RYEDALE DISTRICT COUNCIL

Please Contact	Ellis Mortimer/Karen Hood
Extension	271
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E Mail	ellis.mortimer@ryedale.gov.uk; karen.hood@ryedale.gov.uk

PLANNING COMMITTEE

Tuesday 20 November 2018 at 6.00 pm

Council Chamber, Ryedale House, Malton

Agenda

13 **Late Observations** (Pages 2 - 125)

Agenda Item 13

RYEDALE DISTRICT COUNCIL

Please Contact: Mrs Karen Hood
Extension 386
Email: karen.hood@ryedale.gov.uk

All Members of the Planning Committee
Council Solicitor
Head of Planning
Senior Customer Services Officer (Place)

Ref: Agendas/Planning/2018/2019

16th November 2018

Dear Councillor

Meeting of the Planning Committee – 20th November 2018

With reference to the above meeting I enclose for your attention the late observations received since despatch of the agenda.

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Yours sincerely

Mrs Karen Hood
Senior Customer Services Officer (Place)

13 Takeoff

Takeoff is optional.
Landing (sooner or later) is mandatory.

The most important part of taking off is making the decision to do so. Discussion of decisionmaking (section 13.7) will be postponed until after we have discussed normal takeoffs — not because it gets lower priority, but just because it's hard to appreciate an abnormal situation unless you understand the normal situation.

Also: Before taking off, remind yourself of your duty to see and avoid other traffic, as discussed in section 16.2. You remain responsible until the aircraft is parked at the end of the flight.

13.1 Simplest Takeoff

This section presents a "case study" of a takeoff in which the pilot has to do remarkably little work. (In subsequent sections we will describe ways in which you can get better results by doing a little more work.)

This procedure applies when you have a well-paved runway with plenty of length and no obstructions to worry about. As shown in figure 13.1 and table 13.1, part way down the runway you rotate so that the pitch attitude is about 7.5 degrees. You then just hold that pitch attitude. Period.

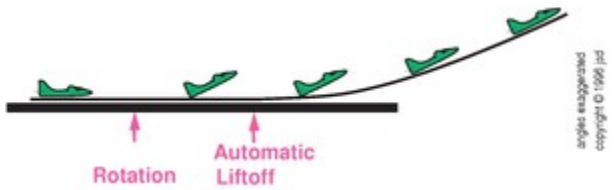

Figure 13.1: Simplified Takeoff

	Angle of Attack	Angle of Climb	Pitch Attitude	Incidence	Airspeed
Initial roll	4.5°	0°	0.0°	4.5°	small, incr.
After rotation	12.0°	0°	7.5°	4.5°	increasing
At liftoff	12.0°	0°	7.5°	4.5°	6% below V_Y
Initial climb	decr.	incr.	7.5°	4.5°	increasing
Steady climb	7.0°	5°	7.5°	4.5°	10% above V_Y

Table 13.1: Simplified Takeoff

Remarkably, at the moment of liftoff, the pilot doesn't have to do anything. The plane lifts off when it is ready, that is, when it has enough airspeed to support its weight at a 12 degree angle of attack. This will occur a few knots below V_Y, assuming V_Y corresponds to a 8.5 degree angle of attack (which is pretty typical; see also section 2.4). To construct the last phase of the scenario (asymptotic climb), I made some additional assumptions, namely that your engine is just powerful enough to provide a climb gradient of 5˚ at a speed 10% above V_Y. In particular, I imagine climbing out with airspeed = 83 knots and vertical speed = 735 feet per minute, in an airplane where V_Y is 75 knots. These are certainly believable numbers.

Note that before liftoff, most of the engine power is going into increasing your kinetic energy; a little is needed to overcome drag, and none is going into potential energy. Then, in the initial climb, we have a funny situation where we are climbing and accelerating at the same time. Finally, in the asymptotic climb phase, most of the power is going into potential energy; some is needed to overcome drag and none is going to increase airspeed.

The technique just described is smooth, simple, and elegant, but it has drawbacks. It does not give optimal climb performance (see section 13.3), it can cause problems if there is a gusty wind (section 13.2) or a crosswind (section 13.5), and it can cause problems if climb performance is impaired for any reason (section 13.7.3 and section 2.9).

13.2 Normal Takeoff

Imagine that you are using the simplified technique of the previous section, that is, rotating early and letting the airplane "fly itself off" whenever it is ready. Then imagine that just after liftoff, a gust of wind comes along and robs you of a few knots of airspeed. This will cause the airplane to settle back onto the runway. This is not elegant. To get around this, use a refined procedure: do not rotate until the airplane has a few knots more than the liftoff airspeed. This means that liftoff will occur right then, while you are rotating. It also means that by the time you are airborne, you can stay airborne even if you lose a few knots.

Here is another issue to consider: Most runways are not perfectly smooth. If the nosewheel hits a bump at 50 knots, it is likely to knock the nose of the airplane into the air, which has several disadvantages: (1) It will cause your passengers to be bounced around more than is necessary. (2) It could cause a premature liftoff. (3) It causes unnecessary wear and tear (and possibly outright damage) to the airframe.

To deal with this, you can use a second refinement, called *semi-rotatation*. That is, fairly early in the takeoff roll, rotate to a pitch attitude of 3 degrees or so. This is enough to get the nosewheel slightly off the ground, but not so much that the airplane will lift off (at any reasonable speed), and not so much that the nose will obstruct your vision (in most airplanes). This semi-rotation involves a pretty tiny pitch attitude compared to, say, proper landing attitude. When the airspeed reaches V_X or thereabouts, you raise the nose another few degrees, whereupon you will get a nice positive lift-off.

Finally, here is a third refinement: You know that the airplane will climb more rapidly at V_Y than at any other airspeed. Therefore, during the earliest part of the climb-out, where the plane is both climing and accelerating, you should watch for the point where the airplane reaches V_Y. At that point, you should make one more pitch adjustment: increase the pitch attitude a small amount (another 2.5 degrees, according to the numbers in our scenario) and trim to maintain V_Y. See figure 13.2 and table 13.2

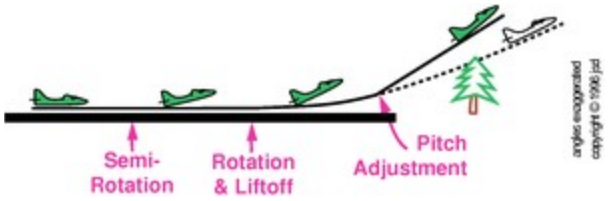

Figure 13.2: Normal Takeoff

	Angle of Attack	Angle of Climb	Pitch Attitude	Incidence	Airspeed
Initial roll	4.5°	0°	0.0°	4.5°	small, incr.
After semi-rotation	7.5°	0°	3.0°	4.5°	increasing
Just after rotation & liftoff	12°	0°	7.5°	4.5°	just above V_X
Initial climb	decr.	incr.	7.5°	4.5°	increasing
Steady climb	8.5°	6°	10.0°	4.5°	V_Y

Table 13.2: Normal Takeoff

The last phase of this scenario assumes your engine can sustain a 6 degree climb gradient at V_Y. In particular, I imagine 800 feet per minute at 75 knots.

In the figure, the dotted-line flight path and the uncolored airplane show the results you would have obtained using the simplified procedure described in the previous section. Remember that by climbing out at V_Y you gain more altitude (per unit time) than you would at any other airspeed.

* Flaps for Normal Takeoff

Extending the flaps for takeoff will improve your ability to see over the nose. This is because it increases the incidence; therefore the airplane will fly at a lower pitch attitude (for any given angle of attack). If the Pilot's Operating Handbook recommends flaps for a short-field or soft-field takeoff, there's no law against using them even when the field is long and smooth.

* Perceiving the Airspeed

Choosing an attitude and letting the airplane "fly itself off" as described in the previous section has the advantage that you don't need to look at the airspeed indicator, meaning you can devote all your attention to outside references. However, this can get you into trouble if you choose the wrong attitude (see section 2.9). Airspeed, not attitude, is your best information about angle of attack (section 2.13).

At the opposite extreme, certainly it is not a good idea to devote *all* of your attention to the airspeed indicator. Fortunately, you can use your eyes (to perceive your speed relative to ground references), your ears (to perceive the sound of the engine and the sound of the wind on the airframe), and your fingertips (to perceive the forces on the yoke). This means you can get qualitative information about airspeed while keeping most of your attention focused outside. Every so often, though, you should

glance at the airspeed indicator to supplement the qualitative information with quantitative information.

13.3 Obstructed-Field Takeoff

This section describes the procedure to use when you have a well-paved runway with an obstruction relatively nearby in the departure area.[1]

Plan the takeoff carefully. Take into account density altitude, runway slope, headwind or lack thereof, et cetera. Make sure you know the value of V_X under these conditions, and choose a suitable rotation speed V_R as discussed below.

Use the proper flap settings, as specified in the Pilot's Operating Handbook. Here's a useful cross-check: on most light aircraft, when you extend the flaps for an obstructed-field takeoff, you will observe that the angle of the flap matches the angle of a fully-deflected aileron.

Start at the beginning of the runway. If the taxiway leads you onto the runway some distance from the beginning, you will have to back-taxi on the runway, back to the very beginning.

Open the throttle smoothly, but not so slowly that you use up significant amounts of runway before the engine reaches full power. Some people advocate using the brakes to hold the aircraft stationary until the engine comes up to full power, but this is rarely necessary; if you open the throttle properly the airplane will move only a few feet while you're doing so.[2]

As shown in figure 13.3 and table 13.3, you should choose a rotation speed V_R at or near V_X — that is, quite a bit higher than what you would use for a soft-field takeoff (section 13.4) or even a normal takeoff. The idea is to use the wheels to support the weight of the airplane until you have built up a lot of energy. It's OK to semi-rotate a little bit, to take some load off the nosewheel, but you don't want the wings to be producing significant lift until you're ready to climb away. Then rotate smoothly to the "climb-out" pitch attitude, whereupon the airplane will lift off immediately. Climb away at V_X. Trim for V_X. After you have cleared the obstruction, you can accelerate to V_Y. Finally, after you have reached a comfortable altitude, you can accelerate to "cruise climb" speed and trim again.

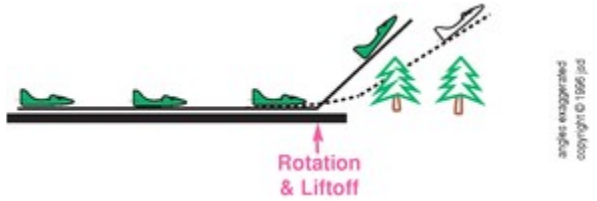

Figure 13.3: Obstructed-Field Takeoff

	Angle of Attack	Angle of Climb	Pitch Attitude	Incidence	Airspeed
Initial roll	4.5°	0°	0.0°	4.5°	small, incr.
climb	13.0°	7°	15.5°	4.5°	V_X

Table 13.3: Obstructed Field Takeoff

In the last phase of the example scenario, I imagine a climb rate of 780 fpm at 63 knots, which gives a climb gradient of 7 degrees.

In the figure, the dotted-line flight path and the uncolored airplane show the results you would have obtained following the normal-takeoff procedure, that is, accelerating while climbing and then climbing at V_Y. Note that using by using obstructed-field procedure, you have not climbed as high, but you have better obstacle clearance because you have not flown nearly so far horizontally.

It may seem paradoxical that you get better obstacle clearance by staying on the runway *longer*, but it's true (if the obstacle is not too near the runway). The rationale is as follows: You want to pass over the obstacle at a reasonable altitude with a reasonable airspeed. This requires a certain amount of energy. To maximize energy you want to minimize drag throughout the maneuver. Keeping the airplane on the runway until reaching a high speed is rough on the airplane, but supporting its weight with the wheels usually involves less drag than supporting its weight with the wings. To say it another way: rolling resistance is less than induced drag, unless the field is quite soft or bumpy.

Once airborne, you want to climb at V_X until you have cleared the obstacles, for reasons discussed in section 7.5.4.

The idea of choosing V_R to be equal to V_X is only an approximation. There are exceptions:

- For example, if you are facing a 20-foot-high billboard that is the only obstacle in the area, it is theoretically logical to zoom over at a speed several knots below V_X, then dive back down on the other side.[3] Short-term altitude gain (as given by the law of the roller coaster) is more important than long-term rate of climb (as given by the power curve).
- On the other side of the coin, if the elevation of your departure airport is near the absolute ceiling of your airplane (so that you will have very little rate of climb once airborne) and if the runway is long and well-paved but obstructed, then it makes sense to stay on the runway (or at least in ground effect) until the speed is well above V_X.

Still, for typical circumstances, choosing V_R at or near V_X is a reasonable guideline.

* Skimming versus Wheelbarrowing or Flap-Popping

The procedure outlined above (staying on the runway at high speed, with the flaps extended) may not be possible in your airplane. Depending on the incidence of the wings, the airplane may fly itself off well before you reach the desired rotation speed.

Usually the best way to deal with this situation is to let the airplane come off the ground, and then skim along in ground effect, rather like a soft-field takeoff.

Another possible procedure (which is usually *not* recommended) is to keep the flaps retracted until you are ready to leave the runway. Less flaps means less incidence. A big disadvantage is that "popping" the flaps like this increases your workload at a time when there are lots of other things you should be attending to. Another disadvantage is that you run the risk of extending the flaps past the takeoff position to the landing position, creating lots of drag, which is really not what you want in this situation. If your POH calls for this procedure, go ahead, but be careful. Make sure you have some sort of detent to block inadvertent over-extension.

An even worse situation arises if you try to keep the plane on the ground by pushing forward on the yoke. This is called *wheelbarrowing*. What happens is that while you are holding the nose wheel down, the main wheels come off the ground. You are counteracting the incidence with a negative pitch attitude. The steering becomes dangerously unstable. There is also a risk of the propeller striking the ground.

13.4 Soft-Field Takeoff

Sometimes you want to get the airplane airborne at the lowest possible airspeed, using the shortest possible takeoff roll. For example, gooey mud on the runway will cause tremendous amounts of friction on the wheels. The sooner you become airborne, the sooner you are free of that friction and the better you will be able to accelerate. Additional reasons for using soft-field procedure will be given below.

The procedure is as follows: Extend the flaps as recommended by the manufacturer; in the absence of a specific recommendation, extend the flaps so that they just match a fully down-deflected aileron. The idea is to get the most coefficient of lift without undue drag.

At the beginning of the takeoff roll, pull the yoke *fully* backward. Early in the takeoff roll, the nose will rise, as indicated in figure 13.4. Allow it to rise to the pitch attitude that corresponds to the stalling angle of attack, or slightly less. This is typically about 15 degrees nose up.

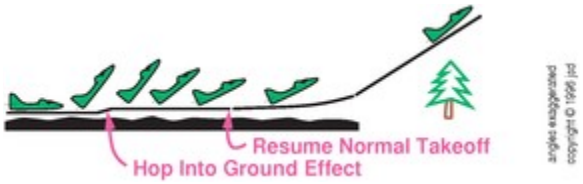

Figure 13.4: Soft-Field Takeoff

To maintain this pitch attitude as the aircraft accelerates, you will have to gradually let the yoke move forward. You will become airborne at a very low airspeed — roughly the stalling speed.[4] If you were to maintain the liftoff attitude, a typical airplane will accelerate poorly while climbing poorly, but that's not what we want. (A lower-powered airplane might get into a situation where it can neither accelerate nor climb.) Instead, gradually lower the nose, so that you fly parallel to the ground, remaining one foot above the ground. As the aircraft accelerates in ground effect, the required angle of attack will decrease, so you will see the pitch attitude get lower and lower.

There are two ways of completing the maneuver.

- If the field is unobstructed, remain in ground effect until the pitch attitude (and angle of attack) have decreased to their normal takeoff values, as discussed in section 13.2. Then climb while accelerating to V_Y just as in the normal takeoff .
- If, however, there are obstacles, it is better to remain in ground effect until the speed approaches V_X, then raise the nose and climb out while maintaining V_X as in the obstructed-field takeoff (section 13.3).

You may be surprised at how well soft-field procedure works. Just after liftoff, the airspeed is extremely low. In ordinary conditions of flight, your airplane might well have a negative rate of climb at that airspeed — yet in this case it not only maintains altitude, but accelerates. The special

ingredient in this case is ground effect: a wing produces very little induced drag while it is in ground effect (that is, roughly, within one wingspan or less of the ground) for reasons discussed in section 3.14.4.

Just after liftoff using this procedure,

1. there is no rolling friction because the wheels are not touching the ground;
2. there is very little induced drag because you are in ground effect; and
3. there is very little parasite drag because you are moving slowly; and
4. no power is being used for climb because you are moving horizontally.

The engine is producing full power, so if none of it goes into drag and none of it goes into climb, the airplane will accelerate like crazy.

There are many situations where this procedure is useful.

- If the runway is covered with mud, tall grass, sand, or snow, there can be troublesome amounts of friction against the wheels. Soft-field procedure allows you to transfer the airplane's weight from the wheels to the wings as early as possible, decreasing friction and improving acceleration.
- If the runway is rough and bumpy, the problem is not so much friction, but rather damage from hitting a bump at high speed. The sooner you lift off, the less harm to the airplane. Remember, the force involved in hitting a bump goes like the square of the groundspeed.
- Suppose the runway is perfectly smooth and firm, but very short — and suppose it is surrounded by open fields with lots of bumps but no serious obstacles. You can become airborne over the runway, and then accelerate in ground effect over the fields.
- Suppose you are attempting an ordinary takeoff from an ordinary field, but due to a gust (or perhaps even a lapse in pilot technique) you become airborne at a too-low airspeed. The best strategy is to accelerate in ground effect; you don't want to re-contact the runway (especially if there is a crosswind) and you don't want to try climbing at the too-low airspeed.

In all cases you must be careful to remain in ground effect until you have accelerated to a proper climb speed. If you try to climb at the liftoff speed you will have a big problem: in many cases, you will be unable to climb out of ground effect. That is, as soon as you climb to a height where ground effect is no longer significant, the induced drag will become so large that you will be unable to climb *or* accelerate.

* Brief the Passengers

If you have passengers aboard who haven't seen a soft-field takeoff before, give them the courtesy of an explanation. Otherwise, they may find the procedure extremely disturbing.[5] Just tell them you will lift off at a low airspeed and then fly horizontally for a few moments while you accelerate to the optimal climb speed. Tell them that (a) this is standard procedure for getting best performance, and (b) it minimizes jolts to the passengers.

* Maneuver by Reference to the Edge Line

Whereas in a normal takeoff you can guide the airplane by looking out the front, in a soft-field takeoff the nose will block your view during most of the maneuver. Therefore you must use the *edge* of the runway as your reference. Practice this skill during taxi. You will need this skill for landings and for soft-field takeoffs, but those aren't the best times to be learning it.

13.5 Crosswind Technique

There is not a "crosswind procedure" that you would use *instead* of normal procedure, soft-field procedure, or obstructed-field procedure. Rather, you use crosswind technique *in conjunction with* such procedures.

A crosswind takeoff is not as tricky as a crosswind landing, but it does call for some special care. Consider the following scenario: You are trying to take off in gusty conditions using the (over) simplified techniques of section 13.1. You've already rotated, and are accelerating toward liftoff speed with the wings level. As the speed increases, the wings produce more and more lift, lightening the load on the main wheels. The wind is still blowing against the side of the fuselage as strongly as ever. The ability of the wheels to provide a sideways force to resist the wind is proportional to the downward load on the wheels.[6] If you keep the wings level, there will necessarily come a point — prior to liftoff — where the wind overpowers the wheels and blows the airplane to the side, scraping the tires across the runway.

So, here are the correct techniques for handling a crosswind takeoff.

Regarding rudder usage: To counteract the airplane's weathervaning tendency (section 8.12), you must press on the downwind pedal to keep the plane going straight. Before rotation, both the rudder and the nosewheel contribute useful steering. In the period after rotation but before liftoff, with just the main wheels on the runway, weathervaning continues, but the rudder has to do 100% of the steering. Therefore you can plan on applying a little additional pedal deflection during this period. Once you are fully airborne, there is no weathervaning tendency.

Regarding aileron usage, there are two options:

1. A possible but uncommon method is the reverse of an ordinary crosswind landing. That is, during the takeoff roll, deflect the ailerons into the wind, to place more weight on the upwind wheel. The ailerons create force in proportion to airspeed squared, so at the beginning of the takeoff roll you will need *full* aileron deflection. As the airspeed builds up, gradually reduce the deflection. Rotate normally, maintaining appropriate aileron deflection, so that the downwind wing comes up while the upwind wing remains down. Keep the upwind wheel firmly planted, so that it can provide friction to resist the wind. Now the airplane is in a bank, trundling down the runway on one wheel; the sideways lift of the wings serves to counteract the force of the wind on the fuselage. As the load on the remaining wheel decreases to zero, the airplane will lift straight up.

   Suppose the crosswind is coming from the left. Just before liftoff, you are holding the ailerons deflected to the left, and the rudder deflected to the right. That is, you are commanding a slip, a nonturning slip, which is just what you want at this point. A moment later, after liftoff, this slip is no longer what you want. You promptly and smoothly undo the left aileron deflection and apply some right aileron, to roll the wings level. At the same time, you undo the right rudder deflection and maybe apply a bit of left rudder, to yaw the nose around to establish zero slip.

(The adverse yaw from the aforementioned right-rolling maneuver decreases the amount of left rudder you need.) The goal is to keep the direction of flight aligned with the runway, while the nose moves to the left, to the proper wind-corrected heading.

2. The much more common method is the reverse of the special "737-style" wings-level crosswind landing discussed in section 12.9.5. That is, you deflect the ailerons into the wind, but not as much as in the previous method. The idea is not to transfer all the weight to the upwind wheel, but merely to equalize the weight, counteracting the wind's tendency to flip the airplane over onto the downwind side. To keep the wind from pushing you sideways, you keep weight on *both* wheels, delaying rotation until you have almost 100% of flying speed (rather like the obstructed-field takeoff procedure, section 13.3). You then rotate and fly away. This method is not optimal for soft or bumpy runways, because it involves driving along the runway at high speed.

   Immediately before liftoff you are holding some right rudder pressure (to counteract the weathervaning tendency). Immediately after liftoff you use left rudder to align the fuselage with the airflow. Some tiny amount of aileron deflection may be needed to keep the wings level while the heading is changing. Again the goal is to keep the direction of flight aligned with the runway, while the nose moves to the left, to the proper wind-corrected heading.

Note that in both cases, the heading change that occurs right after liftoff is *not* a normal, coordinated turn. The motion of the center of mass is already aligned with the runway, so you do not want to change the direction of motion, just the heading.

After you have lifted off, you must take care not to settle back onto the runway. Since the airplane's heading is no longer aligned with the runway, re-landing would cause a severe sideways force on the landing gear.

As you climb out, you should expect that the crosswind will be stronger at altitude than it was near the ground. To compensate, make the appropriate heading changes.

13.6 Multi-Engine Takeoff

In a multi-engine airplane, an engine failure shortly after takeoff is a very critical situation. It places considerable demands on the pilot. Make sure you know what to do; brief yourself in detail before the takeoff. Engine failures and related procedures are discussed in section 17.1.

Early in the takeoff roll, verify that both engines are developing the same amount of power. If the aircraft is trying to pull to one side, you've got a problem. Also, check the engine gauges to make sure (a) you've got the normal RPM on both engines, (b) you've got the normal manifold pressure on both engines, and (c) you've got the normal fuel flow on both engines. The instruments that measure these three quantities are usually a single gauge with two needles, so if you notice that the needles are *split* you've got a problem.

If anything funny happens while there is runway remaining ahead of you, close both throttles immediately and stop straight ahead. Even if you are airborne, close the throttles and re-land if there is sufficient runway available. Indeed, even if the remaining runway is not quite enough, you might want to land on it: Suppose that because of density altitude or whatever, your aircraft has poor single-

engine climb performance. You will sustain vastly less damage if you land and run off the end of the runway at low speed, rather than making an unsuccessful attempt to climb out on one engine.

You really don't want to be airborne at a speed below V_{MC}, i.e. at a speed where you can't maintain directional control on one engine. In many aircraft, you should aim for a lift-off speed of V_{MC} plus 5 knots. To make sure you do not lift off too soon, you can delay rotation until reaching V_{MC}. You can semi-rotate earlier if you want; just make sure you don't rotate to a pitch attitude that will cause liftoff below the desired airspeed. After liftoff, climb while accelerating to V_Y (which ought to be greater than or equal to V_{YSE}).

In many twins, V_{MC} is essentially equal to the stalling speed. In others, however, it is considerably higher, which makes soft-field takeoffs problematic. You don't want to lift off at "the lowest possible airspeed" (like you would in a single) since if you lost an engine at that speed you'd have a big problem: uncontrollable yaw. It would be a lot safer to lift off at V_{MC} or higher, even if this means staying away from soft, bumpy fields.

13.7 Planning and Decisionmaking

13.7.1 Planning the Takeoff

As a pilot, the most important thing you can do to promote aviation safety is to leave the airplane tied down, when appropriate. Don't pressure yourself into making a questionable flight. Also, don't let your employer or passengers or anybody else pressure you into doing something questionable.

Well in advance of any flight, I advise all my passengers explicitly, usually in writing:

> A flight can be delayed or diverted for many reasons, including weather, mechanical trouble, pilot fatigue, et cetera. If you feel they have to go or return at a particular time, you should make alternate arrangements.

Plan every takeoff. Sometimes today's takeoff is exactly equivalent to yesterday's takeoff, which simplifies the planning, but don't get complacent. If something changes, you need to take that into account. There might be less headwind, higher density altitude, more passengers, less runway, more obstacles, or whatever.

In general, you have to ask yourself a number of questions, including:

- Is there a significant crosswind?
- Is the runway firm and smooth, as opposed to soft and bumpy?
- Is the runway long enough for a successful takeoff?
- Is the runway long enough for a rejected takeoff, i.e. accelerate/stop maneuver? (See section 13.7.3 and section 13.7.4.)
- Can we climb over any obstacles in the departure corridor? (See section 13.7.7.)
- Do we know what to do if there is an engine failure or other forced-landing scenario shortly after takeoff?
- All things considered, should we be making this flight at all?

Note that you need to calculate the required runway length *twice*: Once for the desired takeoff and climb-out scenario, and again for the rejected takeoff scenario, i.e. accelerate/stop. A rejected takeoff is less desirable than a successful takeoff that leads to a normal flight, but still vastly preferable to an unsuccessful takeoff that leads to a crash.

By way of analogy, remember that on every approach, you should be prepared for a successful landing *and prepared for a go-around*. The same logic tells us that on every takeoff, you should be prepared for a successful takeoff *and prepared for a rejected takeoff*.

Plan for the rejected takeoff.

It is likely that at sea level, the accelerate/stop scenario requires more runway (relative to the accelerate/climb scenario) and therefore determines how much runway you need. However, as the density altitude approaches the aircraft's absolute ceiling, climb performance becomes more critical, so it pays to check both scenarios.

13.7.2 Checklist Usage

Use a takeoff checklist that is appropriate to the particular aircraft you are flying (not a generic "all purpose" checklist). See section 21.6 for more on this. Some airplanes require the fuel boost pump on for takeoff, while others require it off. A C-152 requires 10 degrees of flaps for short-field takeoff, while a C-172 requires zero.

In many cases, you will need to add things to the checklist. For example, right before takeoff you should brief yourself (and your copilot) about the takeoff decision point and rejected takeoff procedure (as discussed in section 13.7.4). This topic is missing from the checklist in the POH for most single-engine aircraft.

13.7.3 Monitoring Takeoff Performance (wrong)

Predicting takeoff performance, beyond what is covered in the POH, requires knowing a tremendous amount about your airplane. It is a challenge for professional engineers and test pilots. The methods are beyond the scope of this book.

When planning your takeoff, do not trust the so-called Koch chart. It purports to predict takeoff and climb performance as a function of altitude and temperature. It says it applies to "personal" airplanes, whatever that means. The bottom part of the chart is fairly accurate but useless, because better information is available in your POH. The upper part of the chart, *if it were accurate*, would be informative in situations not covered in a typical POH, such as takeoffs from airports high in the mountains. Alas, though, this chart is not reliable. For one thing, it is based on the assumption that all "personal" airplanes have the same absolute ceiling at standard temperature. That's nowhere near true. Even for a specific airplane, you can increase the absolute ceiling by operating at a reduced gross weight. Ceiling can have an infinitely large effect on takeoff performance, as will be discussed in conjunction with figure 13.5, yet the Koch chart takes no account of it whatsoever. In some conditions the chart is absurdly pessimistic, while in other conditions it is dangerously over-optimistic. Other simple extrapolation schemes are just as bad.

I sometimes hear statements which are even worse, such as:

- Statement #1 (wrong): “On any runway, if you have attained 70% of your takeoff speed before you have used up 50% of the runway, then you will have 100% of your takeoff speed by the end of the runway.”

People even claim to “prove” statement #1, using physics plus a number of hare-brained assumptions, including:

1. Assuming friction is negligible. In fact, friction is much more important in the second half of takeoff roll.[7]
2. Assuming the engine puts out constant thrust. Although constant thrust might be a fair approximation for jets or rockets, for piston engines (especially ones with constant-speed props) constant *power* is a better approximation. Therefore we expect considerably less thrust in the second half of the takeoff roll.
3. Assuming zero wind. This might be true sometimes, but it’s certainly not safe to assume this in general. With a strong enough headwind, you can attain 70% of flying speed with no engine power at all.

The following modified version is also wrong, and even more dangerous:

- Statement #2 (wrong): “On any runway, if you have attained 70% of your takeoff speed before you have used up 50% of the runway, then the takeoff will be successful”.

A little thought shows this cannot possibly be correct in general. It cannot even be repaired by changing the percentages. As shown in figure 13.5, consider a very, very long runway and a density altitude slightly above the airplane’s absolute ceiling. You will able to reach 100% of flying speed before you have used up even 10% of the runway. You will be able to take off and climb a few feet, but you will never be able to climb out of ground effect, no matter how long the runway. Therefore:

Forget any X% — Y% rule you may have heard.

Figure 13.5: Takeoff Failure despite plenty of airspeed and runway

13.7.4 Monitoring Takeoff Performance (right)

Suppose that you are on your takeoff roll, and several subtle things have gone wrong: (a) you have underestimated the density altitude; (b) for various reasons (see below) the engine is only producing 80% as much power as it should, even at this altitude; (c) the parking brake is partially stuck so the brakes are dragging; (d) you didn’t notice a shift in the wind, so you now have a few knots of tailwind; (e) you didn’t notice that the runway has a slight up-slope; and (f) your mother-in-law has stowed away in the back seat, so the airplane is 15% heavier than you planned for. You may not be

able to complete the takeoff safely. The question is, can you somehow notice the performance deficit in time to abort the takeoff?

If you are familiar with the airplane, you should know how the engine is supposed to sound; if it sounds rough, have it checked. Similarly, you may know what engine RPM to expect early in the takeoff roll; if you get less, abort the takeoff and investigate.

Unfortunately, if you are not intimately familiar with the airplane, it can be very difficult to notice a performance deficit until it is too late. Careful planning and checking is required, as we shall see.

Using the Pilot's Operating Handbook (POH), calculate two numbers:

- The big number: Calculate the takeoff ground roll distance that is expected for your takeoff conditions. Also calculate the landing ground roll distance for the same conditions. Choose a runway that is at least as long as the two distances *combined*, plus a couple hundred feet to allow for your reaction time, plus some more to provide some margin for error.
- The small number: This is just the takeoff ground roll distance, with nothing added to it, not even any margin for error.

Observe and note well what part of the runway should be consumed by the takeoff roll, i.e. the small number. Translate this into a "decision point" somewhere along the runway. There are several good ways to do this: (a) Some runways have standard markings every 500 feet. (b) Sometimes the required takeoff distance is a half or a third (or some other convenient fraction) of the total runway length. (c) Sometimes you can pace off the distance between runway lights, and then count lights. (d) Sometimes you just have to pace off the whole distance from the starting point to the decision point. Then, during takeoff, if you are not airborne by the chosen decision point, close the throttle and apply the brakes immediately. Taxi back to the hangar and figure out what's wrong.

Do not attempt to use "extra" runway length to salvage the takeoff if there is a significant performance deficit. If you've got a deficit, you should figure out why, and the takeoff roll is no place to be doing complicated figuring.

Now let's consider the annoying situation where the available runway is just a little shorter than the aforementioned "takeoff plus landing" ground roll distance. The POH tells you that a takeoff should be possible, if everything goes right, but it does not tell you how to make a timely determination that you've got a problem. In such a situation, there are three possibilities. One is to change the situation; that is, you can offload some fuel, toss out some payload, wait for cooler air, and wait for more headwind — so that you can attempt a takeoff using the procedure described two paragraphs ago. The second possibility is to figure out how much runway your airplane should consume reaching various speeds *less than* flying speed, so that you can have earlier opportunities to abort the takeoff. This is a job for a test pilot; the typical POH does not provide such information, and takeoff performance is notoriously hard to predict accurately. Please do not try this; playing "amateur test pilot" is like playing Russian roulette. The third possibility, if you have any remaining doubts about your airplane's performance, is to stay home.

Last but not least, let's consider the situation where the runway is too short, and/or you did not notice the performance deficit until it is too late, so that there is no possibility of stopping on the remaining runway. In almost all cases, you should reject the takeoff anyway. Pull the throttle and apply the brakes immediately. The rationale is simple: It is much, much better to go off the end of the runway at 5 knots then to go into the trees at 50 knots. The energy involved is 100 times less. The chance of

serious injury is more than 100 times less. To say the same thing another way: given the choice between (a) a 100% chance of destroying the airplane and walking away uninjured, or (b) a 50-50 chance of saving the airplane coupled with a 50-50 chance of getting killed, I recommend option (a).

13.7.5 Causes of Diminished Power

There are dozens of things that could go wrong with an aircraft engine.

- One of the exhaust valves could be burned or stuck, so it won't fully close.
- One of lobes on the camshaft could be worn, so a valve won't fully open.
- The magneto timing could be not quite right.
- There could be a bird's nest in the air intake.
- et cetera.

Such problems are not particularly rare; I have personally experienced the first four items in this list.

If some such thing goes wrong, the engine will usually *not* stop cold. It will continue to run, producing a fairly large percentage of its normal power. In flight, this resilience is clearly an advantage.

During takeoff, however, this resilience is a two-edged sword. Because the engine continues to develop lots of power, you might not notice the degradation. You might be tempted to take off with such an engine. This could lead to big trouble, especially on an obstructed-field takeoff.

13.7.6 Plan & Practice Rejected Takeoffs

There are many types of problems that you may not notice until you have begun your takeoff roll. Early in the takeoff roll, scan the airspeed, engine RPM, manifold pressure, and fuel flow to make sure you're getting reasonable readings.[8]

You should *always* plan your takeoff. This includes planning for a rejected takeoff, for reasons discussed in section 13.7.4.

Be sure you practice this. The first few times the rejected-takeoff situation arises, your expectation of a normal takeoff will be so strong that it is difficult to accept the situation and make the correct decision. After the decision is made, the maneuver is easy to carry out, but the decision is hard, especially if you have not sufficiently practiced it. There is a psychological barrier. The rejected-takeoff decision is psychologically at least as difficult as the go-around decision. Actually, most single-engine pilots find it *more* difficult than a go-around, if only because it isn't given as much emphasis during training.

You want the rejected-takeoff decision to be thoughtful, but when the time comes, you won't have much time to think about it, so it needs to be a *pre-thought* decision. Decide *before takeoff* that if anything fishy happens during the takeoff roll, you will reject the takeoff. Decide *before takeoff* that if you use up the expected takeoff-roll distance without achieving the expected takeoff speed, you will reject the takeoff.

It is a pre-thought decision.

After you've got the airplane stopped, there will be plenty of time to figure out what went wrong and how to fix it. See also section 15.1.

Instructors: here's an instructional technique: During preflight, brief the student on the procedures for rejected takeoff. Choose a runway that is plenty long. During the takeoff roll, wait until the airspeed is about half of the liftoff speed. Then simulate some sort of malfunction, perhaps by slapping a suction cup on the airspeed indicator and saying, "simulated airspeed indicator failure" or perhaps by gently applying the left brake. Let the pilot make the decision. The correct decision is to close the throttle and apply the brakes immediately.

13.7.7 After Liftoff: Departure Climb

Here is a recipe for disaster: Suppose somebody who lives in a relatively flat area becomes complacent and develops the habit of turning on-course immediately after takeoff. That might work OK at some airports in flat territory, but it is a Bad Idea in mountainous territory, especially at night or in reduced-visibility conditions. The vast majority of pilots live within a few hours' flying time of some mountains, so beware.

Obstacle clearance is a particular problem if you are operating VFR at night at an unfamiliar field. I recommend you don't attempt such operations, unless you can remove at least one of the risk factors. That is, get familiar with the field and its environs, or take off while there's still daylight, and/or adhere to the IFR procedures. I'm not saying you need to file IFR or even have an instrument rating, but if you really want to depart an unfamiliar field at night, you should have a copy of the approved Terminal Procedures and know how to use them.

The Terminal Procedures can be purchased in booklet form, and/or downloaded for free from the web. In most cases the procedures are quite easy to follow. There is a particularly simple "default" procedure that is approved for a great number of airports. It can be summarized as 35 feet, 400 feet, and 200 feet per nautical mile. That is, you must cross the departure end of the runway at least 35 feet above field elevation. You must climb straight out along the extended centerline until reaching at least 400 feet above field elevation, and then you can turn at your discretion. You must maintain a climb gradient of at least 200 feet per nm all the way from liftoff until reaching a safe enroute altitude.

Such a procedure should be well within the capabilities of the ordinary pilot and the ordinary airplane. The required climb-out slope is less than two degrees. That should be no problem unless you have an impaired rate of climb, an unusually high airspeed, and/or a huge tailwind.

At some other airports, the published departure procedure is only slightly more complicated than the default – for instance, it might require a slightly steeper climb gradient.

If you find an airport where the approved departure procedure is complicated, you should assume it's complicated for a reason. There are probably nasty obstacles in the area.

Airlines and air-taxi operators are required to follow an approved departure procedure. In contrast, as a Part 91 general aviation operator, VFR or IFR, you are allowed to invent your own DP ... but I don't recommend this, unless you are very careful and are experienced enough to know what a huge

responsibility you are taking on. In particular: If you file an IFR flight plan, receive a clearance "as filed", and then fly the flight as cleared, terrain separation is *not* guaranteed during the departure climb. Absolutely not. I personally have received clearances that would have flown me into the side of a mountain if I had not followed a complicated departure procedure, including circling over the field to gain altitude before proceeding enroute. Remember: As the pilot, you are responsible for terrain clearance. ATC is not. Except at the busiest airports, controllers generally don't care what departure procedure you use, and they are certainly not required to assign one as part of your clearance. They are not going to ask whether you have done your homework properly.

If you are worried that ATC might be surprised by your departure procedure, you can mention it in the Remarks section of the flight plan. For example: "Homebrew DP: circle over field to 4000, then climb on course".

Usually the simplest thing is to just follow the approved departure procedure. Sometimes, however, the approved procedure is annoyingly complicated and inefficient, in which case you may be tempted to cook up a simplified version, especially if you only need VFR terrain clearance (as opposed to IFR terrain clearance, which is higher). Also, sometimes you want to depart at night – or in bad weather – from a mom-and-pop airport that doesn't have any published instrument procedures at all. Creating a homebrew departure procedure is difficult, because it is hard to obtain enough information. Scouting the area under day VFR conditions might help. The VFR chart will tell you about *some* nasty terrain and *some* obstructions, but it is easy to find examples where it doesn't tell you enough. The Airport/Facility Directory will usually tell you about the 50-foot tree near the end of the runway, but it may not tell you about the power lines on the hill half a mile away. The circling minimums on the IFR approach plate may provide additional information. Experienced local pilots may have useful warnings and suggestions. On the other hand, it might be simpler to just follow the published procedure, or wait for good day VFR conditions.

Do not get complacent about departure procedures.

Risk factors include unfamiliar field,
night, and/or poor visibility.

See section 12.1.3 for an analogous discussion of approaches. See section 21.4 for a discussion of general decisionmaking issues.

13.8 Other Elements of the Takeoff

At a tower airport, you will need to get taxi instructions before taxiing, and get takeoff clearance before taking off.

During the takeoff roll and climb-out, you will need to apply right rudder to compensate for the helical propwash, as discussed in section 8.4.

In an aircraft with retractable landing gear, you have to decide when to retract them. It is *not* a good procedure to retract them the instant you become airborne. The reason is that sometimes things go wrong in the first seconds after liftoff, and you don't want to foreclose the option of re-landing on the remaining runway. Therefore the usual procedure is to retract the gear when it is no longer possible to re-land on the departure runway. You should say aloud the checklist item: "No more useful runway; gear coming up".

On a really, really long runway, it's OK to reduce drag by getting the gear up somewhat before you've flown all the way down the runway. However: (1) it's usually not worth the trouble, and (2) make sure that you're high enough that, in the event you *do* want to land immediately, you have time to re-extend the gear.

When ATC gives you a takeoff clearance, supposedly nobody but you should be on that runway. This applies to the runway itself, not to the airspace, so as soon as you are airborne, you are 100% responsible for seeing and avoiding other traffic. Even on the runway, it pays to keep your eyes open; there's always a chance that ATC has made a mistake, and an even bigger chance that some other pilot has made a mistake and is encroaching on your runway without a clearance.

Very early in the climb, pick a landmark somewhere a few miles along your intended flight path, so you can maintain direction of flight primarily by outside references. The upwind leg of the traffic pattern is supposed to be an extension of the runway centerline. Similarly, note the pitch angle relative the horizon, so you can maintain the proper angle of attack and detect any windshear. You can cross-check direction, pitch angle, and angle of attack using the directional gyro, horizon gyro, and airspeed indicator, but you don't want to spend more than a tenth of your time looking at gauges. You need to be looking outside to check for traffic.

Upon reaching a comfortable altitude, say 500 feet AGL, there are a number of things that might need doing: If your aircraft has cowl flaps, check them. On a normal takeoff they will already be open, but on a go-around you will have to open them. This is also a good time to:

- throttle back to normal climb power, which is less than takeoff power on most aircraft with controllable-pitch propellers.
- retract any remaining flaps.
- start accelerating from V_Y to a nice cruise-climb speed.

You should not mess with the cowl flaps or other items until you are several hundred feet up. Turbulence might cause a pitch or bank excursion while your attention is distracted, or you might bump the yoke. At low altitude, basic aircraft control should get your undivided attention.

In some aircraft, the fuel-boost pumps should be turned off at 1000 AGL; in other aircraft they stay on throughout the initial climb. Other aircraft don't use boost pumps at all.

13.9 Summary

Four of the most-common takeoff procedures are related in a fairly logical way, as summarized in table 13.4.

	Unobstructed	Obstructed

Well-paved	Semi-rotate early. Fully rotate at V_R. Climb while accelerating to V_Y.	Rotate at V_X. Climb at constant airspeed: V_X.
Soft	Hop into ground effect just above V_S. Accelerate horizontally (1 foot AGL) to V_R. Climb while accelerating to V_Y.	Hop into ground effect just above V_S. Accelerate horizontally (1 foot AGL) to V_X. Climb at constant airspeed: V_X.

Table 13.4: Basic Takeoff Procedures

Additionally, in each of the four cases, you must take into account the crosswind if any.

Proper planning is important. A wise "no-go" decision could save you a lot of trouble. Make sure you know the proper procedures, including the critical airspeeds. Make sure you know how much runway you will need. If, during the takeoff roll, it looks like you are getting less performance than you should, stop and figure out what's wrong. Practice rejected takeoffs.

Make sure you know what angle of climb you should expect. You need this to check obstacle clearance. This also affects your choice of initial pitch attitude.

When choosing an initial pitch attitude, remember that pitch attitude is not the same as angle of attack. See section 2.9 for information on the right (and wrong) ways to handle cases where the correct pitch attitude differs from what you expected.

Keep the aircraft properly trimmed and fly with a light touch. Don't forget the after-takeoff checklist.

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1 In your Pilot's Operating Handbook, this is probably called "short-field takeoff". However, as we shall see, this is definitely not the right procedure for a short unobstructed field — it actually uses more runway than a normal takeoff. If you have a really short but unobstructed field, consider using soft-field procedure (section 13.4).

2 I like to avoid running the engine at high power when the airplane is not moving at all, since this tends to suck up rocks, damaging the propeller. If you are moving, by the time the rock gets off the ground you will be somewhere else, possibly escaping damage.

3 I wouldn't do this except in an emergency, because it would imply operating without adequate safety margins.

4 … but you shouldn't be looking at the airspeed indicator. It doesn't provide any useful information at these speeds.

5 Imagine how it looks: The airplane is airborne but not climbing, and you are flying directly toward the bases of the trees at high speed. Just when they're convinced they're about to die, you pop the nose up and climb out.

6 Most types of friction behave this way.

7 Indeed, if friction were negligible, airplanes would fly much faster and would use much less fuel.

8

Other problems you might notice during takeoff include: A door that is not properly latched may pop open as the airspeed builds up. A seatbelt hanging out can cause a very loud, aperiodic banging noise. Neither of these is aerodynamically serious, so don't over-react.

From: Webster
Sent:13 November 2018 12:44
To: Rachael Balmer; Gary Housden
Cc: 'Gordon Herbert'
Subject: RE: application 18/00580/MFUL - Field Off Hungerhill Lane Wombleton Kirkbymoorside
Attachments: Email fromm CAA - 18.9.18.pdf; Runway and flying diagram Wombleton Airfield.pdf; CAA - Safe Operating Practices at Unlicensed Aerodromes.pdf

Importance: High

Dear Rachel,

Further to my telephone message, please find attached an email that Gordon Herbert (the applicant) received from the Civil Aviation Authority regarding the status of the runways at Wombleton airfield.

In your committee report you repeatedly refer to runway 17/35, however based on the CAA information there is no operational runway called 17/35. The operational airfield comprises of runway 10/28 (which is in an east - west configuration) and runway 04/22 (which is in a south-west / north-east configuration). At the north-east end of runway 04/22 is marked an 'X' which signifies that it is the end of the operational runway. Mr Herbert's site boundary is approximately 500 metres north-east of this point. From discussions Mr Herbert has had with aviation users of the airfield, flights taking off from runway 04/22 turn immediately sharp right upon take-off - i.e. they do not overfly the application site.

Taking the above into account it is untrue to state that the development will cause serious conflict with users of the airfield.

Turning to the proposed mitigation landscape measures and your inference that it will compound the safety issues associated with the airfield operations. Mr Herbert strongly disagrees with this statement. With reference to CAA document 'Safe Operating Practices at Unlicensed Aerodromes', Appendix B page 2, Section 3.1 Obstacles (pdf page 40), which states that for a light aircraft there should be "No vertical obstacles within 25 m either side of centre line. Runway end obstacles (hedges etc.) not above 2 m high". Taking into account that runway 04/22 ends 500 metres before the site boundary it is factually incorrect to imply that the proposed landscaping for the scheme will affect aviation safety. A copy of the CAA document is attached for your reference.

With regard to the noise levels from the adjacent Potato Store, you state in your report that no Unilateral Undertaking was submitted - having checked this morning the UU is still sitting on the Planning Portal. I nor Mr Herbert can be blamed for the Council's inability to download all of the information uploaded to the Planning Portal. I can confirm that Mr Herbert has a formal legal agreement in place to undertake the work mentioned in the UU and Noise Report.

Given all of the above, professionally I am of the opinion that the committee report does not provide members with the actual facts of the case, but a distorted view based on misleading and unproven information, and I would like to suggest that the application is deferred from next week's committee meeting and that we enter into meaningful dialogue to try to resolve a way forward - whatever that may be.

Please could you let me know your thoughts on this matter as soon as possible, as usually at this point I would start to lobby members.

Kind regards

Peter

From: Abigail Evans
Sent: 14 November 2018 14:29
To: Rachael Balmer
Cc: stephen.boyne; 'Gordon Herbert';
; Leigh Kennedy
Subject:18/00580/MFUL - Hungerhill Lane - Highways
Attachments: NYCC Highways Response 6th Nov 18.pdf

Dear Rachel

I have read your report prepared for the committee and would like to draw your attention to the attached response from NYCC Highways (Stephen Boyne) dated 6th November which in the second paragraph on Page 2 states that '…I consider the development acceptable from a highways point of view subject to recommending appropriate conditions'. Therefore, I was surprised that your committee
report referred to this an Objection.

The applicant agrees to enter in to a Section 278 agreement to undertake the off site highway works/ footway works and would like to clarify that the works would be completed prior to Occupation (and not pre-commencement). This would allow time for the 278 technical approval and agreement as well as programme of works to be prepared during the construction period. The offsite highway works relate to the pedestrian improvements and we do not envisage any pedestrians during the construction stage. There is an existing vehicle access with measured visibility that is currently in use and can be used as a construction access. Changes to this prior to occupation would be included within the Section 278 agreement (as per NYCC Highways recommendation). A construction management plan would be submitted prior to the start of the construction on site.

I appreciate there are other, non-highway issues within the report and Mr Herbert and Mr Webster will address these separately. I would be grateful if you can confirm that you will reference an acceptance in highway terms when the final committee report is published. If you have any questions regarding the highway conditions, then please do not hesitate to contact me,

Kind Regards,

Abigail Evans

From: Webster
Sent: 14 November 2018 16:13
To: Rachael Balmer; Gary Housden
Cc: 'Gordon Herbert'
Subject: RE: application 18/00580/MFUL - Field Off Hungerhill Lane Wombleton Kirkbymoorside
Attachments: Light Aircraft Takeoff data.pdf; WA-HL-1_7 Runway dimensions 1 10000 A3.pdf; WA-HL-1_8 Aircraft rate of climb 1 1000 A2.pdf

Dear Rachel,

Further to my email of yesterday regarding the 2 operational runways at Wombleton airfield based on information held by the Civil Aviation Authority. Please find attached 2 drawings (WA-HL-1.7 & 1.8) that show that the proposed development will have no impact on the usage of runway 04/22. The second runway 10/28 has not been assessed due to its orientation in an east – west direction.

Runway 04/22 is orientated in a south-west – north-east direction and is declared as being 650 metres in length. Originally (but now no longer classed as operational by the CAA) the runway extended a further 600 metres (my measurement).

Based on the information within the attached pdf document – Light aircraft takeoff data – at Section 13.1 Simplest Takeoff, the angle of climb following takeoff is given as being 5°. Using this figure I have produced drawing reference WA-HL-1.8 which shows that at a distance of 500 metres from the end of the operational runway an aircraft will be at a height above ground level of 43 metres. It should also be noted that it would be expected that the aircraft has left the ground before the end of the operational runway and as such should be higher still. If one then takes into account the information in Section 13.2 of the Light aircraft takeoff data 'Normal Takeoff', the angle of climb is given as being 6°. This gives a height of 52 metres at the 500 metre mark.

Both heights are significantly higher than any of the proposed landscaping features, even allowing for future growth – let alone the lodges themselves.

This calculation is based on the assumption that the lodges would be in a direct line with the centre-line of the old decommissioned runway, which they are not. The closest lodge is 38 metres to the side of the centre-line of the old decommissioned runway. With reference to CAA document CAP 793 Safe Operating Practices at Unlicensed Aerodromes Appendix B page 2 Section 3.1 Obstacles (sent to you yesterday) – there should be no vertical obstacles within 25 metres either side of centre line. This refers to an operational runway only. The lodges are beyond this margin.

Given this information it is totally incorrect to imply in your report that the development will compromise operational safety of the operational part of the airfield.

Finally, please could you reply to my email of yesterday as to your intentions with regard to taking the application to next Tuesdays committee.

Kind regards

Peter

From: Webster
Sent: 16 November 2018 10:03
To: Rachael Balmer
Cc: Jill Thompson; Gary Housden; Anthony Winship
Subject: RE: 18/00580/MFUL

Dear Rachel,

Further to our recent email conversations, Mr Herbert formally seeks a deferment of the application by committee members at the forthcoming Planning Committee meeting. This is to enable further time to enable the following to be provided:

a) Revised site layout
b) Ecology report
c) Consultation with the CAA
d) Preparation of a Unilateral Undertaking that will overcome the identified legal concerns - i.e. the UU will include the owner of the Potato Store as a signatory to the legal agreement
e) The inclusion of safeguarding measures to prevent any users straying beyond the site.
f) Continued discussions

I do hope that the Planning Committee will be able to agree to defer consideration of the application and look forward to hearing from you again in due course.

Kind regards
Peter

From: Rachael Balmer
Sent: 15 November 2018 15:51
To: 'Webster'
Cc: Jill Thompson; Gary Housden;
Anthony Winship
Subject: RE: 18/00580/MFUL

Dear Mr. Webster,
Thank you for the emails this afternoon. I intend to have a discussion tomorrow about the application's situation with colleagues regarding the submission of further information. Prior to that discussion my views are:

At present, the extent to which further information is materially capable of overcoming the deficiencies my report identifies, is far from clear. Not only is the documentation not available to consider, it also has not been subjected to any public consultation nor dialogue with those landowners affected. On that basis until such information is provided and evaluated I am unable to confirm whether or not it could overcome the issues with the current scheme.

As the application is on the agenda, the application can only not be considered by Committee if the application is withdrawn. That is, to clarify, not 'withdrawn from the committee' as your client would like, but withdrawn from consideration by the Local Planning Authority.

If your client does not want to withdraw the application, he will need to ask that Planning Committee defer consideration of the application until further information is provided. Members may decline to defer the application- it is for them to decide.

The process by which to do this would be for your client to ask, via a late paper, and I would verbally report it at Committee, that the applicant seeks that Members vote to defer the application's

consideration to a later committee. This would be based on the submission of further information- and give details of what that would entail, and further consultation. But the committee will decide as to whether they consider that can/should take place.

It would be helpful if your client could confirm his intention with as much notice as possible prior to the commencement of Planning Committee, ideally before the pre-committee meeting. This is to ensure this request for a deferral can then be reported at the appropriate juncture of the meeting to allow Members to defer the application, if they are minded to.

If I have any further observations, I will email you tomorrow.

Kind regards,

Rachael Balmer

From: Webster
Sent: 15 November 2018 14:44
To: Rachael Balmer
Cc: 'Gordon Herbert'
Subject: RE: 18/00580/MFUL

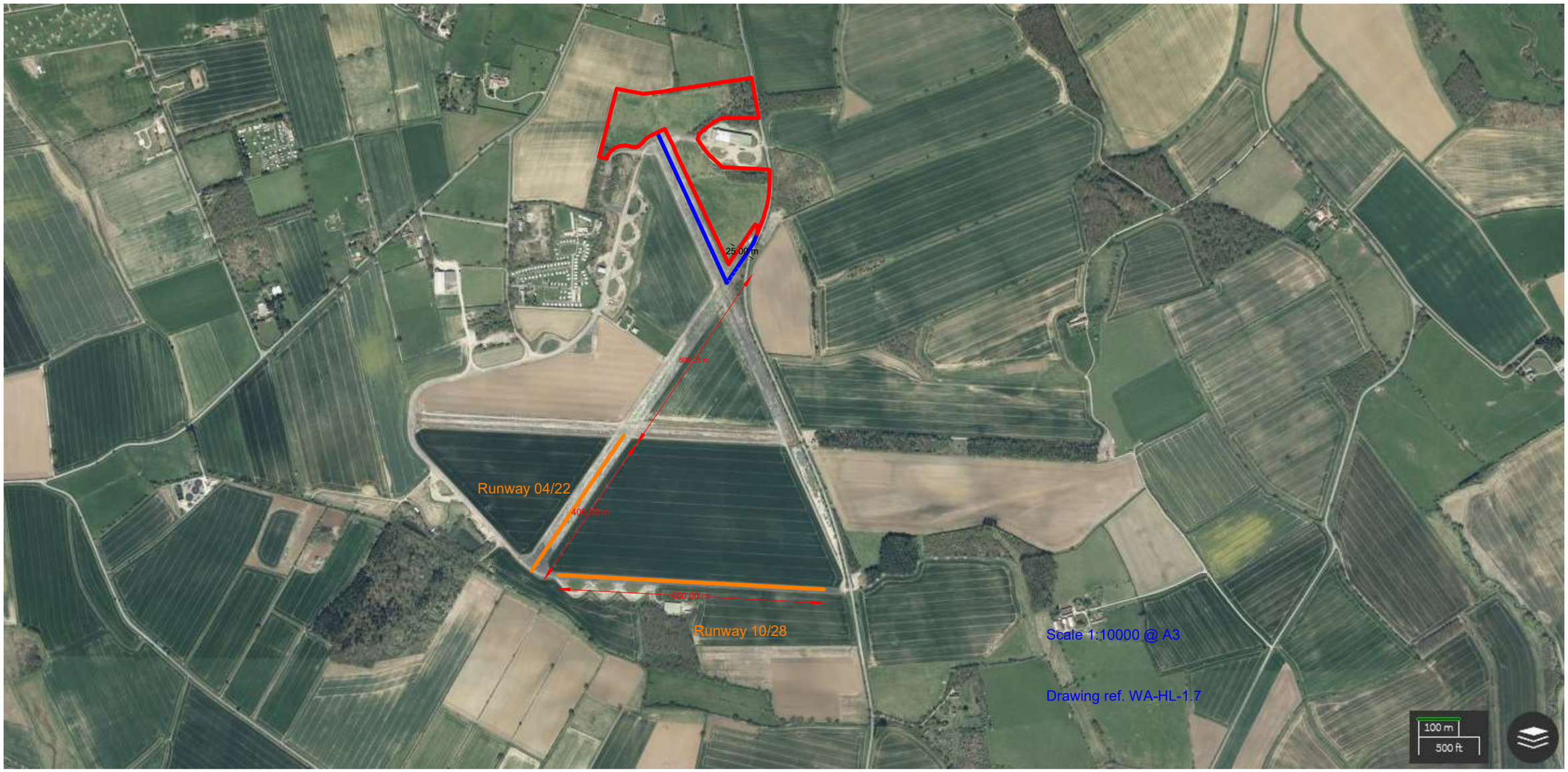
Dear Rachel,

Further to my earlier email, Mr Herbert has decided that he intends to submit further information to overcome the concerns raised in your committee report and as such would like the application withdrawing from next week's Committee in order that this can be done.

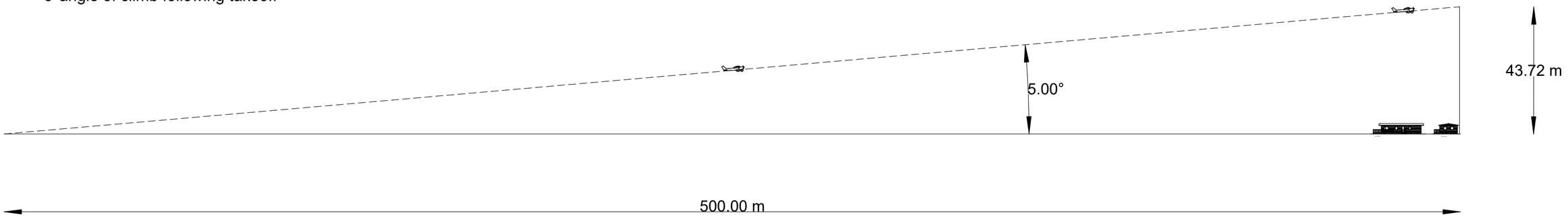
Kind regards

Peter

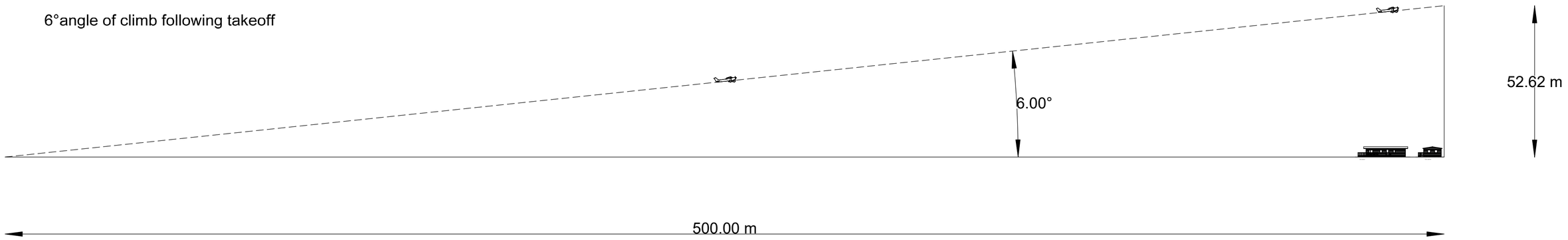
Peter Webster


25.00 m
500.00 m
Runway 04/22
400.00 m
800.00 m
Runway 10/28
Scale 1:10000 @ A3
Drawing ref. WA-HL-1.7
100 m
500 ft

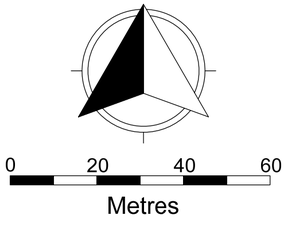
5°angle of climb following takeoff



6°angle of climb following takeoff



Notes:

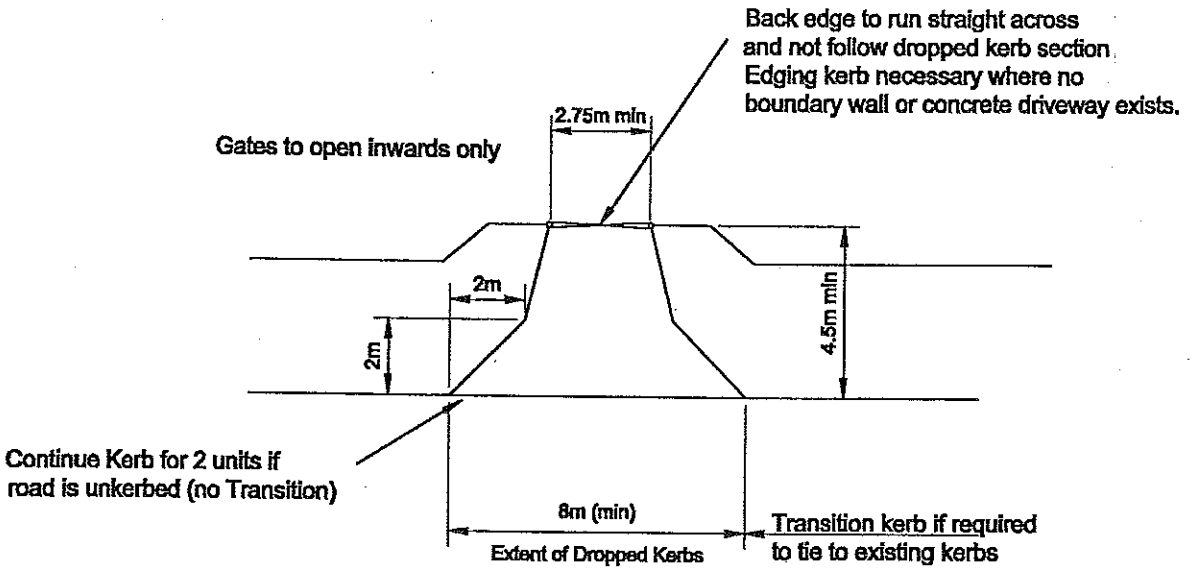


Client: GraceMax Ltd

Title: Change of use of former aerodrome to allow the siting of up to 65 timber clad static holiday units including manager's accommodation, reception / office
Land west of Hungerhill Lane, Wombleton Airfield, Wombleton

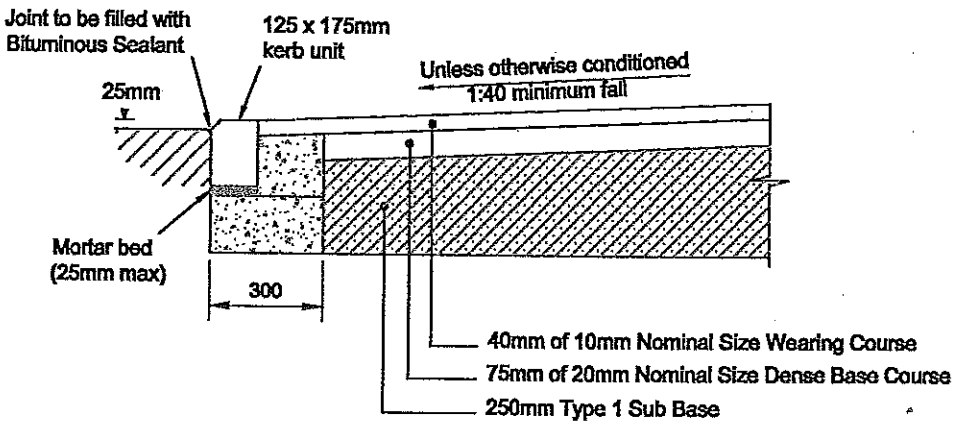
Date: 15.11.18 | Scale: 1:1000 @ A2 | Drawing ref. WA-HL-1.8

Webster Associates
Chartered Town Planners
3 Spaldwick Road
Stow Longa
Huntingdon
Cambs.
PE28 0TL
Tel: 01480 860862



Access Dimensions will vary to suit site conditions

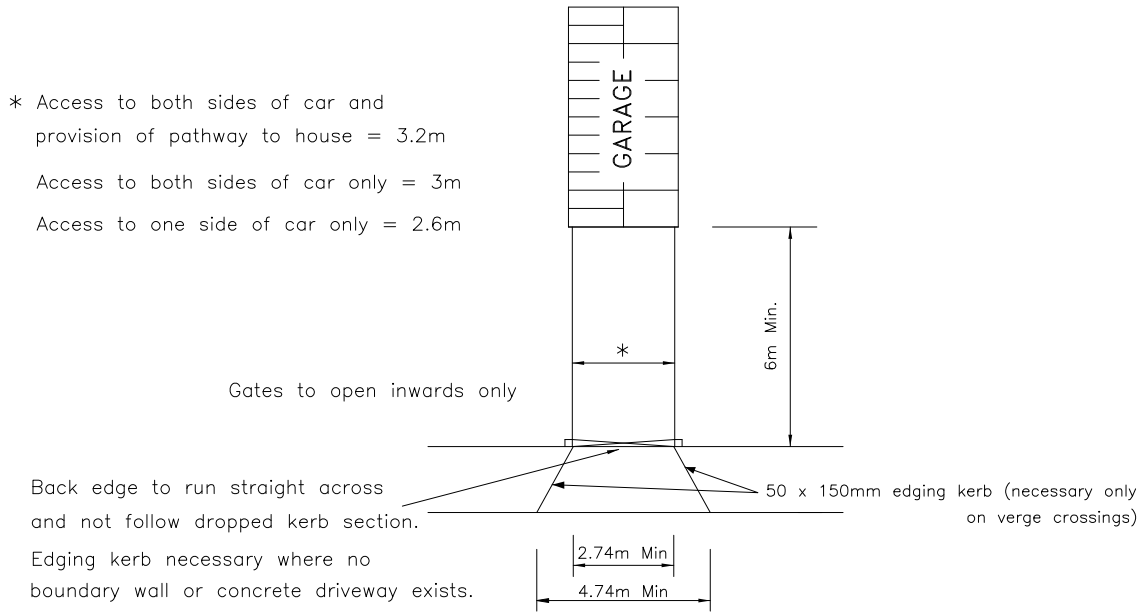
PLAN VIEW



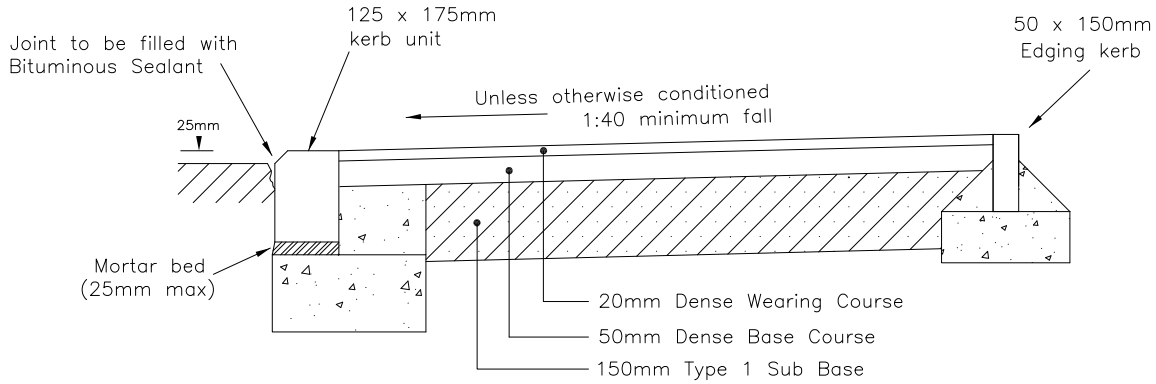
SECTION THROUGH MACADAM CROSSING

NORTH YORKSHIRE COUNTY COUNCIL Director of Environmental Services: M O MOORE, CEng., FICE, FIHT, DMS	PROJECT :- Environmental Services Development Control	DRAWN JP/LP	SCALE:- N T S	
	DRG. TITLE :- Access Detail	CHECKED	DATE:- February 2003	
		APPROVED	DRAWING No :- DC/ E9A	
			Computer Filename:	E9A Access Detail .dwg

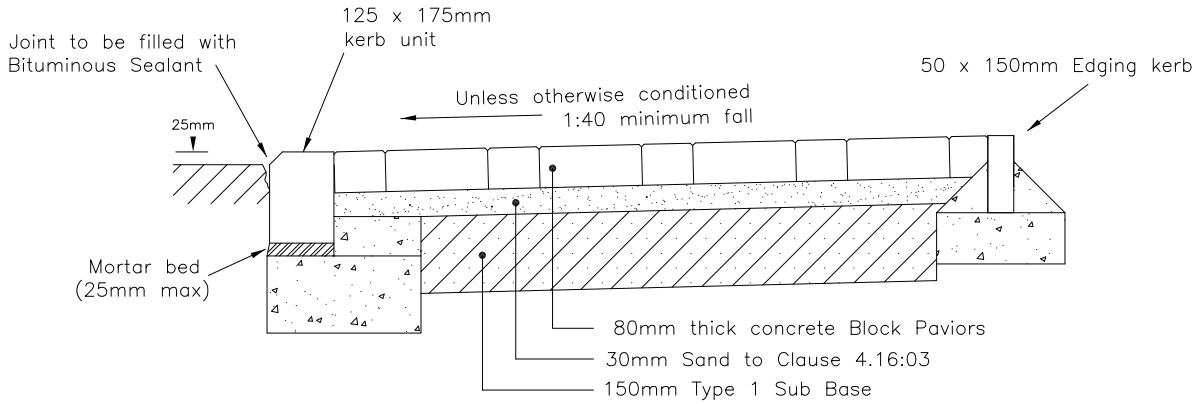
Plan View



Section Through Macadam Crossing



Section Through Block Paved Crossing



Do Not Scale

North Yorkshire County Council Department of Environmental Services	FOOTWAY CROSSING DETAIL	DATE	DRAWING NO.	Rev.
		5/2/97	E6	

17 OTHER DANGER

17.1 Although prescribed mainly for temporary use to warn of transient or occasional hazards such as "Dust cloud" or "Census", diagram 562 is also used for certain permanent features not easily represented symbolically, e.g. "Hidden dip".

17.2 The sign conveys no specific message on its own; it must always be accompanied by one of the supplementary plates prescribed as diagram 563, 563.1, or 7022 when used at temporary traffic signal installations (see Chapter 8). Reference should always be made to the working drawings (see para 1.8) to determine the correct layout of the different legends.

17.3 When the legend on the sign to diagram 563 indicates the temporary hazards "Accident", "Census", "Dust cloud", "Fallen tree", "Frost damage", "Overhead cable repairs", "Runners in road", "Smoke" or "Walkers in road", the sign may be retained only for so long as the hazard indicated continues to exist or is expected to recur in the near future (direction 39(3)).

17.4 When diagram 563 is varied to "Pedestrians crossing", it may be used where pedestrians frequently cross high-speed roads, although no formal provision is made for them, and sited at a distance appropriate to the 85th percentile speed (see Appendix A). Such locations may be where new by-passes intersect established pedestrian routes. As the crossing point is unlikely to be apparent to drivers, a distance should normally be added, in accordance with the working drawing (see para 1.8). The sign must not be used where a formal crossing, such as a Zebra or Pelican crossing, is provided.

562 Other danger ahead

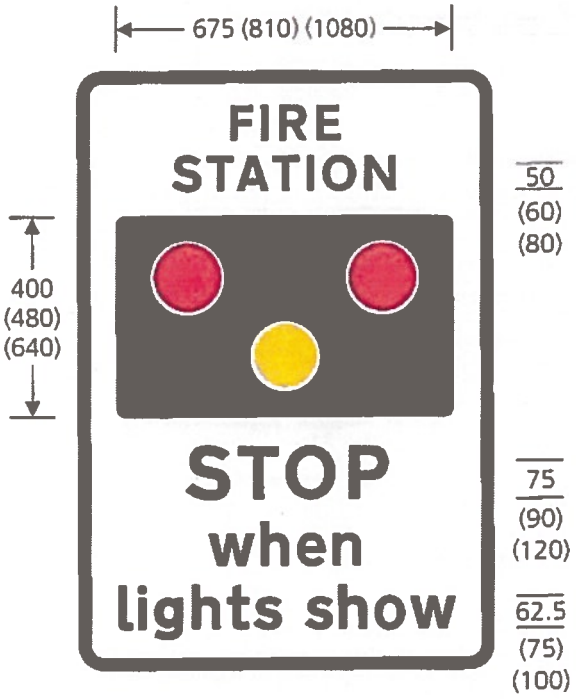
May be used only in combination with diagram 563, 563.1 or 7022 "JOINING TRAFFIC NOT SIGNAL CONTROLLED"

563 Nature of other danger

May be used only in combination with diagram 562, or when varied to "Road liable to flooding" with diagram 554. "Accident" may be varied to "Ambulance station", "Blasting", "Blind summit", "Census", "Dust cloud", "Fallen tree", "Fire station", "Frost damage", "Hidden dip", "Overhead cable repairs", "Pedestrians crossing", "Runners in road", "Smoke" or "Walkers in road". A distance, an arrow or both may be added

WIG-WAG SIGNALS

17.5 The sign to diagram 563.1 may be used only where wig-wag signals to diagram 3014 are installed in the vicinity of premises used regularly by fire or ambulance service vehicles.



563.1 Stop when lights show

May be used only in combination with diagram 562. "FIRE" may be varied to "AMBULANCE" or "FIRE AND AMBULANCE". A distance, an arrow or both may be added

18 DISTANCE PLATES

18.1 These plates are prescribed for use with many of the warning signs described in this chapter (see direction 21, items 35 to 37). However, many supplementary plates may incorporate distances, obviating the need for separate distance plates. These are diagrams 518, 519, 530.1, 543.1, 546, 547.1, 547.2, 547.4, 547.7, 547.8, 563, 563.1, 773 and 950.1. Diagrams 518 and 519 may also include the word "for" before the distance, and "for" and a distance may be added to diagrams 553.2, 554.3 and 558.2. The working drawings (see para 1.8) show the correct layouts.

(50)
62.5
(75)
(100)
(125)
(150)
(200)

570 Distance over which hazard extends

(50)
62.5
(75)
(100)
(125)
(150)
(200)

572 Distance to hazard

(50)
62.5
(75)
(100)
(125)
(150)
(200)

573 Distance and direction to hazard

The indication of distance on these signs may be varied (see Appendix C). On diagram 573, the distance may be omitted. The direction of the arrow may be reversed

18.2 Diagram 570 is used to indicate the distance over which a hazard extends. Generally, if this is for more than two miles, the warning sign should be repeated at suitable intervals with the plate indicating the remaining distance to the end of the hazard. However, account should be taken of visual obstructions en-route e.g. a rock outcrop might hide sheep wandering onto the road, necessitating a sign at that point.

18.3 On motorways or other roads with grade separated junctions where the hazard might extend over a long distance, (e.g. wild animals) the warning sign with a plate to diagram 570 should be repeated after every access slip road, or, if this distance would be excessive, at intervals of approximately five miles. Each plate should show the distance remaining to the end of the hazard.

18.4 Diagram 572 indicates the distance ahead to a hazard. The caption below each diagram illustrated in this chapter specifies if a distance plate may be used (but see para 18.1). Where such a sign is sited at a distance from the hazard significantly different to that recommended in Appendix A, it should normally be supplemented with a distance plate (see also para 1.19).

18.5 Diagram 573 is placed in advance of a junction, indicating the distance along the road from that junction to the hazard. The distance is measured from the junction and not from the sign. The sign may be sited on a minor road approaching a junction if the hazard is on the major road. The direction of the arrow may be reversed.

18.6 The distance shown on all three plates may be varied with

(i) distances over 3 miles being expressed in miles to the nearest mile;

(ii) distances of ½ mile or more but less than 3 miles being expressed to the nearest ¼ mile; and

(iii) distances of less than ½ mile being expressed in yards to the nearest 10 yards.

In no circumstances may metric distances be used.

545 Children going to school or playground

May be used only in combination with diagram 546, 547.1, 547.2, 547.3 or 547.7. When used with 546, 547.1 or 547.7 may also be used with diagram 4004

(50)
62.5
(75)
(100)
(125)
(150)

546 School ahead

(62.5)
75
(100)
(125)
(150)

547.1 School crossing patrol ahead

(50)
62.5
(75)
(100)
(125)
(150)

547.2 Children's playground ahead

These plates may be used only in combination with diagram 545. A distance, an arrow or both may be added

9.6 Where appropriate, the sign to diagram 544.2 may be accompanied by a supplementary plate to diagram 547.4 indicating "Disabled people" or its permitted variant "Blind people". A distance, an arrow (pointing horizontally to the left or to the right) or both may be added. Details are given on the working drawings - see para 1.8.

(50)
62.5
(75)
(100)
(125)
(150)

547.3 No footway for distance indicated

May be used only in combination with diagram 544.1 or 545. The distance may be varied (see Appendix C)

(50)
62.5
(75)
(100)
(125)
(150)

547.4 Disabled pedestrians likely to cross road ahead

May be used only in combination with diagram 544.2. "Disabled" may be varied to "Blind". A distance, an arrow or both may be added

(50)
62.5
(75)
(100)
(125)
(150)

547.7 Disabled children likely to cross road ahead

May be used only in combination with diagram 545. "Disabled" may be varied to "Blind" or "Deaf". A distance, an arrow or both may be added

PEDESTRIAN CROSSINGS

9.1 The sign to diagram 544 is for use only at Zebra crossings. A plate to diagram 7014 (see para 1.17) indicating "NEW ZEBRA CROSSING AHEAD" may be used at a new installation; its use is restricted by direction 37 to a period no longer than 3 months. Zebra crossings should not be installed on roads where the 85th percentile speed is 35 mph or more (see para 4.2.3 in Local Transport Note 1/95: The Assessment of Pedestrian Crossings). Diagram 544 must not be used at Pelican, Puffin or Toucan crossings, where diagram 543 (see section 8) is appropriate, nor where pedestrians cross the road but no formal crossing exists. In the latter case, on high-speed roads, diagram 562 may be used together with the supplementary plate to diagram 563 "Pedestrians crossing" (see para 17.4).

9.2 Diagram 544 may be used in combination with a distance plate to diagram 572 when it is necessary to site it at a distance much different to that specified in Appendix A. When the crossing is in another road leading from a junction ahead, a plate to diagram 573, with or without a distance, may be used.

9.3 Signs to diagram 544 should be used only when the visibility of the crossing is impaired by a bend or a hump in the road. Signs should not be needed if the visibility of both beacons at a Zebra crossing is greater than the distance shown in table 9-1. If the sight lines to a Zebra crossing are obscured by parked vehicles, the making of a waiting prohibition order should be considered.

Table 9-1

Speed limit (mph)	Visibility distance of both beacons (m)
30	45
40	90

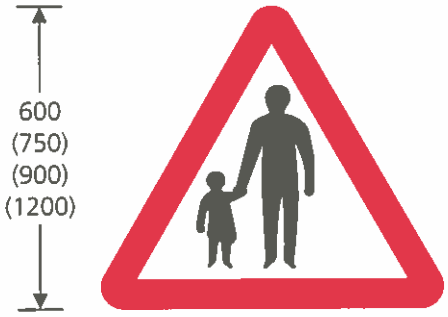
VULNERABLE PEDESTRIANS

9.4 Where pedestrians frequently use a road without proper footways, diagram 544.1 may be used to warn drivers of the likely presence of pedestrians in the carriageway. If a footway stops and resumes after some interval, the supplementary plate to diagram 547.3 may be used, with the distance varied to show the length of the road which is without a footway.

9.5 The sign to diagram 544.2 is used to warn of the likely presence of frail or disabled people. Its use should be restricted to sites where numbers of slow-moving pedestrians are likely to cross a road other than at a Zebra or signalled crossing. This might be near sheltered housing or nursing homes, where drivers need to be reminded that a pedestrian in the road ahead might be frail or blind and need more time to cross than an able-bodied person would.

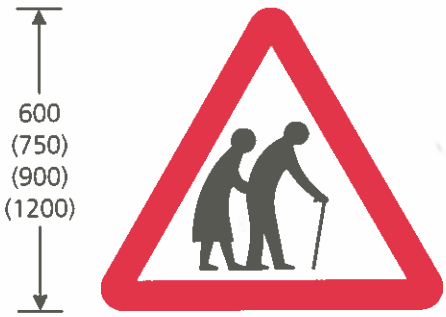
544 Zebra crossing ahead

May be used with diagram 547.8, 572 or 573



544.1 Pedestrians in road ahead

May be used with diagram 547.3, 572 or 573



544.2 Frail or disabled pedestrians likely to cross road ahead

May be used with diagram 547.4, 572 or 573

From: Lorraine Rika Ham
Sent: 12 November 2018 20:25
To: Rachael Balmer
Subject: Re: Planning Application 18/00580 Hungerhill Lane, Wombleton

Dear Rachael.
Thank you for your email. I couldn't get to Ryedale House until 4.05pm this afternoon and the doors were locked. I will send the photographs relating to Hungerhill Lane by email in small lots. I agree with your comment about the Lane being unsafe, I took my photo's from the car, my husband was driving and could watch the traffic.

I will send the relevant photographs of Common Lane to Alan Goforth.

The Photographs are as follows:-

No1 - Hungerhill Lane Verges approaching blind bend from Wombleton Village

No2 - Hungerhill Lane Left Hand Verge after blind bend from Wombleton Village towards the potato store

No3 - Hungerhill Lane Right Hand Verge after blind bend from Wombleton Village towards the potato store

With kind regards

From: Lorraine Rika Ham
Sent: 12 November 2018 20:33
To: Rachael Balmer
Subject: Planning Application 18/00580/MFUL

No4 - Hungerhill Lane, both verges after blind bend from Wombleton village towards the potato store

N05 - Hungerhill Lane towards potato store from Wombleton village showing junction to Washbeck

and Wellburn

Kind regards
Lorraine

From: Lorraine Rika Ham
Sent: 12 November 2018 20:25
To: Rachael Balmer
Subject: Re: Planning Application 18/00580 Hungerhill Lane, Wombleton

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Thank you for your email. I couldn't get to Ryedale House until 4.05pm this afternoon and the doors were locked. I will send the photographs relating to Hungerhill Lane by email in small lots. I agree with your comment about the Lane being unsafe, I took my photo's from the car, my husband was driving and could watch the traffic.

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No3 - Hungerhill Lane Right Hand Verge after blind bend from Wombleton Village towards the potato store

With kind regards

NORTH YORKSHIRE COUNTY COUNCIL
BUSINESS and ENVIRONMENTAL SERVICES

LOCAL HIGHWAY AUTHORITY CONSIDERATIONS and RECOMMENDATION

Application No:	**18/00580/MFUL**
Proposed Development:	Change of use of part of airfield land to allow the siting of 65no. timber clad static holiday units with decking,1no. static site managers accommodation unit and an office/reception static unit together with formation of a site vehicular access, associated permeable gravel internal site road with car parking spaces for the individual units, site landscaping adjacent to the existing peripheral bund, low level site entrance lighting ,installation of a package treatment plant and formation of a pedestrian footpath from the site to Moorfields Lane
Location:	Field Off Hungerhill Lane Wombleton Kirkbymoorside
Applicant:	GraceMax Ltd

CH Ref:	N/A	**Case Officer:**	Stephen Boyne
Area Ref:	3/154/120	**Tel:**	01609 780 780
County Road No:	U/C	**E-mail:**	Area4.KirbyMisperton@northyorks.gov.uk

To:	Ryedale District Council Ryedale House Old Malton Road MALTON North Yorkshire YO17 9HH	**Date:**	6 November 2018
FAO:	Rachel Balmer	**Copies to:**	

Re. Revised Transport Technical Note & Residential Travel Plan as notified by letter from Ryedale DC dated 24 October 2018:

Continued

Signed: ***Stephen Boyne*** ***For Corporate Director for Business and Environmental Services***	**Issued by:** Kirby Misperton Highway Office Beansheaf Industrial Park Tofts Road Kirby Misperton YO17 6BG **e-mail:** Area4.KirbyMisperton@northyorks.gov.uk

LOCAL HIGHWAY AUTHORITY
CONSIDERATIONS and RECOMMENDATION

Continuation sheet:

Application No: **18/00580/MFUL**

I refer to the submitted documents folllowing my earlier recommendation of refusal dated 4 September 2018.

The documents now include updated traffic speeds and visibility data and a separate pedestrian entrance and off-site works to facilitate reasonable pedestrian / cycle access access to and from Wombleton village and the site. In this respect I consider the development acceptable from a highways point of view subject to recommending appropriate conditions.

The off-site works would need to be covered by a Section 278 Agreement of the of the Highways Act and be completed prior to any part of the development proposed being brought into use. Furthermore I understand that the applicant is prepared to accept pre-commencement conditions which will be required as part of this consultation response.

Consequently, the following conditions are recommended :

1. HC-06 DISCHARGE OF SURFACE WATER

There shall be no access or egress by any vehicles between the highway and the application site until full details of any measures required to prevent surface water from non-highway areas discharging on to the existing or proposed highway together with a programme for their implementation have been submitted to and approved in writing by the Local Planning Authority in consultation with the Highway Authority. The works shall be implemented in accordance with the approved details and programme.

REASON

In accordance with policy # and in the interests of highway safety

2. HC-07 Private Access/Verge Crossings: Construction Requirements

Unless otherwise approved in writing by the Local Planning Authority, there shall be no excavation or other groundworks, except for investigative works, or the depositing of material on the site until the access(es) to the site have been set out and constructed in accordance with the published Specification of the Highway Authority and the following requirements

a. The details of the access shall have been approved in writing by the Local Planning Authority in consultation with the Highway Authority

b. The vehicular access shall be formed with 6 metre radius kerbs, to give a minimum carriageway width of 6 metres, and that part of the access road extending 18 metres into the site shall be constructed in accordance with Standard Detail number DC/E9A.

d. The pedestrian / cycleway crossing of the highway verge and/or footway shall be constructed in accordance with the approved details and/or Standard Detail number E6.

Continued

1. (Continued)

e. Any gates or barriers to the vehicle access shall be erected a minimum distance of 18 metres back from the carriageway of the existing highway and shall not be able to swing over the existing or proposed highway.

All works shall accord with the approved details unless otherwise agreed in writing by the Local Planning Authority.

HI-07 INFORMATIVE

You are advised that a separate licence will be required from the Highway Authority in order to allow any works in the adopted highway to be carried out. The 'Specification for Housing and Industrial Estate Roads and Private Street Works' published by North Yorkshire County Council, the Highway Authority, is available at the County Council's offices. The local office of the Highway Authority will also be pleased to provide the detailed constructional specification referred to in this condition.

REASON

In accordance with policy # and to ensure a satisfactory means of access to the site from the public highway in the interests of vehicle and pedestrian safety and convenience

2. HC-10 VEHICLE ACCESS VISIBILITY SPLAYS (REVISED)

There shall be no access or egress by any vehicles between the highway and the application site (except for the purposes of constructing the initial site access) until splays are provided giving clear visibility of 124 metres in a southerly (right) direction and 148 metres in a northerly (left) direction measured along the adjacent channel line of the major road Hungerhill Lane from a point measured 2.4 metres down the centre line of the access road and clear forward visibility of 124 metres in a southbound direction on the centre-line of the major road Hungerhill Lane at the right-turning point into the access. The eye height will be 1.05 metres and the object height shall be 0.6 metres. Once created, these visibility areas shall be maintained clear of any obstruction and retained for their intended purpose at all times.

REASON

In accordance with policy number and in the interests of road safety.

INFORMATIVE

An explanation of the terms used above is available from the Highway Authority.

Continued

3. HC-11 PEDESTRIAN / CYCLEWAY ACCESS VISIBILITY SPLAYS (REVISED)

No part of the development shall be brought into use until visibility splays providing clear visibility of 2 metres x 130 metres in a southerly (right) direction and 118 metres in a northerly (left) direction measured along the adjacent channel line of the major road Hungerhill Lane have been provided. The eye height will be 1.05 metre and the object height shall be 0.6 metres. Once created, these visibility areas shall be maintained clear of any obstruction and retained for their intended purpose at all times.

REASON

In accordance with policy # and the interests of road safety to provide drivers of vehicles using the access and other users of the public highway with adequate inter-visibility commensurate with the traffic flows and road conditions.

INFORMATIVE

An explanation of the terms used above is available from the Highway Authority

4. HC-12a APPROVAL OF DETAILS FOR SITE WORKS IN THE HIGHWAY

Unless otherwise approved in writing by the Local Planning Authority, there shall be no excavation or other groundworks, except for investigative works, or the depositing of material on the site in connection with the construction of the access road or building(s) or other works until:

(i) The details of the following off site required highway improvement works, works listed below have been submitted to and approved in writing by the Local Planning Authority in consultation with the Local Highway Authority:.

a. Provision of tactile paving

b. Provision of a 1.2 wide notional width remote footway within the eastern verge of Hungerhill Lane from opposite the pedestrian / cycleway site access and the junction with Wash Beck Lane including crossing points to the edge of carriageway at either end. Construction to be in accordance with the specification of the highway authority.

Provide highway drainage within the eastern verge behind the new footway along the section parallel to Hungerhill Drain consisting of 6 no. 150mm diameter offlet drainage pipes under the footway into a french drain / soakaway consisting of 75mm single-sized stone laid in a 400mm widex 1.2 metre deep trench wrapped in geotextile membrane below which shall be installed a 300mm diameter perforated carrier drain / soakaway with access chamber and lid at either end. Construction to be in accordance with the specification of the highway authority. Verge marker posts to be installed next to the drainage pipes approximately 450mm in from the carriageway edge.

Continued

4. (Continued)

Pedestrian crossing point across Hungerhill Lane carriageway to be highlighted with red anti-skid surfacing 2 metres wide and provision of 2 no. prescribed warning signs to diagram no. *XXXX* of the TSRGD Act 2016 at a position to be agreed with the highway authority in advance of the crossing point in either direction.

Provision of 2 no. prescribed warning signs to diagram no. *XXXX* of the TSRGD Act 2016 at a position to be agreed with the highway authority along Hungerhill Lane north of the junction with Wash Dyke Lane and Wombleton village in either direction.

(ii) An independent Stage 2 Road Safety Audit for the agreed off site highway works has been carried out in accordance with HD19/15 - Road Safety Audit or any superseding regulations and the recommendations of the Audit have been addressed in the proposed works.

(iii) A programme for the completion of the proposed works has been submitted to and approved writing by the Local Planning Authority in consultation with the Local Highway Authority.

REASON

In accordance with policy # and to ensure that the details are satisfactory in the interests of the safety and convenience of highway users.

5. HC-12c COMPLETION OF WORKS IN THE HIGHWAY (BEFORE OCCUPATION)

Unless otherwise approved in writing by the Local Planning Authority in consultation with the Highway Authority, the development shall not be brought into use until the following highway works have been constructed in accordance with the details approved in writing by the Local Planning Authority under condition number 4 (above):

Works as described in that condition.

REASON

In accordance with policy # and in the interests of the safety and convenience of highway users.

HI-12 INFORMATIVE SECTION 278 AGREEMENT

There must be no works in the existing highway until an Agreement under Section 278 of the Highways Act 1980 has been entered into between the Developer and the Highway Authority.

Continued

6. HC-13 DITCH TO BE PIPED (DETAILED PLAN)

There shall be no access or egress by any vehicles between the highway and the application site until:

a. full technical details relating to the bridging/culverting of the watercourse adjacent to the site have been submitted to, and approved in writing by, the Local Planning Authority in consultation with the Highway Authority; and

b. The surface water ditch at «location» has been piped in accordance with the approved details unless otherwise approved in writing by the Local Planning Authority

REASON

In accordance with policy # and to ensure satisfactory highway drainage in the interests of highway safety and the amenity of the area.

INFORMATIVE

It is recommended that the applicant consult with the Internal Drainage Board, the Environment Agency and/or other drainage body as defined under the Land Drainage Act 1991. Details of the consultations shall be included in the submission to the Local Planning Authority. The structure may be subject to the Highway Authority's structural approval procedures.

7. HC-15 PARKING SPACES TO REMAIN AVAILABLE FOR VEHICLE PARKING (NON-RESIDENTIAL)

Notwithstanding the provision of any Town and Country Planning General Permitted or Special Development Order for the time being in force, the areas shown on Drawing Number *XXXX* for parking spaces, turning areas and access shall be kept available for their intended purposes at all times.

REASON

In accordance with policy # and to ensure these areas are kept available for their intended use in the interests of highway safety and the general amenity of the development.

8. HC-21 HIGHWAY CONDITION SURVEY (REVISED)

Unless otherwise approved in writing by the Local Planning Authority, there shall be no HCVs brought onto the site until a survey recording the condition of the existing highway along Hungerhill Lane in the vicinity of the site has been carried out in a manner approved in writing by the Local Planning Authority in consultation with the Highway Authority.

REASON

In accordance with policy # and in the interests of highway safety and the general amenity of the area

Continued

9. HC-26 TRAVEL PLANS

Prior to the development being brought into use, a Travel Plan shall have been submitted to and approved in writing by the Local Planning Authority in consultation with the Highway Authority. This shall include:

a. the appointment of a travel co-ordinator

b. a partnership approach to influence travel behaviour

c. measures to encourage the use of alternative modes of transport other than the private car by persons associated with the site

d. provision of up-to-date details of public transport services

e. continual appraisal of travel patterns and measures provided through the travel plan

f. improved safety for vulnerable road users

g. a reduction in all vehicle trips and mileage

h. a programme for the implementation of such measures and any proposed physical works

i. procedures for monitoring the uptake of such modes of transport and for providing evidence of compliance.

The Travel Plan shall be implemented and the development shall thereafter be carried out and operated in accordance with the Travel Plan.

REASON

In accordance with policy # and to establish measures to encourage more sustainable non-car modes of transport

Continued

10. HC-28 CONSTRUCTION MANAGEMENT PLAN

No development for any phase of the development shall take place until a Construction Method Statement for that phase has been submitted to, and approved in writing by, the Local Planning Authority in consultation with the Local Highway Authority. The approved Statement shall be adhered to throughout the construction period for the phase. The statement shall provide for the following in respect of the phase:

a. the parking of vehicles of site operatives and visitors

b. loading and unloading of plant and materials

c. storage of plant and materials used in constructing the development

d. erection and maintenance of security hoarding including decorative displays and facilities for public viewing where appropriate

e. wheel washing facilities

f. measures to control the emission of dust and dirt during construction

g. a scheme for recycling/disposing of waste resulting from demolition and construction works

h. HGV routing to avoid Wombleton village

REASON

In accordance with policy # and to provide for appropriate on-site vehicle parking and storage facilities, in the interests of highway safety and the general amenity of the area.

DATE……4th June 2018 ……

OWNER……Gracemax Limited….

Ryedale District Council

UNILATERAL PLANNING OBLIGATION
UNDER THE
TOWN AND COUNTRY PLANNING ACT 1990

---

relating to

Land at Wombleton Aerodrome, Hungerhill Lane, Wombleton, York

THIS UNILATERAL PLANNING OBLIGATION is dated 4th June 2018 and is given by:

(1) **NAME OF OWNER...**GRACEMAX LIMITED of ADDRESS.. White House, Wollaton Street, Nottingham, Notts, NG1 5GF **("the Owner")** to

(2) **RYEDALE DISTRICT COUNCIL** of District Offices, Ryedale House, Old Malton Rd, Malton YO17 7HH **("the Council")**

1. Background

The Owners are the owners of the site in fee simple in possession free from encumbrances of **Land at Wombleton Aerodrome, Hungerhill Lane, Wombleton, York** .....**("the Land")** registered at HM Land Registry under title number..... NYK98976.....and as set out in Schedule 1.

1.1. The Council is the local planning authority

1.2. The Owners have by application reference..... applied to the Council for planning permission for the Change of Use of former aerodrome to allow the siting of up to 65 timber clad static holiday units.....**("the Application")**

1.3. The Owners are willing to give an undertaking to perform the obligations set out in this Unilateral Planning Obligation in order to facilitate the grant of planning permission by ensuring that the Council can regulate the Development by securing the benefits contained in this undertaking

2. Interpretation

In this Unilateral Planning Obligation:

2.1. "the Act" means the Town and Country Planning Act 1990

2.2. "agreed" or "approved" means agreed or approved in writing and given for the purpose of this Unilateral Planning Obligation

2.3. "the Site" means the land against which this deed may be enforced shown edged red on the Plan and described in Schedule 1.

2.4. "Commencement" means the carrying out on the Land of a material operation as specified in Section 56(4) of the Act

2.5. "the Development" means the development of the Application Site proposed

in the Application or permitted by planning permission granted pursuant to the Application or carried out substantially in accordance with such planning permission

2.6. Interest means interest rate of 4% above Barclays Bank PLC Base Rate

2.7. "the Monitoring Charge" means the sum of **£xxx**

2.8. "Specified Date" means the date upon which an obligation arising under this Unilateral Planning Obligation is due to be performed

2.9. Words importing the masculine include the feminine and vice versa

2.10. Words importing the singular include the plural and vice versa

2.11. Words importing persons include companies and corporations and vice versa

2.12. Wherever there is more than one person named as a party and where more than one party undertakes an obligation all their obligations can be enforced against all of them jointly and against each individually

2.13. Any reference to a clause or schedule or plan is to one in or attached to this Unilateral Planning Obligation

2.14. In the absence of contrary provision any reference to a statute includes any statutory modification or re-enactment of it and every statutory instrument direction specification made or issued under the statute or deriving validity from it

2.15. References to any party to this Unilateral Planning Obligation shall include the successors in title to that party and to any deriving title through or under that party and in the case of the Council the successors to their functions as local planning authority

3. Enabling Provisions

3.1 This Unilateral Planning Obligation is made pursuant to Section 106 of the Act Section 111 of the Local Government Act 1972 and all other enabling powers

4. Commencement and Determination

4.1. This Unilateral Planning Obligation shall come into effect on the date of the grant of the planning permission granted pursuant to the Application

4.2. If the planning permission granted pursuant to the Application shall expire before the Commencement of a material operation or shall at any time be revoked then this Unilateral Planning Obligation shall be determined and shall

have no further effect

5. Owner's Covenants with the Council

5.1. The Owner covenants with the Council and to be bound by the covenants contained in Schedule 2

6. General

The Owners acknowledge and declare that:-

6.1. the obligations contained in this Unilateral Planning Obligation are planning obligations for the purpose of Section 106 of the Act

6.2. this Unilateral Undertaking constitutes a deed enforceable by the Council

6.3. this Unilateral Planning Obligation does not nor is intended to confer a benefit on a third party within the meaning of the Contracts (Rights of Third Parties) Act 1999

6.4. no person shall be liable for any breach of the covenants restrictions or obligations contained in this Unilateral Planning Obligation after that person has parted with its interest in the Application Site or the part of it in respect of which the breach occurs but without prejudice to liability for any breach subsisting prior to parting with such interest

6.5. this Unilateral Planning Obligation may be registered as a local land charge in the Register of Local Land Charges maintained by the Council

6.6. that the Owner has the sole proprietary interest in the Application Site and that there are no third party interests which would require any other party to give this Unilateral Planning Obligation

6.7. The Owners shall on the date hereof pay to the Council the Monitoring Charge of **£xxx** and also **£xxx** as a contribution towards the Councils reasonable and proper legal costs

6.8. the sums due to the Council under this Deed but not paid on the Specified Date from the Specified Date until actual payment and the rate of interest shall be 4% above Barclays Bank Plc base rate

SCHEDULE 1

The Owner's Title and Site Description

1.0 All that freehold land known as land at Wombleton Aerodrome, Hungerhill Lane, Wombleton, York registered at HM Land Registry under title number NYK98976

SCHEDULE 2

The Owners/Developers Covenants

1.0 The landowner covenants that the noise reduction mitigation measures identified in section 9 of the NOISE IMPACT ASSESSMENT document reference 164A/05/2018 prepared by Blue Sky Acoustics Ltd, dated 30/05/2018, will be implemented prior to the first occupation of any of the holiday units (including manager's unit).

2.0 The landowner covenants that the holiday units will not be occupied by any one person / family until such time as the permitted footpath between points A – D as shown on drawing reference WA-HL-1.4 has been provided

3.0 The Owners covenant with the Council it will pay any Interest on the sums due to the Council under this Deed but not paid on the Specified Date from the Specified Date until actual payment and the rate of interest shall be 4% above Barclays Bank Plc base rate

IN WITNESS of which this deed has been executed the day and year first above written

SIGNED as a **DEED** by:)
)
)

In the presence of
WITNESS name

Witness address

MRS J P BRIDGMAN
20 LONGRIDGE RD
WOODTHORPE
NOTTINGHAM
NG5 4LX

H.M. LAND REGISTRY

TITLE NUMBER

NYK 98976

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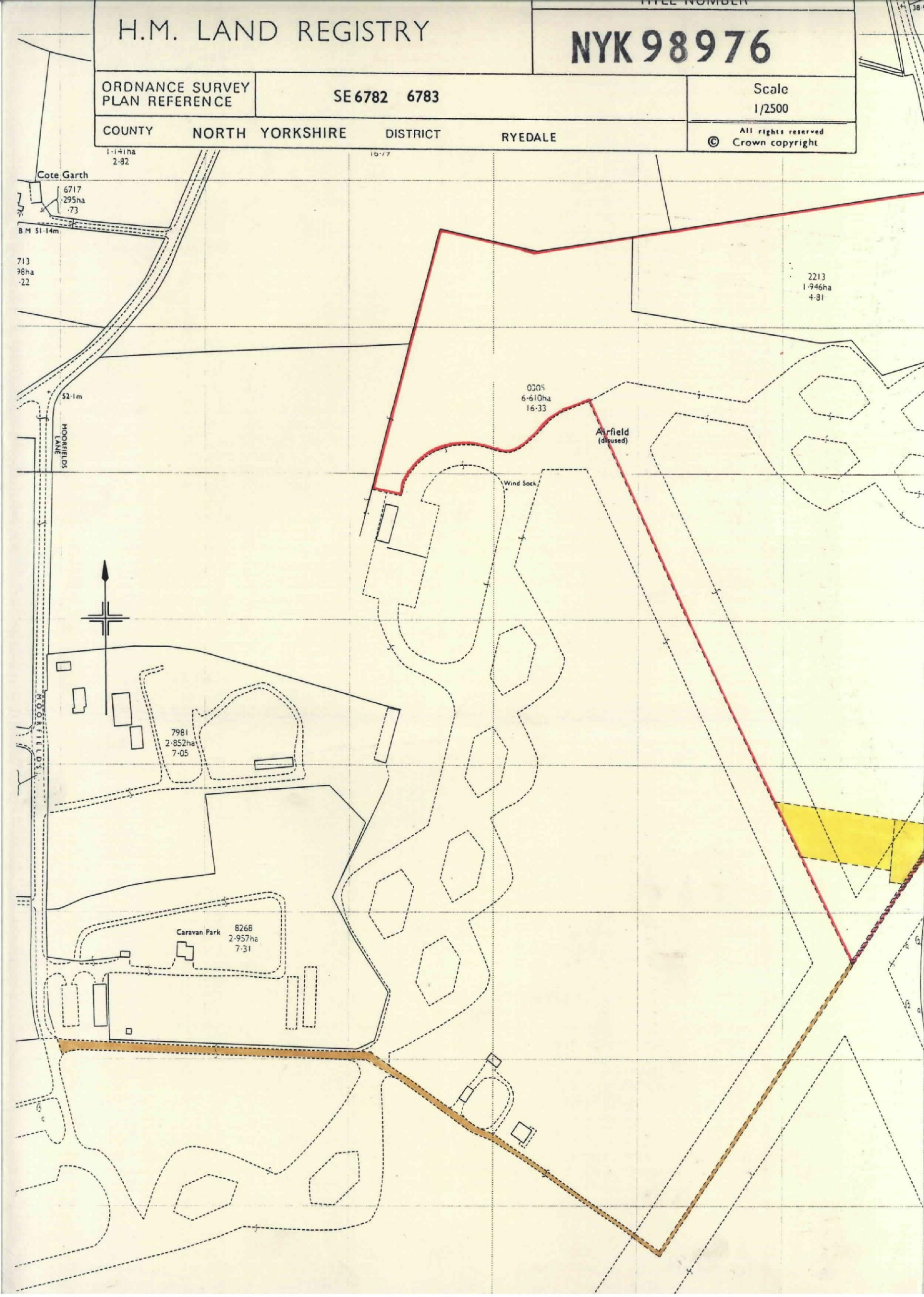

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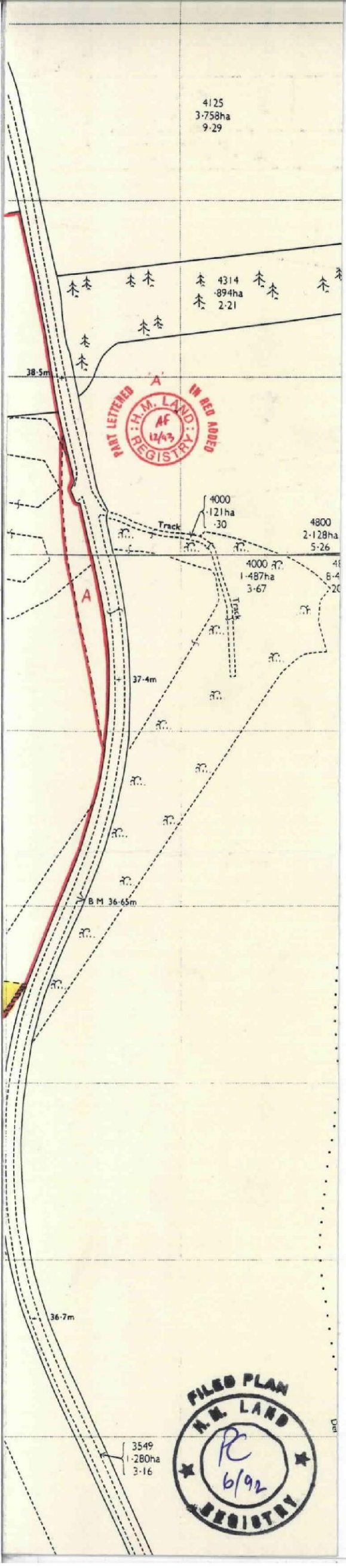


HOLIDAY LODGE DEVELOPMENT, HUNGERHILL LANE WOMBLETON
NOISE IMPACT ASSESSMENT

HOLIDAY LODGE DEVELOPMENT, HUNGERHILL LANE WOMBLETON
NOISE IMPACT ASSESSMENT

QUALITY MANAGEMENT

Document Ref: 164A/05/2018
Prepared for: Gordon Herbert

Revision	Prepared by	Reviewed by	Issue Date
01 – First Issue	Neil Dodds	Matt Butler	30/05/2018

Blue Sky Acoustics Ltd
York Eco Business Centre
Amy Johnson Way
Clifton Moor
York YO30 4AG

Contact:
Tel: 01904 234 740
Email: info@blueskyacoustics.co.uk
Registered in England & Wales No 8367593

Contents

1. Introduction

1.1 Blue Sky Acoustics Ltd have been commissioned to provide a noise report to accompany a planning application for a proposed holiday lodge development on land adjacent to Hungerhill Lane, Wombleton (the Development).

1.2 The noise report has been requested to assess the potential noise impact from a potato store on residents of the Development.

1.3 The assessment considers the noise impact of an existing industrial noise source upon the Development using appropriate guidance, including BS4142:2014 and BS8233:2014.

1.4 This report sets out the methodology and results of the assessment and includes advice on suitable mitigation measures, where required, in order to minimise the impact of existing noise on the residents of the Development.

2. Site Description and Proposals

Site Description

2.1 The Development is located to the south of Wombleton village, North Yorkshire.

2.2 The site is located on a disused section of Wombleton airfield and can be described as a semi-rural area with a mix of agricultural and commercial use. The site is bordered by Hungerhill Lane to the east, fields to the north and a disused runway to the south and west.

2.3 Two caravan parks are located approximately 290 m to the south west boundary of the site ; Wombleton Caravan Park (operational) and Fosters scrapyard (15/01079/FUL approved). The closest residential property is The Bungalow located on Moorfields Lane, 250 m from the development site.

2.4 The ambient noise climate in the immediate vicinity of the development site is influenced by intermittent traffic movements along Hungerhill Lane, birdsong, wind in trees and vegetation and occasional aircraft flying overhead.

2.5 An existing potato store is located approximately 10 m from the eastern site boundary. Industrial fans operate continually within the store for a 3-month period between November and January annually. Noise emitted from the fans is expected to dominate the noise climate during operation.

2.6 A plan of the site and immediate area is presented in Figure 1.

Proposed Development

2.7 The proposed development consists of 65 two and three-bedroom holiday lodges which will be let on a short-term basis for 365 days per year.

2.8 A plan showing the proposed lodge locations is presented in Figure 2.

3. Consultation

3.1 Prior to commencing the noise assessment, co nsultation was undertaken with both the land owner and the Environmental Health Department at Ryedale District Council (RDC), in order to agree and confirm the scope of the assessment.

3.2 It was confirmed that the noise assessment would focus on the impact of noise emitted from the potato store upon the closest proposed holiday lodges.

3.3 It was agreed that the noise assessment would be undertaken in line with the methodology detailed in BS4142:2014 for external and BS8233:2014 for internal noise levels.

4. Noise Assessment Criteria & Relevant Guidance

4.1 The following Guidance has been considered in producing this report:

- National Planning Policy Framework (NPPF)[1];
- Noise Policy Statement for England (NPSE)[2];
- BS 4142:2014 – Methods for Rating and Assessing Industrial and Commercial Sound';
- BS 8233:2014 - Guidance on Sound Insulation and Noise Reduction for Buildings; and
- World Health Organisation Guidelines 1999 - Guidelines for Community Noise.

National Planning Policy Framework

4.2 The National Planning Policy Framework (the 'NPPF') was published in March 2012 by the Department for Communities and Local Government. The NPPF provides a framework within which local people and councils can produce their own local plans which reflect their priorities and needs.

4.3 With regard to noise, the NPPF states that planning policies and decisions should aim to:

- Avoid noise from giving rise to significant impacts on health and quality of life;
- Mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;
- Recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and
- Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

Noise Policy Statement for England (NPSE)

4.4 Further guidance on the possible 'adverse impacts' of generic development is provided in the 'Noise Policy Statement for England' (NPSE), which defines the following categories;

- **NOEL – No Observed Effect Level**
  This is the level at which no effect on health and quality of life can be detected.
- **LOAEL – Lowest Observed Adverse Effect Level**
  This is the level above which adverse effects on health and quality of life can be detected.
- **SOAEL – Significant Observed Adverse Effect Level**
  This is the level above which significant adverse effects on health and quality of life occur.

[1] National Planning Policy Framework, Department for Communities and Local Government, 2012.

[2] National Policy Statement for England, Department for Environment, Food and Rural Affairs, October 2010.

4.5 It is acknowledged that it is not possible to have a single objective-noise based measure that defines NOAL, LOAEL and SOAEL and is applicable to all sources for different receptors and at different times. Therefore, it is acknowledged that further research is required to increase understanding of what may constitute an adverse impact on health and quality of life from noise.

4.6 In the absence of a provided assessment method, it is accepted that other acoustic standards should be used along with professional judgement in order to provide a positive demonstration of impact for sustainable decisions to be made.

BS 4142:2014 – Methods for Rating and Assessing Industrial and Commercial Sound

4.7 BS 4142:2014 describes methods for rating and assessing noise of a commercial or industrial nature. It provides methods that are sufficiently flexible and suitable for use by practitioners to inform professional judgement in the determination of:

- Rating levels for sources of an industrial and/or commercial nature; and
- Ambient, background and residual sound levels,

For the purposes of:

- Investigating complaints;
- Assessing sound from proposed, new, modified or additional source(s) of sound of an industrial and/or commercial nature; and
- Assessing sound at proposed new dwellings or premises used for residential purposes.

4.8 The standard is not prescriptive regarding impact, rather it provides a framework for competent assessors to reach conclusions and justify opinions. It states that an assessment of the impact can be derived using the following criteria:

- A difference of around + 10 dB or more is likely to be an indication of a **significant adverse impact**, depending on the context;
- A difference of around + 5 dB is likely to be an indication of **adverse impact**, depending on the context; and
- Where the rating level does not exceed the background sound level (+ 0 dB) this is an indication of the specific sound source having a low impact, depending on the context.

4.9 In addition to the difference between the Rating Level of the specific sound source and the Background Noise Level, the context of the noise is also required to be considered:

"An effective assessment cannot be conducted without an understanding of the reasons for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context."

BS 8233:2014 – Guidance on Sound Insulation and Noise Reduction of Buildings

4.10 BS8233:2014 provides guidance for control of noise in and around buildings, drawing on the results of research and experience to provide information on the design of buildings that have internal acoustic environments appropriate for their functions.

4.11 The guidelines suggest appropriate criteria and noise limits for habitable rooms of residential dwellings; the main criteria being resting conditions in living rooms and sleeping conditions in bedrooms. Table 1 below summarises the recommendations for resting and sleeping conditions of living rooms and bedrooms.

Table 1: BS8233:2014 Internal Guideline Values for Habitable Rooms

Room Function	Activity	Daytime (07:00 – 23:00)	Night time (23:00 – 07:00)
Living Room	Resting	35 dB, $L_{Aeq,\ 16\ hour}$	N/A
Dining room	Dining	40 dB, $L_{Aeq,\ 16\ hour}$	N/A
Bedroom	Sleeping	35 dB, $L_{Aeq,\ 16\ hour}$	30 dB, $L_{Aeq\ 8\ hour}$
NOTE 4 regular individual noise events can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{max,F}$ depending on the character and number of events per night. Sporadic noise events could require separate values.			

4.12 BS8233:2014 additionally states that for external amenity areas, such as gardens and balconies, it is desirable that external noise levels do not exceed 50 dB, $L_{Aeq,\ T}$, with an upper guideline value set at 55 dB $L_{Aeq,T}$, which may be appropriate in louder environments.

4.13 **World Health Organisation (WHO) Guidelines 1999 – Guidelines for Community Noise**

4.14 The WHO guidelines for community noise provide guideline values for specific environments, as detailed in Table 2 below.

Table 2: WHO Internal Guideline Values

Environment	Critical Health Effects	L_{Aeq},T
Dwelling Indoors	Speech intelligibility and moderate annoyance	35 dB
Inside Bedrooms	Sleep disturbance during night-time	30 dB

4.15 The document also states that a noise limit of 55 dB, $L_{Aeq\ (16\ hr)}$ should apply during the daytime in external amenity areas.

5. Environmental Noise Survey

Unattended Baseline Noise Survey

5.1 Background noise monitoring was undertaken in the form of a series of contiguous $L_{A90(15min)}$ noise measurements between 19:45 on Tuesday 22nd May until 09:45 on Thursday 24th May 2018, at the monitoring location shown on Figure 1.

5.2 The equipment was positioned away from trees, tall vegetation and Hungerhill Lane which could unduly influence background noise levels.

5.3 The sound monitoring equipment used during the survey is detailed in Table 3 below.

Table 3: Sound Monitoring Equipment

Manufacturer	Model No.	Description	Serial No.	Calibration Due Date
Rion	NL32	Sound Level Meter	00682732	May 2019
Rion	NH-21	Microphone Preamplifier	28040	May 2019
Rion	UC-53A	1/2" Microphone	314652	May 2019
Rion	NC74	Calibrator	50641228	May 2019

5.4 The Rion NL 32 Type 1 Sound Level Meter was housed in a weatherproof environmental case with an enhanced windshield. The microphone was positioned 1.2 m above the ground and the Sound Level Meter was calibrated at the start and end of the survey; no significant drift was noted. Calibration certificates for the equipment are provided in Appendix A.

5.5 Measurements were obtained using the 'Fast' time and A-weighted frequency network.

5.6 The dominant noise sources observed during site visits are detailed in Section 2 .4. Intermittent traffic movements, bird song, wind in trees and vegetation and occasional aircraft flying overhead were all witnessed during site visits. The noise climate was typical of a semi-rural location with no other extraneous noise sources noted.

5.7 Weather conditions during installation and removal of the equipment were calm a nd dry with wind speeds less than 5 ms^{-1} and cloud cover estimated to be less than 20%. During unattended monitoring weather conditions have been obtained from a local weather station via an internet source, with the exception of rain data which was monit ored on site. There was no precipitation recorded during the measurement period. A summary of weather conditions during the unattended survey are presented in Appendix B.

Attended Specific Noise Measurement

5.8 Attended measurements were made using a Class 1 Rion NL-52 sound level meter configured with NX-42RT real time octave/third octave software on Thursday 24th of May 2018.

5.9 The sound monitoring equipment used during the survey is detailed in Table 4 below.

Table 4: Sound Monitoring Equipment

Manufacturer	Model No.	Description	Serial No.	Calibration Due Date
Rion	NL-52	Sound Level Meter	00164425	March 2020
Rion	NH-25	Microphone Preamplifier	54558	March 2020
Rion	UC-59	1/2" Microphone	09205	March 2020
Rion	NC-74	Calibrator	50641228	May 2019

5.10 The specific noise source (potato store fans) were operated at maximum power for the duration of the survey. The noise emitted from the fans was observed to be steady and continuous with no obvious tones or impulsivity.

5.11 An initial site walkover indicated that the dominant source of noise was emitted from a penthouse louvre located on the top of the potato store to the west of the building's roof.

5.12 Two measurement locations were selected based on the position of the closest proposed lodges and the perceived loudness and directionality of the potato store fans. One location was chosen to the north and one to the south of the potato store, at distances of 70 m and 110 m respectively. Measurement locations are presented on Figure 1.

5.13 The microphone was positioned 1.2 m above the ground and the Sound Level Meter was calibrated at the start and end of the survey; no significant drift was noted. Calibration certificates for the equipment are provided in Appendix A.

5.14 Measurements were obtained using the 'Fast' time and A-weighted frequency network.

5.15 Weather conditions during the measurements were sunny, calm and dry with wind speeds less than 5 ms^{-1} and cloud cover estimated to be less than 15%. There was no precipitation recorded during the measurement period. A summary of weather conditions during the unattended survey are presented in Appendix B.

6. Noise Survey Results

Unattended Baseline Noise Survey

6.1 A summary of the baseline noise climate is detailed in Table 5 for daytime $L_{Aeq,16\ hr}$ and night-time $L_{Aeq,\ 8\ hr}$ periods. The typical background noise level (mode) of the measured L_{A90} is presented for daytime and night-time periods. Time history charts showing measured baseline noise levels are provided in Appendix C.

6.2 Background residual noise levels have been averaged for daytime and night-time periods.

Table 5: Summary of Unattended Measured Noise Levels

Period	$L_{A90,T}$, dB	L_{Aeq}, dB
Tuesday 22nd May 2018 19:45 to Thursday 24th May 2018 09:45		
Daytime (1 hr)	32	39
Night-time (15 min)	17	29

*Note: * Denotes incomplete period*

Attended Ambient Noise Survey

6.3 The results of attended measurements obtained on Thursday 24th of May 2018 are summarised in Table 6 below. The measurements are assumed to be representative of both daytime and night-time periods as the specific noise level dominates the acoustic environment.

Table 6: Summary of Attended Measured Noise Levels

Monitoring Location	Start Time	Duration	$L_{A90,T}$	$L_{Aeq,T}$
Location 1 (ML1)	12:45:00	00:15:00	50	**51**
Location 2 (ML2)	13:10:00	00:15:00	46	48

6.4 A worst-case ambient noise level of 51 dB $L_{Aeq,\ 15\ min}$, has been used in the noise assessment.

7. BS4142:2014 Assessment

7.1 Appropriate guidance on the assessment of industrial noise on newly introduced residential development is detailed in BS4142:2014.

7.2 The standard states that the significance of industrial noise depends on the margin by which the Rating level exceeds the background noise level, in addition to the context in which the sound occurs. The Rating level is defined as the specific sound level of the source, in addition to a ny tonal or impulsive penalties which describe characteristics features which could cause annoyance.

7.3 The standard is applicable for assessing noise at proposed new dwellings or premises used for residential purposes but does not specifically cover holiday sites or temporary holiday accommodation. In the absence of any specific guidance for assessing noise impact on residents of temporary holiday accommodation it is considered appropriate to use the principles of BS4142:2014.

7.4 Where the specific sound cannot be measured in isolation, it is necessary to first measure the Ambient sound (total noise level) and the Residual sound (sound in the absence of specific sound). A correction is then made to determine the specific sound level in isolation followed by the application of any required penalties to determine the final Rating level.

7.5 Once the Rating level has been determined, a comparison against the background noise level is undertaken to quantify the level of impact. The specific sound for the purpose of the assessment was considered to be fan noise from a potato store which was distinguishable above all other noise within the local area.

Background Sound Levels

7.6 The background sound level is the sound level exceeded for 90% of the time in the absence of any sound from the specific source of interest.

7.7 The typical background noise levels as described in BS4142:2014 have been established for the purposes of this noise assessment.

7.8 A free field daytime background noise level of 32 dB $L_{A90,15min}$ and night-time level of 17 dB $L_{A90,15min}$ has been adopted for the purposes of this assessment and this is considered to be typical of the local area. The typical background noise level for daytime and night-time periods have been derived from the statistical 'mode' of the measurements as advocated in BS4142:2014.

Ambient and Specific Sound Levels

7.9 The ambient sound level is the all-encompassing sound in a given situation and at a given time. The level includes both residual and the specific sound when present. Where the spe cific sound is clearly dominant the ambient sound level will be equal to the specific sound level.

7.10 The free field ambient and specific sound levels for the purposes of this assessment are 51 dB L_{Aeq}.

7.11 For the purposes of this assessment the specific noise has been identified as sound produced by fans and emitted from louvres located on top of the potato store.

Rating Levels

7.12 Where appropriate, a penalty for sound based on a subjective assessment of its characteristics should be established and arithmetically added to the specific sound level. As discussed in Section 5.10, the specific noise was observed to be steady and continuous with no obvious tones or impulsivity. The noise was however, readily distinctive against the residual acoustic environment and qualifies for a +3 dB acoustic feature correction.

Tonal Analysis – One-third Octave Method

7.13 A tone is an acoustic feature of a sound which can increase the significance of impact over that expected from basic comparison between the specific sound level and the background level.

7.14 Where a tone exists an acoustic feature correction must be applied to the rating level.

7.15 As the specific noise level can be measured directly the objective one-third octave method is considered to be appropriate to assess the tonality of the specific noise level. If a tone is present an acoustic feature correction of +6 dB must be added to the rating level.

7.16 Z-weighted one-third octave band levels measured at the position of the closest lodge during the attended monitoring survey have been used to assess the tonality of the specific noise source in line with the requirements of BS4142:2014.

7.17 For a prominent, discrete tone to be identified BS4142:2014 states:

"the time-averaged sound pressure level in the one-third-octave band of interest is required to exceed the time-averaged sound pressure levels of both adjacent one-third-octave bands by some constant level difference."

7.18 The following criteria has been applied:

The level differences between adjacent one-third-octave bands that identify a tone are:

- *15 dB in the low-frequency one-third-octave bands (25 Hz to 125 Hz);*
- *8 dB in the middle-frequency one-third-octave bands (160 Hz to 400 Hz); and*
- *5 dB in the high-frequency one-third-octave bands (500 Hz to 10000 Hz).*

7.19 Based on the above criteria it was concluded that no tones are present in the specific noise. One-third-octave levels used in the assessment of tonality are shown graphically and numerically in Appendix D.

Night-time BS4142:2014 Assessment

7.20 The potato store operates continuously throughout the months of November to January each year. It was not possible to operate the storage fans throughout the night, therefore the specific level measured during the daytime has been used. The specific level is considered to be representative as the noise was dominant, steady, continuous and clearly audible above all other sources of noise.

7.21 The results of the night-time assessment are presented in Table 7 below.

Table 7: BS4142:2014 – Night-time Noise Impact Assessment

Results	level	Clause	Commentary
Background Sound level Night-time	$L_{A90\ (15\ min)}$ = 17 dB	8.1.2 8.1.3 8.3	Mode of background sound levels ($L_{A90,\ 15\ min}$) measured in the absence of the specific noise source
Ambient sound level	$L_{Aeq\ (15\ min)}$ = 51 dB	7.1 7.3.1	Specific sound source active and the level unaffected by any other sound sources
Specific sound level	$L_{Aeq\ (15\ min)}$ = 51 dB		Measured over 15-minute period as sound steady with no impulses or notable tones.
Acoustic feature correction	+3 dB	9.2	Neither tonal nor impulsive but readily distinctive against the residual acoustic environment
Rating level	(51 + 3) dB= 54 dB		
Excess of rating over background sound level	(54 – 17) dB = **+37 dB**	11	Predicted Rating Level is +37 dB greater than existing background level. *Note: This is an external rating and allowing -15 dB for an open window reduces the predicted rating level to +22 dB over background.*
Assessment indicates likelihood of significant adverse impact		11	The context is existing, but seasonal industrial noise affecting residents of new holiday lodges during the night-time which is clearly audible. At this time residents are likely to be indoors (bedrooms) with windows closed due to the time of year (Nov-Jan) the potato store operates.
Uncertainty of the assessment	Not significant	10	The excess of the rating level over background sound level is very large and in this instance the uncertainty of the measurement does not have any significance to the outcome of the assessment

Daytime BS4142:2014 Assessment

7.22 The results of the daytime assessment are presented in Table 8 below.

Table 8: BS4142:2014 – Daytime Noise Impact Assessment

Results	level	Clause	Commentary
Background Sound level Daytime	$L_{A90\ (15\ min)}$ = 32 dB	8.1.2 8.1.3 8.3	Mode of background sound levels ($L_{A90,\ 15\ min}$) measured in the absence of the specific noise source
Ambient sound level	$L_{Aeq\ (15\ min)}$ = 51 dB	7.1 7.3.1	Specific sound source active and the level unaffected by any other sound sources
Specific sound level	$L_{Aeq\ (15\ min)}$ = 51 dB		Measured over 15-minute period as sound steady with no impulses or notable tones.
Acoustic feature correction	+3 dB	9.2	Neither tonal nor impulsive but readily distinctive against the residual acoustic environment
Rating level	(51 + 3) dB= 54 dB		
Excess of rating over background sound level	(54 – 32) dB = **+22 dB**	11	Predicted Rating Level is +22 dB greater than existing background level
Assessment indicates likelihood of significant adverse impact		11	The context is existing, but seasonal industrial noise affecting residents of new holiday lodges during the daytime which is clearly audible.
Uncertainty of the assessment	Not significant	10	The excess of the rating level over background sound level is very large and in this instance the uncertainty of the measurement does not have any significance to the outcome of the assessment

Discussion of Results

7.23 The BS4142:2014 assessment indicates that a significant adverse impact is likely to occur during both night-time and daytime periods. However, the indication of significant adverse impact must be placed in context.

7.24 During the night-time periods the context is noise disturbance within bedrooms leading to sleep disturbance. Whilst the predicted rating level is +37 dB over background, it must be noted that this is an external rating; allowing -15 dB for an open window reduces the predicted rating level to +22 dB.

7.25 A calculation of the overall sound reduction index of the largest and most exposed façade of a 3 bedroom lodge i.e. side with largest glazed area and number of trickle vents, has been undertaken. An overall sound reduction index of 33 dB is to be expected with windows closed. The calculation is considered to be conservative as the acoustic testing of external wall cladding is not required under BS3632:2015[3], but is considered to be an enhancement to the buildings construction. The calculation and manufacturers's sound reduction data for wall construction, glazing and trickle vent specification is presented in Appendix E.

7.26 The potato store operates during the winter months between November and January when weather conditions outdoors are likely to be inclement. Retaining heat within the lodges will be a priority for residents during these months. Trickle vents fitted to all windows ensure adequate ventilation of the accommodation and negate the need to open windows.

7.27 During the daytime the context is external amenity space such as gardens, patio areas and verandas during the quieter evening periods, when the overall noise level is likely to be more distinguishable with a falling background noise level. Whilst the predicted rating level is +22 dB over background, it is considered that the installation of acoustic louvres on the potato store would provide adequate mitigation to reduce the impact to acceptable levels when considered in context of the short-term occupancy of the lodges.

7.28 In the context of this assessment BS4142:2014 is primarily an external noise assessment which does not consider possible mitigation measures. The standard specifically advises the use of other guidance to inform the appropriateness of new noise-sensitive receptors[4], stating the following:

> *"Where a new noise-sensitive receptor is introduced and there is extant industrial and/or commercial sound, it ought to be recognized that the industrial and/or commercial sound forms a component of the acoustic environment. In such circumstances other guidance and criteria in addition to or alternative to this standard can also inform the appropriateness of both introducing a new noise-sensitive receptor and the extent of required noise mitigation."*

7.29 Annex A of BS4142:2014 provides example applications of the assessment methodology and specifically states that other applicable guidance can be drawn from BS8233:2014. Therefore, it is considered that the guidance detailed in BS8233:2014 is equally valid when drawing conclusions on the suitability of new residential development.

[3] BS3632:2015 Residential park homes. Specification, November 2015.

[4] BS4142:2014 Paragraph 8.5, page 12.

8. BS8233:2014 Assessment

8.1 British Standard BS8233:2014 provides guidance on acceptable indoor ambient noise levels for residential dwellings, as detailed in Section 4, in addition to guidance on design criteria for external noise.

8.2 The ambient level of sound during daytime ($L_{Aeq, 16hr}$) and night-time ($L_{Aeq, 8hr}$) periods (Table 6) have been assessed against the guideline values detailed in BS8233:2014. The assessment includes the assumption of partially open windows; considered to offer attenuation of 15 dB as detailed in BS8233:2014, as shown in Table 9 below.

Table 9: BS8233:2014 Internal Noise Assessment

Period	Room	External Noise Level $L_{Aeq,T}$ dB	Window Attenuation, dB	Predicted Internal Noise Level, dB	BS8233 Design Limit
Daytime	Living Room / Bedroom	51	-15	36	35
Night-time	Bedroom	51	-15	36	30

Discussion of Results

8.3 The desirable design criteria for external noise in areas used for outdoor amenity is 50 dB, L_{Aeq}, with the upper guideline value set at 55 dB, L_{Aeq}. As detailed in Table 9, external ambient noise levels exceed the lower guideline value by +1 dB but are within the upper guideline value of 55 dB, L_{Aeq}.

8.4 Although external noise levels are below the upper guideline value of 55 dB, L_{Aeq}, BS8233:2014 suggests that this limit is only acceptable in noisier environments. The use of the upper guideline value is therefore not applicable to this assessment.

8.5 The level of internal ambient sound, accounting for a partially open window during both daytime and night-time periods, exceed the design limit values detailed in BS8233:2014 by 1 dB and 6 dB respectively.

8.6 Therefore, mitigation will be required to meet internal desired design limits and to protect the comfort and amenity of residents.

8.7 It is considered that the installation of appropriate acoustic louvres on the potato store would adequately reduce the noise impact both internally and externally to meet both design limits and desirable design criteria.

9. Mitigation

9.1 The noise assessment has indicated that the current overall noise level experienced at the closest receptor locations both internally and external indicates a significant adverse impact in terms of BS4142:2014 and an exceedance of the design limits and desirable design criteria in BS8233:2014.

9.2 Acoustic louvres will be required to reduce the specific noise at source.

9.3 An example calculation of the attenuation likely to be achieved with the use of a n acoustic louvre is presented in Appendix F, along with manufacturers acoustic performance specification data. The calculation shows that an attenuation of 18.2 dB can be achieved with the use of a typical double bank louvre. The example calculation is based upon octave band data measured at the position of the closest lodge during the attended monitoring survey.

9.4 It is anticipated that an attenuation of 18 dB can realistically be achieved at the potato store with the installation of a typical double bank acoustic louvre which will significantly reduce the noise level both internally and externally.

9.5 An 18 dB reduction in the external noise level through the installation of a bespoke acoustic louvre would equate to an external noise level of 33 dB at the closest receptor and an internal noise level of 18 dB allowing 15 dB for an open window.

9.6 A further assessment against BS4142:2014 and BS8233:2014 has been undertaken allowing for an 18 dB attenuation achieved through the use of a typical double bank acoustic louvre. The results are presented in Appendix G.

10. Conclusion

10.1 A noise assessment has been undertaken at land adjacent to Hungerhill Lane, Wombleton to determine the impact of seasonal industrial fan noise from an existing potato store on a proposed holiday lodge development. The fans operate for 3 months of the year from November to January.

10.2 A BS4142:2014 assessment has been undertaken to assess the industrial fan noise. The greatest impact was seen to occur during night-time periods when background noise levels are very low.

10.3 An acoustic correction has been applied to the specific level to account for the characteristics of the noise, which is clearly distinguishable above all other noise within the local area.

10.4 The resulting rating levels of the industrial fan were found to be +22 dB and +37 dB over the background level during daytime and night-time periods respectively. This is predominantly a result of the high specific noise level and very low night-time background noise level. External noise levels in the absence of mitigation would therefore indicate a significant adverse impact, particularly during daytime periods when external amenity is desirable.

10.5 During the night-time periods, the most sensitive locations are considered to be bedrooms with an emphasis on sleep disturbance. As the predicted rating level is based upon an external noise assessment an allowance of 15 dB for an open window is considered to be appropriate reducing the predicted rating level to +22 dB, still indicating a significant adverse impact.

10.6 In accordance with BS4142:2014, other applicable guidance detailed in BS8233:2014 has been used to undertake a further assessment, based upon criteria for desirable internal ambient noise levels.

10.7 The ambient internal daytime ($L_{Aeq,\ 16\ hr}$) and night-time ($L_{Aeq,\ 8\ hr}$) sound levels were found to exceed the design limit values by +1 dB and +6 dB respectively when allowing 15 dB attenuation for an open window. Sound levels in external amenity areas were also found to exceed the lower guideline value by +1 dB.

10.8 The outcome of the BS4142:2014 assessment has shown a significant adverse impact for both daytime and night-time periods. The outcome of the BS8233:2014 assessment has shown exceedences above design limits for internal areas and desired levels for external amenity areas.

10.9 Mitigation in the form of acoustic louvres installed on the potato store has been recommended. A typical double bank acoustic louvre is expected to reduce noise levels experienced at the closest lodge location by approximately 18 dB.

10.10 A further assessment against BS4142:2014 and BS8233:2014 has been undertaken based upon an assumed attenuation of 18 dB provided by typical double bank acoustic louvres being fitted to the potato store. The assessment is presented in Appendix G.

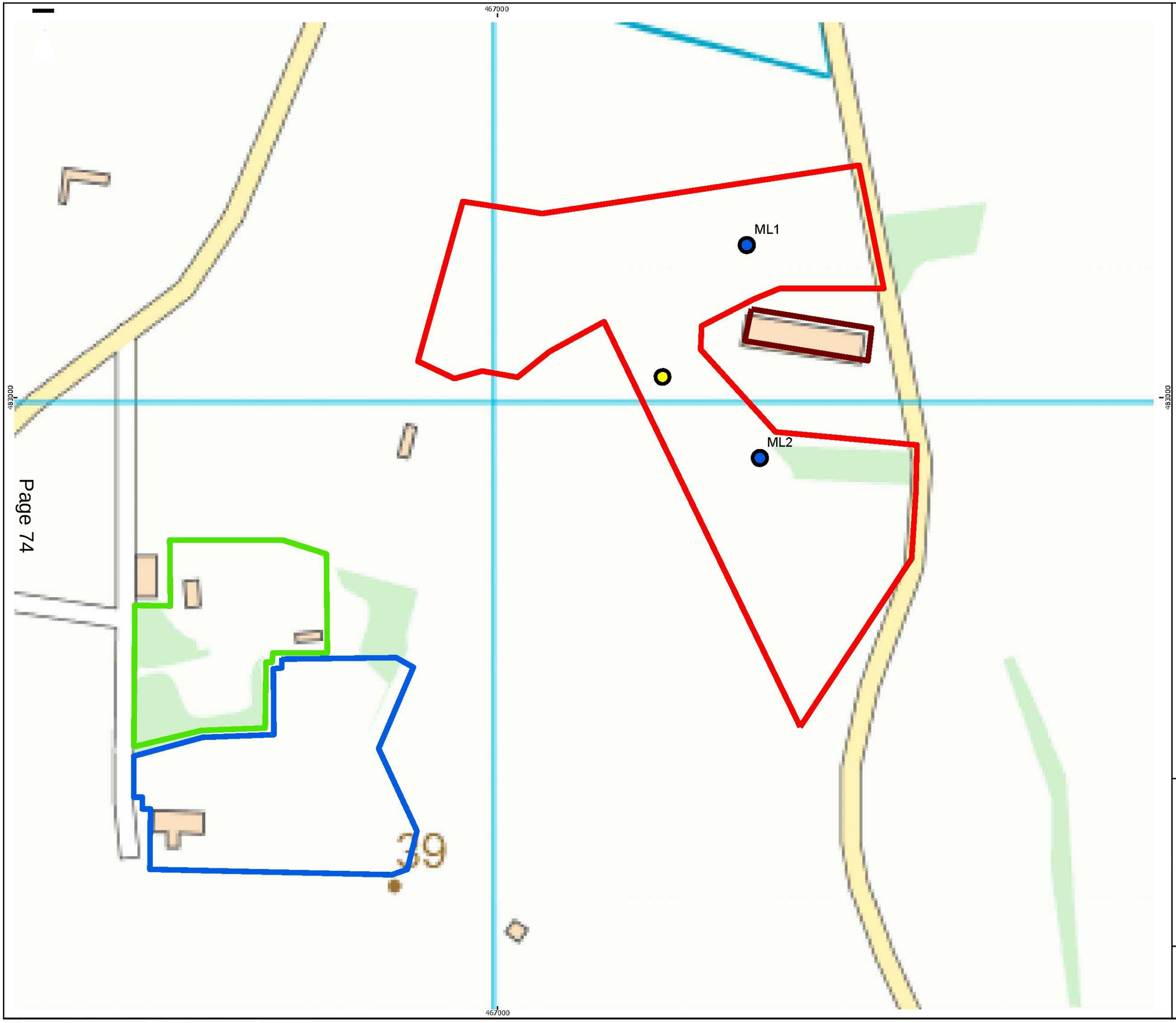
10.11 The results of the BS4142:2014 assessment with mitigation applied show a night-time predicted rating level of +16 dB. In context night-time periods are primarily concerned with disturbance within bedrooms leading to sleep disturbance. As the predicted rating level is based upon external noise levels an allowance of 15 dB for an open window is considered to be appropriate reducing the predicted rating level to +1 dB, indicating a **low impact** when assessed against BS4142:2014.

10.12 Daytime noise levels with mitigation applied also show a predicted rating level of +1 dB, again indicating a **low impact** when assessed against BS4142:2014.

10.13 A further assessment against BS8233:2014 with mitigation measures applied indicates an external noise level of 33 dB and a predicted internal noise level of 18 dB, significantly below the desirable design criteria for outdoor amenity and internal design limits for residential dwellings respectively.

10.14 It is concluded that the specific noise level of industrial fans located within the potato store, which are operational for 3 months of the year, can be reduced and adequately controlled through mitigation measures for both daytime and night-time periods.

Figure 1 – Site Plan



Page 74

Key:

- Site Boundary
- Wombleton Caravan Park
- Fosters Scrapyard
- Potato store
- Background Noise Monitoring Location
- Attended Monitoring Locations

1:3,000 Scale @ A3

0 150 Meters

Hungerhill Lane Wombleton

Figure 1
Site Plan and Surrounding Area

May 2018
164A - V1 - NJD

BLUE SKY ACOUSTICS

Figure 2 – Proposed Site Layout

Notes:

0 20 40 60
Metres

Client: GraceMax Ltd

Title: Change of use of former aerodrome to allow the siting of up to 65 timber clad static holiday units including manager's accommodation, reception / office
Land west of Hungerhill Lane, Wombleton Airfield, Wombleton

Date: 22.5.18 | Scale: 1:1000 @ A1 | Drawing ref. WA-HL- 1.1

Webster Associates
Chartered Town Planners
3 Spaldwick Road
Stow Longa
Huntingdon
Cambs.
PE28 0TL
Tel: 01480 860862

Appendix A – Calibration certificates

CERTIFICATE OF CALIBRATION

UKAS CALIBRATION 0653

Date of Issue: 10 May 2018

Certificate Number: UCRT18/1505

Issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved S

K. Mistry

Customer	Blue Sky Acoustics 3 Swinton Close Rawcliffe York Y030 5NB
Order No.	165
Test Procedure	Procedure TP 1 Calibration of Sound Calibrators
Description	Acoustic Calibrator

Identification	*Manufacturer*	*Instrument*	*Model*	*Serial No.*
	Rion	Calibrator	NC-74	50641228

The calibrator has been tested as specified in Annex B of IEC 60942:2003. As public evidence was available from a testing organisation (PTB) responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the class 1 requirements of IEC 60942:2003.

ANV Job No.	UKAS18/05300	
Date Received	09 May 2018	
Date Calibrated	10 May 2018	
Previous Certificate	*Dated*	02 May 2017
	Certificate No.	UCRT17/1325
	Laboratory	0653

Measurements

The sound pressure level generated by the calibrator in its WS2 configuration was measured five times by the Insert Voltage Method using a microphone as detailed below. The mean of the results obtained is shown below. It is corrected to the standard atmospheric pressure of 101.3 kPa (1013 mBar) using original manufacturers information.

Test Microphone	*Manufacturer*	*Type*
	Bruel & Kjrer	4134

Results

The level of the calibrator output under the conditions outlined above was

94.00 ± 0.10 dB rei 20 1-1Pa

Functional Tests and Observations

The frequency of the sound produced was	1002.72 Hz	±	0.13Hz
The total distortion was	1.33%	±	6.7 %of Reading

During the measurements environmental conditions were

Temperature	23	to	24	0C
Relative Humidity	38	to	44	%
Barometric Pressure	100.5	to	100.6	kPa

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

The uncertainties refer to the measured values only with no account being taken of the ability of the instrument to maintain its calibration.

A small correction factor may need to be applied to the sound pressure level quoted above if the device is used to calibrate a sound level meter which is fitted with a free-field response microphone. See manufacturers handbook for details.

END

Note:

Calibrator adjusted prior to calibration?	NO	
Initial Level	N/A	dB
Initial Frequency	N/A	Hz

Additional Comments

None

Calibrated by: B. Bogdan

R2

M fA SU REMENT S YSTEMS

CERTIFICATE OF CALIBRATION

UKAS
CA.llli<AIIO!'.1
0653

Date of Issue: 09 May 2017

Certificate Number: UCRT17/1356

Issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

1-'age 1 ot 4 1-'ages

Approved Signatory

K. Mistry

CUSTOMER Blue Sky Acoustics
3 Swinton Close
Rawcliffe
York
Y030 5NB

ORDER No 149 Job No UKAS17/04198

DATE OF RECEIPT 28 April2017

PROCEDURE Calibration Engineer's Handbook section 3: verification of sound level meters to BS 7580:Part 1:1997

IDENTIFICATION Sound level meter Rion type NL-32 serial No 00682732 connected via extension lead type EC-04 and preamplifier type NH-21 serial No 28040 to a half-inch microphone type UC-53A serial No 314652 fitted with a foam windshield type WS-03. Associated calibrator Rion type NC-74 serial No 50641228 with a one-inch housing and adapter type NC-74-002 for half-inch microphone.

CALIBRATED ON 09 May 2017

PREVIOUS CALIBRATION Calibrated on 14 May 2015, Certificate No. UCRT15/1133 issued by a UKAS accredited calibration laboratory No. 7623

CERTIFICATE OF CALIBRATION

UKAS ACCREDITED CALIBRATION LABORATORY No 0653

Certificate No UCRT17/1356

The sound level meter was set to frequency weighting A and adjusted to read 93.6 dB (corresponding to 93.6 dB at standard atmospheric pressure) in response to the sound calibrator supplied. This reading was derived from the Calibration Certificate No. UCRT17/1325 supplied by this laboratory and manufacturers' information on the free-field response of the sound level meter when fitted with the windshield.

The sound level meter was then tested, and its overall sensitivity adjusted, in accordance with clause 5 of BS 7580:Part 1:1997 .....

The acoustic calibration at 1kHz specified in subclause 5.6.1 of the standard was performed by application of a standard sound calibrator, whilst the tests at 125Hz and 8kHz (subclause 5.6.2) were performed by the electrostatic actuator method.

At the end of the test, the sound calibrator was reapplied to the sound level meter and the meter reading was recorded.

RESULTS

The sound level meter was found to conform to BS 7580:Part 1:1997 •• for a type 1 meter.

The self-generated noise recorded in the test specified in subclause 5.5.2 was:

13.1 dB (A) 20.0 dB (C) 24.0 dB (Lin)

The sound level meter reading obtained at the end of the test in response to the sound calibrator was 93.6 dB (corresponding to 93.6 dB at standard atmospheric pressure). This reading, corrected for ambient pressure, should be used henceforth to set up the sound level meter for field use.

The expanded level uncertainty of the Laboratory's 1 kHz sound calibrator used during this verification is± 0.1 dB; that of the calibrator supplied with the sound level meter is ± 0.1 dB.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor *k=2,* providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

All measurement data are held at ANV Measurement Systems for a period of at least six years.

The case reflection factors have been taken as zero, since an extension lead has been used for this verification.

The reference range, linearity range and primary indicator range specified by the manufacturer have been used. See *note 6 Below.*

The Rion NL-32 sound level meter design has successfully undergone pattern evaluation at Physikalisch-Technische Bundesanstalt (PTB). It was found to meet the requirements of BS EN 60651• and BS EN 60804* and was granted pattern approval as a Type 1 sound level meter.

No component of uncertainty for manufacturer-specified corrections has been included in the uncertainty budget and, in accordance with Amendment No 1 to BS 7580:Part 1:1997 ** the measured values obtained during the verification have not been extended by any measurement uncertainty when assessing conformance to the standard.

NOTES

*1 BS EN 60651:1994 and BS EN 60804:1994 were formerly numbered BS 5969:1981 and BS 6698:1986 respectively.

**2 BS 7580:Part 1:1997 was formerly numbered BS 7580:1992.

3 No suitable microphone frequency response information was supplied with the instrument. It was therefore measured by this laboratory using the electrostatic actuator method. This response in isolation is not UKAS accredited.

4 The instrument was tested with inteQral software as received.

5 The NL-32 does not have a "max hold" function available when operating with time weighting I. The results recorded for the test of time weighting I are therefore the highest instantaneous reading shown on the display. Whilst these results meet the requirements of the standard, those for response to a single tone burst in particular may give a misleading impression of the accuracy of time weighting I on this instrument.

6 The specifications given in the standard English-language handbook for the NL-32 is incomplete. An addendum to the handbook based on the PTB tests has been provided by Rion, and this revised specification has been used for the purposes of the present verification. For information, extracts from the addendum have been appended as page 4 of this certificate.

Any opinions or interpretations which may be expressed in these notes are not UKAS Accredited.

The following data supplied by Rion are included for completeness:

Addendum to the NL-32 Instruction Manual

Errata (page 133):

- Total range: 23 to 137 dB(A).
- Linearity range (on 30 -120 dB reference range): 99 dB (28 to 127).

Additional information

- Primary indicator range (on 30 - 120 dB reference range): 32 - 111 dB, allowing a crest factor of 10 for Impulse time weighting.
- Pulse range: > 63 dB
- Measurement range for various LEVEL settings: See table below.

Measurement ranges

Measurement range for various "LEVEL" range settings (dB)*
Frequency weighting A-, C- and Lin.

"LEVEL" Setting (dB)	Time weighting			Leq
	Fast/Slow	Impulse	Peak	
20-80	23 - 80 **	23-70 **	50-90	23-87 **
20-90	23-90 **	23-80 ...	50 - 100	23-97 **
20- 100	23- 100 **	23-90 **	50 - 110	23-107 ....
20- 110	23- 110 ++	23- 100 **	50- 120	23- 117 **
30 - 120	28 - 120 **	28- 110 **	50- 130	28- 127 **
40- 130	38 - 130	38 - 120	50- 140	38- 137

*For time weighting Fast and Slow a crest factor 3, and for time weighting Impulse a crest factor 10, is taken into account.
*" The lower limit of the measurement range is 30 dB(C) for C-weighting and 35 dB(Lin) for Lin weighting.

END

R3

MEASUREMENT SYSTEMS

CERTIFICATE OF CALIBRATION

UKAS CALIBRATION 0653

Date of Issue: 20 March 2018

Certificate Number: UCRT18/1313

Issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory

K. Mistry

Customer	Blue Sky Acoustics York Hub Popeshead Court Offices Peter Lane York YO18SU
Order No.	164
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification

Manufacturer	*Instrument*	*Type*	*Serial No. / Version*
Rion	Sound Level Meter	NL-52	00164425
Rion	Firmware		1.8
Rion	Pre Amplifier	NH-25	54558
Rion	Microphone	UC-59	09205
Rion	Calibrator	NC-74	34536109
	Calibrator adaptor type if applicable		NC-74-002

Performance Class 1

Test Procedure TP 2.SLM 61672-3 TPS-49

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Type Approved to IEC 61672-1:2002 YES Approval Number 21.21 / 13.02

If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2003

Date Received 19 March 2018 ANV Job No. UKAS18/03187

Date Calibrated 20 March 2018

The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2006, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate	*Dated*	*Certificate No.*	*Laboratory*
	Initial Calibration		

CERTIFICATE OF CALIBRATION

UKAS Accredited Calibration Laboratory No. 0653

Certificate Number UCRT18/1313

Sound Level Meter Instruction manual and data used to adjust the sound levels indicated.

SLM instruction manual title	Sound Level Meter NL-42 / NL-52
SLM instruction manual ref / issue	11-03
SLM instruction manual source	Manufacturer
Internet download date if applicable	N/A
Case corrections available	Yes
Uncertainties of case corrections	Yes
Source of case data	Manufacturer
Wind screen corrections available	Yes
Uncertainties of wind screen corrections	Yes
Source of wind screen data	Manufacturer
Mic pressure to free field corrections	Yes
Uncertainties of Mic to F.F. corrections	Yes
Source of Mic to F.F. corrections	Manufacturer
Total expanded uncertainties within the requirements of IEC 61672-1:2002	Yes

Specified or equivalent Calibrator	Specified		
Customer or Lab Calibrator	Lab Calibrator		
Calibrator adaptor type if applicable	NC-74-002		
Calibrator cal. date	07 March 2018		
Calibrator cert. number	UCRT18/1261		
Calibrator cal cert issued by	0653		
Calibrator SPL @ STP	94.00	dB	Calibration reference sound pressure level
Calibrator frequency	1001.86	Hz	Calibration check frequency
Reference level range	25-130	dB	

Accessories used or corrected for during calibration - Extension Cable & Wind Shield WS-15

Note- if a pre-amp extension cable is listed then it was used between the SLM and the pre-amp.

Environmental conditions during tests	Start	End	
Temperature	23.05	23.42	± 0.30 °C
Humidity	37.0	37.1	± 3.00 %RH
Ambient Pressure	101.93	101.94	± 0.03 kPa

Response to associated Calibrator at the environmental conditions above.

Initial indicated level	93.8 dB	Adjusted indicated level	94.0 dB
The uncertainty of the associated calibrator supplied with the sound level meter±			0.10 dB

Self Generated Noise This test is currently not performed by this Lab.

Microphone installed (if requested by customer) = Less Than	N/A dB	A Weighting	
Uncertainty of the microphone installed self generated noise ±	N/A dB		

Microphone replaced with electrical input device - IUR – Under Range indicated

Weighting	A	C	Z
	11.6 dB IUR	15.8 dB UR	21.9 dB IUR
Uncertainty of the electrical self generated noise±	0.12 dB		

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor *k=2*, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

For the test of the frequency weightings as per paragraph 12. of IEC 61672-3:2006 the actual microphone free field response was used.

The acoustical frequency tests of a frequency weighting as per paragraph 11 of IEC 61672-3:2006 were carried out using an electrostatic actuator.

END

Calibrated by: A Patel R 1

Additional Comments

None

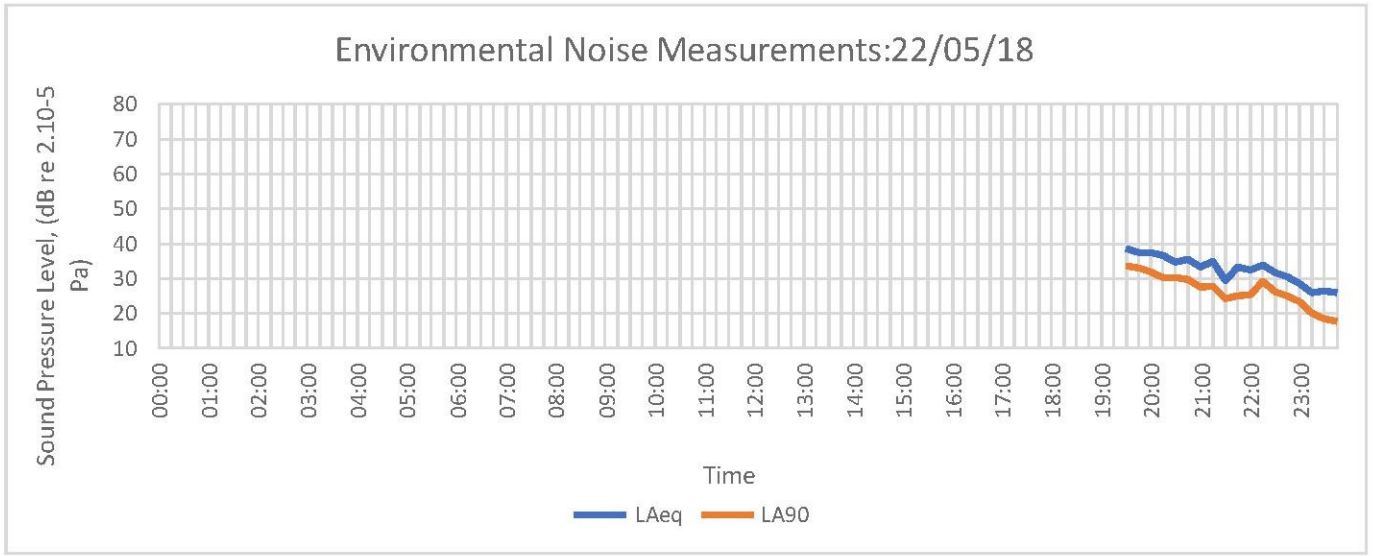
Appendix B – Summary of Weather Conditions

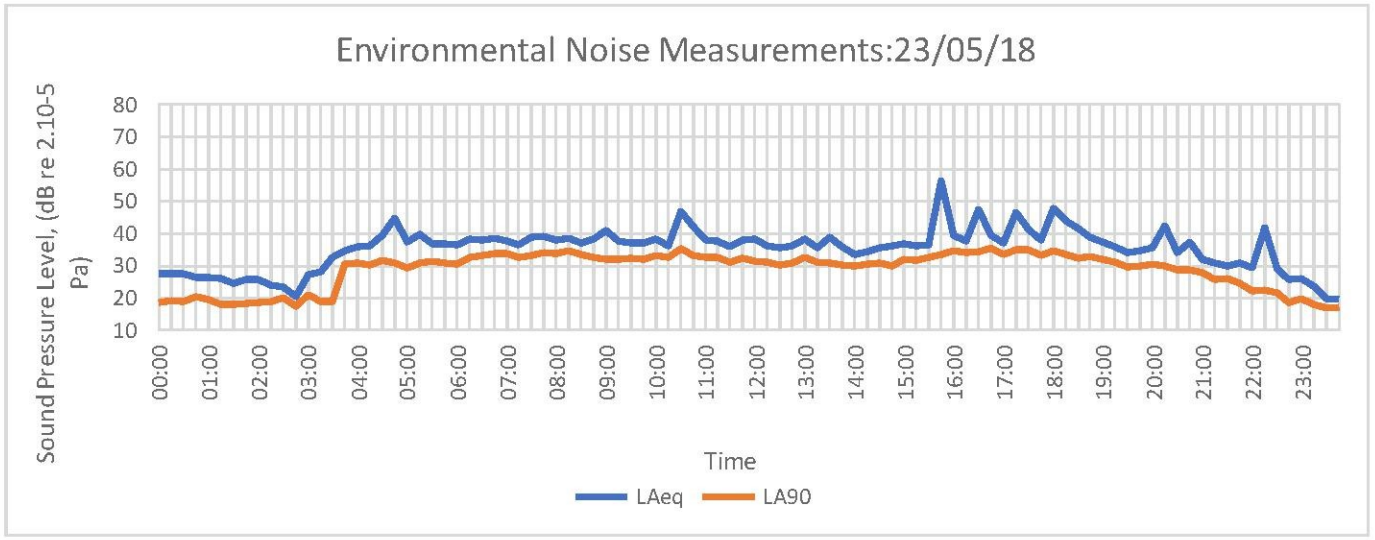
Appendix B - Local Weather Conditions

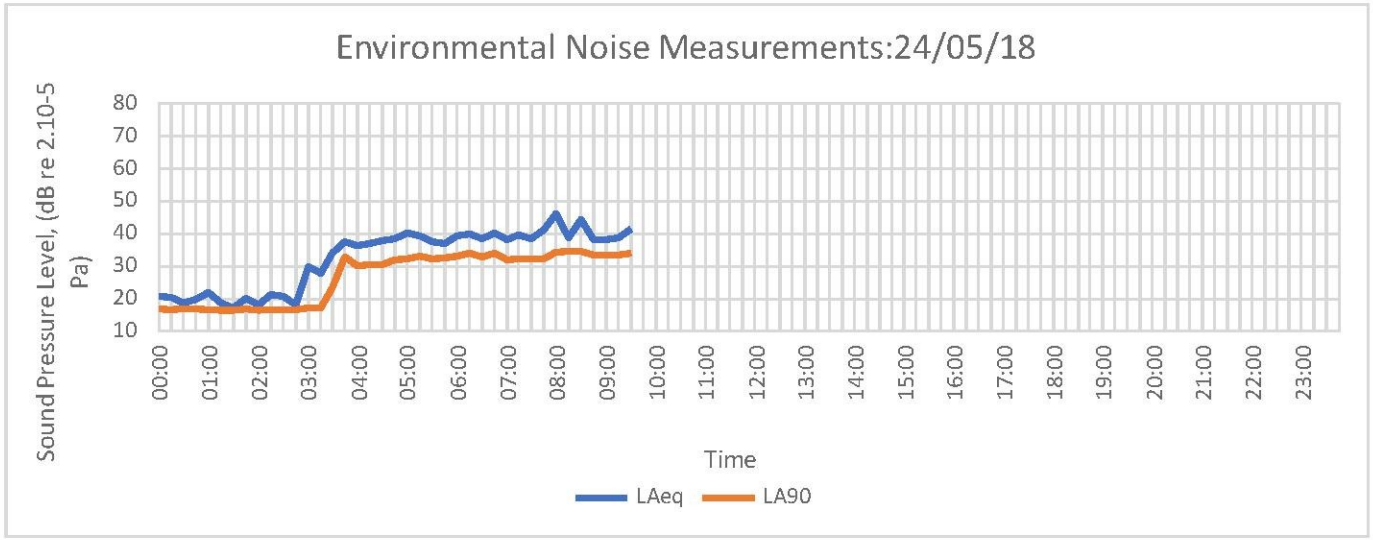
Day	Date	Temperature (°C)			Humidity (%)			Wind Speed (ms-1)		Precipitation (mm)	Pressure (hPa)
		Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Max.	Total	Avg.
Tuesday	22/05/2018	12	14	9	84	67	94	4	5	0	1021
Wednesday	23/05/2018	12	8	17	78	67	93	3	6	0	1026
Thursday	24/05/2018	13	8	18	82	68	94	3	5	0	1024

Appendix C – Baseline Noise Time-History Charts

Appendix C - Baseline Noise Time-History Charts

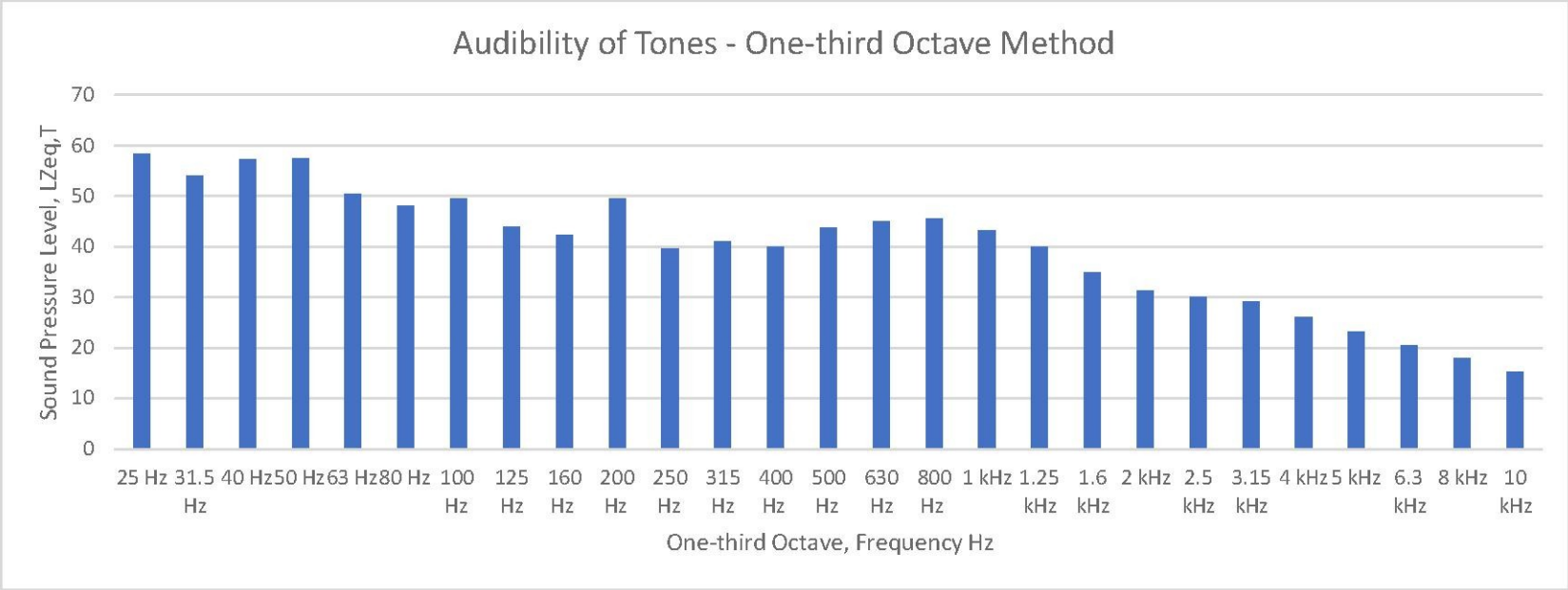





Environmental Noise Measurements:24/05/18
Sound Pressure Level, (dB re 2.10-5 Pa)
80
70
60
50
40
30
20
10
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Time
LAeq
LA90

Appendix D – Assessment of Tonality

Appendix D - Tonal Analysis One-Third-Octave Method



Frequency Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz
A-Weighted Levels	13.6	14.6	22.7	27.2	24.2	25.6	30.4	27.9	29
Z-Weighted Levels	58.3	54	57.3	57.4	50.4	48.1	49.5	44	42.4

Frequency Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1 kHz	1.25 kHz
A-Weighted Levels	38.6	31.1	34.5	35.1	40.5	43.2	44.7	43.2	40.6
Z-Weighted Levels	49.5	39.7	41.1	39.9	43.7	45.1	45.5	43.2	40

Frequency Hz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz
A-Weighted Levels	36	32.6	31.4	30.1	27.1	23.7	20.4	16.8	12.7
Z-Weighted Levels	35	31.4	30.1	29.1	26.1	23.2	20.5	17.9	15.2

Appendix E – Lodge Façade Compound Sound Reduction Index Calculation

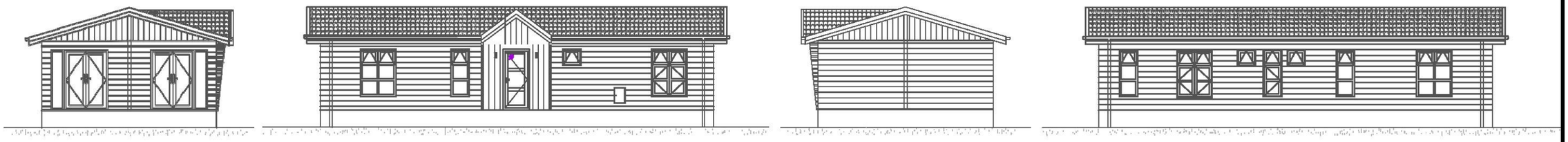
Appendix E - Overall Sound Reduction Index - Side Elevation Bowmoor Leisure Home (3 Bedroom)

Façade Dimensions	**Area (m)**
Length	13.71
Height	2.5
Total Area	**34.3**

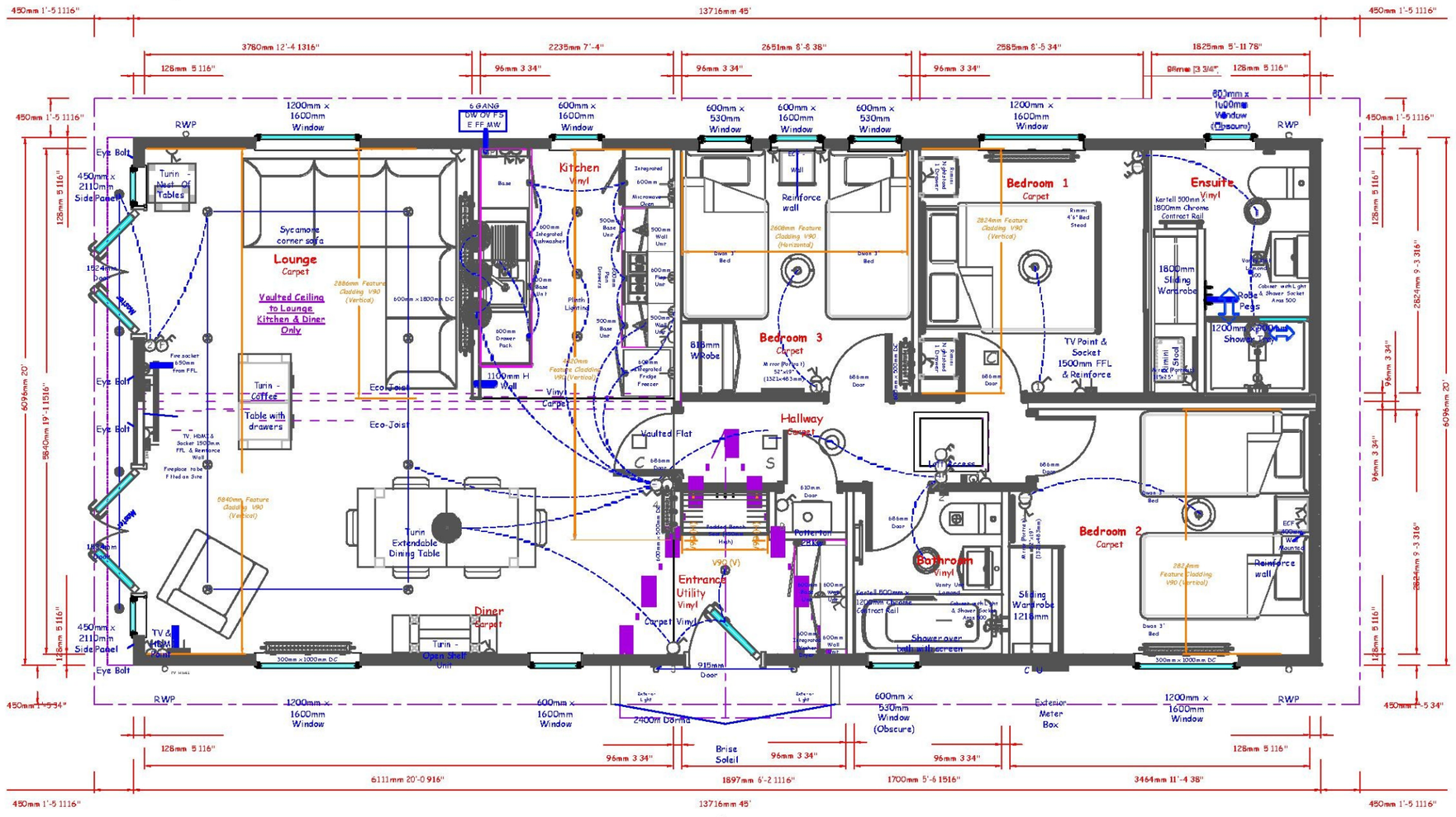
Area of Elements	**Area (m)**	**Reference**	**Additional Information**
Wall panel	25.2	*S1*	(Prestige and Homeseeker Homes)
Windows (7 no.)	7.4	*S2*	(VEKA Sysyems 4-20-4)
Trackle vents (7 no.)	1.7	*S3*	(Slimline MK3 4000)
Total Area	**34.3**		

Elements	**SRI (dB)**		
Wall panel	39	*R1*	
Glazing	28	*R2*	(Minimum glazing specification)
Trackle vents	33	*R3*	(Trickle vents open)
Compound SRI	**33**		

$$R_{Compound} = -10\log\left(\frac{S1\ x\ 10^{\frac{-R1}{10}} + S2\ x\ 10^{\frac{-R2}{10}} + S3\ x\ 10^{\frac{-R3}{10}} \ldots}{S1+S2+S3\ldots}\right)$$



This home is designed in accordance with BS3632



Prestige Homeseeker
Park & Leisure Homes

Shipton Way, Express Business Park, Rushden, Northants NN10 6GL
Tel: 01933 354000 Fax: 01933 354047 01933 354049
Email: sales@phplh.com
Visit our websites: www.prestigeparkandleisurehomes.co.uk
www.homeseekerhomes.co.uk

Please note that plans and elevations are a guide and should be used for illustrative purposes only. The external dimensions of the units are subject to variation, dependant upon the external finish specified.

LEGEND			
	Single Socket		Smoke Alarm
	Double Socket		Carbon Mono Detector
	Thermostat		Consumer Unit
	TV HDMI Phone Point		Pendant Light
	Fused Spur		Globe Light
	Single Gang Light Switch		Spotlight
	Double Gang Light Switch		Under Locker Light
	Ceiling Extractor		External Tap

NOTES:

SALES ISSUE
A further drawing will be sent to the customer

Rev	Date	By	Description
0	050118	JM	Brise Soleil updated.

Date:	??????
Scale:	Relative
Drawn:	??
Quote:	QN ?????
Dwg No:	????
Serial No:	?? ?? ????

Bowmoor - 3 Bed, Utility, ES, WIW
~~45 x 20 (13.71 x 6.10) Nominal~~

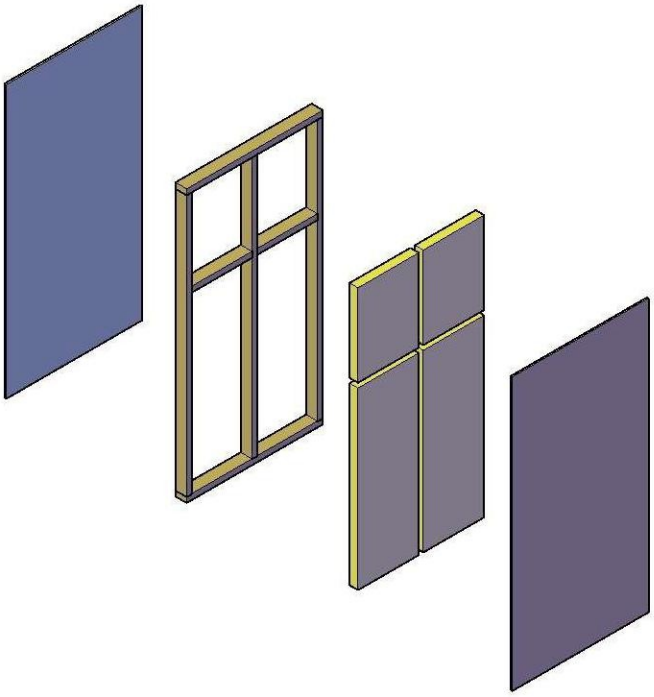
Customer - Park

Customers Signature;

Date;

Manufacturer: PRESTIGE & HOMESEEKER HOMES

Test Panel ID: 17-03/PHH1



Internal Lining: 12.5mm Foil backed plasterboard adhered to studwork.

Studwork: 71x41mm Softwood at 600mm centres, with one noggin rail.

Insulation: 71mm Knauff Raft Roll 0.032 W/m.K.

External Cladding: 9mm Exterior grade plywood bonded to studwork.

Panel Dimensions: 1.190m wide x 2.365m high x 0.0925m deep.

Weight: 58.0kg

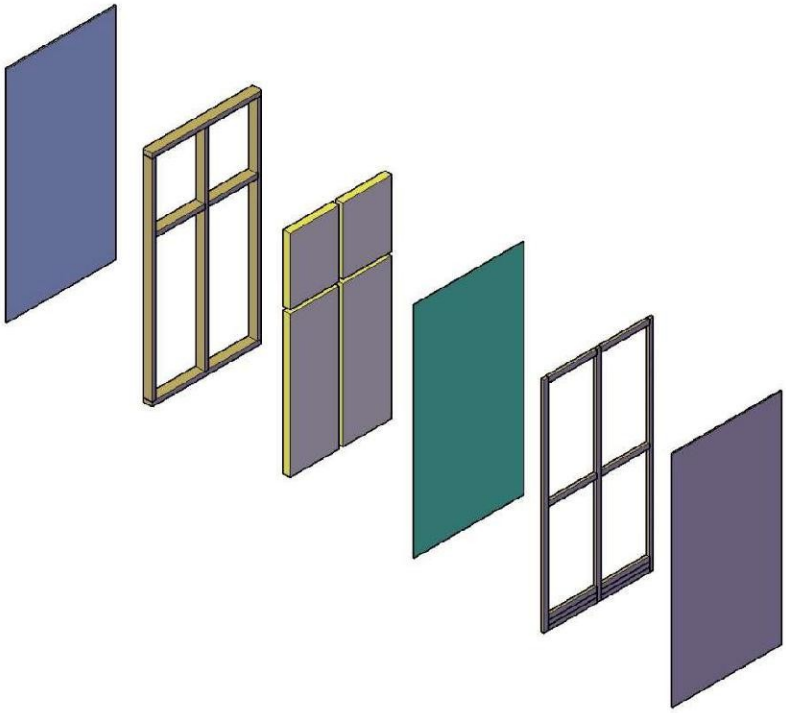
Mass: 20.61kg/m^2

RSI Result: 39dB over the BS EN ISO 10140-2 frequency range (100-3150Hz).

RSI Result: 39dB over the BS 3632 frequency range (125-4000Hz).

Manufacturer: PRESTIGE & HOMESEEKER HOMES

Test Panel ID: 17-03/PHH2



Internal Lining: 12.5mm Foil backed plasterboard bonded to studwork.

Studwork: 71x41mm Softwood at 600mm centres, with one noggin rail.

Insulation: 71mm Knauff Raft Roll 0.032 W/m.K.

Membrane: 0.25mm PhotonWrap breathable foil insulation.

External Battens: 20x40mm at 600mm centres, with plus one row at head, one row at mid-point, and three rows at base.

External Cladding: 6.5mm Multi-Pro XS magnesium oxide board, primed and finished in 4mm stucco coating (heavy grade stipple).

Panel Dimensions: 1.190m wide x 2.365m high x 0.11425m deep.

Weight: 79.5kg

Mass: 28.25kg/m^2

RSI Result: 44dB over the BS EN ISO 10140-2 frequency range (100-3150Hz).

RSI Result: 44dB over the BS 3632 frequency range (125-4000Hz).

Laboratory measurement to BS EN ISO 10140-2 - Airborne Sound Insulation of

1762

Sponsor:	**A-BDPS**
Product Type	Residential Park Home Panel
Material Type	Timber
Variations:	
Company Name	Prestige & Homeseeker Homes Ltd
Panel Ref	PHH01
Weight	58

For detailed technical specification, please refer to Section 2 of the report

Data sheet Ref. WYC382391/01/P001

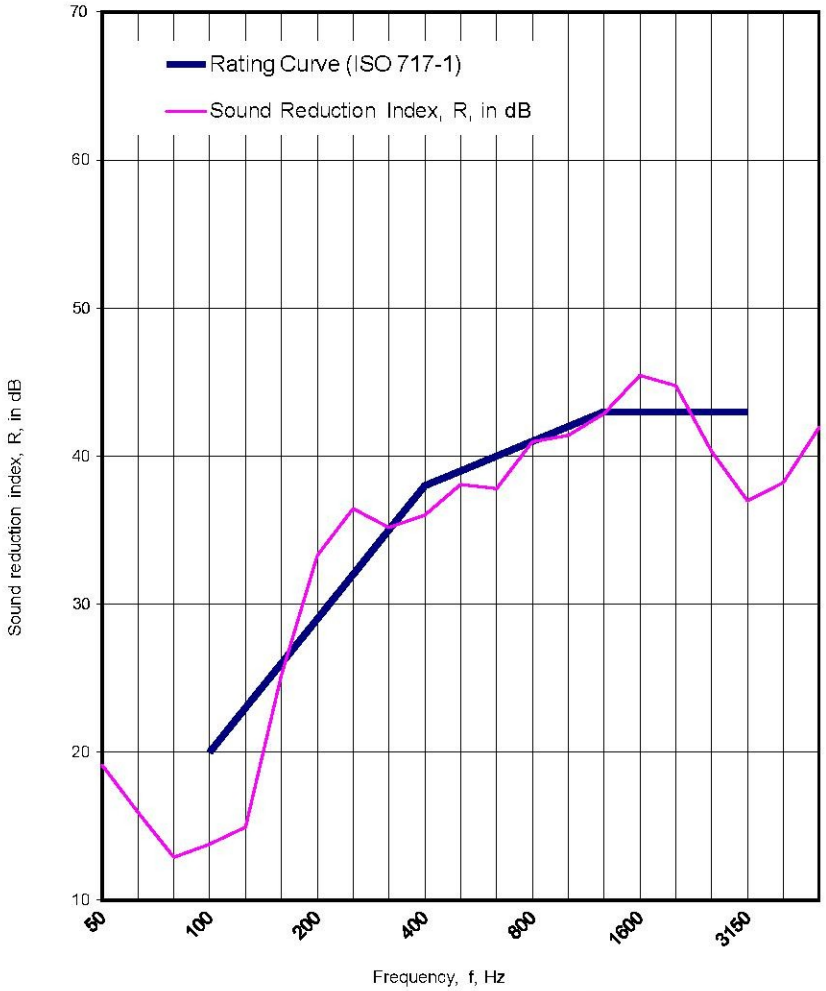
Date of Test: 30/03/2017

Source Room Volume:		82.40	m^3
Receive Room Volume:		69.60	m^3
Specimen Installed By:		Client	
Area of Specimen (S):		2.80	m^2
	Sour.	Rec.	
Temp. in Test Rooms:	22.2	20.7	°C
Static Pressure:	100150.0	100200.0	Pa
Humidity in Test Rooms:	50.2	51.5	%

DRAFT

f, Hz	*R*, dB	
50+		19.1
63+		15.9
80+		12.9
100		13.8
125		14.9
160		25.2
200		33.3
250		36.5
315		35.2
400		36.0
500		38.1
630		37.8
800		41.0
1000		41.4
1250		42.9
1600		45.4
2000		44.7
2500		40.3
3150		37.0
4000		38.2
5000		41.9
AAD		-29.7

Frequency range for rating in accordance with ISO 717-1



R_w =	39 dB	$C_{(50-3150)}$ =	-3 dB	$C_{tr\ (50-3150)}$ =	-11 dB
R_w+C =	37 dB	$C_{(50-5000)}$ =	-3 dB	$C_{tr\ (50-5000)}$ =	-11 dB
R_w+C_{tr} =	31 dB	$C_{(100-5000)}$ =	-2 dB	$C_{tr\ (100-5000)}$ =	-9 dB

DRAFT

+ indicates that the frequency is outside of our UKAS accreditation and is for information only

Laboratory measurement to BS EN ISO 10140-2 - Airborne Sound Insulation of

1762

Sponsor:	**A-BDPS**
Product Type	Residential Park Home Panel
Material Type	Timber
Variations:	
Company Name	Prestige & Homeseeker Homes Ltd
Panel Ref	PHH002
Weight	79.5

For detailed technical specification, please refer to Section 2 of the report

Data sheet Ref. WYC382391/01/P002

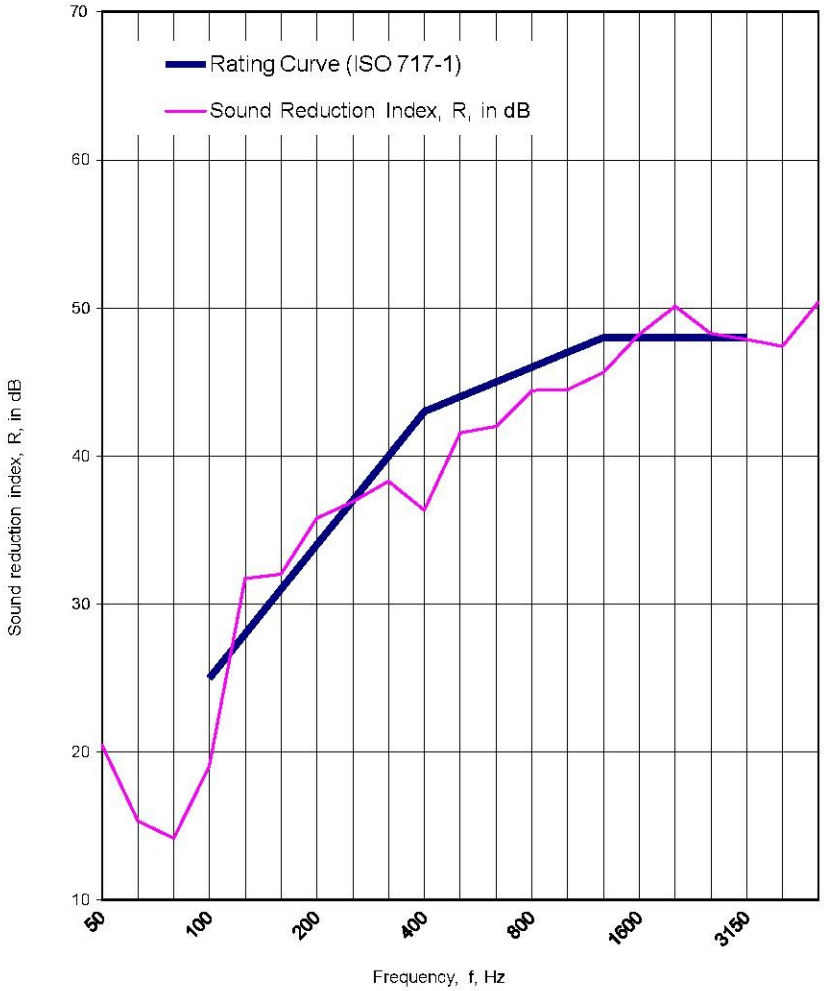
Date of Test: 30/03/2017

Source Room Volume:		82.40	m^3
Receive Room Volume:		69.60	m^3
Specimen Installed By:		Client	
Area of Specimen (S):		2.80	m^2
	Sour.	Rec.	
Temp. in Test Rooms:	22.2	20.7	°C
Static Pressure:	100150.0	100200.0	Pa
Humidity in Test Rooms:	50.2	51.5	%

DRAFT

f, Hz	*R*, dB
50+	20.4
63+	15.3
80+	14.2
100	19.0
125	31.7
160	32.0
200	35.8
250	36.9
315	38.3
400	36.3
500	41.5
630	42.0
800	44.4
1000	44.5
1250	45.6
1600	48.2
2000	50.1
2500	48.3
3150	47.9
4000	47.4
5000	50.4
AAD	-26.5

Frequency range for rating in accordance with ISO 717-1



R_w =	44 dB	$C_{(50-3150)}$ =	-3 dB	$C_{tr\ (50-3150)}$ =	-12 dB
R_w+C =	43 dB	$C_{(50-5000)}$ =	-2 dB	$C_{tr\ (50-5000)}$ =	-12 dB
R_w+C_{tr} =	37 dB	$C_{(100-5000)}$ =	-1 dB	$C_{tr\ (100-5000)}$ =	-7 dB

DRAFT

+ indicates that the frequency is outside of our UKAS accreditation and is for information only

Laboratory measurement to BS EN ISO 10140-2 - Airborne Sound Insulation of Building Elements

1762

Sponsor: A-BDPS
Product type: Residential Park Home Panels
Test Specimen Installed By: Client
Area of Specimen (S): 2.80 m^2
Temperature in Test Rooms: 21.5 °C
Static Pressure: 100100.0 Pa
Humidity in Test Rooms: 50.6 %
Test Specimen Description: Prestige & Homeseeker Homes Ltd, PHH001, 58kg

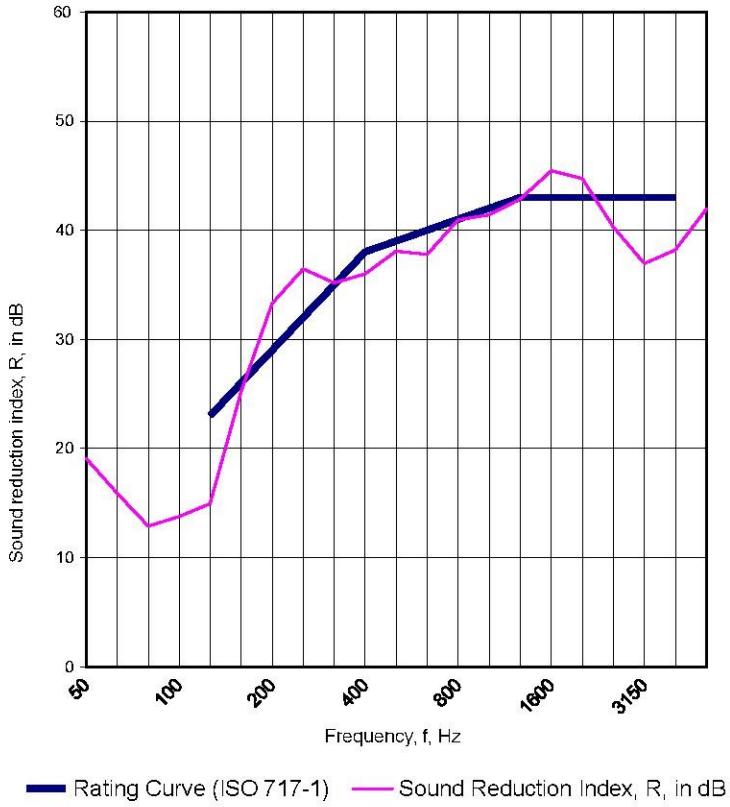
Ref. Number: WYC382391/01/P001
Date of Test: 30/03/2017

Source Room Volume: 82.40 m^3
Receive Room Volume: 69.60 m^3

DRAFT

f, Hz	R ,dB
50+	19.1
63+	15.9
80+	12.9
100	13.8
125	14.9
160	25.2
200	33.3
250	36.5
315	35.2
400	36.0
500	38.1
600	37.8
800	41.0
1000	41.4
1250	42.9
1600	45.4
2000	44.7
2500	40.3
3150	37.0
4000	38.2
5000	41.9
AAD	-23.5

Frequency range for rating in accordance with ISO 717-1



$R_{w\ (125\text{-}4000)}$ =	39 dB
$R_w+C_{(125\text{-}4000)}$ =	38 dB
$R_w+C_{tr\ (125\text{-}4000)}$ =	33 dB

$C_{(50\text{-}3150)}$ =	-3 dB	$C_{tr\ (50\text{-}3150)}$ =	-11 dB
$C_{(50\text{-}5000)}$ =	-3 dB	$C_{tr\ (50\text{-}5000)}$ =	-11 dB
$C_{(100\text{-}5000)}$ =	-2 dB	$C_{tr\ (100\text{-}5000)}$ =	-9 dB

DRAFT

+ indicates that the frequency is outside of our UKAS accreditation and is for information only

Report for: Residential Park Home Panels
Report Ref: B 382391/01

Laboratory measurement to BS EN ISO 10140-2 - Airborne Sound Insulation of Building Elements

1762

Sponsor: A-BDPS
Product type: Residential Park Home Panels
Test Specimen Installed By: Client
Area of Specimen (S): 2.80 m^2
Temperature in Test Rooms: 21.5 °C
Static Pressure: 100100.0 Pa
Humidity in Test Rooms: 50.6 %
Test Specimen Description: Prestige & Homeseeker Homes Ltd, PHH002, 79.5kg

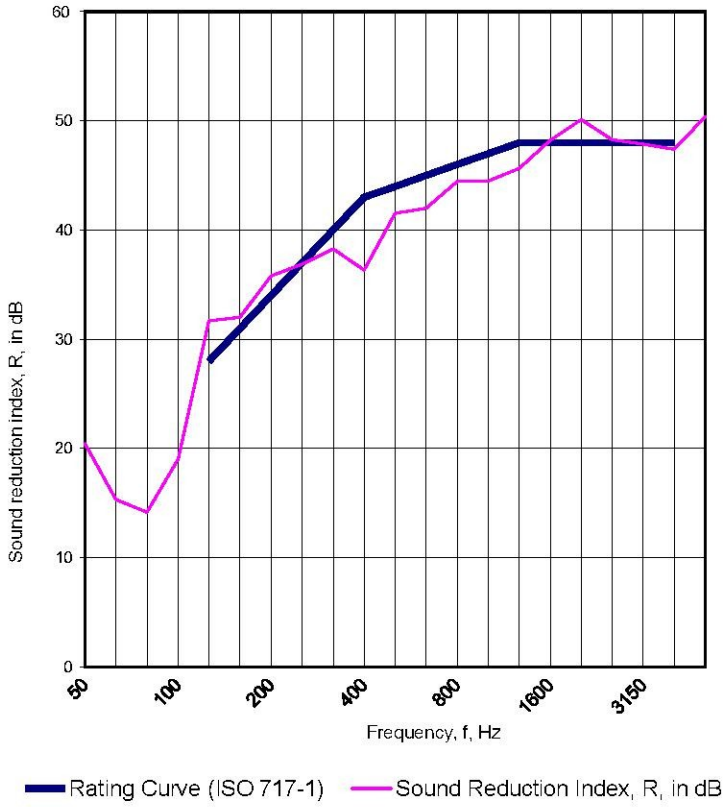
Ref. Number: WYC382391/01/P002
Date of Test: 30/03/2017

Source Room Volume: 82.40 m^3
Receive Room Volume: 69.60 m^3

DRAFT

f, Hz	R ,dB
50+	20.4
63+	15.3
80+	14.2
100	19.0
125	31.7
160	32.0
200	35.8
250	36.9
315	38.3
400	36.3
500	41.5
600	42.0
800	44.4
1000	44.5
1250	45.6
1600	48.2
2000	50.1
2500	48.3
3150	47.9
4000	47.4
5000	50.4
AAD	-20.5

Frequency range for rating in accordance with ISO 717-1



$R_{w\ (125\text{-}4000)}$ =	44 dB
$R_w+C_{(125\text{-}4000)}$ =	44 dB
$R_w+C_{tr\ (125\text{-}4000)}$ =	41 dB

$C_{(50\text{-}3150)}$ =	-3	dB	$C_{tr\ (50\text{-}3150)}$ =	-12	dB
$C_{(50\text{-}5000)}$ =	-2	dB	$C_{tr\ (50\text{-}5000)}$ =	-12	dB
$C_{(100\text{-}5000)}$ =	-1	dB	$C_{tr\ (100\text{-}5000)}$ =	-7	dB

DRAFT

+ indicates that the frequency is outside of our UKAS accreditation and is for information only

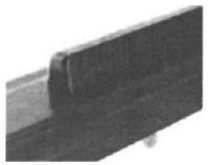
Sound Attenuation Of VEKA Systems

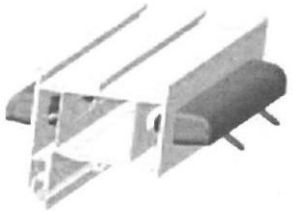
All calculations are in accordance with EN 14351 and are based on a window 1230mm wide x 1480 high.

Double Glazed Unit Specification	Glass Acoustic Data			Matrix 70 Casement and Tilt & Turn				Matrix FS70 Casement and Tilt & Turn				Matrix Vertical Sliding Window			
	R_w dB	C	C_{tr}	R_w dB	C	C_{tr}	Bead	R_w dB	C	C_{tr}	Bead	R_w dB	C	C_{tr}	Bead
4 x 20 x 4 = 28mm	31	-2	-3	33	-1	-3		33	-1	-3		28	-1	-1	
6 x 18 x 4 = 28mm	32	-2	-4	34	-1	-4		34	-1	-4		29	-1	-2	107118
6.8 x 18 x 4 = 28mm	36	-1	-5	36	-1	-5	107167	36	-1	-5	107155	30	-1	-3	&
6 x 16 x 6 = 28mm	31	-1	-4	33	-1	-5		33	-1	-5		28	-1	-2	107169
8 x 16 x 4 = 28mm	35	-2	-6	35	-1	-5		35	-1	-5		29	-1	-2	
10 x 18 x 4 = 32mm	38	-2	-6	-	-	-		37	-1	-5		30	-1	-2	107156
10 x 16 x 6 = 32mm	40	-2	-5	-	-	-	107162	38	-1	-4	107162	-	-	-	no flat
10 x 20 x 4 = 36mm	38	-2	-6	37	-1	-5		-	-	-		-	-	-	top
10 x 20 x 6 = 36mm	40	-2	-5	38	-1	-4		-	-	-		-	-	-	bead

T 01295264533
E sales@glazpart.co.uk
1/1 \"AW.glazpart.com

Slim ine Trickle Ventilator ("Clip Fit")





Product Overview

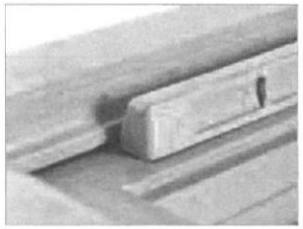
The Slimline Ventilator will provide Trickle Ventilation in accordance with the Building Regulations 2000 :Part F: Approved Document F1 October 2010 and Scottish Build1ng Regulations October 2011 Standard 3.14.

The product is specifically designed for "Through Profile" PVC-U applications using a 10 mm routed slo and is available in two sizes. All ventilatOfs are "Clip" fixed With the advantage of rapid fitting to profiles.

The products key features are as follows:

- Spnng Clip fitt1ng (No Screws) (Saves over 1 m1nute per window to install)
- Un1que closure mechanism provides for adjustable ventilation with a positive action
- "BBA" Certification
- Sash window application- "Offset" clips are available

Contents



1. Product Detail

The product consists of an internal ventilator With adjustable closures to regulate incoming air flow and an external canopy with integral fly screen. A flat exterior grille is also available for use on patio doors Of overframe applications.

Internal ventilator

Th1s is 1nject•on moulded in PVC-U, with UV resistant Acetal spnng clips that enable the ventilators to be firmly snapped into the routed slot in the profile. The installation of this vent provides time cost savings when compared with 'screw fitting' alternatives.

The closure plate has a positive action and multiple units in the 4000 version provide control of airflow.

T 01295264533
E sales@glazpart.co.uk
IWIINglazpart.com

A variety of custom fixing clips are available to offset the ventilator vertiCally relative to the 10mm slot for applications such as sash windows where space is at a prem1um. These give offsets of +/- 2mm.

External canopy

This is complimentary to the interior unit and features the same materials and fixing methods. The canopy has an integral fly screen. A flat grille is available *see* page 37.

2. Physical Data

Dimensions & Weights

	Internal		EirtM>al(Fly scrHn)	
	Dimension	Weight	**Dimension**	Weight
S mhne MK3 2000	18mmx24lmm DepthlOmm	40g	18mmx242mm DepthlOmm	31g
Slinline MK34000	**18mmx45Smm** DepthlOmm	74g	18mmx45Smm Depth20mm	SSg

All dimensions are nominal

For colour options please see page 8 - 13.

3. Materials of Construction

Internal and external units are primarily moulded in UV stabilised PVC U. The spring fixing clips are in UV stabilised Acetal. Suppliers data sheets for these polymers are available on request.

4. Performance Data

	E.QA (Equivalent Area	Geometric F•tArea
Slimline MK3 2000	1480mm'	
Shml•ne MK3 4000	**2590mm¹**	**4000mml**

5. Acoustic Values

VentTYJ"	VaJusD.n e.w.
Slmhne MK3 4000 Open	33dB
Shmhne MK3 4000 Closed	35dB
Slimline MK3 2000 Open	37dB
Slimhne MK 3 2000 Closed	40dB

Appendix F – Assessment of Typical Acoustic Louvre (Example Calculation)

Appendix F - Louvre Attenuation (Example Data and Calculation)

Transmission Loss Hz	Single Bank (dB)	Double Bank (dB)
62.5	05	07
125	06	09
250	07	11
500	12	20
1000	18	32
2000	21	35
4000	16	31
8000	15	31

Data taken from http: NLC Nationwide Louvre Company
www.nlcontracts.co.uk/acoustic-louvres/ - Accessed 28/05/2018

Frequency Hz	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**Overall L_{Aeq}**	**Reduction L_{Aeq}**
Octave Band Data	30.6	34.0	40.6	45.5	47.9	38.6	32.5	22.5	50.8	
Single Bank Attenuation	5	6	7	12	18	21	16	5	24.1	
Double Bank Attenuation	7	9	11	20	32	35	31	31	38.7	
Result Single	26	28	34	33	30	18	16	17	38.2	12.6
Result Double	24	25	30	25	16	4	1	-9	32.7	**18.2**

Appendix G – BS4142:2014 and BS8233:2014 Assessment with Assumed Mitigation Applied

Table 7A: BS4142:2014 – Night-time Noise Impact Assessment (18 dB Attenuation applied)

Results	level	Clause	Commentary
Background Sound level Night-time	$L_{A90\ (15\ min)}$ = 17 dB	8.1.2 8.1.3 8.3	Mode of background sound levels ($L_{A90,\ 15\ min}$) measured in the absence of the specific noise source
Ambient sound level	$L_{Aeq\ (15\ min)}$ = 33 dB	7.1 7.3.1	Specific sound source active and the level unaffected by any other sound sources
Specific sound level	$L_{Aeq\ (15\ min)}$ = 33 dB		Measured over 15-minute period as sound steady with no impulses or notable tones.
Acoustic feature correction	**0 dB**	9.2	Due to the installation of typical double bank acoustic louvres it is anticipated that the specific noise will no longer be readily distinctive against the residual acoustic environment.
Rating level	(33 + **0**) dB= 33 dB		
Excess of rating over background sound level	(33 – 17) dB = **+16 dB**	11	Predicted Rating Level is +16 dB greater than existing background level. *Note: This is an external rating and allowing -15 dB for an open window reduces the predicted rating level to **+1 dB***
Assessment indicates likelihood of a **Low Impact**		11	The context is existing, but seasonal industrial noise affecting residents of new holiday lodges during the night-time which is neither impulsive or tonal. The predicted rating level is based upon an external noise assessment and an allowance of 15 dB has been applied for an open window.
Uncertainty of the assessment	Not significant	10	

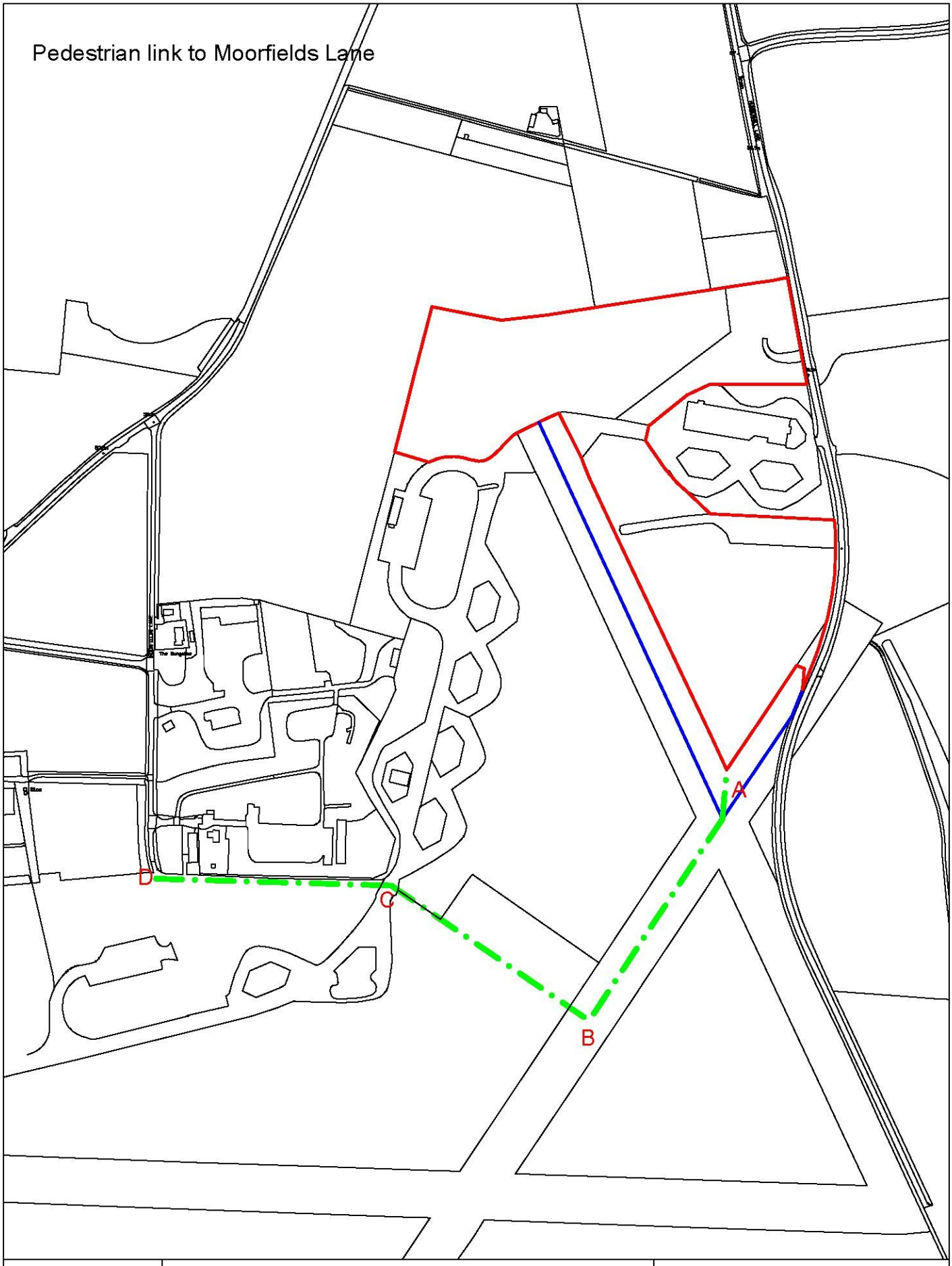
Table 8A: BS4142:2014 – Daytime Noise Impact Assessment (18 dB Attenuation applied)

Results	level	Clause	Commentary
Background Sound level Daytime	$L_{A90\ (15\ min)}$ = 32 dB	8.1.2 8.1.3 8.3	Mode of background sound levels ($L_{A90,\ 15\ min}$) measured in the absence of the specific noise source
Ambient sound level	$L_{Aeq\ (15\ min)}$ = 33 dB	7.1 7.3.1	Specific sound source active and the level unaffected by any other sound sources
Specific sound level	$L_{Aeq\ (15\ min)}$ = 33 dB		Measured over 15-minute period as sound steady with no impulses or notable tones.
Acoustic feature correction	**0 dB**	9.2	Due to the installation of typical double bank acoustic louvres it is anticipated that the specific noise will no longer be readily distinctive against the residual acoustic environment.
Rating level	(33 + **0**) dB= 33 dB		
Excess of rating over background sound level	(33 – 32) dB = **+1 dB**	11	Predicted Rating Level is **+1 dB** greater than existing background level.
Assessment indicates likelihood of a **Low Impact**		11	The context is existing, but seasonal industrial noise affecting residents of new holiday lodges during the daytime which is neither impulsive or tonal. At this time residents are likely to be indoors (living room) with windows closed due to the time of year (Nov-Jan) the potato store operates.
Uncertainty of the assessment	Not significant	10	

Table 9A: BS8233:2014 Internal Noise Assessment

Period	Room	External Noise Level $L_{Aeq,T}$ dB	Window Attenuation, dB	Predicted Internal Noise Level, dB	BS8233 Design Limit
Daytime	Living Room / Bedroom	33	-15	18	35
Night-time	Bedroom	33	-15	18	30

Pedestrian link to Moorfields Lane



0 50 100
Metres

Client: GraceMax Ltd

Title: Change of use of former aerodrome to allow the siting of up to 65 timber clad static holiday units including manager's accommodation, reception / office
Land west of Hungerhill Lane, Wombleton Airfield, Wombleton

Date: 6.6.18 | Scale: 1:5000 @ A4 | Drawing ref. WA/HLL/1.4

Webster Associates
Chartered Town Planners
3 Spaldwick Road
Stow Longa
Huntingdon
Cambs.
PE28 0TL
Tel: 01480 860862

Item 7- 18/00739/FUL

Additional conditions and informative requested by Council's Environmental Health Specialists:-

19 Prior to the commencement of the development a Noise Management Plan shall be submitted to and approved in writing by the County Planning Authority. The Plan shall detail the timetable and phasing of site preparation, groundwork and construction work and identify the steps and procedures that will be implemented to minimise the creation and impact of noise and vibration resulting from the site preparation, groundwork and construction phases of the development. Once approved construction shall proceed in accordance with the approved Plan.

Reason: In order to minimise noise emissions in the interests of residential amenity.

20 Any demolition, excavation or construction work activities associated with the development hereby approved shall be carried out only between the hours of:-

0800 -1800 hours Mondays to Fridays
0900 -1300 hours Saturdays
and at no time on Sundays and Bank (or Public) Holidays.

Reason: To protect local amenity during construction.

Informative (in relation to Condition 19)

All construction work shall be undertaken following best practice, including the guidance within BS 5228-1: 2009. Best practice measures that might typically be employed include the following:

- Fitting of more efficient exhaust sound reduction equipment to earth moving plant where possible;
- Fitting more efficient sound reduction equipment to compressors and generators;
- Pneumatic tools to be fitted with suitably designed muffler or sound reduction equipment to reduce noise without impairing efficiency;
- Ensuring that air lines to pneumatic equipment do not leak;
- Switching off plant and equipment when not in use

Wintringham Parish Council, Clerk's address: Jasmine Cottage, Wintringham, Malton, YO17 8HX

To: Mr Gary Housden
Head of Planning & Housing
Ryedale District Council
Ryedale House
Malton
YO17 7HH

Tel: 01944 758867
Mobile: 07837 596841
E Mail: p.clark130@btinternet.com

13th November 2018

Application No: 18/00911/FUL for the proposed erection of a two storey side extension to form a one bedroom self-contained residential annex and the erection of 2 no. timber clad outbuildings at Joiners House, Main Street, Wintringham, Malton YO17 8HX.

I am writing on behalf of Wintringham Parish Council to object to the above proposed development.

Wintringham Parish Council held a meeting on Monday 12th November 2018 to consider the above revised application. The relevant points from the minutes are below:

As the only significant change to the proposed extension was the deletion of the balcony and it being reduced to a Juliet balcony it was felt that the Parish Council's objection remain the same as previously.

The proposed development was considered by the Councillors to most affect Mr and Mrs Wootton at Dovetail House.

1. Lack of privacy and light from the proposed extension. The extension would block daylight to Mr and Mrs Wootton's kitchen, toilet and bedroom windows. The window of the proposed extension will overlook their house.

   1.1 Visual amenity as the view from the kitchen window would be a brick wall.

   1.2 The proposed planning for an upstairs Juliet balcony will overlook Mr and Mrs Wootton's garden taking away complete existing privacy of their garden.

1.3 In addition, two very large sheds have now been built in the garden of Joiners House which are being used for social activities. This could result in noise and disturbance when in use. The Meeting was advised that during erection of these sheds trees had been cut down to make space for them thereby spoiling the view from Mr and Mrs Wootton's side of the house. They were considered not sympathetic to the Wintringham conservation area.

2. The proposed development would also affect Mr and Mrs Waddington of The Old Post Office.

2.1 Lack of privacy as the proposed balcony will overlook their garden.

2.2 They also have concerns regarding the shed as outlined in 1.3 above.

3. It was also reported at the Meeting that close neighbours, Mr and Mrs Bridge of the Old Smithy, are have written to the Ryedale Council Planning Office as the proposed building will be 40 feet long and extremely high and will, therefore, block out light into their downstairs rooms and kitchen area. The Juliet balcony will also overlook their garden causing loss of privacy. The view from their upstairs rooms now look out on to two sheds thereby spoiling the view, therefore, their complaint is also based on design, appearance and loss of trees.

4. The Council's opinion was that the proposed application will in fact be changing the appearance of the house and turning it into what would appear to be a semi detached dwelling.

5. The Parish Council members present considered and discussed all the points put forward and unanimously rejected the proposed Planning Application No: 18/00911/FUL. The Council were also unhappy about the erection of the two sheds in the garden of Joiners House without planning consent and the removal of trees without permission from the Conservation Department.

The Parish Councilors strongly suggest the following to mitigate the impact of the proposed development:

1. The use of obscured/privacy glass in the windows on the side of the extension facing Dovetail House.

2. A reduction in the roof height of the two timber outbuilings that were constructed without the necessary planning consent.

Your Sincerely

Philip Clark
Clerk, Wintringham Parish Council

(3)

The Old Smithy, Wintringham, Malton, North Yorkshire YO17 8HX

11th November 2018

Dear Ryedale Planning Department,

Re Planning Application 18/00911/FUL

Although we welcome the removal of a balcony on the new plans, we still wish to object to this planning application on the following grounds.

1 The two Units are excessive in size. Both are clearly visible from our windows. Unit Two is particularly noticeable. Its construction involved removing trees within a conservation area. We have seen photos which clearly show that these Units are annexes to the house, used as additional living areas, rather than sheds used for storage. One is apparently set up as a bar. Unit One is labelled Garage / Store on the plans but lacks a garage sized door.

2 The proposed building is essentially a separate house with its own front door. The existence of a door between the two houses doesn't make it an extension. If built it will convert a semi into a terrace. If the ownership of the middle and the new end property were to be split in the future, are they viable as separate properties with separate land at the front and back of each house? Please note that the then middle property has no access to the back of the site. This seems to us to be a crucial planning consideration. It isn't an extension. It is a separate house and doesn't it therefore need to be considered as such?

We hope in the light of these considerations that you will turn down the latest planning application and ask the owners to remove Unit Two.

Yours sincerely

Chris and Sheila Bridge

Subject: Comments for Planning Application 18/00911/FUL

Planning Application comments have been made. A summary of the comments is provided below.

Comments were submitted at 10:12 AM on 13 Nov 2018 from Mr Nicholas Waddington.

Application Summary

Address:	Joiners House Main Street Wintringham Malton YO17 8HX
Proposal:	Erection of a two storey side extension to form a one bedroom self-contained residential annex and the erection of 2 no. timber clad outbuildings including a verandah to be used for domestic purposes (part retrospective).
Case Officer:	Alan Hunter

Click for further information

Customer Details

Name:	Mr Nicholas Waddington
Address:	The Old Post Office Main Street, Wintringham, Malton, North Yorkshire YO17 8HX

Comments Details

Commenter Type:	Neighbour
Stance:	Customer objects to the Planning Application
Reasons for comment:	
Comments:	We do appreciate that the planning report has recognised and resolved those issues which directly affect our adjoining property (The Old Post Office), and that planning conditions will be imposed for the first floor window on the eastern side to be fitted with obscured glass, and that the property will not be split into two dwellings in the future. The prevention of the potential to subsequently erect an external balcony would be clearer if that was specifically defined, rather than just included under Condition 4 of the report. However, we still believe that the side extension and two garden buildings have a much greater impact on the residents of Dovetail Cottage, and we would like to record our support for them by objecting to this application.

The Granary
Wintringham
Malton
YO17 8HX

G Housden Esq
Head of Planning & Housing
Ryedale District Council
Ryedale House
Malton
YO17 7HH

7 November 2018

Dear Mr Housden,

Re: Planning Application No. 18/00911/FUL for the proposed erection of a two storey side extension to form a one bedroom self -contained residential annex at Joiners House, Main Street, Wintringham and 2 timber clad outbuildings at the aforementioned property

I am writing in connection with the above planning application. I have examined the plans and I know the site in question well. I wish to object strongly to the proposed development of the property as detailed in the plans.

As I am sure you are aware, Wintringham is a conservation village where any development proposals should be considered very carefully as this type of "infilling" or "garden grabbing" could ruin of the character of the village as it stands today.

I would like to make the following points for your consideration:-

1. It would appear that this application is to build a separate dwelling house in the garden using a backdoor method by attaching it to the present property and claiming it to be an extension. The internal door connecting the two properties can easily be blocked off after completion therefore making it two properties.

2. If this is an extension why then does it require its own front door?

3. At the rear of the property are two very large huts which are used for personal recreation which could be arguably said to be further extensions to the property as it presently stands. It would appear from the planning application that these huts were erected without permission from yourselves or why else would they be looking for retrospective consent.

4. This application for the extension and the two large huts (40 square metres each) raises the issue of density and the over development of the site which will obviously have an adverse impact and effect on the neighbours on both sides.

5. As you can see from the plans this is intended to be an upside down property and the addition of a balcony will have an adverse effect on the privacy of both neighbours. They will be overlooked for over 75% of any given day resulting in a total loss of privacy.

I am aware from your website that the local Parish Council have unanimously objected to the development and I would hope that their views would carry some weight and bearing in this matter which is of importance to the village as a whole.

Finally, in granting this application you are at risk of creating a precedent whereby any future applications would not be able to be refused.

I hope that in view of the considerations I have put forward together with the concerns of all the other objectors that you will turn down this latest planning application and return the site to its original state in accordance with the conservation regulations that all the residents in the village are bound by.

Yours sincerely,

Simon Steward

Dovetail House
Wintringham
North Yorkshire
YO17 8HX

14th November 2018

Ryedale District Council
Ryedale House
Malton
North Yorkshire
YO17 7HH

Attn: Planning Department

Dear Sirs

Re: Planning Application No 18/00911/FUL Joiners House. Wintringham. YO17 8HX

I am in receipt of your notification that the above application has been amended and that retrospective approval is now sought for the two timber framed buildings already erected on the site.

I also have a copy of the report by Alan Hunter.

Further to my letter of 5th October objecting to the original application I now wish to register further objections based on the new proposal.

<u>New building</u>

It is noted that the only alteration to the original proposal is the replacement of the balcony with a 'Juliet' balcony. Whilst this would improve the appearance of the structure, it in no way addresses the issue of overlooking our property and invasion of our privacy.

Further, what is to stop the applicant simply adding the balcony at some date in the future? The report from Mr Hunter states that 'Planning Permission would be required for an extension to the proposed Juliet balcony". Could the Council not simply insert a clause specifically excluding this possibility?

The inclusion of a planting scheme is welcomed and it is imperative that this includes tall trees between the Juliet balcony and my fence to restrict the applicants view over my garden. (see plan enclosed)

The two windows on the West elevation, in the lounge and bedroom, look directly into our kitchen window. This cannot be an acceptable situation. They can look directly into our kitchen, but worse, we can look into their bedroom. If approved we would ask that these windows be fitted with obscured glass for the benefit of both parties. There would be no ill effect on the applicant as their only 'view' from these windows would be our kitchen and the external brick wall of our property. Obscured glass would still allow the passage of light.

We assume that the third window on this elevation, being in a bathroom, will have obscured glass.

The original application requests permission to keep a commercial vehicle on the premises. The applicant has a very large motor home which is parked on the hardstanding beside our house. We have no objection to this. However, in the past we have had to ask for the vehicle to be moved as, in the wrong position, it blocks the light from our kitchen. As the light is now likely to be further reduced by the new structure, could a clause be included requiring the applicant to show due care and consideration when positioning this vehicle, which is often left without moving for weeks at a time, to minimise its impact on our light?

The Retrospective Application

The erection of these buildings without Planning Approval means that issues that could have been dealt with before construction are now more difficult to address.

I am specifically concerned about three points:

1. The newer building, erected in July, is being used as a bar/lounge, complete with bar counter, optics, bar shelving, dartboard and bar furniture. Its function and purpose would not be affected in any way if the roof were reduced in height and at a lower pitch. Mr Hunter states that similar buildings exist in adjoining gardens. This is true. There is, in fact, a building in the grounds of Oak Tree House, next door to The Old Post Office, which has a larger footprint but is virtually unnoticed as it has a shallow pitched roof only 2.7m high.

   Could the Council require the roof to be reduced, which would dramatically reduce the intrusion of this building?

2. The plot, in common with all plots on this side of the village, naturally slopes down at the end of the garden to Wintringham Beck. The fence to the side of the garden (which was erected in 2012 when my house was built) follows the contours of the land and also slopes down to the beck. During the course of construction the spoil from the foundations of the new building was spread over the ground, raising and levelling the garden. A very substantial timber deck was then built over this land, at a height of 230 mm as shown on the applicants drawings. This has brought the top of the deck some 150 mm up the existing fence, reducing its effective height to 1650 mm. The result is that persons walking on the deck can now see over the fence into my garden, summer house and bbq area. For our part we can see head and shoulders of persons on the deck.

   Could the Council require the site to be returned to its original condition and the deck to be lowered to line with no higher than the bottom of the fence? This would in no way restrict or alter the applicants enjoyment of his garden but would remove the nuisance and intrusion.

3. Mr Hunter has proposed a programme of landscaping and planting. This is welcomed. However, to be effective it would need to be carried out in the space between the existing fence and the side of the new buildings. At present the newly laid deck is built right up to the bottom of the fence, making planting impossible in this area. A tamped down hardcore path has been laid alongside the new building meaning planting is not possible in this area at present. A gravel path has been laid alongside the first building.

In order to facilitate planting the deck would need to be cut back, away from the fence and the hardcore and gravel removed. I am concerned that the existence of these obstructions may be given as reasons for not planting these areas.

Further, any planting undertaken would need to be of mature trees with established height. A 6ft tree planted now could take ten to fifteen years to reach ridge height.

I would request, therefore, that the Council give more specific direction as to the areas to be planted.

It is noted that all planting, seeding and/or turfing comprised in the scheme shall be carried out in the first planting season following commencement of the development. As the development commenced in June we are now in the first planting season.

Could the Council please ensure that the work is now undertaken without unnecessary delay?

I do not wish to appear difficult, but we have had these unauthorised buildings foist upon us and I simply wish to mitigate their impact and establish a solution which will, hopefully, be acceptable to all and allow us to peacefully co-exist with our neighbour.

Yours faithfully

David Wootton

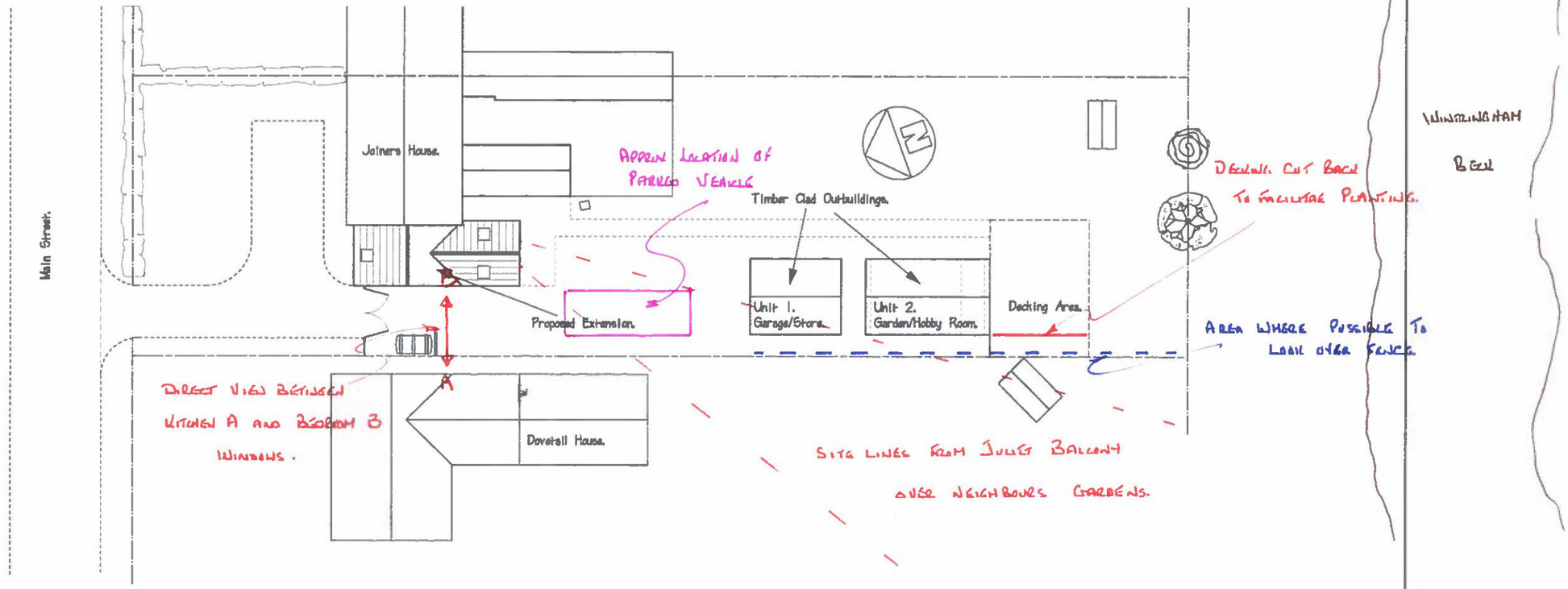

STELLA ARTOIS


BAR


JOLLY
LICENSED TO SERVE INTOXICATING LIQUOR
TO GET YOU VERY DRUNK
WHILST ON THESE PREMISES
Welcome To
THE JOLLY INN
Established 2018


JOLLY
LICENSED TO SERVE INTOXICATING LIQUOR
TO GET YOU VERY DRUNK
WHILST ON THESE PREMISES

Check All Dimensions on Site.



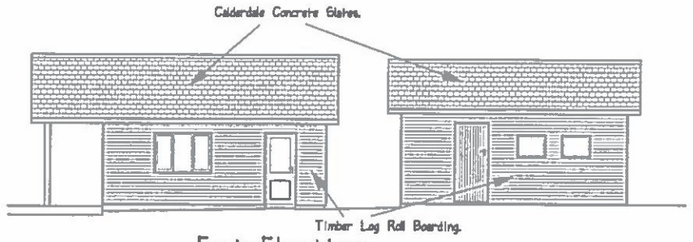
Block Plan. 1:200.

date valid 2/11/2018

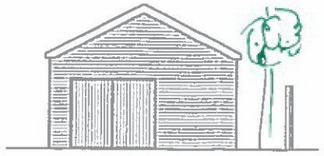
TITLE :~ Proposed Extension.	**AT :~** Joiners House, Main Street, Wintringham, Malton.		
SCALES :~ 1:200.	**DATE :~** June 2018.	**DRAWING No. :~** 18-1260-3.	

MIKE PUNCHARD
PLAN DRAWING SERVICE
9 THE AVENUE, NORTON, MALTON.
N. YORKS. YO17 9EF
TEL:- 01653 694276

Check All Dimensions on Site.



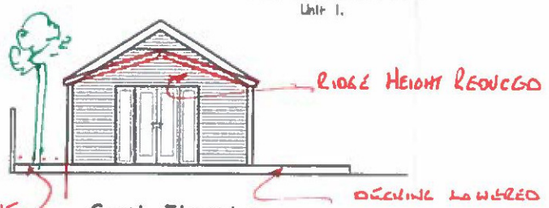
East Elevations.



North Elevation.
Unit 1.

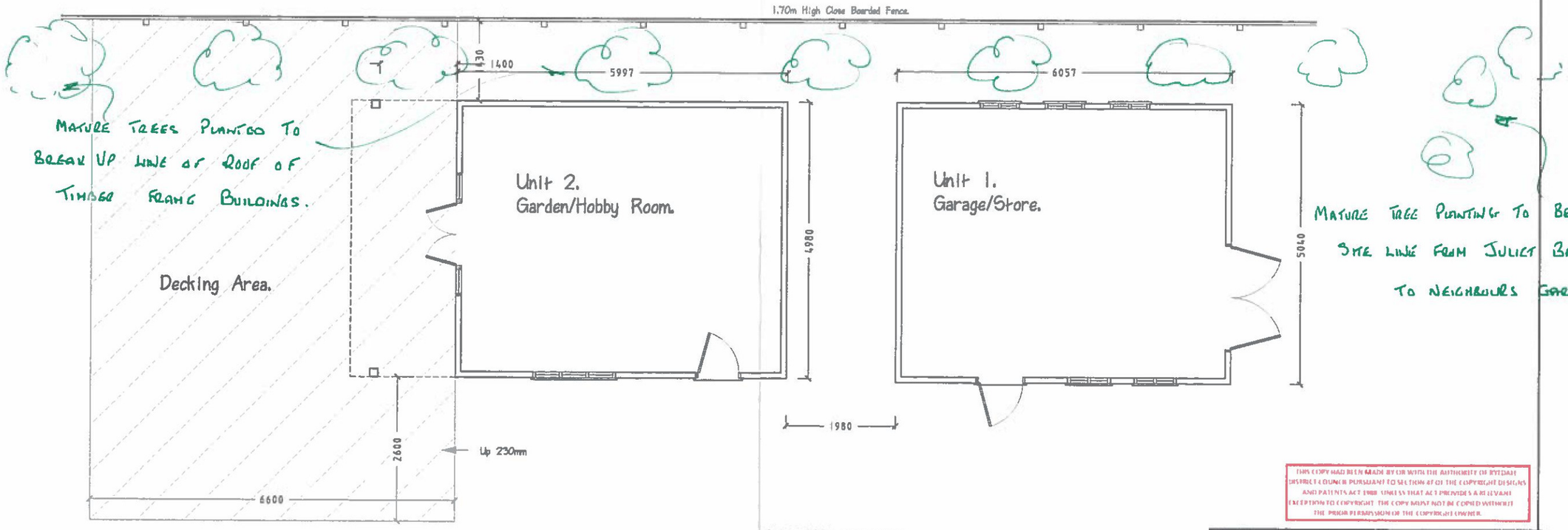
West Elevations.

North Elevation.
Unit 2.



South Elevation.
Unit 2.

South Elevation.
Unit 1.



date valid 2/11/2018

TITLE :~ Proposed Outbuildings.	AT :~ Joiners House, Main Street, Wintringham, Malton.		
SCALES :~ 1:100, 1:50.	DATE :~ Oct 2018.	DRAWING No. :~ 18-1260-4.	

MIKE PUNCHARD
PLAN DRAWING SERVICE
9 THE AVENUE, NORTON, MALTON.
N. YORKS. YO17 9EF
TEL:- 01653 694276