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# False Security: Kyllo and Thermal Imaging of the Non-Residential Structure

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**False Security:**  
**Kyllo and Thermal Imaging of the Non-Residential Structure**  
by  
Christopher Desmond

Submitted in partial fulfillment of the requirements of the  
King Scholar Program  
Michigan State University College of Law  
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## **I. Introduction:**

The walls that have maintained the privacy of man's affairs for thousands of years have been made obsolete by his technological advances. Law enforcement agencies now have at their disposal devices that allow an individual that is outside of a structure to hear conversations and see details that would be otherwise undiscoverable without the physical entry of that structure. As a result, where stone and mortar previously protected an individual's privacy, he now must rely on the judicial bodies that society has entrusted to faithfully apply the Fourth Amendment. Unfortunately, one recent decision by the United States Supreme Court betrays the origin and jurisprudence of that amendment in such a way that the inhabitants of a non-residential structure cannot be confident that their privacy will not be legally eliminated.

In June of 2001, the Supreme Court of the United States issued its opinion in the case of *Kyllo v. United States*. Hailed as a victory by civil liberties advocates, the Court held that "Where, as here, the Government uses a device that is not in general public use, to explore details of the *home* that would previously have been unknowable without physical intrusion, the surveillance is a 'search' and is presumptively unreasonable without a warrant."<sup>1</sup> However, in the wake of *Kyllo* it has become evident from lower court decisions that the above quoted passage has spawned an important, albeit narrow, question that largely remains unanswered. Specifically, the Court's decision to single out the home in its holding has created uncertainty as to the protection afforded to non-residential structures from thermal imaging inspections.<sup>2</sup> This paper will begin by briefly describing the technology that prompted the Court's decision in *Kyllo*. After analyzing the judicial approaches to warrantless thermal imaging before and after the *Kyllo* decision, this paper will ultimately argue that to the extent that *Kyllo* does not protect the non-residential structure from warrantless sense-enhanced surveillance, the Court's holding

was in error<sup>3</sup>. Specifically, just as the majority in *Kyllo* concluded that the history of the Fourth Amendment requires that the interior details of the home must be protected from sense-enhanced intrusions, this paper will demonstrate that history and jurisprudence also require the extension of the same protection to all structures in which there is a property interest.

## **II. Background:**

### **1. The Technology Defined:**

Thermal imagers are camera like devices that are capable of detecting infrared radiation that is otherwise invisible to the human eye.<sup>4</sup> The user of the device is able to visually see areas of heat and coolness, which the device displays through assigning different colors or shades of colors to various temperature ranges.<sup>5</sup> When aimed at a structure, these devices display the radiation being emitted by the home, as opposed to the radiation levels actually inside the home.<sup>6</sup> This distinction has been explained by describing thermal imagers as conducting “off the wall” measurements as opposed to “through the wall” measurements.<sup>7</sup>

A thermal imaging device’s ability to visually depict otherwise invisible thermal radiation waves can be utilized by police officers that suspect a structure may contain a “grow room”.<sup>8</sup> This term refers to a room in an ordinary structure that has been equipped with high-intensity grow-lights and hydration systems so that an individual may grow marijuana indoors.<sup>9</sup> In police investigations of structures suspected of containing such rooms, an officer would typically aim the imaging device at the home from street level, or from an aircraft during a fly-over.<sup>10</sup> The thermal emissions from the suspected structure are then compared to the emissions from other similar, surrounding structures.<sup>11</sup> If an intense area of thermal radiation is seen in the target structure and not in the comparison structures, a presumption can arise that the structure is

being used for the cultivation of marijuana. This information, often coupled with records from the relevant utilities company, then forms the basis for the affidavit in support of a search warrant.

Although the Court's holding in *Kyllo* technically governs the use of all sense enhancing technology that is not in general public use, this paper will solely reference thermal imaging technology, as it was this type of device that was directly implicated in *Kyllo* and in its progeny. While it is true that post-*Kyllo* courts were frequently asked to decide whether the *Kyllo* decision applies to drug-detection dog searches, that issue has now been decided in the negative by the Supreme Court.<sup>12</sup> As a result, the only form of sense-enhancing technology that is certainly affected by the *Kyllo* holding is the thermal imaging device.<sup>13</sup>

## 2. Judicial Treatment of Thermal Imaging Prior to the *Kyllo* Decision:

Prior to the decision in *Kyllo*, both Federal and State courts examined the use of thermal imaging devices on a number of occasions. In analyzing whether or not such a device could be used without a warrant, courts would focus on whether the use of the device constituted a search under the test provided by Justice Harlan's concurring opinion in *Katz v. United States*.<sup>14</sup>

In *Katz v. United States*, the petitioner was convicted of eight counts relating to illegal wagering<sup>15</sup>. The key evidence for the government consisted of various recordings of the petitioner's telephone calls that he had made from a public telephone booth.<sup>16</sup> The FBI, suspecting that the petitioner was using the booth for illegal means, placed a listening device outside of the booth that enabled them to hear the petitioner's side of the conversations.<sup>17</sup>

In reversing the conviction, the Supreme Court explicitly declared the inapplicability of the trespass doctrine.<sup>18</sup> Under the trespass doctrine, surveillance that occurred without a common law trespass did not implicate the Fourth Amendment.<sup>19</sup> In a significant departure from

earlier jurisprudence, the Court stated that “the Fourth Amendment protects people, not areas”.<sup>20</sup> As a result, the Court developed a new approach to Fourth Amendment questions, which was succinctly explained in Justice Harlan’s concurrence. In order for the Fourth Amendment to be implicated by a search, Justice Harlan explained that “there is a twofold requirement, first that a person have exhibited an actual (subjective) expectation of privacy and, second, that the expectation be one that society is prepared to recognize as reasonable.”<sup>21</sup> Therefore, according to the majority, “What a person knowingly exposes to the public, even in his own home or office, is not a subject of Fourth Amendment protection. . . . But what he seeks to preserve as private, even in an area accessible to the public, may be constitutionally protected.”<sup>22</sup>

In applying the *Katz* test to the thermal imaging of a structure, early courts frequently held that there was no expectation of privacy in the heat emanating from the structure, or alternatively, that the expectation of privacy was not one that society was willing to recognize as reasonable. While some courts focused on the fact that there could not be an expectation of privacy where a defendant did not seek to prevent the heat from escaping the structure, other courts indicated that because no beams or rays from the thermal image device penetrated the home, a search did not occur. While the majority of these early cases involved residential structures, the opinions generally established that the warrantless use of thermal imagers was permissible in regards to both residential and non-residential structures. Nearly every Federal Circuit approved of the use of this technology, and the small minority of state courts that prohibited the warrantless use of the devices generally did so based on state constitutional grounds, rather than invoke the Fourth Amendment and the *Katz* test.

### 3. *Kyllo* and the Explicit Prohibition of Warrantless Thermal Imaging of a Home:

The Supreme Court first addressed law enforcement's use of thermal imagers in *Kyllo v. U.S.* The triplex in which *Kyllo* lived was targeted by a thermal imager after police suspected that it was being used as part of a marijuana growing operation.<sup>23</sup> The scan, conducted from a law enforcement vehicle parked on the street, revealed that petitioner *Kyllo*'s garage and outer wall were significantly hotter than the other homes in his structure.<sup>24</sup> This evidence, along with utility bills and confidential tips, were used to establish the probable cause that formed the basis for a search warrant which led to the discovery of a marijuana growing operation.<sup>25</sup>

Upon the rejection of his motion to suppress, *Kyllo* entered a conditional guilty plea and appealed to the Ninth Circuit, which remanded for an evidentiary hearing.<sup>26</sup> The District Court subsequently stated that the thermal imager “‘is a non-intrusive device which emits no rays or beams and shows a crude visual image of the heat being radiated from the outside of the house’; it ‘did not show any people or activity within the walls of the structure’; “[t]he device used cannot penetrate walls or windows to reveal conversations or human activities’; and ‘[n]o intimate details of the home were observed.’”<sup>27</sup> As a result of these evidentiary findings, the District Court again denied the motion to suppress, and the Ninth Circuit subsequently affirmed over the dissent of one judge.<sup>28</sup> The Circuit Court largely reasoned that there was not a reasonable expectation of privacy when the homeowner did not take steps to contain the escaped heat that produced the images.<sup>29</sup> Furthermore, the Ninth Circuit stressed the lack of intimate details that were revealed in the thermal images.<sup>30</sup>

A divided Supreme Court reversed, specifically holding that “Where, as here, the Government uses a device that is not in general public use, to explore details of the *home* that would previously have been unknowable without physical intrusion, the surveillance is a ‘search’

and is presumptively unreasonable without a warrant.”<sup>31</sup> Throughout the majority’s analysis, Justice Scalia made frequent reference to the challenged search having occurred at a home. The Court stated that “We have said that the Fourth Amendment draws ‘a firm line at the entrance to the house.’”<sup>32</sup> The majority discussed the potential for this type of sense-enhancing technology to reveal intimate details of an individual’s life that occur within the home, such as “at what hour each night the lady of the house takes her daily sauna and bath.”<sup>33</sup> The Court explained that all details of the home are intimate and that it is therefore irrelevant what type of detail is revealed by the thermal imager<sup>34</sup>. So long as the detail relates to the interior of the structure, a search has occurred. While the Court referenced the holding of *Dow Chemical v. U.S.*, which explains that the exteriors of industrial complexes are not likely to reveal intimate details that are constitutionally protected, Justice Scalia did not explicitly state that the interiors of non-residential structures are not likewise presumed to be intimate.

In reaching its holding, the Court rejected the notion that the “off the wall” nature of the thermal imaging surveillance could not be a search because it did not penetrate the structure.<sup>35</sup> Stating that such a mechanical application of the Fourth Amendment was contrary to the holding of *Katz*, the court explained that despite technically being true that the observations were “off the wall”, the details revealed by the search would not be discoverable absent a sense enhancing device or physical entry into the home.<sup>36</sup> In so concluding, the court apparently rejected the findings of previous courts, which had focused on whether or not the individual sought to prevent the thermal energy from escaping the targeted structure.

#### 4. Subsequent Interpretations of *Kyllo*’s Applicability to the Non-Residential Structure:

Approximately one year after the Court’s decision in *Kyllo*, the Sixth and Ninth Circuits were each faced with cases in which a criminal defendant sought the protection of *Kyllo* despite

the fact that the structure that was targeted by a thermal imager was not residential in nature.<sup>37</sup>

The outcomes of these two cases indicate that the future legality of warrantless thermal imaging remains unclear.<sup>38</sup>

Just over one year after the *Kyllo* opinion was issued, the Sixth Circuit commented on the warrantless thermal imaging of non-residential structures in *U.S. v. Elkins*. In *Elkins*, Memphis police were anonymously informed that several commercial structures belonging to James and Carol Elkins were being used for the cultivation of marijuana.<sup>39</sup> Based on this tip, police officers conducted an overflight of three of the Elkinses' properties.<sup>40</sup> During these overflights, thermal imaging devices were used to measure the heat radiating from the structures.<sup>41</sup> After discovering hot-spots which indicated the use of grow-lights in the structures, Police approached the Elkinses and sought their consent to search.<sup>42</sup> Upon receiving consent, the structures were searched and a large-scale marijuana operation was uncovered.<sup>43</sup>

The District Court held that the thermal imaging evidence was inadmissible as it was a warrantless search of the Elkinses premises, and as a result, also suppressed certain searches that occurred after the thermal imaging fly-over.<sup>44</sup> On the government's appeal, the Sixth Circuit stated that:

While *Kyllo* broadly protects homes against warrantless thermal imaging, the case before us involves the use of a thermal imager to scan the Elkinses' commercial buildings. There is a reasonable expectation of privacy in business premises, yet it is less than the reasonable expectation of privacy enjoyed by the home. There is little federal precedent on the thermal imaging of commercial property, and none since *Kyllo*.<sup>45</sup>

Stating that "Courts should avoid unnecessary constitutional questions", the Sixth Circuit did not answer whether or not the thermal imaging violated the Fourth Amendment, as the issue could

be resolved by focusing on the Elkinses' consent.<sup>46</sup> So, while noting the novelty of the question, the *Elkins* Court left its resolution for another day.<sup>47</sup>

Three days after the Sixth Circuit issued its opinion in *Elkins*, the Ninth Circuit addressed the question that *Elkins* chose to abstain from.<sup>48</sup> In *U.S. v. Johnson*, law enforcement officials conducted an overflight of defendant Robert Johnson's property.<sup>49</sup> During the overflight, a thermal imager was used on a barn situated on the property.<sup>50</sup> It is unclear whether the device was ever focused on the defendant's residence.<sup>51</sup> The district court, finding that the barn was not used as a home by either of two defendants, held that the overflight and thermal imaging did not violate the Fourth Amendment.<sup>52</sup> A unanimous panel of the Ninth Circuit affirmed. In a short, unpublished opinion, the court held that the district court's finding that the barn was not used as a home was not clearly erroneous, and thus the use of the thermal imager on the barn was not a violation of the Fourth Amendment because "Kyllo applies only to a home."<sup>53</sup> The holding partially rested on the decision in *Dow Chemical Co. v. U.S.*, in which the Supreme Court described the lower privacy expectation that is afforded to non-residential structures.<sup>54</sup>

In addition to the federal circuit courts mentioned above, several state courts have also addressed this issue.<sup>55</sup> Among these state court decisions, there have been a variety of conclusions. While some courts have reacted similarly to the Sixth Circuit and stated that the solution is unclear, others have followed the Ninth Circuit's logic and declared that *Kyllo* only applies to the home.<sup>56</sup> However, unlike the federal courts, a small number of state courts have held that *Kyllo* applies to all structures for which a warrant would be needed to enter.<sup>57</sup>

Both Connecticut and California state courts have declared that it is unclear whether or not non-residential structures are protected from warrantless thermal imaging. In *State v. Mordowanec*, law enforcement authorities utilized a thermal imager to scan a suspect's

commercial property.<sup>58</sup> The data from this scan, along with other evidence, was submitted in the affidavit that secured a search warrant.<sup>59</sup> The Supreme Court of Connecticut stated:

The *Kyllo* decision did not address the question of whether a search warrant would be required to conduct a thermal imaging scan of premises other than a home, such as a commercial property. The court emphasized, however, the heightened expectation of privacy in one's home and distinguished that heightened expectation from the lesser expectation of privacy in a commercial property.<sup>60</sup>

While this language seems to indicate that the Court does not believe that *Kyllo* applies to non-residential structures, the court passed on the question, holding that absent the thermal imaging data, the warrant was still supported by sufficient evidence to establish probable cause.<sup>61</sup>

In *People v. Keppeler*, which involved the thermal imaging of a barn in which nobody lived, the California Court of Appeals stated in an unpublished opinion that “the issue of whether thermal imaging of a *barn* is subject to the *Kyllo* rule is still an open question.”<sup>62</sup> Like *Mordowanec*, the court did not decide the issue, but found that the *Leon* good faith exception applied to the warrant.<sup>63</sup>

The courts of at least four states, Wyoming, Texas, Illinois, and Iowa, have indicated that *Kyllo* should be interpreted to protect only homes from sense-enhanced surveillance. However, of these states, only Wyoming has actually ruled on a case that involved a thermal imager, while the other three states interpreted *Kyllo* in light of challenges to sniff searches conducted by drug dogs.

In *Kitzke v. State*, Petitioner brought an ineffective assistance of counsel claim based on his attorney's failure to file a motion to suppress in regards to thermal imager evidence that was gathered from a series of non-residential buildings that were being used in a marijuana growing operation.<sup>64</sup> The Supreme Court of Wyoming chose not to address the issue for a number of

reasons, stating that the inconclusive thermal imaging evidence added nothing to the search warrant; the search was conducted before the *Kyllo* opinion was issued, and, most relevant to this paper, “the device was not used on Kitzke's residence.”<sup>65</sup>

As mentioned above, three states have discussed the applicability of *Kyllo* to non-residential structures in the context of investigations conducted with the aid of drug-detection dogs. In each of these instances, criminal defendants whose property was the target of drug-sniffing dogs argued that the dogs should be considered sense-enhancing technology, like a thermal imager, because they are able to detect what would otherwise be undetectable. In each of these instances, the targeted property was not a home. The Supreme Court of Iowa, along with the courts of appeals of Texas and Illinois, stated that *Kyllo* only applies to a home, therefore the property targeted by the dogs could not be granted Fourth Amendment protection under the sense-enhancing argument. While these holdings may indicate that these courts would likewise uphold a warrantless thermal imaging of a non-residential structure, it is possible that future courts in these jurisdictions would view the drug-sniffing cases as factually distinct. Finally, it should be noted that the Supreme Court of the United States also recently held that *Kyllo* does not prohibit dog-sniff searches. In *Illinois v. Caballes*, the court reasoned that because a drug sniffing dog only reveals illegal contraband, the legitimate privacy interests being protected in *Kyllo* were not compromised by the use of the dogs.

In addition to the states discussed above, two states, Alaska and Idaho, have indicated that non-residential structures are protected by the Court's prohibition in *Kyllo*. In *Johnston v. State*, the Court of Appeals of Alaska reviewed a denied suppression motion that sought to exclude evidence resulting from a search warrant obtained after the thermal imaging of the defendant's home and commercial structure.<sup>66</sup> The facts indicated that the affidavit in support of

the warrant did not include the data from the thermal imager, and this evidence was not considered by the judge that issued the warrant.<sup>67</sup> After discussing *Kyllo*, The Court of Appeals remanded to the trial court to determine whether the evidence forming the basis for the warrant was the result of an investigation that became more focused because of the “illegal search”.<sup>68</sup> While the court did not explicitly hold that the thermal imaging of a non-residential structure was prohibited by *Kyllo*, its decision to remand indicates that had the thermal imaging evidence formed the basis of the warrant, the warrant would be invalid.

In what is the most explicit statement from any court regarding the warrantless thermal imaging of a non-residential structure, the Iowa Court of Appeals stated in *State v. Schumacher*, that “Based upon this determination by the United States Supreme Court [referencing the decision in *Kyllo*], the thermal imaging of Schumacher's barn was an unlawful search, and the resulting evidence may not be used to support the issuance of a search warrant or employed against Schumacher in a trial.”<sup>69</sup> The court further explained that “The Fourth Amendment prohibits warrantless searches of premises where the defendant has a reasonable expectation of privacy unless an exception to the warrant requirement applies.”<sup>70</sup> Therefore, because Schumacher had a legitimate expectation of privacy in his barn, and because the thermal imaging was conducted without a warrant, the Fourth Amendment was violated.<sup>71</sup> The Iowa Court of Appeals reinforced this principle in *Woodward v. State*, an ineffective assistance of counsel case, in which the court discussed the illegal thermal imaging of a pole building near the residence of the defendant.<sup>72</sup>

The state and federal authority in the wake of *Kyllo* demonstrates the confusion that surrounds the lengths to which *Kyllo* Court intended its holding to reach. As will be demonstrated in the next section, while it appears that the majority in *Kyllo* only sought to

protect the home from sense-enhancing technology, Fourth Amendment jurisprudence demands that the scope of *Kyllo*'s protection extend further.

### **III. Analysis:**

#### **1. Did the *Kyllo* Court Intend to Prohibit Thermal Imaging of a Non-Residential Structure?**

As demonstrated in the above section, it is uncertain whether or not the *Kyllo* Court intended to protect all structures from warrantless thermal imaging, or simply intended to protect the homeowner from such incursions. However, there certainly appears to be sufficient evidence to conclude that the home is the only structure protected by *Kyllo*. The majority opinion in *Kyllo* largely appears to be focused on the intimate details of the home that are vulnerable in the face of growing technology. While stating that the “Fourth Amendment draws ‘a firm line at the entrance to the house,’” Justice Scalia cites to the original intent of the Framers in drafting the amendment.<sup>73</sup> Furthermore, Justice Scalia states “we must take the long view, from the original meaning of the Fourth Amendment”, again indicating that the historical roots of the Amendment are essential to answering the question.<sup>74</sup> After establishing that the Court intends to protect the intimate details of the home from the thermal imager, the Court explains that *all* details of the home are intimate and contrasts this with the case of the industrial facility, citing to *Dow Chemical Co. v. U.S.*<sup>75</sup> Though the Court does not explicitly state that an industrial facility would not be protected from thermal imaging, it certainly implies that this is this case.

Had the Court intended to apply its prohibition of warrantless thermal imaging to all structures, it seems that it would have made that simple statement, rather than focus so intently on the special place that the home has occupied in Fourth Amendment jurisprudence. While it could be argued that the Court in *Kyllo* limited its holding to the home because it sought to only

answer the question posed by the controversy at hand, such an argument is unpersuasive. The majority certainly did not demonstrate judicial restraint when it allowed its holding to address any form of sense-enhancing technology despite the fact that the case at hand only dealt with the thermal imager. Just as the court crafted an expansive holding in the types of technology it addressed, it could have similarly expanded its holding to deal with all forms of structures, rather than just speak towards the structure involved in the specific fact pattern presented.

Based on the specificity of Justice Scalia's language in the majority opinion, it naturally follows that subsequent courts have interpreted *Kyllo* to only protect the home. Furthermore, Justice Scalia's mentions of history, though brief in comparison to some of his other opinions, are certainly relevant in the interpretation of *Kyllo*'s holding. Justice Scalia frequently applies an originalist approach in analyzing whether or not a particular right should be afforded to the citizenry.<sup>76</sup> In his view, in order to recognize a constitutional right, the basis for the claimed right must be anchored in the history and tradition of the nation, dating back to the adoption of the Constitution. Therefore, when Justice Scalia invokes history in the *Kyllo* opinion, he is essentially seeking to discover whether the original understanding of the Fourth Amendment requires the Court to protect the home from warrantless thermal imaging. While Justice Scalia concludes that this understanding does protect the home from such searches, by citing to *Dow Chemical*, he implies that other structures may not be deserving of similar protection. However, a similar analysis of the history and tradition of the Fourth Amendment reveals that the protection afforded to non-residential structures, particularly when the interiors of those structures are implicated, is significant.

## 2. The Rationale of *Kyllo* Supports Protecting the Non-Residential Structure

As explained above, the outcome of *Kyllo* is the result of the Court's consideration of two primary factors: the historical significance of the home in Fourth Amendment jurisprudence and in the drafting of that amendment and the intimate nature of the details of the interior of the home. An analysis of relevant Supreme Court precedent establishes that these factors also support extending the protection of *Kyllo* to the non-residential structure. The Supreme Court and the Framers of the Constitution have historically protected the non-residential structure from warrantless intrusion. Furthermore, while the Supreme Court has indicated that details of the *exterior* of a non-residential structure are to be afforded lesser Fourth Amendment protection than the home, it is equally clear that the interior details of a structure in which a person has a privacy interest are afforded Fourth amendment protection regardless of the type of structure involved. Stated differently, *Kyllo's* emphasis on the "intimate" nature of the interior of the home contradicts the Supreme Court's recent holdings that address law enforcement's utilization of technological advancements. These recent holdings indicate that where the non-residential structure is concerned, unless the technology utilized for the surveillance is so narrow that it is only able to detect illegal activity or contraband, a search has occurred and thus the Fourth Amendment is implicated.

### A. Historical Protection of Commercial Structures and Outbuildings:

While the majority in *Kyllo* is definitely correct to cite to the historical importance of the home in Fourth Amendment jurisprudence, this fact alone should not lead one to conclude that non-residential structures should not be protected from thermal imager surveillance. It is a long established principle that the Fourth Amendment does not just apply to the home. Rather, the

Supreme Court has recognized that there are various locations outside the walls of the home for which citizens have legitimate privacy expectations recognized by society. In light of the holding in *Katz*, any structure can be granted Fourth Amendment protection so long as it passes the two part test described by Justice Harlan. Most important for the purposes of the thermal imaging controversy are commercial structures, and outbuildings of the home (such as detached garages, barns, sheds, and other pole buildings), which can be located inside or outside of the curtilage.

While the dicta of some Fourth Amendment cases may indicate that the home is historically afforded more Fourth Amendment protection than a commercial structure, both classes of buildings are generally protected to the same degree absent one specialized exception that is unique in the commercial setting.<sup>77</sup> This principle was explained in 1977, when the Supreme Court decided *G.M. Leasing Corp. v. U.S.* In *G.M.*, Plaintiff brought suit against the United States as a result of the I.R.S. entering and seizing commercial property without a warrant in order to account for unpaid tax liabilities.<sup>78</sup> The Government argued that the warrant requirement should not apply to the commercial property, as such property is not historically protected to the same degree as the home.<sup>79</sup> The Court recognized that such an argument is commonly presented, but explained that absent special situations, commercial property is protected by legitimate privacy interests.<sup>80</sup> In rejecting the Government's contention that a particular statutory exception to the tax code allowed for the seizure, the court declared "The intrusion into petitioner's office is therefore governed by the normal Fourth Amendment rule that 'except in certain carefully defined classes of cases, a search of private property without proper consent is 'unreasonable' unless it has been authorized by a valid search warrant.'"<sup>81</sup> The Court further explained "that a business, by its special nature and voluntary existence, may open itself

to intrusions that would not be permissible in a purely private context... In the present case, however, the intrusion into petitioner's privacy was not based on the nature of its business, its license, or any regulation of its activities.”<sup>82</sup> Finding that no search warrant exception applied for the plaintiff’s commercial structure, the court held that the Government violated the Fourth Amendment when it entered the property for the purpose of the seizure.<sup>83</sup>

In order for the special commercial structure search warrant exception to apply, the entity operating the structure must have been involved in a heavily regulated industry that is subject to such strict governmental control that invoking the warrant requirement would prove to be overly burdensome.<sup>84</sup> For example, this exception is generally recognized for entities involved in the sale or manufacture of firearms or alcohol.<sup>85</sup> The Supreme Court has been very strict in recognizing special exceptions to the warrant requirement for commercial structures. In *Marshall v. Barlow’s, Inc.*, the Court heard a challenge to the Occupational Health and Safety Act of 1970.<sup>86</sup> One section of that act permitted agents of the Secretary of Labor to search entities covered by OSHA in order to identify and prevent violations of that act and other safety hazards.<sup>87</sup> In holding the provision unconstitutional, the court reasoned that while there is a narrow exception to the warrant requirement in the context of commercial structures, to expand that exception would reduce the historical importance placed on the privacy right of the businessman.<sup>88</sup> The court stated that “it is untenable that the ban on warrantless searches was not intended to shield places of business as well as of residence.”<sup>89</sup> Furthermore, the court explained that this conclusion was not merely the product of modern jurisprudence. Rather, the protection afforded the commercial structure in our legal tradition predates the Fourth Amendment. As the Court stated, “The Warrant Clause of the Fourth Amendment protects commercial buildings as well as private homes. To hold otherwise would belie the origin of that Amendment, and the

American colonial experience.”<sup>90</sup> The Court continued by explaining that the Virginia Bill of Rights, a document from which much of our Bill of Rights was modeled, included a prohibition against general warrants, which was intended to protect commercial as well as residential structures.<sup>91</sup>

As stated in *Camara v. Municipal Court*, “except in certain carefully defined classes of cases, a search of private property without proper consent is ‘unreasonable’ unless it has been authorized by a valid search warrant.”<sup>92</sup> So, while it is conceivable that a commercial structure targeted by a thermal imaging device may meet the special criteria required to lessen its owner’s privacy expectation, in such an instance the law enforcement agency would be permitted to enter the building outright, and the use of the thermal imager would serve little purpose.

Just as commercial structures have historically been protected from warrantless searches, so too have outbuildings of a home. When analyzing a search of an outbuilding, modern jurisprudence requires an analysis of whether or not the structure is within the curtilage of a home. As stated in *Dow Chemical*, “The curtilage area immediately surrounding a private house has long been given protection as a place where the occupants have a reasonable and legitimate expectation of privacy that society is prepared to accept.”<sup>93</sup> This development in modern jurisprudence, which is rooted in common law notions, recognizes that the intimate activities associated with a home, those activities that the majority sought to protect in *Kyllo*, occur not only in the home, but also in the area immediately surrounding the home.<sup>94</sup> Although limited by the plain view doctrine, the recognition of the privacy expectation in the curtilage of the home is an expansive protection.<sup>95</sup>

As the notion of curtilage developed more fully, the Court drew a distinction between the curtilage and open fields, which are those areas outside of the curtilage and which are,

consequently, afforded little Fourth Amendment protection.<sup>96</sup> As stated in *Oliver*, “an individual may not legitimately demand privacy for activities out of doors in fields, except in the area immediately surrounding the home.”<sup>97</sup> Though there is no bright-line rule that establishes what is or is not within the curtilage of a home, the Court in *Dunn* listed four factors that are relevant to the determination: “the proximity of the area claimed to be curtilage to the home, whether the area is included within an enclosure surrounding the home, the nature of the uses to which the area is put, and the steps taken by the resident to protect the area from observation by people passing by.”<sup>98</sup>

If, when the *Dunn* factors are applied, an outbuilding is determined to be inside the curtilage of the home, that building is to be afforded the same protection as the home. Such structures cannot be entered without a warrant unless one of the traditional exceptions to the warrant requirement applies.<sup>99</sup> This principle was explained in *Walker v. U.S.*, in which law enforcement agents suspecting that a barn was being used for the illegal distillation of spirits, entered the barn which was determined to be within the curtilage of the home.<sup>100</sup> The Court determined that because the barn was within the curtilage, a warrant was required in the absence of exigent circumstances.<sup>101</sup>

Considering the historical treatment given to outbuildings inside of the curtilage, it would seem that even Justice Scalia would have to concede that the warrantless thermal imaging of these structures would be unconstitutional. If the majority in *Kyllo* was most concerned with protecting the intimate details of the home, it follows that if the rationale for protecting the curtilage is that it is also associated with intimate details, than any structure in the curtilage should be equally protected from the revealing capabilities of the thermal imager.

If the concerned outbuilding is not determined to be within the curtilage, it does not automatically follow that no Fourth Amendment protection exists. Rather, in these circumstances, the traditional *Katz* test still applies. Therefore, a court in such an instance should first determine whether or not the owner of the structure exhibited a subjective expectation of privacy, and if so, whether that expectation is one that society is willing to recognize as reasonable.

It naturally follows that if an outbuilding is not located within the curtilage of a home, than it is in an open field. As a result, as seen in *Dunn*, law enforcement agents are permitted to walk directly to the structure and even peer inside any open portions of the structure. Therefore, in order to exhibit a subjective expectation of privacy in the interior use of such a structure, it seems to follow that the interior must be completely shielded from the view of anyone outside the structure. In such an instance, because the use of a thermal imager could reveal details for which there was a legitimate expectation of privacy, the use of the device should be considered a search.

As described above, courts have historically recognized that an individual can have a legitimate privacy expectation in a commercial building or outbuilding. Like all Fourth Amendment questions, each challenged search must be analyzed on a case by case basis. While a court will presume that a legitimate privacy interest exists in the home or other structure in the curtilage, commercial structures and outbuildings in open fields can be similarly protected if the *Katz* test is satisfied.

## B. Supreme Court Precedent establishes that the Interiors of Fourth Amendment Protected Structures Must be Shielded from Technological Encroachments

Not only does precedent demonstrate that legitimate privacy expectations in non-residential structures are ingrained in the history and tradition of this country, it similarly demonstrates that the Supreme Court has been hesitant to allow technology to reduce privacy expectations in the interiors of structures in which an individual has a property interest. Limiting Fourth Amendment protection of warrantless thermal imaging to instances in which a residential structure or an intimate detail is the target of the search would be contrary to the principles explained by the Supreme Court in other technology related Fourth Amendment cases.

The *Katz* test described in Justice Harlan's concurrence has been criticized for its circular nature and potentially corrosive effect.<sup>102</sup> By defining the term "search" in the context of the expectations of the individual and society, it seems that privacy rights could eventually erode as new technologies diminish the circumstances in which we can be confident that we are not being listened to or watched. These concerns have surfaced in the Supreme Court in the last two decades. In this period of time, the Court has essentially ensured that though the Fourth Amendment may grant special protections to the home, the interiors of all structures in which there is a legitimate privacy interest should be protected from the growing reaches of technology.

In 1984, the Supreme Court decided *U.S. v. Karo*, a case in which law enforcement agents received a tip from a government informant that a certain barrel of ether was being purchased to eventually extract cocaine from clothing fibers.<sup>103</sup> Based on the tip, agents placed a beeper device inside of the barrel.<sup>104</sup> This beeper enabled agents to track the location of the barrel as it moved to various houses and commercial storage facilities that were associated with the defendants (while the barrel was in the storage facilities, the beeper was capable of revealing its general location, but not the specific locker in which it had been placed).<sup>105</sup> In issuing a

search warrant, the judge, in part, relied on evidence that showed that the can of ether had been inside two of the defendants' homes.<sup>106</sup> The Supreme Court held that while placing the beeper in the can of ether did not violate the Fourth Amendment, monitoring the location of the beeper while it was in the various residential locations did constitute a violation of the Fourth Amendment.<sup>107</sup> The Court reasoned that the beeper technology essentially allowed the agents to learn details of the interior of the protected locations that could not otherwise be learned without actually entering those locations.<sup>108</sup> As the Court stated, "Indiscriminate monitoring of property that has been withdrawn from public view would present far too serious a threat to privacy interests in the home to escape entirely some sort of Fourth Amendment oversight."<sup>109</sup> In regards to the surveillance that occurred while the beeper was in the commercial storage facilities, the Court stated that the Fourth Amendment had not been violated, because the defendants' had no privacy expectation in the storage facility.<sup>110</sup> Rather, the defendants' privacy expectation was only in their specific locker, the identity of which the beeper was not capable of revealing. The Court stated that "Had the monitoring disclosed the presence of the container within a particular locker the result would be otherwise, for surely Horton and Harley had a reasonable expectation of privacy in their own storage locker."<sup>111</sup> Therefore, the monitoring of such a beeper is not solely improper when the beeper is located in a home, but when it is in any location in which the defendant has a legitimate expectation of privacy. Furthermore, the notion of intimacy is not contemplated in *Karo*. The majority is simply not concerned with the nature of the details that could be revealed by technology. Rather, the mere fact that *any* detail could be revealed that would otherwise be undiscoverable is of sufficient importance for the court to invoke the Fourth Amendment.

Two years after *Karo*, the Court decided two distinguishable cases that deal with aerial surveillance. A review of these holdings further demonstrates the protections afforded to the interiors of non-residential structures, and also sheds light on how the *Kyllo* Court erroneously concluded that the interior details of the home are somehow more constitutionally significant than the details of other structures. First, in *California v. Ciraolo*, the Court held that naked-eye observations of the curtilage of a suspect's home was constitutional when those observations were made from a plane flying in publicly navigable airspace.<sup>112</sup> The Court stated:

In an age where private and commercial flight in the public airways is routine, it is unreasonable for respondent to expect that his marijuana plants were constitutionally protected from being observed with the naked eye from an altitude of 1,000 feet. The Fourth Amendment simply does not require the police traveling in the public airways at this altitude to obtain a warrant in order to observe what is visible to the naked eye.<sup>113</sup>

This statement both indicates the sliding scale of privacy that has resulted from the *Katz* standard, and the concern the Court has for the sanctity of the home under the Fourth Amendment.

On the same day that the Court issued its opinion in *Ciraolo*, it also issued its opinion in *Dow Chemical Co. v. U.S.*, in which the chemical company sought injunctive relief to prevent the EPA from conducting aerial surveillance of their facilities in which enhanced photography technology was employed.<sup>114</sup> While the court held that such enhanced visual surveillance did not violate the Fourth Amendment, the majority qualified this holding with a number of statements that indicate that the outcome was dependant on the facts that the enhanced surveillance was of an industrial, not residential, structure, and that the enhancements only aided the EPA in observing exterior details of the structure. The court stated “We find it important that this is *not* an area immediately adjacent to a private home, where privacy expectations are most heightened.”<sup>115</sup> Furthermore, in comparing the holdings of *Dow Chemical* and *Ciraolo*, the

Court said “The intimate activities associated with family privacy and the home and its curtilage simply do not reach the *outdoor* areas or spaces between structures and buildings of a manufacturing plant.”<sup>116</sup> In reference to the nature of the surveillance, the majority stated “Although they [the enhanced photographs] undoubtedly give EPA more detailed information than naked-eye views, they remain limited to an outline of [the exterior of] the facility's buildings and equipment.”<sup>117</sup> The Court continued to explain that “Dow plainly has a reasonable, legitimate, and objective expectation of privacy within the interior of its covered buildings, and it is equally clear that expectation is one society is prepared to observe.”<sup>118</sup> Finally, the Court recognized that “An electronic device to penetrate walls or windows so as to hear and record confidential discussions of chemical formulae or other trade secrets would raise very different and far more serious questions.”<sup>119</sup>

When taken together, the *Ciraolo* and *Dow Chemical* cases demonstrate that while the Court approves of naked-eye aerial surveillance of a home, aerial surveillance enhanced by the aid of photography is only appropriate where the targeted property is not residential and thus not associated with the intimate details of a person's life<sup>120</sup>. However, a more extensive reading reveals that even in the case of a non-residential structure, *Dow Chemical's* protection of technology aided surveillance only extends to the *exterior* of such structures. This, of course, is consistent with *Karo's* prohibition of technology aided observations of otherwise unobservable details of the interior of a protected location. It would appear, however, that the majority in *Kyllo* failed to truly understand the relevance of the distinction between *Ciraolo* and *Dow Chemical*. While the superficial (or perhaps selective) reading of those cases may lead to the conclusion that the industrial facility is less protected than the home for Fourth Amendment purposes, the reality is that *Dow Chemical* in no way diminished the privacy expectation in the

interior of the non-residential structure. To the contrary, the Court reaffirmed that the interior of a non-residential structure must not be warrantlessly breached, and, like *Karo*, did so without reference to intimacy. Thus a court's consideration of *Dow Chemical* should lead to the prohibition of warrantless thermal imaging of the non-residential structure, because, as Justice Scalia explained, the details revealed by that device solely concern the interior of the structure.

To hold that a non-residential structure is not protected from warrantless thermal imaging is contrary to the above described jurisprudence. As described previously, the court in *Kyllo* rejected the notion that monitoring thermal waves radiating "off the wall" was not a search because the interior of the structure was not in any way penetrated. Furthermore, any notion that the details of the interior of a home are more intimate and thus more deserving of Fourth Amendment protection is simply not grounded in Fourth Amendment jurisprudence.<sup>121</sup> This mechanical application of the Fourth Amendment would ignore the reality that such searches can reveal interior details that are otherwise unobservable. Just as *Karo* and *Dow Chemical* drew the line at the interior of structures for technology aided surveillance, regardless of whether the structure was residential or not, judicial consistency requires the same conclusion in regards to thermal imaging devices.

#### **IV. Conclusion:**

In light of the Supreme Court's synthesized jurisprudence, if this paper and the Ninth Circuit are correct and the *Kyllo* rule only protects a residential structure from the intrusion of a thermal imaging device, it becomes evident that the *Kyllo* Court's limited holding is contrary to Fourth Amendment principles. Because courts have recognized that an individual can have a legitimate privacy expectation in the interior of a non-residential structure so that the *Katz* test is satisfied, it follows that the use of a thermal imager implicates the Fourth Amendment if it

reveals details of the interior of the structure. While the Court may distinguish the details of a home by classifying them as “intimate”, a property owner may use his private property towards whatever legal ends he sees fit, regardless of whether that property is his home, business, or barn. Additionally, the notion that the interior of a structure is protected by the Fourth Amendment only if that structure is associated with intimate details, like the time of night that an individual bathes, is contrary to the holdings of *Dow Chemical, Karo* and *Barlow’s, Inc.* If the notion of intimacy that is seen in *Kyllo* had been embraced by the courts that decided those cases, the outcomes would have likely been very different.

As the *Kyllo* court acknowledged, the “off the wall” nature of the thermal imaging scan essentially reveals details that would require physical entry to discover. Thus the proper holding would have been that the warrantless use of sense enhancing technology for the purpose of discovering details about a structure that would be otherwise undiscoverable without physical presence inside the structure is violative of the Fourth Amendment where a private citizen has a legitimate expectation of privacy in the targeted structure and no other exception to the search warrant requirement exists. This standard would also have to comply with the Supreme Court’s decision in *Caballes*. Therefore, if some sort of sense enhancing technology were developed which detected nothing but the presence of contraband or illegal activity, the warrantless use of that technology would be permissible regardless of whether or not it targeted a structure in which there was a legitimate privacy expectation.

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<sup>1</sup> *Kyllo v. U.S.*, 533 U.S. 27, 40 (2001).

<sup>2</sup> See *U.S. v. Elkins*, 300 F.3D 638 (6<sup>th</sup> Cir. 2002); *State v. Mordowanec*, 788 A.2d 48 (Conn. 2002)

<sup>3</sup> Portions of this paper concern themselves with the Pre-*Kyllo* jurisprudence on thermal imagers and the subsequent interpretations of *Kyllo* by the lower courts. Often times the opinions cited

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to are not published, and depending on the jurisdiction, consequently not binding. The usefulness in these opinions is not their binding nature. Rather, those portions of this paper seek to demonstrate the practical effect that the *Kyllo* decision has had. By showing the way in which lower courts have interpreted *Kyllo*, the reader will gain an understanding of the conflict this paper desires to see resolved.

<sup>4</sup> *Kyllo*, 533 U.S. at 29.

<sup>5</sup> *Id.* at 29-30.

<sup>6</sup> *Id.* at 30.

<sup>7</sup> *Id.* at 36.

<sup>8</sup> See *Elkins*, 300 F.3d at 649.

<sup>9</sup> See *U.S. v. Holmes* 175 F.Supp.2d 62 (D.ME 2001).

<sup>10</sup> See *U.S. v. Avery*, 128 F.3d 966 (6<sup>th</sup> Cir. 1997).

<sup>11</sup> *Id.*

<sup>12</sup> *Illinois v. Caballes*, 543 U.S. 405 (2005).

<sup>13</sup> In addition, there have been challenges to the use of night vision scopes and goggles, though in each instance it has been held that while night vision is a form of sense enhancement, it is not prohibited by *Kyllo* because it is technology that is in the general public use. These holdings present serious questions as to the “general public use” standard, but are not addressed in this paper. See *People v. Katz*, 2001 WL 1012114 (Mich. Ct. App. 2001).

<sup>14</sup> See 78 A.L.R.5th 309 (2000) for an overview of the pre-*Kyllo* thermal imager jurisprudence. A survey of these early cases on the subject demonstrates the confusion that can surround the practical application of the *Katz* test. While most courts in this era determined that there wasn’t a subjective expectation of privacy where the heat was vented from the home, others said that there was a subjective expectation, but that society wasn’t prepared to accept that expectations as legitimate when the heat was vented from the home. Courts can seemingly utilize either prong of the *Katz* test to declare that no search has occurred with little explanation or guidance for future litigants.

<sup>15</sup> *Katz v. U.S.* 389 U.S. 347, 348 (1967).

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> *Id.* at 353

<sup>19</sup> See *Olmstead v. U.S.*, 277 U.S. 438 (1928), and *Silverman v. U.S.* 365 U.S., 505 (1961). In *Olmstead* the Court held that the Fourth Amendment was not implicated where no physical intrusion or seizure of property occurred. This holding was consistent with the trespassary element of early Fourth Amendment claims. However, this notion was overruled in *Silvermen*, an early case in the Court’s technology based Fourth Amendment jurisprudence in which the court held that the recording of a conversation could implicate the Fourth Amendment even where no physical trespass occurred.

<sup>20</sup> *Katz*, 389 U.S. at 353.

<sup>21</sup> *Id.* at 361.

<sup>22</sup> *Id.* at 351.

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<sup>23</sup> *Kyllo* 533 U.S. at 29. It is not clear from the Court’s recitation of the facts whether or not the other residential units in *Kyllo*’s triplex were also targeted by the thermal imager for comparison purposes

<sup>24</sup> *Id.* at 30

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*, quoting trial Court

<sup>28</sup> *Id.* at 31

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> *Id.* at 40

<sup>32</sup> *Id.*, quoting *Payton*. As will be argued later in his paper, simply because there is a firm line drawn at the entrance of the house does not preclude there from being similar lines drawn at the entrance of other structures. See *Dow Chemical Co. v. U.S.*, 476 U.S. 227, 235 (1986).

<sup>33</sup> *Id.* at 38. Though the Court does not go into detail on this point, other descriptions of thermal imaging technology lead the author to the conclusion that the technology would not reveal any visual depictions of the individual in the home. Rather, law enforcement would be able to determine that the temperature of the exterior walls of the bathroom was elevated at a certain hour each night. As a result, said officers could subsequently conclude that it was at that time that the bathroom was used for the bath or sauna.

<sup>34</sup> *Id.* at 37. As will be argued later in the text and endnotes of this paper, the majorities invocation of the term “intimate details” appears to have little basis in binding Fourth Amendment jurisprudence. Rather, this term typically appears in dicta and has been criticized as being a judicial creation.

<sup>35</sup> *Id.* at 35. The Court further explained that a high powered microphone that could detect sound waves that were simply emanating from the home was no less of a search because of the fact that the home was not penetrated.

<sup>36</sup> *Id.*

<sup>37</sup> See *Elkins*; *U.S. v. Johnson*, 42 Fed.Appx. 959, (9<sup>th</sup> Cir. 2002).

<sup>38</sup> It should be noted that not only are the courts seemingly unclear on how *Kyllo* should apply, but as one would expect, so is law enforcement. In the years preceding *Kyllo*, a search of case law reveals that thermal imagers were being increasingly used to aid investigations. Since *Kyllo* was decided, very few cases discuss thermal imaging, which indicates that law enforcement is not frequently utilizing the devices, or that criminal defendants are not challenging the use.

<sup>39</sup> *Elkins*, 300 F.3d at 642.

<sup>40</sup> *Id.* at 643.

<sup>41</sup> *Id.*

<sup>42</sup> *Id.* at 643-644.

<sup>43</sup> *Id.* at 644-645.

<sup>44</sup> *Id.* at 645-646.

<sup>45</sup> *Id.* at 646. Internal Citation Omitted.

<sup>46</sup> *Id.* at 647.

<sup>47</sup> Since *Elkins* was decided, no court in the Sixth Circuit has addressed the thermal imaging of a non-residential structure.

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<sup>48</sup> See *U.S. v. Johnson*. In this opinion, the Ninth Circuit gives no indication that another federal circuit was just faced with a similar legal question.

<sup>49</sup> *Johnson*, 42 Fed.Appx. at 962.

<sup>50</sup> *Id.*

<sup>51</sup> The opinion does not reference whether or not the home was targeted by the thermal imager. As indicated earlier in this paper, in order for law enforcement to accurately conclude that the heat radiating from one structure is consistent with a marijuana growing operation, a comparison structure is typically selected in order to determine what a normal amount of thermal radiation is for that time of year in that particular location. Therefore, it is possible that Johnson's home was targeted, but that this information was not submitted in the affidavit in support of the issued warrant.

<sup>52</sup> *Id.*

<sup>53</sup> *Id.* It should be noted that Ninth Circuit Court Rule 36-3 prohibits citation to unpublished opinions. Therefore, the decision in *Johnson* is not binding precedent on the Circuit. However, as stated previously, the importance of the *Johnson* opinion rests not in its precedential value. Rather, the author is focused on how a court will interpret the narrow language of *Kyllo*. *Johnson* demonstrates that a judge may well be persuaded that *Kyllo*'s prohibition does not protect a non-residential structure.

<sup>54</sup> The author contends that the holding in *Johnson* was in error to the extent that it relied on the holding in *Dow Chemical*. A close reading of *Dow Chemical* reveals that that case dealt solely with the use of technology to expose exterior details of a structure. While it is true that the Court indicated that the industrial structure was afforded less protection than the residential structure, this distinction was intended to ensure that the holdings in *Ciraolo* and *Dow* would not be viewed as interchangeable, as the cases both dealt with overflight surveillance but came to slightly different conclusions based on the type of structure targeted. The text of the *Dow* opinion, however, indicates that had the law enforcement's use of enhanced photography equipment during the overflight revealed details of the interior of the structure, much like a thermal imager does, then the holding may very well have been different.

<sup>55</sup> These decisions reach a variety of conclusions and also come from a variety of sources. While some of the holdings referenced are from state supreme courts, others arise from state courts of appeals. Therefore, each of these holdings does not necessarily have the same amount of precedential value. However, as previously stated, this paper is not only concerned with the state of law in these jurisdictions. Rather, the paper is focused on how actual judicial bodies have viewed the majority's language in *Kyllo*.

<sup>56</sup> See *Mordowanec*, 788 A.2d 48, and *People v. Keppeler*, 2003 WL 22475879 (Cal. Ct. App. 2003) for instances in which the holding of *Kyllo* was held to be unclear in regards to the non-residential structure. See *Wilson v. State*, 98 S.W.3d 265 (Tex. App. 2002); *People v. Cox*, 202 Ill.2d 462 (Ill. 2002); *Kitzke v. State*, 55 P.3d 696 (Wyo. 2002); and *State v. Bergmann*, 633 N.W.2d 328 (Iowa 2002) for examples of state courts indicating that *Kyllo* only applies to the home.

<sup>57</sup> See *Johnston v. State*, 2002 WL 563609 (Alaska Ct. App. 2002); *State v. Schumacher* 37 P.3d 6 (Idaho Ct. App. 2001).

<sup>58</sup> *Mordowanec*, 259 Conn. at 94, 97. Specifically, the defendant operated a home improvement store. Police discovered that the second floor of the business, which was presumably not open to the public, was being partially used as a marijuana grow room.

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<sup>59</sup> Id. at 101

<sup>60</sup> Id. at 104

<sup>61</sup> Id.

<sup>62</sup> Keppeler, 2003 WL 22475879, at 1.

<sup>63</sup> Id.

<sup>64</sup> Kitzke, 55 P.3d at 700. It is not clear from the opinion what the nature or use of the targeted structures was, however it is evident that the structures were not attached to the residence of the defendant. While it does appear that the structures were in close proximity to the residence of the defendant, it is also not clear whether the structures were within the curtilage as the court did not address the issue.

<sup>65</sup> Id. at 701

<sup>66</sup> Johnston 2002 WL 563609, at 1.

<sup>67</sup> Id. at 2.

<sup>68</sup> Id. at 1.

<sup>69</sup> Schumacher, 37 P.3d at 11.

<sup>70</sup> Id.

<sup>71</sup> Id.

<sup>72</sup> Though the Court in *Woodward* ultimately held that there was no ineffective assistance of counsel, it was unequivocal on the point that a warrant was required before the law enforcement agency could proceed to use the thermal imaging device. Furthermore, while much of the Court's language in the opinion discusses thermal imaging of a home, the language of the opinion indicates that the residence of the petitioner was never actually targeted. The only structure which is explicitly cited as being targeted by the device was a pole building that was detached from petitioner's home. Therefore, it is likely that the Court simply considered the pole building to be part of the residence for Fourth Amendment purposes, which is consistent with Fourth Amendment jurisprudence regarding non-residential structures located within the curtilage.

<sup>73</sup> *Kyllo*, 533 U.S. at 40 (Quoting *Payton*).

<sup>74</sup> Id.

<sup>75</sup> As described in an earlier footnote, the reliance on *Dow Chemical* to establish the lesser protection afforded the non-residential structure is misleading, as *Dow Chemical's* reasoning places emphasis on the fact that only the details of the exterior of the structure were being observed by law enforcement officials. Because thermal imaging reveals details of the interior of the structure, reliance on *Dow Chemical* appears to be misplaced.

<sup>76</sup> See *Michael H. v. Gerald D.*, 491 U.S. 110 (1989), which considered whether the father of a girl that was conceived as a result of a marital affair had a fundamental right to be involved in the life of his child. In Justice Scalia's majority opinion, he explains that because there has not historically been a fundamental right for an unmarried father to have any parental rights when that child is born to a married couple, the father was subsequently prevented from claiming constitutional protection. This opinion has been widely cited to as an example of Justice Scalia defining a tradition in as narrow a manner as possible in order to arrive at the preferred outcome.

<sup>77</sup> See *Dow Chemical Co. v. U.S.*, 476 U.S. 227, 235 (1986), and *Florida v. Riley*, 448 U.S. 445 (1989).

<sup>78</sup> *G.M Leasing Corp. v. U.S.*, 429 U.S. 338, 347 (U.S. 1977).

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<sup>79</sup> Id. at 353. The government did not contend that the Fourth Amendment only applied to residential structures. As stated by the Court, “Such a proposition could not be defended in light of this Court’s clear holdings to the contrary”. Id. at 353. Rather, it argued that non-residential structures are not afforded the same protection as the home and that the actions taken by the government should be recognized as not violative of that Amendment because the home was not implicated.

<sup>80</sup> Id. at 354-355.

<sup>81</sup> Id. at 358, quoting *Camara v. Municipal Court*, 387 U.S., at 528-529 (1967), which dealt with the warrantless entry into an apartment unit.

<sup>82</sup> Id. at 354

<sup>83</sup> Id. at 359.

<sup>84</sup> Id. at 353-354

<sup>85</sup> Id. See *United States v. Biswell*, 406 U.S. 311 (1972), and *Colonnade Catering Corp. v. U.S.*, 397 U.S. 72 (1970). In explaining the rationale for this exception, the Court explained in *Biswell* that “When a dealer chooses to engage in this pervasively regulated business and to accept a federal license, he does so with the knowledge that his business records, firearms, and ammunition will be subject to effective inspection.” *Biswell*, 406 U.S. at 316.

<sup>86</sup> *Marshall v. Barlow’s, Inc.*, 436 U.S. 307, 310 (1978).

<sup>87</sup> Id. at 309

<sup>88</sup> Id. at 311

<sup>89</sup> Id. at 312

<sup>90</sup> Id. at 311

<sup>91</sup> Id.

<sup>92</sup> *Camara*, 387 U.S. at 528-529.

<sup>93</sup> *Dow Chemical Co. v. U.S.*, 476 U.S. 227, 235 (1986).

<sup>94</sup> While the concept of curtilage was not applied to the Fourth Amendment analysis until modern times, the concept originates in common law burglary, where an individual could be convicted without physically entering the home if they were deemed to have invaded the curtilage. *U.S. v. Dunn*, 480 U.S. 294, 300 (1987).

<sup>95</sup> The plain view doctrine limits the protection afforded the curtilage of the home in the sense that a police officer is not expected to shield his eyes of something that a homeowner is not making an effort to conceal from the general public. This doctrine is consistent with the *Katz* test, as an individual cannot reasonably expect privacy in that which he exposes to the world.

<sup>96</sup> See *Oliver v. U.S.*, 466 U.S. 170 (1984).

<sup>97</sup> Id. at 178

<sup>98</sup> *Dunn*, 480 U.S. at 301.

<sup>99</sup> Generally, the only search warrant exceptions that will apply to the residential structure and curtilage are consent, exigent circumstances and hot pursuit.

<sup>100</sup> *Walker v. U.S.*, 225 F.2d 447, 448 (1955).

<sup>101</sup> Id. at 449. Similar holdings were reached in *Taylor v. United States*, 286 U.S. 1 (1932); *Roberson v. United States*, 165 F.2d 752 (6<sup>th</sup> Cir. 1948); and *Walker v. United States*, 125 F.2d 395 (5<sup>th</sup> Cir. 1942), all of which dealt with the illegal distillation of spirits.

<sup>102</sup> See *Kyllo*, 533 U.S. at 34.

<sup>103</sup> *U.S. v. Karo*, 468 U.S. 705, 708 (1984).

<sup>104</sup> Id.

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<sup>105</sup> Id. at 708-710.

<sup>106</sup> Id. at 710.

<sup>107</sup> Id. at 713. The Court stated “We conclude that no Fourth Amendment interest of Karo or of any other respondent was infringed by the installation of the beeper. Rather, any impairment of their privacy interests that may have occurred was occasioned by the monitoring of the beeper.”

<sup>108</sup> Id. at 714.

<sup>109</sup> Id. at 716

<sup>110</sup> Id. at 720. The defendants privacy interest was not in the commercial facility itself, rather it was in a small portion of that facility that the beeper could not locate (the specific locker they had rented).

<sup>111</sup> Id. at 721, FN 6.

<sup>112</sup> *California v. Ciraolo*, 476 U.S. 207, 213-214 (1986).

<sup>113</sup> Id. at 215

<sup>114</sup> *Dow Chemical Co. v. U.S.*, 476 U.S. 227, 230 (1986). It should be noted that the Court in *Dow* typically refers to the photography that took place as being completed with standard equipment. In other instances, the Court describes how the cameras used were typical to individuals who conducted such aerial photography for the purposes of map making. The *Kyllo* Court, however, consistently refers to the photography in *Dow* as “enhanced”. This paper will use the same language as the Court in *Kyllo* as it is primarily focused on that Court’s holding and reasoning.

<sup>115</sup> Id. at 237, FN 4.

<sup>116</sup> Id. at 228. Emphasis Added.

<sup>117</sup> Id. at 238

<sup>118</sup> Id. at 236

<sup>119</sup> Id. at 239

<sup>120</sup> The Court’s holding in *Ciraolo*, as compared to the holding in *Dow*, appears to be somewhat illogical. To hold that aerial surveillance of a home is permissible because the modern era of flight eliminates a legitimate privacy expectation, and then continue to specify that the holding only relates to naked eye surveillance is somewhat contradictory. If the homeowner should be wary of private planes flying overhead, it would seem equally reasonable to expect that a private individual using those planes was also equipped with standard photography equipment. This nuance of *Ciraolo* seems to be at odds with the justifications behind the plain view doctrine.

<sup>121</sup> See *Florida v. Riley*, 448 U.S. 445 (1989) (Brennan, J., dissenting). *Riley* dealt with the overflight surveillance of a greenhouse in the curtilage of a home from a helicopter at the altitude of 400 feet. Id. at 448. In holding that the surveillance was not a search, the majority implied that the holding rested in part on the fact that no intimate details of the home were revealed. Id. at 451. This rationale seems to be in part the product of the analysis of the Supreme Court’s first holdings on the legality of overflight surveillance, *Ciraolo* and *Dow Chemical*. As Justice Brennan states in the dissent “Where in the Fourth Amendment or in our cases is there any warrant for imposing a requirement that the activity observed must be “intimate” in order to be protected by the Constitution?” Id. at 463. As Justice Brennan’s rhetorical question implies, the intimacy of detail revealed does not determine whether or not a search occurred. Rather, as described throughout this paper, the threshold questions are those described in the *Katz* holding.