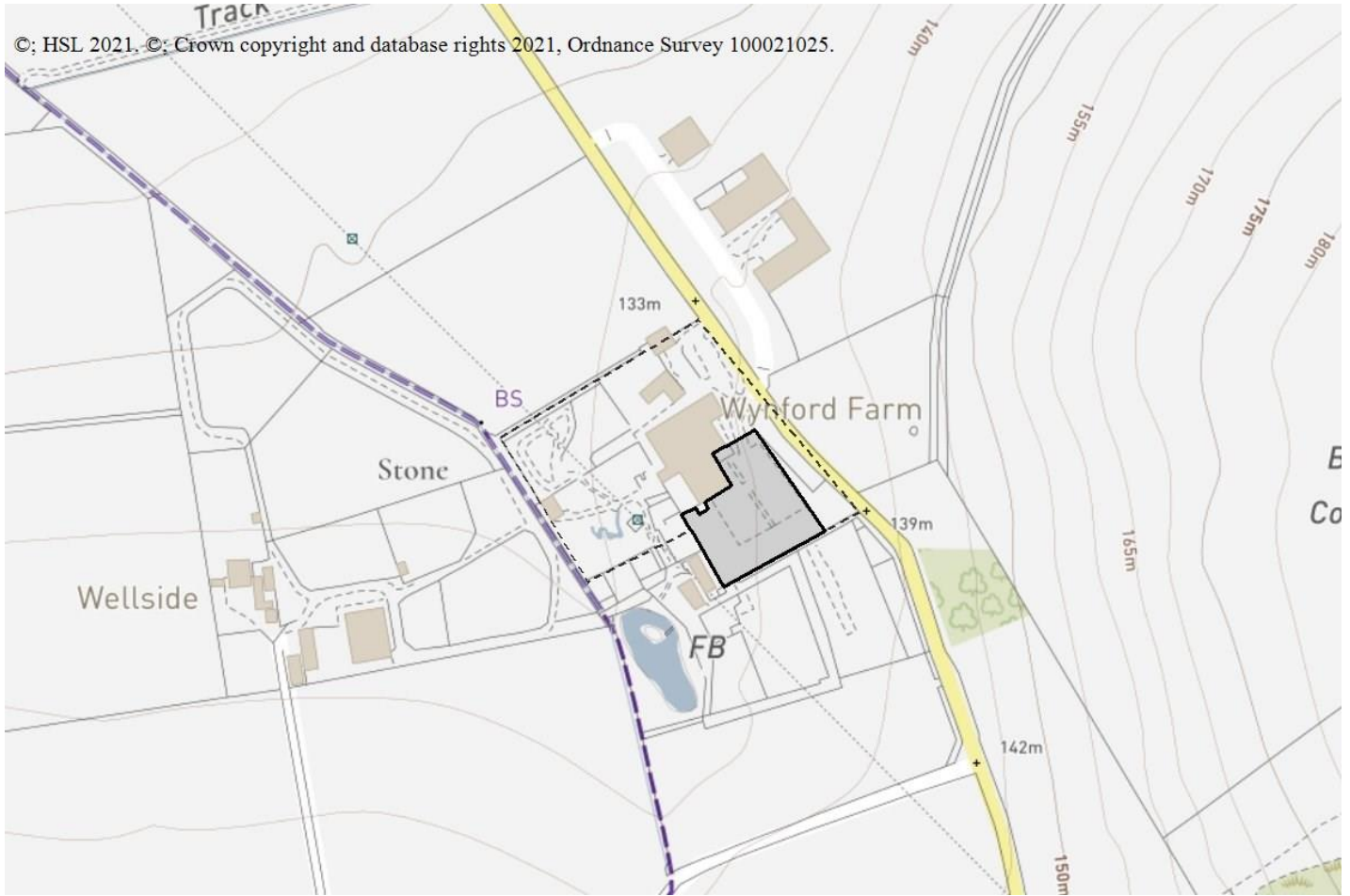
Indoor Use By Public : Advise Against

What is the total floor space of the development (that lies partly or wholly within a consultation distance)? 250 to 5000 square metres inclusive



Parking Areas : Do Not Advise Against

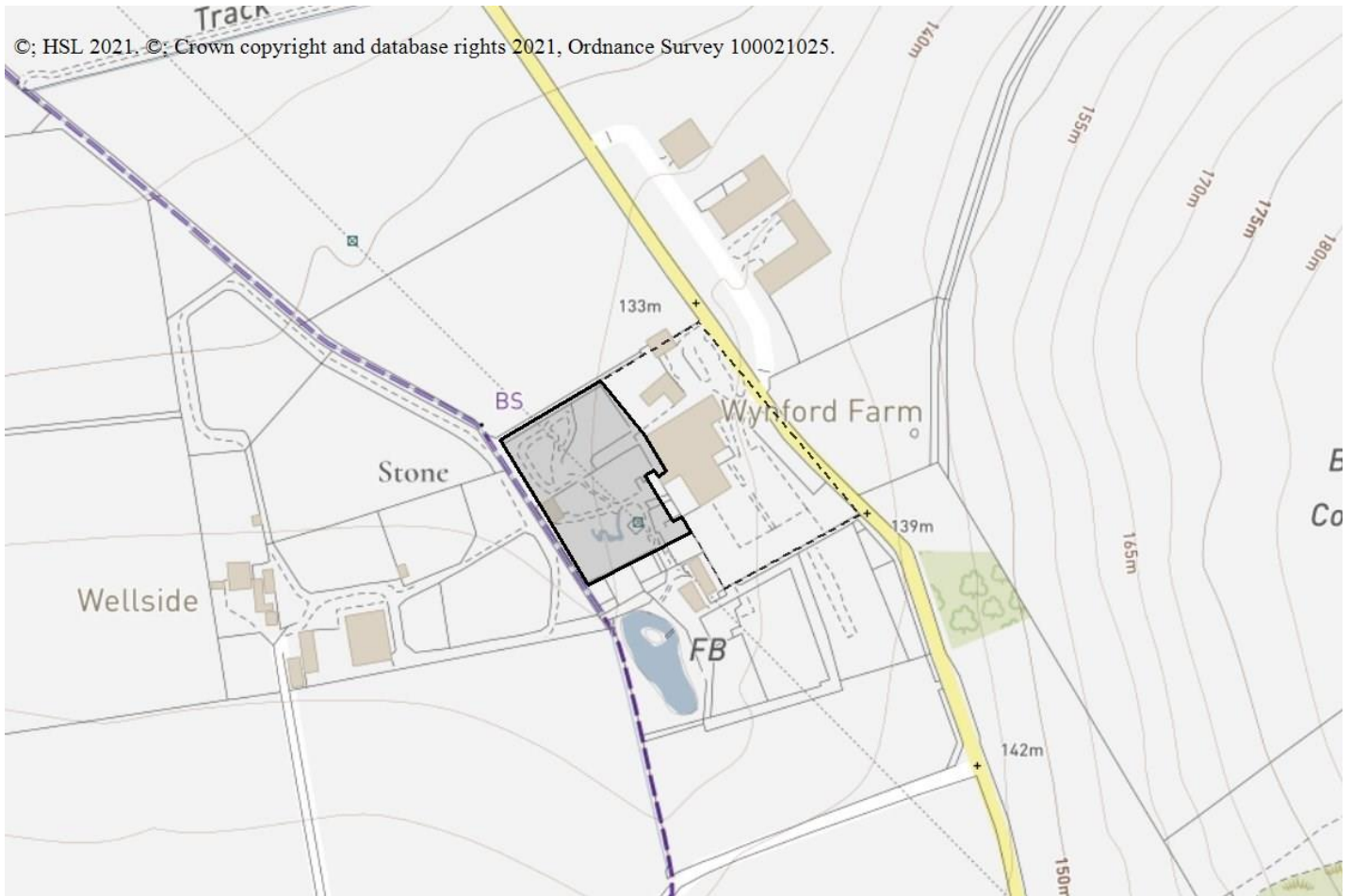
Is this a parking area with no other associated facilities, car parks which are part of another development type should be included within that development type Yes





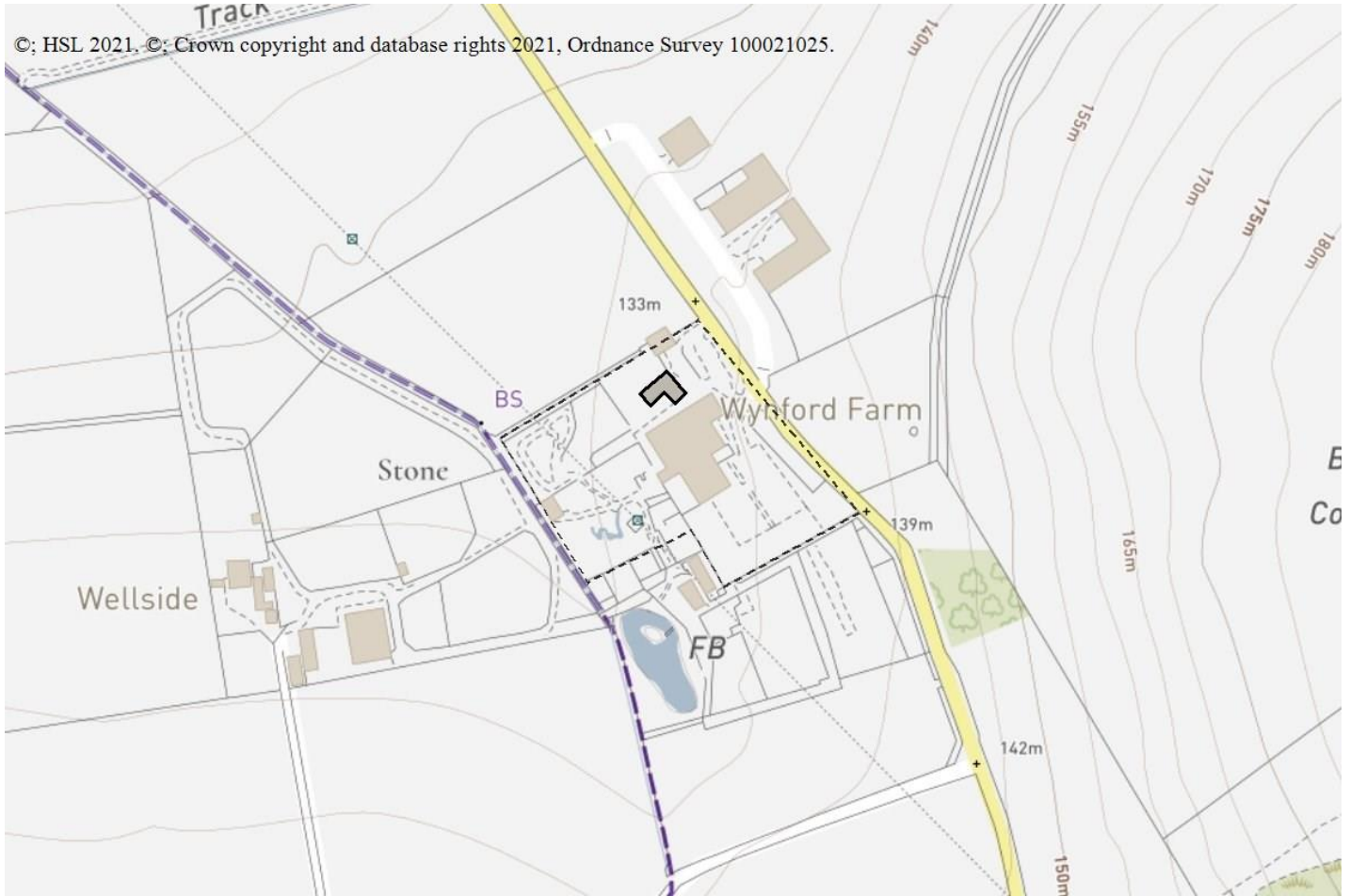
Outdoor Use By Public : Advise Against

What is the maximum number of people likely to be present at any one time? Between 101 to 1000 people (inclusive)



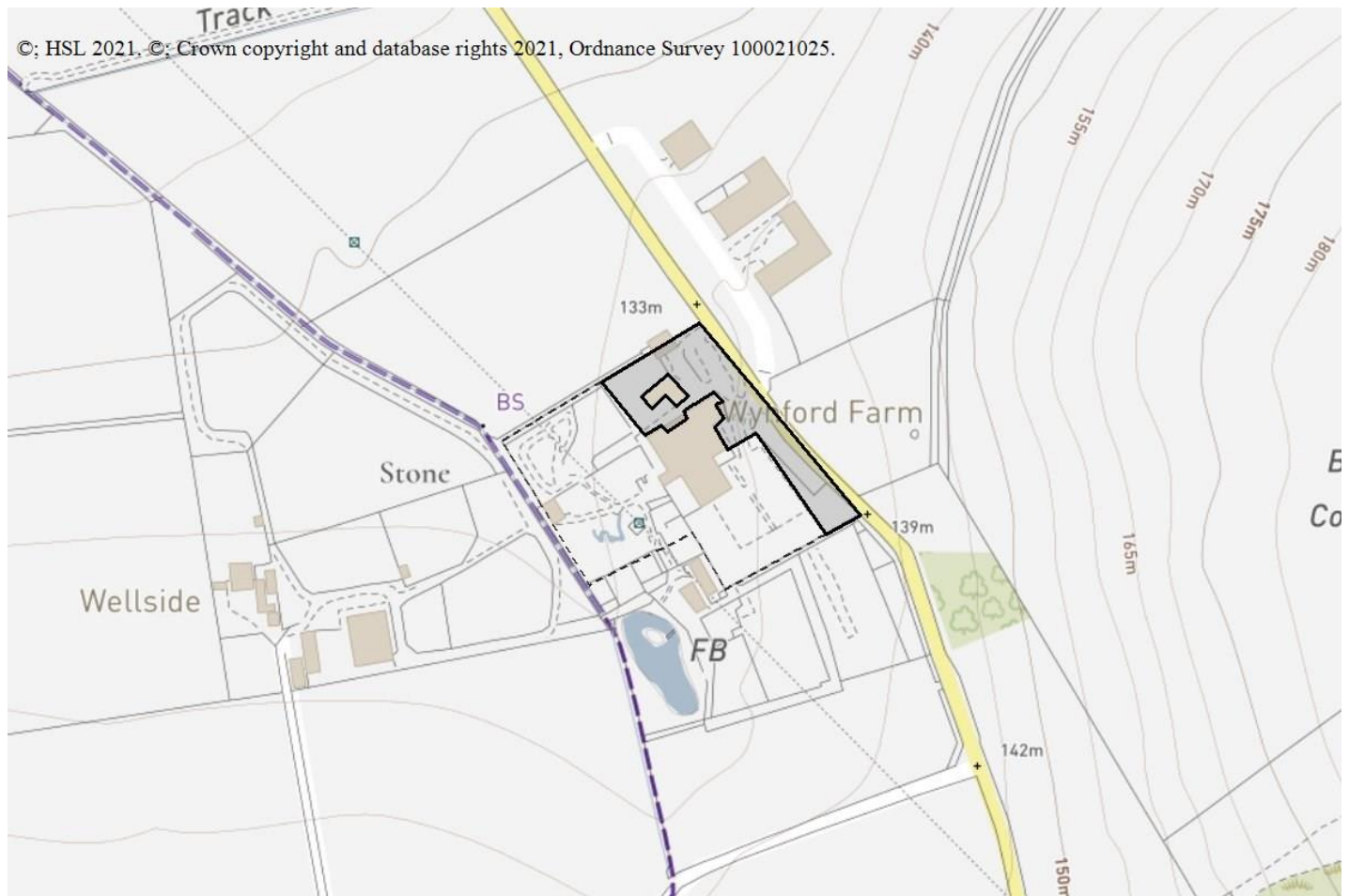
Housing : Do Not Advise Against

How many dwelling units are there (that lie partly or wholly within a consultation distance)? Less than 3



Landscaping : Do Not Advise Against

There are no questions for landscaping



If the proposed development relates to an extension to an existing facility, which will involve an increase of less than 10% in the population at the facility, then HSE may reconsider this advice; please contact HSE's Planning Advice team if this development involves such an extension.

#### Pipelines

- 6776\_ Shell UK Exploration & Production
- 9007\_ Ineos FPS Ltd (pka BP Exploration Operating Co Ltd)

As the proposed development is within the Consultation Distance of a major hazard pipeline you should consider contacting the pipeline operator before deciding the case. There are two particular reasons for this:

- The operator may have a legal interest (easement, wayleave etc.) in the vicinity of the pipeline. This may restrict certain developments within a certain proximity of the pipeline.
- The standards to which the pipeline is designed and operated may restrict occupied buildings or major traffic routes within a certain proximity of the pipeline. Consequently there may be a need for the operator to modify the pipeline, or its operation, if the development proceeds.

HSE's advice is based on our assessment of the pipeline as originally notified to us. It may be that in the vicinity of the proposed development the operator has modified the pipeline to reduce risks by, for example, laying thick-walled pipe. If you wish to contact the operator for this information then HSE is willing to re-assess the risks from the pipeline, relative to the proposed development, if all the following details are supplied to HSE by you:

- pipeline diameter, wall thickness and grade of steel.
- start and finish points of thick-walled sections (not required if it is confirmed that they are more than 750m from all parts of the development site).

These details to be clearly marked on a pipeline strip map, or other appropriate scale map, then included with the full consultation and submitted to CEMHD5, HSE's Major Accidents Risk Assessment Unit, Health and Safety Executive, Redgrave Court, Merton Road, Bootle, Merseyside, L20 7HS to allow it to be individually assessed. Please clearly identify on your covering letter that it is a resubmission with additional details of the major hazard pipeline. Please note there may be an additional charge for this work.

This advice report has been generated using information supplied by Aoife Murphy at Aberdeen City Council on 12 May 2021.

Note that any changes in the information concerning this development would require it to be re-submitted.

You may wish to contact HSE's Planning Advice team to discuss the above enquiry result on 0203 028 3708 or by email at [lupenquiries@hse.gov.uk](mailto:lupenquiries@hse.gov.uk). Depending on the nature of the further discussions you may be advised that there is charge for consultancy work done on your behalf by the team.

## **Appendix 4 Case Officer Email**

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Afternoon David,

I understand that be frustrating for you and your client, but I have been in extensive talks with the HSE over the past few months regarding this proposal in order to understand why there is an objection and why it is being maintained and I have carried out several consultations on their Web App on the back of changes made to the proposal and every response in advising me that the HSE continue to object to the proposal. In light of this and as per

Policy B6, this proposal appears to be a potential risk to public safety and on that basis I have no other option but to refuse this application.

At this time, I am unable to accept any further changes to this proposal as the report has been finalised and we are in a position to determine the application. Should you not be satisfied with that the outcome then you can appeal the application to the Local Review Body within 3 months of the decision notice being issued.

Regards,

Aoife

<image001.jpg>

**Aoife Murphy** | Senior Planner  
Aberdeen City Council | Development Management | Str  
Marischal College | Ground Floor North | Broad Street | A

## Appendix 5 HSE Email

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**From:** LUP enquiries <LUPenquiries@hse.gov.uk>  
**Sent:** Wednesday, August 4, 2021 1:37 pm  
**To:** Josh Lambert  
**Subject:** Re: Advice : HSL-210512142922-369 ADVISE AGAINST

**CAUTION:** This email originated from outside of RPS.

Dear Mr Lambert,

Thank you for your enquiry regarding possible developments at Wynford Farm, AB15 8RQ.

HSE is a statutory consultee for certain developments within the consultation distance of major hazard sites and major accident hazard pipelines.

The details for the Major Accident Hazard Pipelines and their associated HSE zones are:

Name: **Shell Expro Fergus to Mossmorran NGL Pipeline**

HSE Ref: **6776**

Transco Ref: -

Operator: **Shell UK Exploration and Production**

*HSE Consultation Zones*

Inner Zone (in metres): **100**

Middle Zone (in metres): **280**

Outer Zone (in metres): **315**

Name: **BP Forties Cruden bay Terminal/Kinnell Terminal**

HSE Ref: **9007**

Transco Ref: -

Operator: **Ineos FPS ltd (pka BP Exploration Operating Co Ltd)**

*HSE Consultation Zones*

Inner Zone (in metres): **110**

Middle Zone (in metres): **380**

Outer Zone (in metres): **435**

**These distances apply on either side of the pipeline.** All distances should be measured from the centre of the pipeline. Where consultation distances coincide, the inner-most zone is used to determine HSE's Land Use Planning Advice.

Please contact the operator for any constraints they may have around the pipeline, and for a map showing the pipeline route. Please note that we only have indicative maps for the pipeline routes. If you wish to know the exact layout of the pipelines you will need to contact the pipeline operator.

HSE's Land Use Planning advice is based on an assessment of the risks from the pipeline as originally notified to HSE. It may be that in the vicinity of the proposed development the operator has modified the pipeline to reduce risks by, for example, laying thick-walled pipe. You may wish to consider contacting the pipeline operator to see if the pipeline has been modified in this area; if it has, then HSE is willing to reassess the risks from the pipeline (there may be additional costs for this), relative to the proposed development, if all the following details are supplied: a) pipeline diameter, b) wall thickness, c) grade of steel, d) depth of cover over pipeline, e) start and finish points of thick-walled sections (this is not required if it is confirmed that they are more than 750m from all parts of the proposed development site. Please note that reassessment(s) may incur charges under our Option 3 consultancy services.

There is also further information on HSE's land use planning here: [www.HSE.gov.uk/landuseplanning/](http://www.HSE.gov.uk/landuseplanning/)

## Land use planning (LUP) - Public safety advice - HSE

Information relating to land use planning. HSE provides advice to planning authorities on applications they receive for developments near major hazard sites.

[www.hse.gov.uk](http://www.hse.gov.uk)

Although in your planning statement you are not increasing the car parking area you are still increasing the overall area of the barn and outdoor play area and as it is a children's play area this would fall into a sensitivity level 2 development for outdoor use by public and for indoor use by public as it's between 250 m2 and 5000 m2 this also falls into a sensitivity level 2 development. As the majority of these areas are in the inner zone of these pipelines then this would lead to our advise against decision. HSE would advise against any sensitivity level 2 developments located within the inner consultation zone.

If you require any further help please contact us.

Regards,

Berdine Clews

HSE's Land Use Planning Support Team  
HSE Science and Research Centre  
Harpur Hill, Buxton, Derbyshire, SK17 9JN

'WE HAVE MOVED' – Please note from 28th March 2021 our email address has changed to [lupenquiries@hse.gov.uk](mailto:lupenquiries@hse.gov.uk) for all enquiries

Find out how HSE is Helping Great Britain work well

For HSE's Land Use Planning Advice Terms and Conditions, please click on the following link <https://www.hsl.gov.uk/planningadvice> and then click on 'terms and conditions'.



# Appendix 6 Atkins Report

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**Land Use Planning Assessment of a  
development at Wynford Farm, Kingswells**  
Wynford Farm, Kingswells

5090070 / Technical Note 1

December 2009

Land Use Planning Assessment of a development  
at Wynford Farm, Kingswells

A Technical Note Prepared by  
**Atkins**

On Behalf of  
Wynford Farm

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## DOCUMENT ISSUE CONTROL SHEET

Wynford Farm

Land Use Planning Assessment of a development  
at Wynford Farm, Kingswells

### Document History

Issue	Date	Purpose	Rev	Prepared	Checked	Approved
1	Nov 2009	For Internal Review	Draft	NL	DD	PG
2	Dec 2009	For Client Comment	0	NL	DD	PG
3	June 2010	Final Report	1	NL	DD	PG
4						
5						

### Notice

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# 1. Introduction

A planning application is to be submitted to the local planning authority for a development at Wynford Farm, Kingswells, Aberdeen. The site lies adjacent to two pipelines; Shell Natural Gas Liquids (NGL) and BP Crude Oil pipelines. The proposed development covers an indoor area of approximately 645 m<sup>2</sup> with a parking space of 653 m<sup>2</sup>. The proposal is for a play barn and farm shop and it is classed as a café with a function room by the Aberdeen City council. The proposed development site falls within HSE’s Consultation Zones of two nearby pipelines. Since HSE would advise against (AA) the proposed development, it has been decided by that there is a requirement to assess the proposal against the PADHI constraints to determine the risk that HSE would request call-in. Below in Figure 1-1 is the plan for the proposed playbarn, shop and café development.

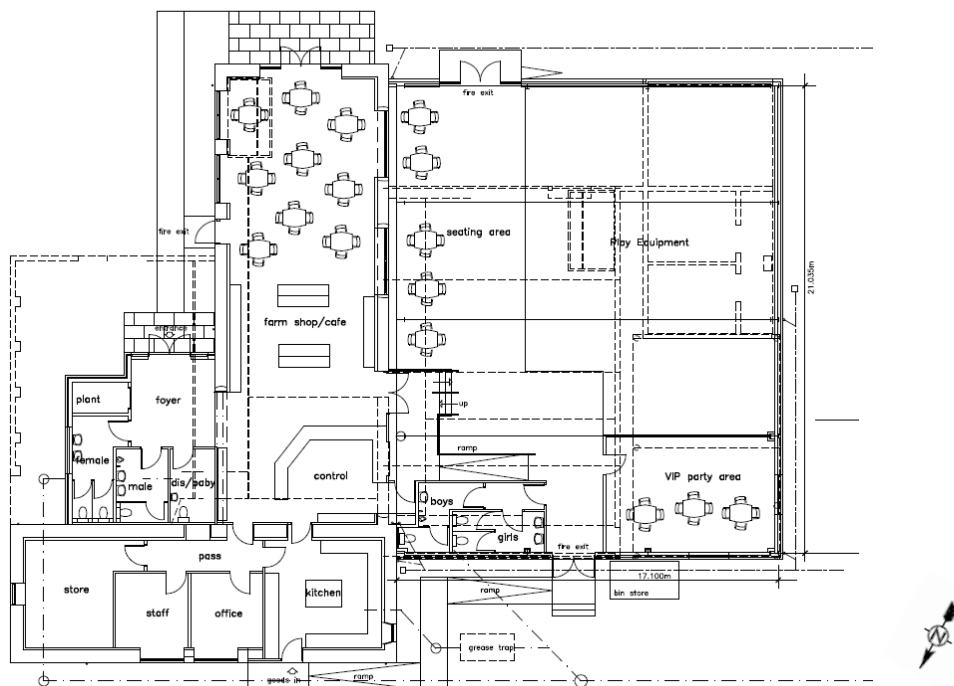


Figure 1-1: The Development Plan

## 2. Pipelines and their constraints

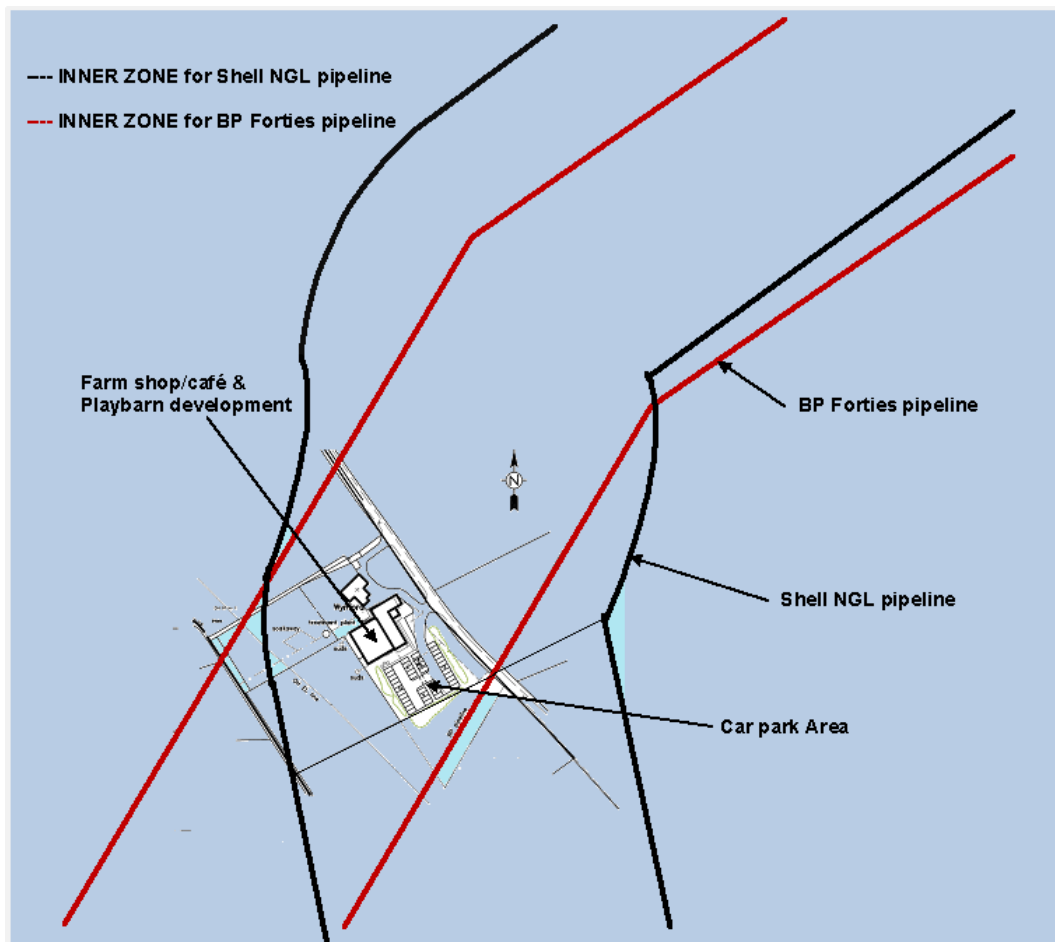
The proposed development is constrained by the Land Use Planning (LUP) zones associated with 2 pipelines. The BP pipeline was identified running from northeast to southwest where the closest distance to the pipeline is at the south-eastern part of the site. The Shell NGL pipeline initially runs parallel to the BP pipeline from the northeast but then diverges towards the southeast before heading away from the site.

The planning zones as derived by HSE for these two pipelines are given in Table 2-1. The site is located in the Inner Zones of both of these pipelines.

**Table 2-1: Approximate LUP zone distances for the two pipelines considered**

Pipeline	Inner Zone (IZ) 10 cpm	Middle Zone (MZ) 1 cpm	Outer Zone (OZ) 0.3cpm
Shell NGL, St Fergus to Mossmoran	150m	430m	485m
BP Forties Cruden Bay to Kinneil	110m	380m	435m

The zone boundaries are set to correspond to the individual risk levels indicated, where the units are in chances per million per year of receiving a dangerous dose (or worse). The relationship of these zones to the Land Use Planning system is discussed in Section 3.



**Figure 2-1: Location Identifiers for the Development Areas**

## 3. Land Use Planning (LUP) issues

### 3.1 The HSE LUP System

In order to appreciate how the land use planning system operates, it is important to have a clear understanding of the key terminology.

- A **hazard** is simply an item of equipment or process which could lead to harm, i.e. it is the thing which presents the risk, such as a fuel tank or pipeline containing a hazardous substance.
- A **risk** is the chance of a specified level of harm occurring, such as the chance of fatality per year.

HSE is responsible for providing advice to Local Planning Authorities on proposed developments in the vicinity of major hazard sites, or major hazard pipelines, in the UK. The HSE uses information provided by the site operators (for discrete fixed installations, via the Hazardous Substances Consent applications, or for pipelines, via the Notification of Hazardous Pipelines Regulations) to define the extents of 3 zones. These 3 zones, the Inner, Middle and Outer zones correspond to areas of progressively lower levels of risk. HSE's advice is then provided through a system known as PADHI+ (Planning Advice for Developments near Hazardous Installations), and this system has now been computerised and disseminated for use by the Local Planning Authorities.

When a planning application is received by the Local Planning Authority (LPA) for a development which falls within the Consultation Distance (which is defined by the outer limit of the Outer Zone), the LPA uses a set of rules to determine the Sensitivity Level (1 to 4) of the proposed development, and then applies the following decision matrix (Table 3-1, reproduced from PADHI) to determine whether or not HSE would advise against the development, depending on sensitivity and location.

**Table 3-1: HSE Decision Matrix for Land Use Planning**

Level of Sensitivity	Inner Zone	Middle Zone	Outer Zone
Level 1	Don't Advise Against	Don't Advise Against	Don't Advise Against
Level 2	Advise Against	Don't Advise Against	Don't Advise Against
Level 3	Advise Against	Advise Against	Don't Advise Against
Level 4	Advise Against	Advise Against	Advise Against

The sensitivity levels range from the least sensitive, Level 1 (working populations which could easily respond to emergency actions), to the most sensitive, Level 4 (e.g. the elderly or children, who could not easily respond to emergency actions), with some variations to allow for size and density of developments. The sensitivity level of a particular development is determined from a series of development types (DT1 - DT4), as given in the PADHI document. These cover 4 main categories, each of which has a number of sub-classes (DT1.1, etc):

DT1:	People at work, Parking	2 sub-classes
DT2:	Developments for use by general public	5 sub-classes
DT3:	Developments for use by vulnerable people	2 sub-classes
DT4:	Very large & sensitive developments	2 sub-classes

In cases where PADHI returns an Advise Against response, the strength of that advice can be determined by the position in Table 3-1 of the cell into which the development falls. For the shaded cells, which are only 1 cell away from Don't Advise Against, the advice would remain, but HSE would not normally consider requesting call-in.

## 3.2 PADHI output

When a Local Planning Authority (LPA) considers an application for a development within the LUP zones of a COMAH (Control of Major Accident Hazard) site, or of a major hazard pipeline, it is required to assess the proposed development via the PADHI+ software. This has been developed by HSE and disseminated to LPAs in order to provide HSE's advice, which is in the form of 'Advise Against' or 'Do not Advise Against'.

In order to determine the advice, two main items of information are required:

- a) the planning zone within which the development lies
- b) the sensitivity level of the development

Item a) in this case is generally straightforward, since all of the proposed development located within the constraints range of the two pipelines shown on Table 2-1 lies within the Inner Zone. Development types are used as a direct indicator of the sensitivity level of the population at the proposed development. For the development which involves converting the current premises to a farm shop café, a play barn and a car park, it does not fall clearly into HSE's standard categories.

Considering each element of the development separately, the car park has Sensitivity Level 1 which would return 'Don't Advise Against' from the HSE decision matrix for land use planning. However, where the parking area is associated with other facilities i.e. at a retail or a leisure development, the sensitivity level and the decision will be based on that of the facility or development. The farm shop café and a play barn are classed as an Indoor Use by Public development (DT2.4 in PADHI). With the total floor space between 250 m<sup>2</sup> to 5000 m<sup>2</sup>, the proposed development has the Sensitivity Level 2 which would result in 'Advise Against' output, one cell away from the 'Don't Advise Against' category, according to PADHI's decision matrix.

## 3.3 Consideration of call in

Although PADHI+ provides HSE's advice, the final decision regarding whether or not the development should receive planning permission lies with the Local Planning Authority, Aberdeen City Council in this case. The LPA will weigh up the risks against the socio-economic benefits before reaching a final decision.

For any case in which the LPA grants planning permission against their Advise Against advice, HSE would wish to scrutinise the Planning Application in order to ensure that the risks have been adequately considered. If HSE have significant safety or risk concerns, they have the option to consider requesting the application to be called-in. In the first instance, however, they would generally only consider call-in if the Advise Against was not in the shaded cells marked on Table 3-1. If the Advise Against were in one of these shaded cells, HSE would normally send a standard letter to the LPA reiterating their advice ('Advise Against'), but indicating that they would not pursue the matter further.

In cases where the advice is two or more cells removed from the 'Don't Advise Against' area of the matrix, HSE consider the application against their call-in procedure (SPC22), which sets out the following criteria which HSE use when determining whether to call-in:

- a) Significant residential development in the Inner Zone
- b) The risk of death exceeds the Tolerability of Risk (TOR) tolerability limit for a member of the public.
- c) There are substantial numbers of people exposed to the risks.
- d) The endangered population is particularly sensitive, e.g. the development is a hospital, school or old people's home.
- e) Have there been previous call-ins in similar circumstances?
- f) There are issues of national concern as opposed to merely of local importance.

- g) Clear evidence that the case concerned is being used to challenge the HSE's risk criteria for land-use planning.

The procedure in Scotland is slightly different in that any case in which the LPA grants planning permission against HSE's advice is automatically referred to the First Minister for Scotland. It is then up to the First Minister to liaise with the relevant technical units within HSE to determine whether or not to call in, and the same criteria as set out above are applied. Under recent changes, the proposed development is likely to be considered a 'major development' - defined as more than 50 residential units - rather than just a 'local development'.

### 3.4 Consultation Zone Classification

The planning zones for pipelines carrying flammable materials other than natural gas are determined by HSE. The methodology considers a range of releases which, if ignited, could result in fireball, jet fire, flash fire or pool fire events, descriptions of which are given below, and the effects of which are described in more detail in Section 5.1.

- Fireball – If a large release of gas or vaporising liquid is ignited within a few seconds then a large fireball lasting between around 10 and 20 seconds may be produced, with very high levels of thermal radiation in all directions.
- Jet Fire – Any ignition of gas or vaporising liquid will burn back to the point of release and may form a jet fire if the release is under pressure. Depending on the nature of the failure, the jet fire may be directed horizontally or vertically. Jet fires continue to burn for as long as the release of gas is not isolated, and the prolonged thermal radiation (or flame impingement) can lead to significant risks, although the impact tends to be relatively local.
- Flash Fire – If a release of gas or vaporising liquid is not ignited within a few seconds of the release, then a cloud of vapour will disperse downwind some distance from the point of release. If the flammable part of this cloud then finds a source of ignition, the area covered by the vapour cloud will burn rapidly as a flash fire, with significant risks to all those within the flash fire envelope.
- Pool fire – Any release of liquid may form a pool on the ground above which flammable vapour will be generated. If the release finds a source of ignition then a pool fire will be formed.

Failure frequencies are then used, depending on the pipe size and various other properties, to estimate the individual risk (in chances per million per year - cpm) of receiving a 'dangerous dose' or more at various distances from the pipeline route. This risk transect is then used to set the distances to the zones as indicated in Table 3-2.

**Table 3-2: Determination of pipeline planning zones**

Criteria	Inner Zone	Middle Zone	Outer Zone
Risk of dangerous dose (cpm)	10	1	0.3
Consequence/other	FBR*	-	4/3 x MZ+

\* Fireball radius is used as minimum IZ distance

+ Maximum OZ distance

HSE's concept of Dangerous dose is sometimes taken to represent a probability of fatality of around 1% for an average population, but is generally taken to correspond to a level of harm which would cause:

- Severe distress to almost everyone
- A substantial fraction of the exposed population needing medical attention
- Some people to be seriously injured, requiring prolonged treatment
- Any highly susceptible people possibly being killed

Once these zones have been set for a particular pipeline, they will generally be applied for its whole length. The only exception to this would be if the pipeline operator proposes to upgrade a particular section of pipeline. The most common form of improvement would be the replacement of a section with thick walled pipe, and this could reduce some or all of the zones. Even if this were done, it is by no means certain that

the boundary of any particular zone would move in a way which is advantageous to this particular development. In this particular case, there is a thick walled section of the BP Forties pipeline of length approximately 18 m located at the Borrowstone road crossing at the southeast of the site. The risk contour of an escalation at the joint between thick walled pipe and regular wall pipe would form a circle around the rupture points, hence the arcs drawn in Figure 3-1. Therefore, in order to yield any significant reduction of the zone near the site, the length of the thick walled pipe should be at least 2 times the range of the Inner Zone (110 m) of the pipeline. Since the site is currently located approximately at the middle of the Inner Zone, the thick walled modification would need to extend to around 200 metres in order to result in any significant zone reduction.

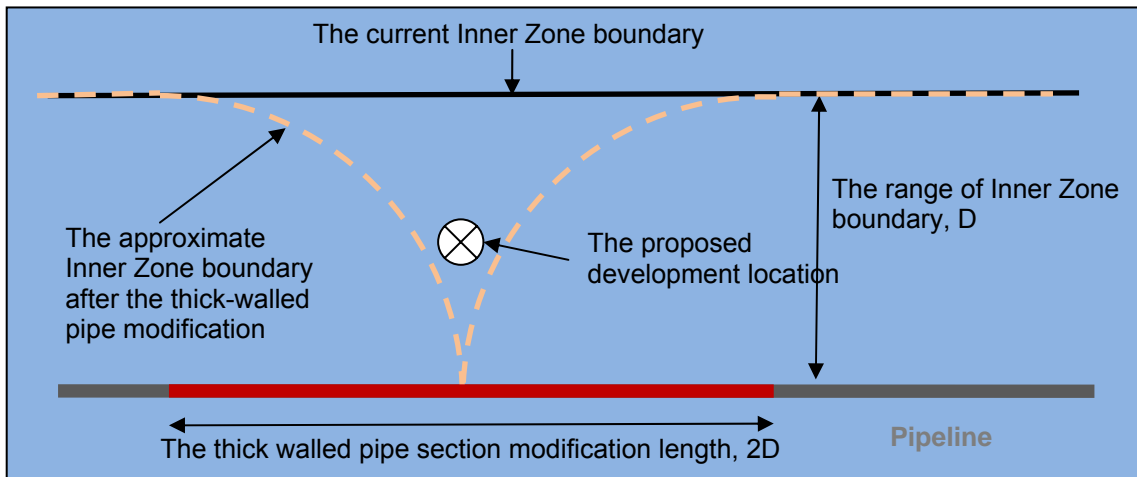


Figure 3-1: The approximate Inner Zone for a pipeline with and without thick walled modification

### 3.5 The Straddling Rule

When the area of the proposed development lies across a zone boundary, the Straddling Rule is used to decide which zone should be used in the Decision Matrix to generate HSE's advice for any individual PADHI+ Development Type. This rule helps to assign the Development Type to the correct zone by determining whether 10% or more of that Development Type lies within a particular zone boundary.

As mentioned earlier in Section 3.4, if the pipeline operator proposes to upgrade a particular pipeline section, some reduction of consultation distance and zone boundaries may be achieved. If a thick walled pipe section modification is applied but with the length of less than twice the range of a particular pipeline Inner Zone, the proposed development site might fall in both Inner and Middle Zones. Provided that less than 10% of the total area of the playbarn development is located within the Inner Zone, the straddling rule can then be applied. This may lead to the development being determined as located in the Middle Zone and therefore the PADHI+ decision matrix would return DAA (Don't Advise Against).

## 4. Potential for development

### 4.1 Sensitivity issues

Information has been supplied for the planning application to convert and extend an existing building to form a farm shop/café and play barn on an indoor area of approximately 645 m<sup>2</sup> with a parking area of around 653 m<sup>2</sup>. The development falls within the Inner Zones of both pipelines and has Sensitivity Level 2. The PADHI+ system used by HSE has returned the result of advising against the granting of planning permission. Although the formal advice is 'Advise Against', the response remains within the shaded cells of Table 3-1, and therefore would not automatically attract 'call-in'. However, it cannot be inferred that HSE would raise no objection to the proposed indoor public use development at Wynford farm site, and indeed their AA advice will remain even if Planning Permission is granted. For that reason, some quantitative assessments are performed in the next section as a brief consideration of case societal risk associated with the site to guide the likelihood of HSE's call-in.

It is noted that the same type of development, premises for indoor use by public, would be classified as Sensitivity Level 1, if the total floor space were less than 250 m<sup>2</sup>. For the site located in the Inner Zone, any Sensitivity Level 1 development would result in a 'Don't Advise Against' decision in the PADHI+ decision matrix. On the other hand, any indoor use by public development with total floor space of more than 5000 m<sup>2</sup> would be pushed to Sensitivity Level 3. The development of Sensitivity Level 3 in the Inner Zone has the PADHI output 2 cells away from 'Don't Advise Against' and it is most likely to lead to a request for call-in.

If the development proposed were outdoor use by public, for example food festivals, picnic areas, outdoor markets, funfairs, open-air exhibitions, children's play areas and country parks, with less than 100 people attending at any one time the sensitivity level would remain at Level 2. The original proposed development expects that a maximum of 180 children would visit per day. Assuming that each child is accompanied by one adult, the approximate total number of visitors per day would be 360. However, it is not expected that all these people would be in the playbarn at the same time (as discussed later in Section 4.2). The anticipated employee numbers are 2 full-time and 8 part-time staff. Even though the visits will not be made at the same time for all visitors, there is a possibility that the PADHI+ system may use the input of 370 people attending at any one time and push the sensitivity level up to Level 3 if the development were considered as an outdoor use. Where the development attracts more than 1000 people at any one time (i.e. theme parks, sport stadia, open-air market and outdoor concert), the sensitivity would be Level 4.

Since the site is located in the Inner Zones of both pipelines, in order that the proposed development should not fall into the Advise Against category, the level of sensitivity should be Level 1. The options for level one development types are as follows:-

- Workplaces; offices, factories, warehouse, farm buildings, non- retail markets and builder's yards where there are less than 100 occupants in each building and in each building has less than 3 occupied storeys
- Parking areas; car parks, truck parks and lock-up garages with no other associated facilities
- Housing; infill and backland development with 1 or 2 dwelling units
- Hotel/ Hostel/ Holiday accommodation; small guest houses, hostels, youth hostels, holiday camps, holiday homes, halls of residence, dormitories, holiday caravan sites and camping sites which accommodate less than 10 beds or 3 caravan/ tent pitches
- Transport links; estate roads or access roads which are single carriageway, as well as any railway or tram track with transient population

## 4.2 Quantification of development potential

Where further consideration of an Advise Against response is required, HSE uses a crude quantitative measurement in order to obtain a rapid assessment of the 'case' societal risk of a development called the Scaled Risk Integral (SRI). It is a measure of societal risk, and a high value would indicate that substantial numbers of people would be exposed to the risk. The SRI provides a simple approach which takes account of the important relevant factors in societal risk. On calculation of the SRI, call-in would be 'considered' by HSE for values above 500,000, and 'recommended' for values above 750,000.

The methodology for calculating the SRI is described in various HSE publications as follows:-

$$SRI = \frac{(P \times R \times T)}{A} \left( \frac{n + n^2}{2} \right)$$

where, P = population factor, defined as

n = number of persons at the development

R = average estimated level of individual risk in cpm (based on Dangerous Dose)

T = proportion of time development is occupied by n persons

A = area of the development in hectares

The significance of various SRI values is shown in Table 4-1.

**Table 4-1: The values of SRI correspond to HSE justification**

SRI	Rationale
1,600	30 houses maximum
2,500	Lower limit of significant risk
35,000	Lower limit of substantial Risk
140,000	Upper limit of low density housing
500,000	HSE considers call-in
750,000	HSE definitely calls in

The following assumptions are made in order to calculate SRI in this case:-

According to the business plan, the opening hours are 9 am to 6 pm, 7 days a week, and the visitor numbers are expected to be:-

45 weeks	with 25 children/weekday
50 weekends	with 180 children/day
24 holiday days	with 180 children/day

A typical estimated visit duration is 1½ hours. The number of children visiting given above is unlikely to be the size of the population present on the site at the same time. Therefore, considering the total operation time of 9 hours per day divided by the estimated visit duration period, the number of people visiting the playbarn is assumed, for the purposes of the SRI calculation, to be spread over 6 visiting time intervals. It has also taken into account the peak period where there is a high demand for the services and non peak where the demand is low. The peak period is assumed to begin later on the day, i.e. after 12.00 am and end at 4.30 pm where the number of people reduces towards the end of the day. It is assumed that half of the playbarn opening time in one day is the peak time and another half is the non-peak time. The graphs in Figure 4-1 (a) and (b) show the estimated population distribution present at the proposed development site over its operating hours on weekends/holidays and weekdays respectively.



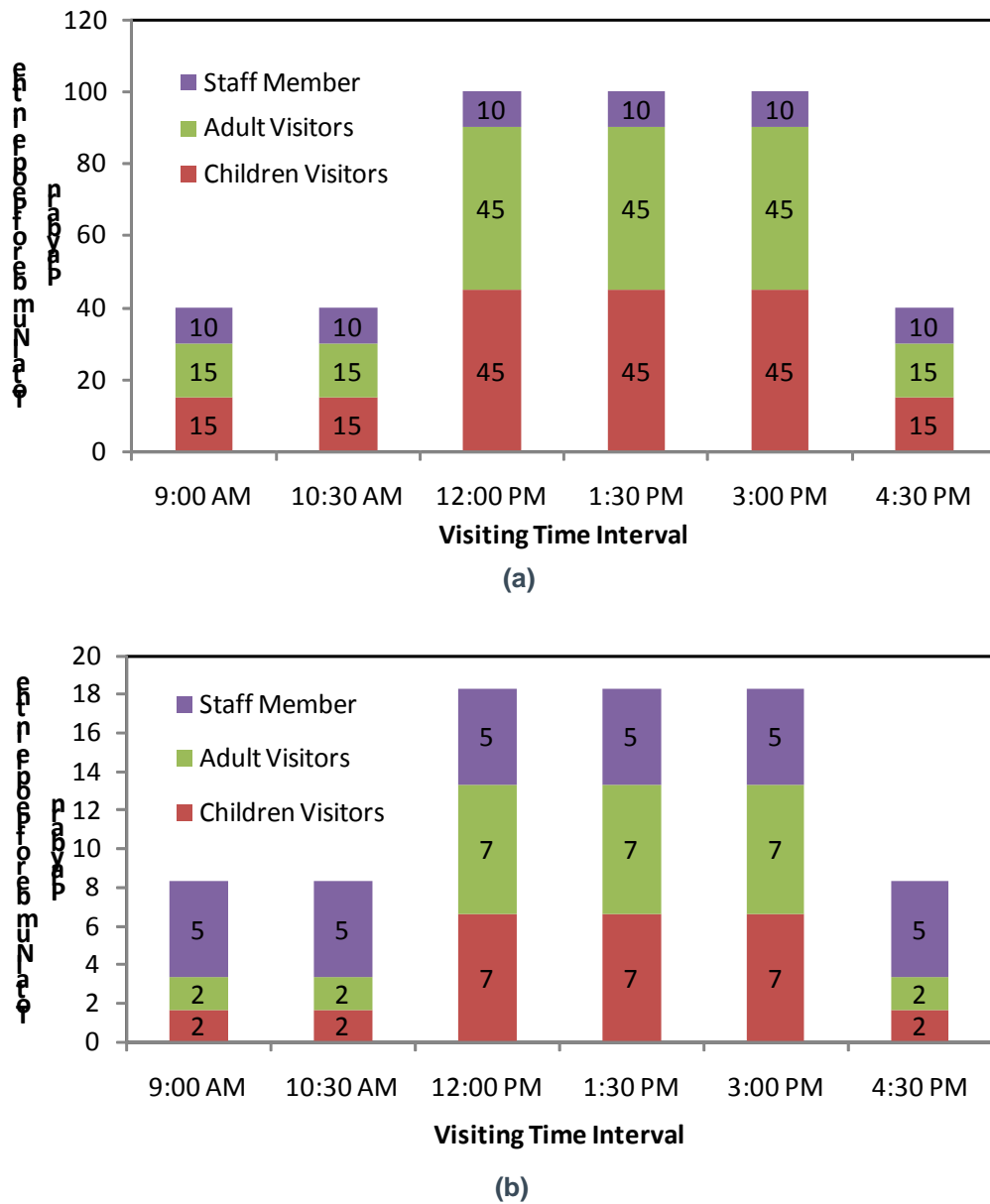


Figure 4-1: The Estimated Population Number at the Playbarn from 9.00 to 18.00 hrs.

During the weekends/holidays, it is assumed that 75 percent of the total number of children visitors in one day would visit during the peak period. This gives the number of 135 children which would be spread over the 3 time intervals from 12.00 am until 4.30 pm, and hence 45 children present on site in each peak interval. The number of children visiting during the non-peak period is assumed to be 25% of the total number of children visitors per day, this value of 45 again would be spread over the 3 visiting intervals from between 9.00 - 12.00 am and 4.30 - 6.00 pm and the number of children present in each non-peak interval is then calculated to be 15. The business plan stated that there will be 2 full time and 8 part time staff at the development. It is therefore assumed that there are 10 staff during the weekends and holidays and the staff are only present during their working hours from 9 am to 6 pm. The calculation takes into account the possible maximum number of people who may be present on the site, and it is assumed that each child is accompanied by one adult. The total population present on weekends/holidays is therefore 100 and 40 for peak and non-peak period respectively (see Figure 4-1). For weekdays, the distribution of 80% and 20% of the total number of children visitors during peak and non-peak period is assumed. It is also assumed that there are 5 staff working during weekdays. The numbers estimated for the total population present on site for weekdays are 19 and 9 for peak and non-peak times respectively.

It is assumed that the risk R is 10 cpm everywhere within the Inner Zone boundary of each pipeline. Since there are two hazard sites (the Shell NGL pipeline and BP Forties pipeline) which contribute R of 10cpm each, the total R used in the calculation is 20 cpm. It is also noted that this is likely to be a conservative interpretation, since in practice it has been found that, where the Inner Zone boundary is set on a protection basis (such as the fireball radius), rather than on a risk of dangerous dose basis, the risk at that boundary may be only 5 cpm or less.

The occupation factor (T) is obtained based on the assumptions stated above. There are two values of T calculated due to the different population sizes occupying the site. Since there are 50 weekends and 24 holiday days per year, the time for a total peak period of this sector in one year is calculated by multiplying the number of days, 124 days, with 4.5 operating hours per day (half of operating hours is of a high demand service) which gives 558 hours. For non-peak periods, the same calculation is applied. In order to calculate the occupation factor, T, the value of 558 hours was divided by total number of hours in one year, 8760 which will then give a T value of 0.064. According to the plan, there are 45 weeks of 5 weekday visits and therefore by employing the same method of calculation as above, multiplying the 225 days by 4.5 hours, the operating times for peak and non-peak periods are both equal to 1012.5 hours. By dividing 1012.5 by 8760, the value T of 0.116 is obtained.

As there are various approaches which can be adopted for the SRI calculation in this particular case, five possibilities, Cases A, B, C, D and E are considered. By employing the earlier assumptions, Case A is calculated based on the area of the play barn and shop café development only. The proposed development for an indoor play barn covers an indoor area of approximately 645 m<sup>2</sup> and this gives the value of development area of 0.0645 hectares.

In HSE's SRI assessment, it has been mentioned that, for a development proposal which occupies only part of a large site e.g. a club house at a golf course, an office block on a business estate, it may not be obvious what part of the site as a whole should be associated with the proposed building to determine the area A in the SRI formula. Case B therefore considers also the area including the car park of 653 m<sup>2</sup> which gives the value of development area of 0.130 hectares, with the other parameters for SRI calculation remaining the same as Case A.

It is also described in HSE's SRI assessment that in the case of a club house at a golf course and an office block on a business estate, the effective site area may use a multiple (usually 4) of the building footprint. This implication is adopted in the Case C calculation to compare the significant level that is contributed by area A to the SRI value.

For the value of T which is not being controlled by planning restrictions, HSE might use the factor of 0.5 for places of entertainment, shops and supermarkets. The total occupation factor obtained from the assumptions earlier, i.e. the sum of T calculated in Case A, is 0.359. This value is lower than the value of 0.5 set by HSE. By considering the possibility of this method of calculation being adopted the value of T in Case D is then adjusted to have the sum of 0.5. However, the proportion of T for weekends/holidays and weekdays remains the same as in Case A.

It has also been mentioned that particular categories of population occupying the site which differ significantly from the average may be accommodated by adjusting the value of 'n' by an appropriate factor 'c'. The playbarn would be occupied by children and may therefore be regarded as a sensitive population where the value of 'c' would be 2. This results in twice the value of 'n' considered earlier. In Case E, the calculation of 'n' being multiplied by 2 is used along with the other parameters of those in Case A. Details of parameter values used in the calculation are listed on Table 4-2 below, and the resulting SRI values are given in Table 4-3.

It is shown in Table 4-3 that the SRI values calculated for all Cases A, B, C, D and E do not lead to HSE's consideration or initiation of 'call-in' since they are below 500,000. The SRI values calculated for Cases A, B and C are below 140,000, which is the upper limit of low density housing. However, HSE may invoke the call-in procedure if aspects cause exceptional concern even though the SRI value does not exceed 500,000. In Case E which regards the whole population at the proposed development site as vulnerable people, the SRI value of 499,500 is obtained. This is just below the value at which HSE would consider a call-in.

The SRI value is inversely proportional to the area of the development. As the area decreases, the SRI value increases by the same rate. It is shown on Table 4-3 that the SRI value calculated for Case A decreases by a factor of four when applying the multiple effective area methodology in the calculation, Case C. Therefore, to decrease the SRI value, for example in Case E to be well below 500,000, the area of the indoor development would need to be increased.

**Table 4-2: Parameters Used for the SRI Calculations**

	Time of visit	Number of persons at the development, n		Population factor, P		Average estimated risk, R (cpm)	Proportion of time, T	Area of the development, A (ha)
		Peak	Non-peak	Peak	Non-peak			
<b>CASE A</b>	weekends and holidays	100	40	5050	820	20	0.064	0.0645
	weekdays	21	9	231	47	20	0.116	0.0645
<b>CASE B</b>	weekends and holidays	100	40	5050	820	20	0.064	0.130
	weekdays	21	9	231	47	20	0.116	0.130
<b>CASE C</b>	weekends and holidays	100	40	5050	820	20	0.064	0.258
	weekdays	21	9	231	47	20	0.116	0.258
<b>CASE D</b>	weekends and holidays	100	40	5050	820	20	0.089	0.0645
	weekdays	21	9	231	47	20	0.161	0.0645
<b>CASE E</b>	weekends and holidays	200	80	20100	3240	20	0.064	0.0645
	weekdays	42	18	903	171	20	0.116	0.0645

**Table 4-3: SRI Values for All Cases**

Time of visit	Area	SRI Value
<b>CASE A</b>	<b>Playbarn, Shop &amp; Café</b>	<b>125,900</b>
<b>CASE B</b>	<b>Playbarn, Shop &amp; Café and Car Park</b>	<b>62,600</b>
<b>CASE C</b>	<b>4 x Playbarn, Shop &amp; Café</b>	<b>31,500</b>
<b>CASE D</b>	<b>Playbarn, Shop &amp; Café</b>	<b>175,400</b>
<b>CASE E</b>	<b>Playbarn, Shop &amp; Café</b>	<b>499,500</b>

### 4.3 Qualitative consideration of development potential

In cases where the general individual risk is low, but there is scope for a large number of people to be affected at the same time, i.e. the risk is mainly societal, it is difficult to determine acceptability using numerical criteria only since there are several considerations, for example, the socio-economic benefits, number of people killed or injured, political reaction etc. HSE might recognise these other factors, one of which is the existing buildings. For example, the development of 10 houses on a 1-acre site in an area where there are already many houses might well be perceived to be less significant than 10 houses near a major hazard which is otherwise surrounded by green fields. Since the proposed development is isolated, this may be the significant issue considered by the HSE.

From the report provided on the major accident hazards involving land transmission pipeline failures in Western Europe, HSE has noticed that the main cause of the failure has resulted from third party activity with earth moving machinery. This has contributed 41 percent of the total causes. It is possible that construction activities at the proposed site may increase the frequency of these events. However, the CONCAWE data states that a major part of accidents by third party activities, 65%, result from ignorance of the pipeline location, especially in the case of non-notified works, and the other causes result from negligence of the third party operator. This is not likely to be the case for this development since the information on pipelines has already been provided.

There is information provided on previous applications for developments within the Inner Zone of the Shell NGL St Fergus – Moss Moran which are listed below:-

- Sensitivity Level 2: A golf course.  
HSE Decision: Allow It was recommended that the clubhouse should be at least 1000m from the pipeline unless used for social function attracting large numbers in which case it should be 400 m from pipeline
- Sensitivity Level 2: Single bungalow at 50 m from pipeline  
HSE Decision: Refuse Refusal recommended if location is within 50m of the pipeline distance
- Sensitivity Level 2: Single three bedroom bungalow 20m away from the pipeline  
HSE Decision: Refuse
- Sensitivity Level 2: Three bedroom house 70m away from the pipeline  
HSE Decision: Allow
- Sensitivity Level 1: Residential caravan at an airfield owned by the local gliding club located 50m away from the pipeline  
HSE Decision: Allow

\* Sensitivity Level described in Section 3.1

From the historical applications, there are both Allow and Refuse decisions for the proposed development of Sensitivity Level 2 in the Inner Zone. The closest point at which an 'Allow' decision has been made is 70 m, which is lower than the 100 m in the present case.

## 5. Discussion of the risks

### 5.1 Estimated consequences of hazardous events

#### Fireball events

The likely effects of a fireball event from the pipeline have been approximated by comparison with the modeled consequences of a similar event from a recent Atkins project. It is estimated that the consequences of a fireball from the pipeline would be as follows;

Fireball radius	≈	116m for BP Forties and 150m for Shell NGL
1000 tdu (Dangerous Dose)	≈	380m for BP Forties and 430m for Shell NGL

All people within the fireball radius, i.e. the inner zone, are expected to be fatalities even allowing for any shelter provided. The distance of the proposed development is approximately between 50 to 85 m from the BP Forties pipeline and 100 to 125 m from the Shell NGL pipeline, i.e. within the fireball radius in each case. As a result, the site is determined to be in the Inner Zone and limited development types are possible.

#### Flash Fire events

An estimation of the consequences of the Flash Fire event to predict the dispersion footprint of the cloud can be made using consequence modelling which has also been investigated for both pipelines in Atkins previous work. It can be deduced that in a typical wind conditions in the east, southeast and south directions, flash fire cloud footprint would stretch beyond the development site and the proposed site would be engulfed by the flash fire envelope.

A flash fire risk for people outdoors is set by assuming that all persons within the predicted lower flammability limit (LFL) envelope suffer fatality. It is assumed, however, that visitors would generally be located indoors, and it is usual to assume that 5% of people located indoors within a flash fire envelope would be fatalities. Therefore there would be approximately  $100 \times 0.05 = 5$  additional fatalities from this event (as well as additional injuries) considering the time with the highest number of visitors. Even if 10% of the population were outdoors, the total additional fatalities would only increase to a maximum of 15.

#### Jet Fire events

The consequences of a jet fire event would normally be relatively localized to the pipeline. However, the weather conditions may increase the area impacted by the event. Under strong wind conditions blowing from the pipeline towards the site (i.e. SE wind), the length of the flame may be extended.

#### Pool Fire events

The diameter of a pool fire depends on the release rate, the surface emissive power, the relative humidity of the air, the orientation of the object irradiated with respect to the fire etc. This rare event would cause significant fatality at the playbarn development, but is of rather lower frequency than the lesser events.

## 5.2 Estimation of risk at the development site

For NGL pipelines conveying flammable substances other than natural gas vapour, the zones are set on consideration of the risks from three events; a fireball event, a jet fire event, and a flash fire event. For the BP crude pipeline the pool fire event would also be included.

The definition of these zones can be summarized by the following (see Section 3.4 above);

<b>Zone</b>	<b>Basis of distance</b>
Inner Zone	Predicted fireball radius (10cpm)
Middle Zone	Risk levels of 1cpm
Outer Zone	Distance to middle zone x 4/3 or 0.3cpm (whichever lesser)

Considering the BP Forties pipeline, out of the four hazardous events of concern, the dominating hazard in the area are the jet fire and pool fire since the site is located relatively close to the pipeline. The fireball and large pool fire events are of rather lower frequency and the flash fire event dominates at greater distances. In the case of the developments proposed, it can be seen that a jet fire event has the greatest possibility of impacting the site.

## 5.3 Tolerability of estimated risk levels

In order to set this level of risk in the context of typical major hazard risks, it can usefully be compared with standard risk tolerability criteria. The HSE's framework for judging the tolerability of risk is represented in Appendix I, and described in paragraphs 122 to 124 of R2P2 as follows:

*The triangle represents increasing level of 'risk' for a particular hazardous activity (measured by the individual risk and societal concerns it engenders) as we move from the bottom of the triangle towards the top. The dark zone at the top represents an unacceptable region. For practical purposes, a particular risk falling into that region is regarded as unacceptable whatever the level of benefits associated with the activity. Any activity or practice giving rise to risks falling in that region would, as a matter of principle, be ruled out unless the activity or practice can be modified to reduce the degree of risk so that it falls in one of the regions below, or there are exceptional reasons for the activity or practice to be retained.*

*The light zone at the bottom, on the other hand, represents a broadly acceptable region. Risks falling into this region are generally regarded as insignificant and adequately controlled. We, as regulators, would not usually require further action to reduce risks unless reasonably practicable measures are available. The levels of risk characterising this region are comparable to those that people regard as insignificant or trivial in their daily lives. They are typical of the risk from activities that are inherently not very hazardous or from hazardous activities that can be, and are, readily controlled to produce very low risks. Nonetheless, we would take into account that duty holders must reduce risks wherever it is reasonably practicable to do so or where the law so requires it.*

The zone between the unacceptable and broadly acceptable regions is the tolerable region. Risks in that region are typical of the risks from activities that people are prepared to tolerate in order to secure benefits, in the expectation that:

- *the nature and level of the risks are properly assessed and the results used properly to determine control measures. The assessment of the risks needs to be based on the best available scientific evidence and, where evidence is lacking, on the best available scientific advice;*
- *the residual risks are not unduly high and kept as low as reasonably practicable (the ALARP principle – see Appendix 3 [of R2P2]); and*

- *the risks are periodically reviewed to ensure that they still meet the ALARP criteria, for example, by ascertaining whether further or new control measures need to be introduced to take into account changes over time, such as new knowledge about the risk or the availability of new techniques for reducing or eliminating risks.*

In terms of providing quantitative criteria to define these regions, paragraph 130 of R2P2 states that:

*“HSE believes that an individual risk of death of one in a million per annum for both workers and the public corresponds to a very low level of risk and should be used as a guideline for the boundary between the broadly acceptable and tolerable regions.”*

Paragraph 132 of R2P2 goes on to consider the boundary between the ‘tolerable’ and ‘unacceptable’ or intolerable region and concludes:

*“For members of the public who have a risk imposed upon them ‘in the wider interests of society’ this limit is judged to be ... 1 in 10,000 per annum”.*

Although these criteria are set in the context of COMAH compliance, they can also provide a useful indicator in the present (Land Use Planning) context.

The risk level at the proposed development site arising from the two nearby hazardous pipelines is estimated to be around 20 in a million per annum (cpm) of dangerous dose. For the benchmark mentioned, HSE would consider this value of risk as ‘Tolerable if ALARP’, in the context of COMAH compliance.

Furthermore, HSE RR703 noted that the boundary between the unacceptable and ‘tolerable if ALARP’ region is calculated to correspond to a Scaled Risk Integral of approximately 500,000. The boundary between the ‘broadly acceptable’ region and the ‘tolerable if ALARP’ region is assumed to be two orders of magnitude below the ‘unacceptable’ boundary and was calculated to correspond to a risk integral of approximately 2,000. The calculated SRI value for the site is around 126,000, which is substantial, but lies below the upper limit for low density housing (see Table 4-1).

### **Protection concept**

HSE uses the ‘protection-based’ approach to determine consultation distances (CDs) and zone boundaries for some sites. This method selects a representative ‘event’, for cases where experience with risk analysis has shown that there is one event that dominates the risk profile. This event is chosen to form the basis of a protection-based assessment from which the consequences are modelled and hence the land use planning zones determined.

The protection-based approach as employed by HSE is based upon the description in the third report of the Advisory Committee on Major Hazards:

*“Ideally, the separation should be such that the population would be unaffected whatever accident occurs. For hazardous installations, however, such a policy is not reasonably practicable. It seems reasonable to aim for a separation which gives almost complete protection for lesser and more probable accidents, and worthwhile protection for major but less probable accidents.”*

The selection of the representative worst-case major accident for the protection concept has been considered by some to be somewhat arbitrary. HSE now quantifies the residual risk, but where the quantification of risk is difficult or uncertain, or where the protection concept would generate similar results in terms of the size of land use planning zones and the advice given, then HSE continues to base its land use planning advice on residual risk as represented by the consequences of a representative worst case accident.

## 6. Options for Risk Reduction

The proposed development falls in the 'Tolerable if ALARP' region of HSE's framework of tolerability of risk. Risks in this region are typical of the risk from activities that people are prepared to tolerate in order to secure benefits. In this region, regulators will require risks to be further reduced if it is reasonably practical to do so.

There are options which may be employed to facilitate the further reduction of risks. According to the location map, the closest distances of the site to the BP Forties pipeline and the Shell NGL pipeline are approximately 50m and 100 m respectively. By relocating the playbarn to the northwest of the site beyond Shell NGL pipeline's Inner Zone, the total individual risk level may reduce from 20 cpm to approximately 15 cpm or less. It is estimated that of this 15 cpm individual risk level, 10 cpm is contributed by BP Forties and 5 cpm by Shell NGL pipeline since the risk level would not necessarily drop rapidly to 1 cpm once the Inner Zone boundary is crossed. In this case, the SRI values would reduce to  $\frac{3}{4}$  of those calculated earlier. However, according to the PADHI matrix system, the AA would remain.

The reduction in the sizes of some or all of the zones can also be achieved when the pipeline operator proposes to replace a section with thick walled pipe or to add an additional sleeve on an existing pipe. In this particular site location, the BP pipeline is 50 m from the proposed playbarn. At present, the BP Forties pipeline with a thickness of 3/8" is protected by a tubular steel sheath of length approximately 18 m located at the Borrowstone road crossing section. As discussed earlier in Section 3.4, the additional modification of thick-walled pipe section of at least 2 times of the Inner Zone range (220 m) would be required in order to reduce the risk at the site area and push the proposed development into the Middle Zone. Without this modification, the proposal would remain in the Inner Zone even if it is moved to the northwest of development plan as suggested earlier.

## 7. Conclusions

Based on the PADHI matrix decision system, the proposed development site is Sensitivity Level 2 and is located within the Inner Zone of 2 pipelines, BP Forties and Shell NGL. The outcome decision would be AA from HSE. However, the societal risk calculated using SRI measurement gives the value which does not fall into the range of HSE consideration for a 'call - in'.

The Scaled Risk Integral value obtained for Case A based on the proposed business plan information is 126,000. This is within the substantial risk range but is less than the upper limit of low density housing. Even though the SRI value does not exceed 500,000, HSE may invoke the call-in procedure if there are other aspects which caused an exceptional concern.

The calculation has also taken into account the possibility of regarding the population at the proposed development site as vulnerable people, due to number of children present. HSE may treat the population differently for this case and therefore a calculation with the vulnerability factor of 2 was undertaken. The SRI value is calculated to be 499,500 for this case which is just below the value at which HSE would consider a call-in. However, the development does not fall into those which are typically used by vulnerable people, for example, hospitals, nursing homes, prisons and schools. Furthermore, it is most likely that the children would be accompanied by adults, and would therefore be more likely to be able to take emergency action.

The additional modification of the thick-walled pipe of twice the range of the pipeline's Inner Zone would reduce both the individual and societal risk level at the site. This significant modification would result in a zone reduction to the Inner Zone, which would enable the PADHI decision matrix system to return DAA.

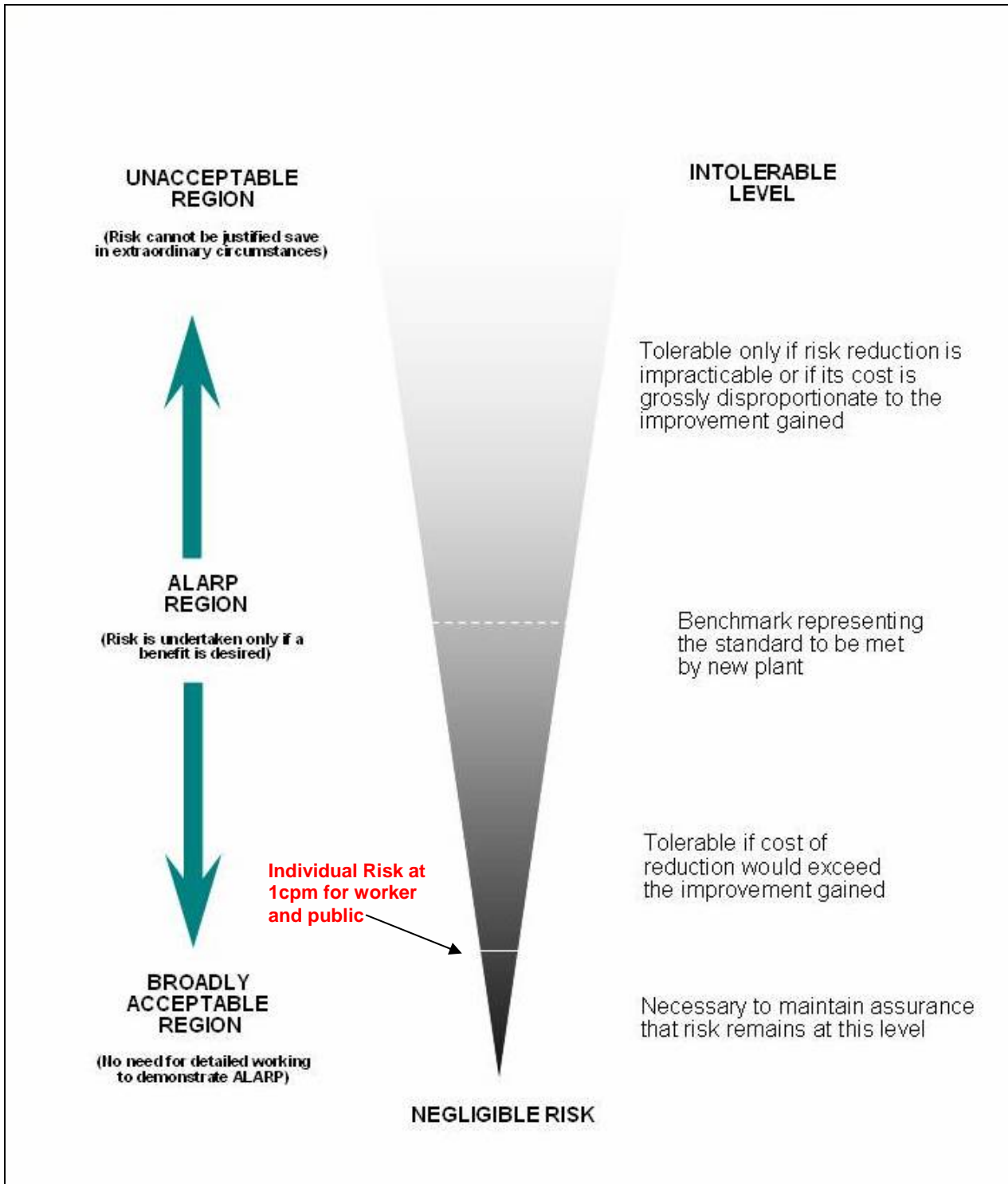


## 8. References

- 1) Aspects of risk assessment for hazardous pipelines containing flammable substances, David Carter, 1991
- 2) HSE Risk criteria for Land-Use Planning in the vicinity of major industrial hazards
- 3) Chapter 6P: Risk assessment for pipelines conveying flammable substance other than natural gas
- 4) Chapter 8B: The Scaled Risk Integral
- 5) The Conversion of Existing Steading and Extension to Form Farm Shop/ Café and Playbarn proposal

## 9. Appendices

Appendix I: HSE Framework for tolerability of risk



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# Appendix 7 SRI Calculations

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# Introduction

Planning applications have been submitted to the local planning authority for development at Wynford Farm, Kingswells, Aberdeen. The site lies adjacent to two pipelines; Shell Natural Gas Liquids (NGL) and BP Crude Oil pipelines. The original development had Strategic Risk Integers (SRI) calculated by Atkins Global using an indoor area of approximately 645 m<sup>2</sup>. The development is for a play barn and farm shop and it is classed as a café with a function room by the Aberdeen City council. The proposed development site falls within HSE's Consultation Zones of two nearby pipelines. Since HSE would advise against (AA) the proposed development, it has been decided by that there is a requirement to assess the proposal against the PADHI constraints to determine the risk that HSE would request call-in. The original calculations are used as the basis for recalculations, the worse case scenario in the original calculations was Case E which returned an SRI of 499,500. In this new case we are dealing with an increase in area and we also consider an increase in customer population.

## Calculation

In the Atkins report it is shown in Table 4-3 that the SRI values calculated for all Cases A, B, C, D and E do not lead to HSE's consideration or initiation of 'call-in' since they are below 500,000. The SRI values calculated for Cases A, Band C are below 140,000, which is the upper limit of low density housing. However, HSE may invoke the call-in procedure if aspects cause exceptional concern even though the SRI value does not exceed 500,000.

Case E is the worst case scenario which regards the whole population at the proposed development site as vulnerable people, the SRI value of 499,500 was obtained. This is below the value at which HSE would consider a call-in.

The SRI value is inversely proportional to the area of the development. As the area increases, the SRI value decreases by the same rate.

For simplicity we will only consider the worst case scenario for this application, Case E as if this passes then there are no issues with the other cases. Therefore, in this case where the additional recreational area of .945 Ha is considered the SRI decreases in the ratio of .064/.945 = .063 and the SRI value in Case E goes to 31,682. The Planning Department asked if the number of additional customers would be under or over 100, our response is that we believe that the total number of additional customers would be significantly less than 100 however for simplicity and brevity we shall take the increase in the population for SRI calculation purposes to be 100. So if we were to take Case E with an increased population of 300 total, peak, (v200) then as  $P = (n+n^2)/2$  the SRI would be recalculated as 71,254.

In each case the SRI is significantly less than the threshold of 500000 at which the HSE would automatically 'call-in' the proposal, indeed it is significantly below the level set for low density housing (140,000).

## Conclusions

Based on the PADHI matrix decision system, the proposed development site is Sensitivity Level 2 and is located within the Inner Zone of 2 pipelines, BP Forties and Shell NGL. The outcome decision would be AA from HSE. However, the societal risk calculated using SRI measurement gives the value which does not fall into the range of HSE consideration for a 'call - in'.

The Scaled Risk Integral value obtained for Case E based on the proposed business plan information is 71,254.

The calculation has also taken into account the possibility of regarding the population at the proposed development site as vulnerable people, due to number of children present. HSE may treat the population differently for this case and therefore a calculation with the vulnerability factor of 2 was undertaken. The SRI value is calculated to be 71, 254 for this case which is significantly below the value at which HSE would consider call-in.

However, the development does not fall into those which are typically used by vulnerable people, for example, hospitals, nursing homes, prisons and schools. Furthermore, it is required that the children would be accompanied by adults, and would therefore be more likely to be able to take emergency action. Hence in reality the SRI would be significantly lower than the stated value.