

Shooting Academy – Shotgun Fun

Ranch owners contact me when they want something different to entertain their family and friends while relaxing on their ranch or farm. This document covers the ever increasing demand of a ranch owner to install a fun shotgun discipline for friends and family to enjoy without always having serious competition.

Many owners have contacted me and suggested they want Skeet Shooting installed, possibly because it has been suggested to them or they have a vague knowledge of shotgun shooting, and Skeet comes to mind.

Let's look at an alternative - The game of Sporting Clays.

This is seriously taking over as one of the “more entertaining” fun things to do out in the country.

A smaller version of Sporting Clays is a game called “**Compact Sporting**”.

In this document I describe the choices of **Compact Sporting** Clays compared to Skeet Shooting.

It is then up to the owner, client to decide.

The document is written in two parts:

Part 1: Analyses the game of Skeet and Sporting Clays / **Compact Sporting** and discusses the differences.

It is loaded with photographs and finishes with a cost analysis.

Part 2: Goes into more detail explaining options for deck design with cabins, and covers other subjects; i.e. the aesthetics of designing a “nice” range, hiding the targets, pollution mitigation and EPA issues.

I have a ranch and I want some form of Shotgun Shooting to entertain my family and friends.

“I’ve heard of Skeet Shooting, and friends and associates have suggested I put in a Skeet range.”

This used to be a norm several years ago, like “I need an ATV, a horse, a Ski boat or a tennis court.”

Something to “do” when we visit the ranch.

“There are many options for entertainment and I need something, outdoors that will give my guests an experience they will enjoy and talk about?”

This is a personal choice, and the entertainment has to be adjusted to suit the owner and the friends or clients he needs to impress.

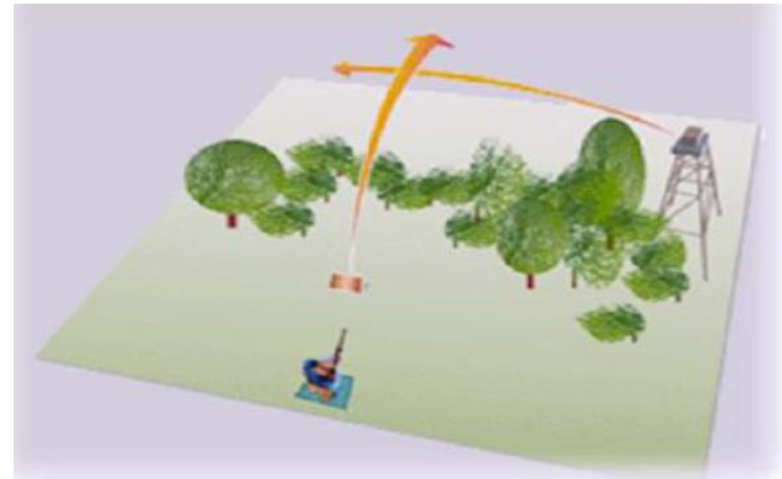
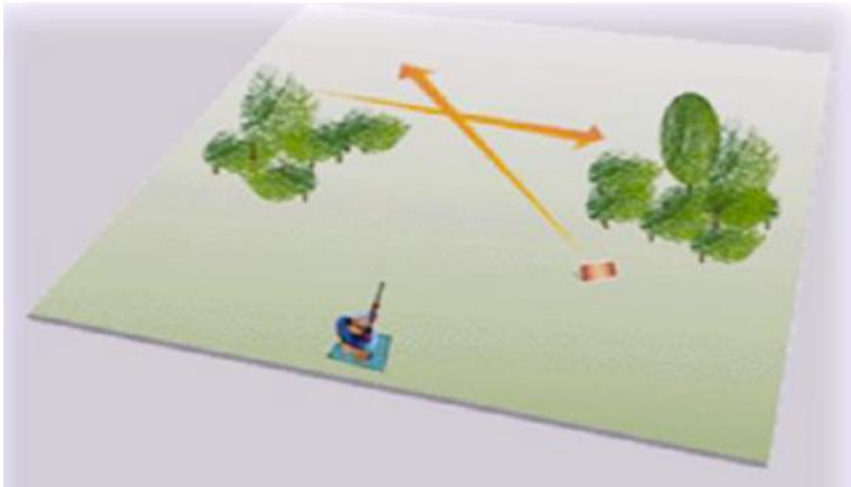
If we go back a few years, a private Skeet Range or Trap range would be impressive, and guests would feel honored if shooting these disciplines, but today....

Sporting Clays has taken over and offers a diverse collection of targets to shoot. Several of my clients have Sporting Clay courses that incorporate 5, 12, 24 even 36 Sporting Stations, throwing targets that offer a wide variety of trajectories taking upwards of two hours or more to complete the course.

So, “What is Sporting Clays?” Here’s a very basic introduction.

A shooter stands at a designated spot and clay targets are thrown into the air in various directions; going away, crossing, going straight up, coming inwards, passing over your head etc. Usually, two targets are shot at each “station” on the Sporting Course. These are meant to represent different live game flights.

A couple of basic Sporting Clay Stations are shown below; On the left we have two crossing targets, on the right a high crossing from a tower and a “teal”.



For a commercial shooting ground trying to get hundreds of shooters out on the course, they will need as many shooting stations as they can accommodate, but for a private, more intimate game, why do we need 24 stations, that can take over two hours to complete, when we can have a similar fun experience where we adjust the time we spend, taking from only 30 minutes to several hours; PLUS, in the comfort of an enclosed shooting deck or patio protected from the weather.

Here we offer seating, restrooms and a pantry for refreshment. When it’s cold, we have a “pot-belly” stove, or a fireplace to supply heat, and when it’s scorching hot and uncomfortable to walk, we can enjoy overhead fans, cool water or refreshment, with a table and chairs to relax between shooting.

I’m describing **COMPACT SPORTING CLAYS**, a game I developed back in Scotland in the early 1980’s. It’s come a long way since then and I have many **private** clients enjoying this unique form of Shotgun Shooting in comfort, with great camaraderie. There **is** a “regulated” form of this game for competitions, but we don’t want to go there – we just want a fun, relaxing shotgun shooting discipline where we have companionship as opposed to competition.

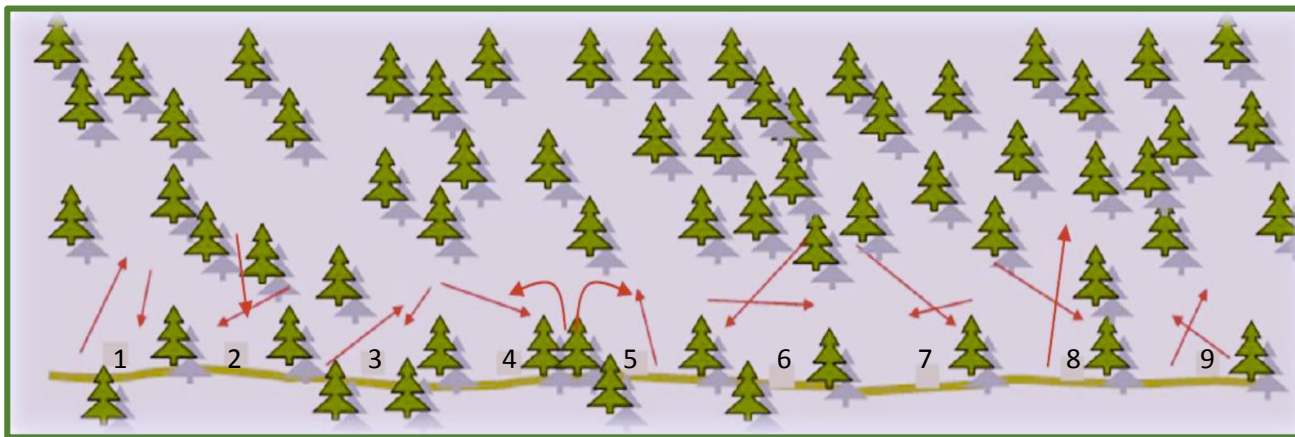
So, what is **COMPACT SPORTING CLAYS**? First we need to know what “Sporting Clays” is? We touched on this earlier, so let’s expand.... Everyone is familiar with Skeet Shooting; having a clay target thrown into the air, which the shooter aims at, and tries to break it into thousands of shards. Only thing is, the game of SKEET is repetitive with the same targets being thrown over and over again – like shooting fish in a barrel. Sporting Clays is designed around an unlimited variation of different target trajectories. Each Shooting Station gives a presentation of two different flight paths; i.e. one coming in, one going away / one overhead, one crossing left to right – the combinations and variations are limitless. A Sporting Clay Course will encompass around 24 – 36 different “pairs” of target trajectories (stations). A “course” may extend to over a mile to walk around, shooting over 100 different targets. The success of a Sporting Clay Course and the target presentations will depend on the imagination and skill of the “**Course Designer**”. It is very important to get a reputable Course Designer to lay out the course, the skill-set is on a par to a Golf Course design. There are successful courses and non-successful (blah) courses.

A successful and beautiful course will depend on the talent and imagination of the course designer.

NOTE: Although this document concentrates on **COMPACT SPORTING**, I am not saying “normal” Sporting Clays is not suitable for a private ranch; in fact, very often they go hand-in-hand, with a ranch having a **COMPACT SPORTING** in partnership with a 5, 7, 10 station Sporting Clay course. There may not be the need for many Sporting Clay stations, but the lay of the land, may lend itself to some excellent target presentations, for example – from a high escarpment, a deep valley, a pond or a flat meadow to simulate grouse. This is why a ranch owner employs a professional course designer to get them the best in shotgun entertainment.

With **Compact Sporting** we take several of the aforementioned Sporting Stations and “squash” them into a compacted area. See below.

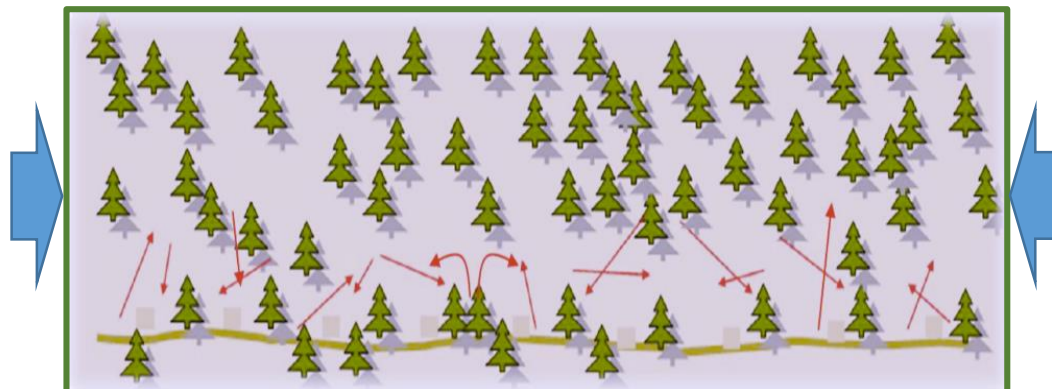
See below.



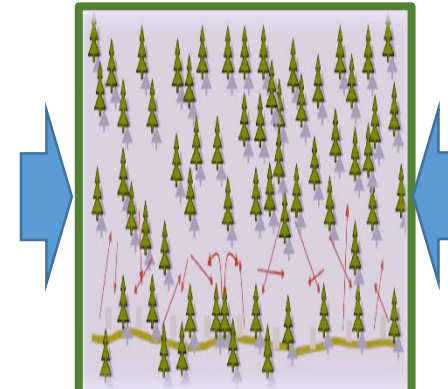
Here we have 9 Sporting Clay stations with two target throwing machines on each. We walk from station to station shooting the various combinations.

Look at the far left (1) – we can shoot the left “going-away” target then the right “coming-in” target; then shoot them quickly as both targets are released at the same time. After several shots here, we move to the next station (2); both are “in-coming” but the one coming “straight-in” is very high – if we miss, it goes over our heads.

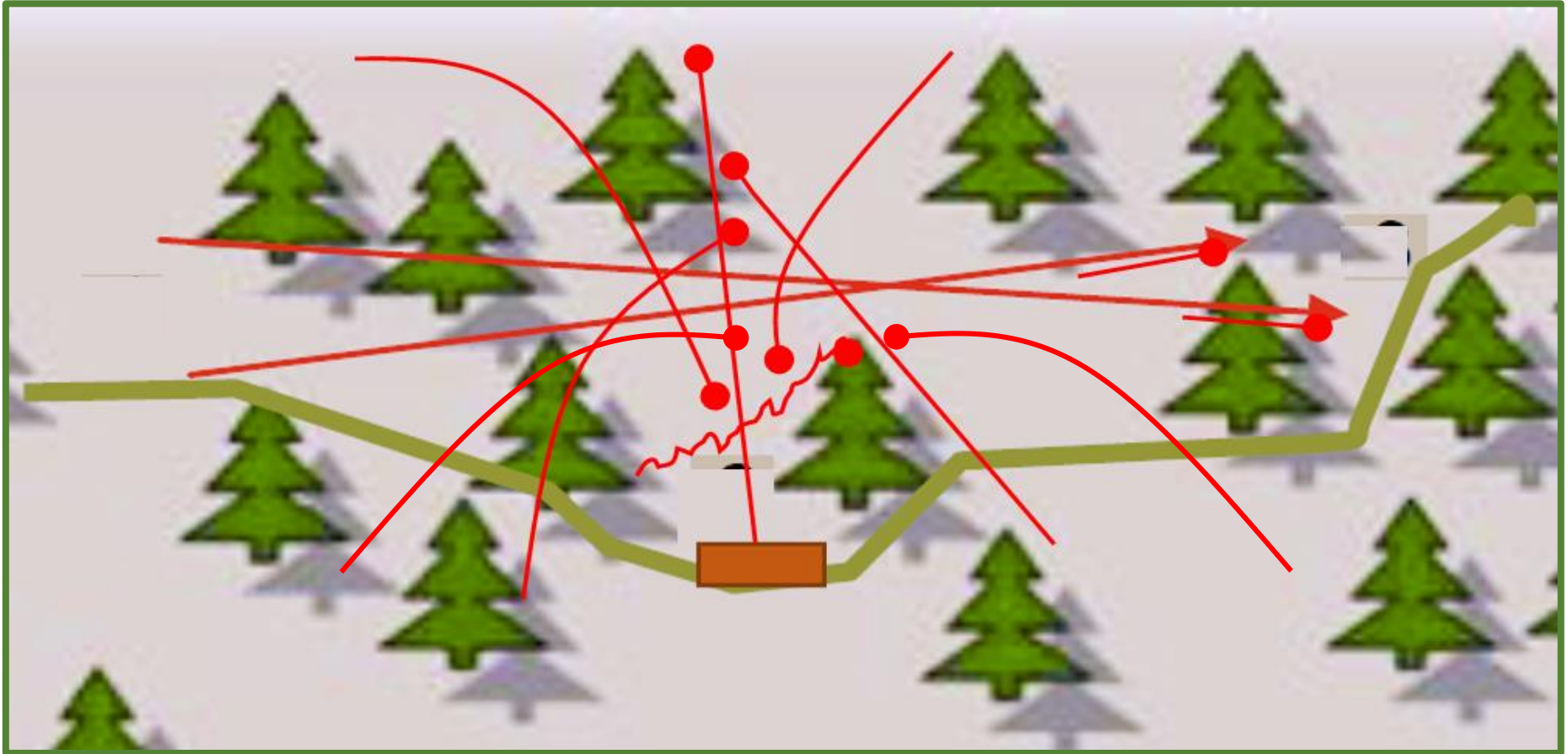
Now let’s “squash” the stations closer together. First this



Then this....



Until we have this..... Take out all the station shooting cages and build a shooting deck that can hold 5 – 6 shooters at the same time.



We now have a “New Game” – the selection of targets are now all around me, I don’t have to walk around a long course, plus I can talk and discuss the various combinations with friends whilst shooting – A new game sometimes called “Lazy Man’s Sporting Clays.” Or..... **COMPACT SPORTING!**

At this “deck” we can shoot hundreds of combinations of targets, taking turns or shooting in pairs. There are no rules (apart from the International Version of the game – COMPAK Sporting). Make up your own rules or just take turns having FUN!

The deck is usually 24’ to 30’ wide 10’ to 12’ deep, accommodating several shooters in various shooting positions; there could be five in a row, taking turns.

So let’s look at the **Compact Sporting** set-up. Compare it to the “old-fashioned” Skeet, and analyze the costs.

One aspect to remember is the “footprint” of the chosen discipline and the “mess” of the broken targets.

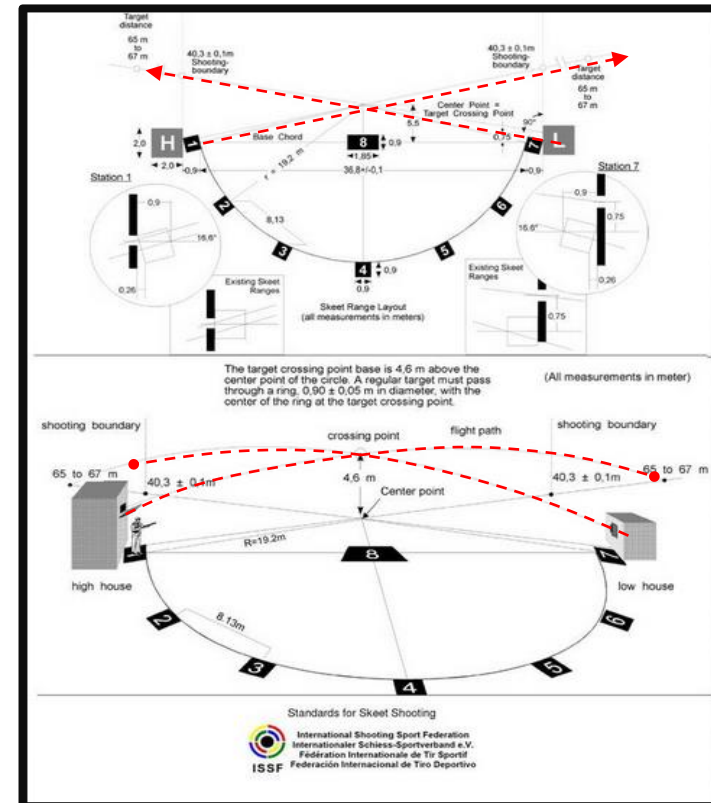
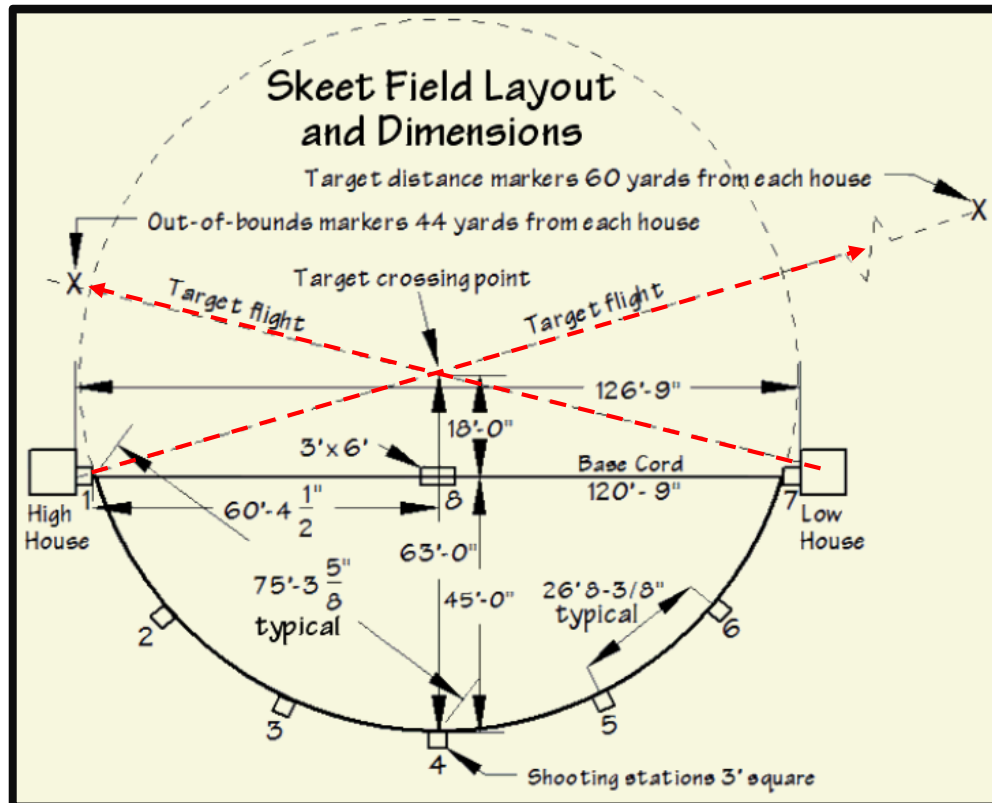
First, let’s look at what “Skeet” shooting really is, how exact it has to be built and the cost of the infrastructure to install the “game”.

SKEET:

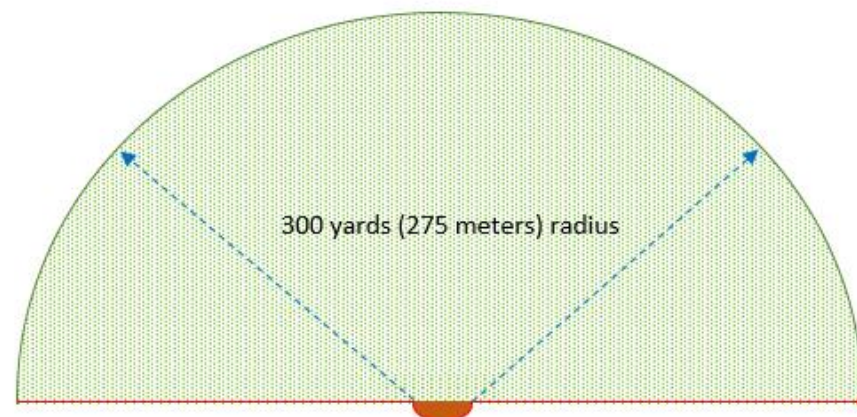
First look at a typical Skeet Range. We have a semi-circular, cement collection of pathways with two trap-houses built facing each other. Here we have two samples of single field layouts, then far right a twin field layout. Note the “pink” areas of the target debris (where the broken targets fall). It doesn’t take long to get a “trashy” build-up of target debris. (Every target falls in exactly the same area.)



With Skeet there are hard and fast rules to ensure the range conforms to the International Standard as laid down by the **ISSF** and the **NSSA**. Measurements are exact to the “half-inch”, target flight paths (trajectories) are exact as to speed, height and must hit the ground in the exact same place.



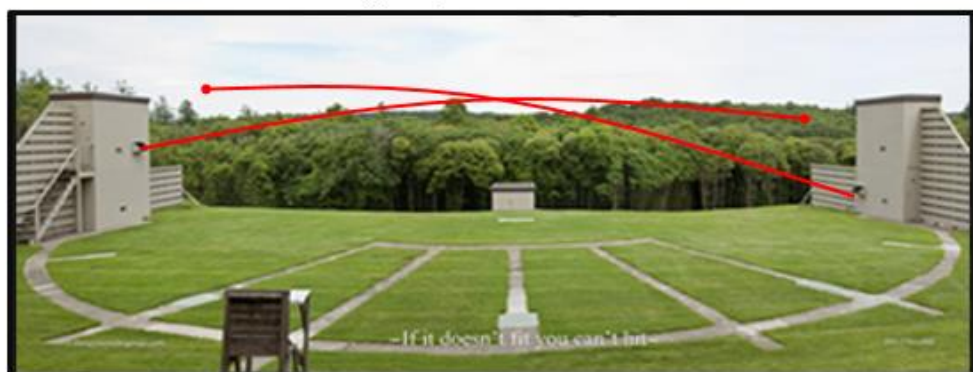
This is a typical “footprint” for a Skeet field – two towers facing each other, usually block construction. The area of land required is 38 acres, being a semi-circle of radius 300 yards (this is the International safety distance in the direction of shot. A word of warning, if you don’t own the land covered by this radius – say it extends on to a neighbor’s, BLM or forest grounds, you can be sued, plus no insurance company will cover you.)



This game is the most “boring” of shotgun disciplines (Skeet shooters will disagree), but for the new shooter, they are looking for something more entertaining.

Shown below are the first 2 target trajectories.

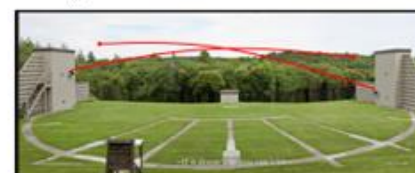
THEN



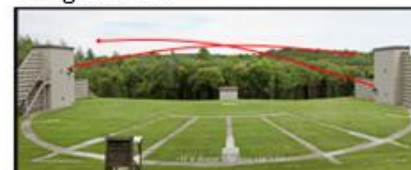
Targets 3 & 4



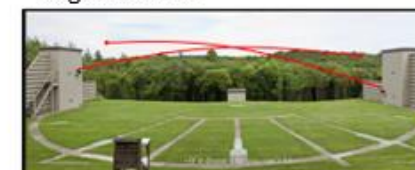
Targets 5 & 6



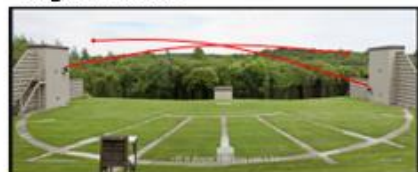
Targets 7 & 8



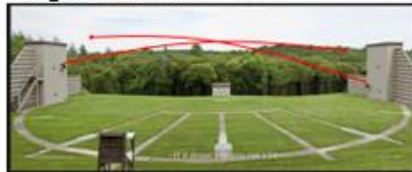
Targets 9 & 10



Target 11 & 12



Targets 13 & 14



Target 15 & 16



Target 17 & 18



And on and on and on – Notice any similarity? They are ALL the same, all over the World. Admittedly, you shoot them from each of the “spokes”, so they have a different angle. (If I shoot in Dallas or Lithuania or North Korea, they are exactly the same. After 6 months of shooting, I should score 25 of 25 – Right?)

COMPACT SPORTING:

What's so different about **Compact Sporting** – it uses the same amount of land?

First, we shoot from the comfort of a covered shooting deck; come rain, snow, bright sunshine we can shoot in relative comfort.

Then, there are NOT just two repetitive targets, thrown on the same trajectory as every other Skeet field in the WORLD to within 3" of conformity.

On **Compact Sporting**, there are as many targets as you want to install (6, 7, 10 even 15) – none of them the same, and they can be changed every week to give a "fresh" presentation and add more excitement. Unlike Skeet, where after 6 months I should be so good shooting the same target, that I should be shooting 25 out of 25 in my sleep, with **Compact Sporting**, you're lucky to shoot 18 or 20 out of 25, even after a year, because no two targets are the same.

Compact Sporting creates a challenge as the target trajectories have no rules, I can set them as easy or as hard as I want.

Get the Thrill and Skill of life-like bird hunting without the Kill.

What is the area of land required for **COMPACT SPORTING**? Exactly the same as that used for **SKEET**.

First we can choose any piece of land, the hillier and rougher the better and we can face any direction. Oh, I forgot to mention with Skeet, the land must be perfectly flat, clear of trees for 100 yards in all directions (to give a clear view), and it MUST face North, North East, so the sun is behind the shooter's back.

(NOTE: For more comparison of "Why Choose Sporting Clays compared to Skeet": go to my website and read the document below.)

<http://www.shooting-academy.com/media/Why%20choose%20Sporting%20Clays%20over%20Skeet.pdf>

To simulate live bird hunting and to present targets that duplicate the different flights of the various birds, it's preferable to have an area of land that looks like or can represent the habitat of the different birds we'll be shooting. We need coves, berms, trees, bushes, valleys, ponds etc.

How about a view like this? Ideal..... This is one of my client's in North CO.



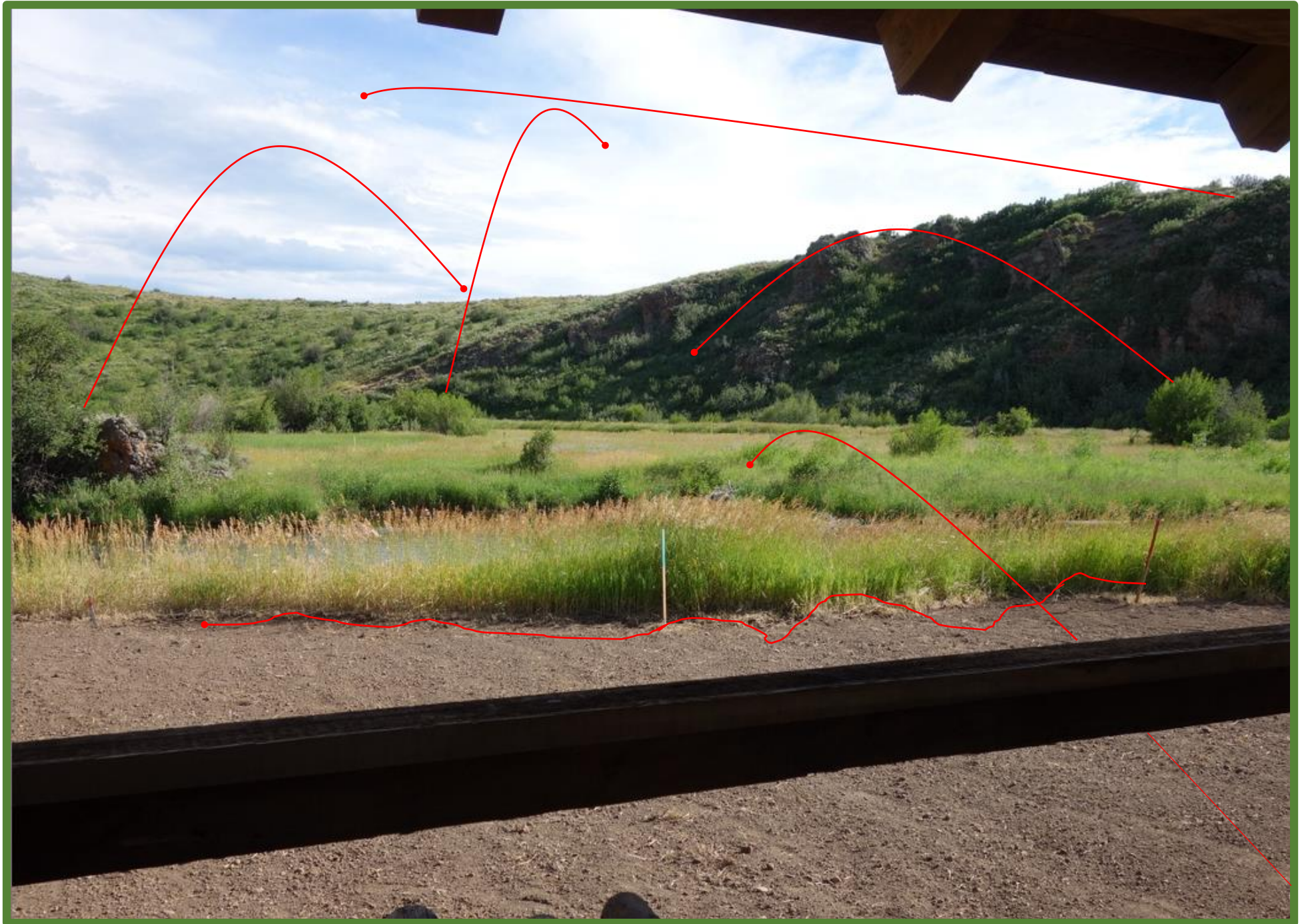
This will be the middle of my shooting deck.

Next, a panoramic view of the shooting area.



One of the benefits of Sporting Clays or Compact Sporting is the choice of difficulty. Unlike Skeet (where targets are fixed), these targets can be made as easy, or hard as you like.

Targets come from various locations, climbing high while coming inwards, crossing from right to left, going away from you and a rabbit rolling across in front.



Targets incoming and dropping into the river – like a duck. Targets going straight up like a teal; one from the roof going away high up, and a rabbit left to right.



What type of deck should we build? Again, this is for comfort. This is not a commercial range, it's a fun place for family and friends.

On the next couple of pages I'll show the deck associated with this project. Afterwards, there is a selection of alternative decks, starting with very basic through to the ultimate concrete constructions designed and built in Abu Dhabi, UAE.



This **COMPACT SPORTING** “cabin”. Has a store, restrooms and pantry.



On this site, the original **COMPACT SPORTING DECK**, was designed and installed in another area of the property. As with all cabins and shelters on this property, the lumber used was old tobacco barns and warehouses imported from SC.



What does it cost?

First, we'll look at a SKEET field.

We need a flat piece of ground, smoothed out to 100 yards in all directions so we can see the targets clearly (NSSA rules). We then need to lay out the concrete pathways and shooting stands.

The game of Skeet uses two automatic clay target traps, these need to be housed in towers at each end of the Skeet field. The left tower has to release the target at 10' above the ground, the right tower 3' 6" above the ground. These are normally made from concrete block construction.

The average costs for building a Skeet field, towers and supplying the two traps and electronics is around **\$30,000 - \$35,000**.

This is apart from levelling the land – (**\$5,000 - \$12,000?**)

This then, only gives us **two** fixed targets with **three** double combinations!



Now **Compact Sporting**:

The area of land can be in any condition, possibly the rougher the better, as it provides realistic hunting scenarios.

There is no need for concrete work or towers. The only requirement, is protection for the traps being used. The traps are sometimes mounted on wooden pallets with custom plastic covers to protect them from the rain etc.

I prefer to build purpose made houses similar to the ones on the right. These protect the traps and (as in CO), keep the bears out.



The average cost of a clay pigeon trap is \$3,200 - \$3,800. If we use 8 traps, that's **\$27,000**. Add batteries and radio controls; around **\$3,000**.

The trap houses will range from around \$150 - \$500 (as shown) – say another **\$3,000** (8 x \$450), if they can be seen, they need to look nice.

A MUST - Professional Design fee and overseeing of installation, plus target setting and operating instructions; **\$4,000 - \$18,000+ ***

The cost of **Compact Sporting**; presenting **8** different targets, and **120** double combination targets is around **\$37,000** (12 targets = **\$54,000**)

- **Fee depends on size of project (Compact Sporting or full Sporting Clay Course)**

Missing from **both** options is the cost of the Cabin. This is a shelter / “clubhouse”. No matter if it's a shooting deck, or a place to shelter between Skeet shooting, this cost should be the same, it depends on the “luxury” and facilities built in - **\$35,000 - \$60,000** - check with local architect and construction crew.

Either discipline: Shotguns: **\$5,000 - \$12,000** (quality?)

Initial consumables: Shot shells (ammo) and clay targets **\$2,000**

Summary:

Skeet (NO Building / Shelter) **\$52,000** / **Compact Sporting**: (NO Building / Shelter) **\$47,000**

(With Cabin) **\$88,000**

A concern: This shotgun game is for entertainment – FUN!

With SKEET there is no way of shooting in the rain or snow, without getting wet. The semi-circular concrete pathway precludes a shelter.

With **Compact Sporting** --- You are under cover, shielded from the sun, and “toasty” warm in the cold seasons.

Would you rather shoot like this?



Or like this?



Or like this.....?



Finally.... One thing you need to be aware of The mess!

Clay targets generate a mess, either you hit them and they smash into hundreds of small pieces, or you miss and they hit the ground and smash...
Either way, you can have a visual “eye-sore”.

This is a commercial Skeet-Field. Nothing you can do about it, the land has to be flat, no trees, bushes earth berms. They drive a tractor pulling chains behind to break up the pieces into smaller pieces and “merge” into the ground. (Mind you, this is a LOT of shooting, without much “housekeeping”.)

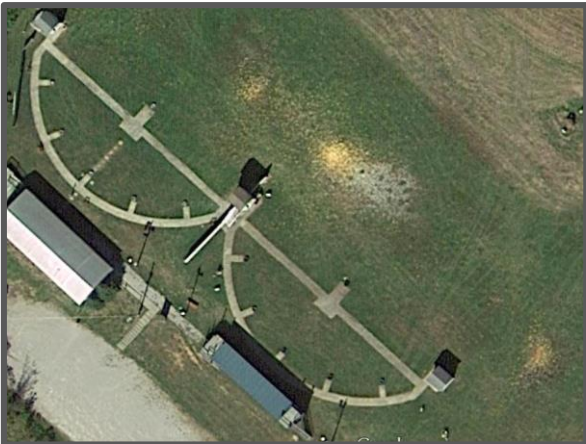


Obviously, we will not have anywhere near the quantity of clay targets, but these photos definitely show the possibility of target pollution.



Here's a Skeet range seen from the air.. Note the landing areas of the unbroken targets.

Here, even the Skeet walkways get polluted



The art of a good course designer is to minimize the footprint of the target debris.

With Sporting Clays and **COMPACT SPORTING** we do not need to have pristine flat ground, the more “ups and downs” the better.

An artistic course designer will plan the target trajectories to suit the land, determining where they will land. Two areas; in pieces if hit and whole or large fragments if missed and they hit the ground.

The photos below show sporting courses with no planning to hide or camouflage the target debris.
We don't want this.



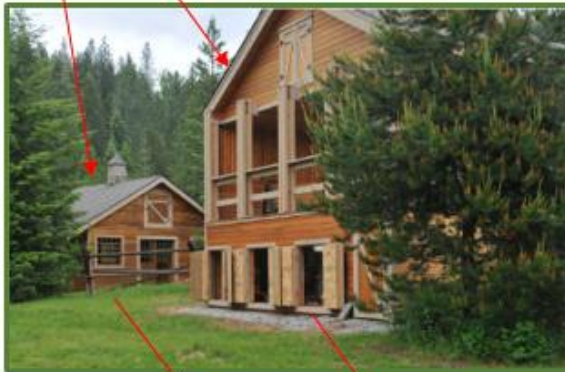
With correct course design, the “majority” of the targets are hidden, behind berms, in tall grass, falling into bushes or dug-out pits. On one course I have in CO, the shooting stations are one side of a low lying bush line, all targets fall the other side. This doesn’t mean they are all the same, just imagination of different shots and determining the “fall-out” area. Shooting Stations are to the North of the hedgerow. (i.e. yellow arrows). The squares contain the traps.



Another club - here’s an aerial view where the shooters are along “Hellman Ave.” – shooting left to right. You can see the target debris hidden in the woods and behind a hedgerow



Here's one of my "show-piece" courses in ID.
There are two **COMPACT SPORTING** Decks.
Back to back.



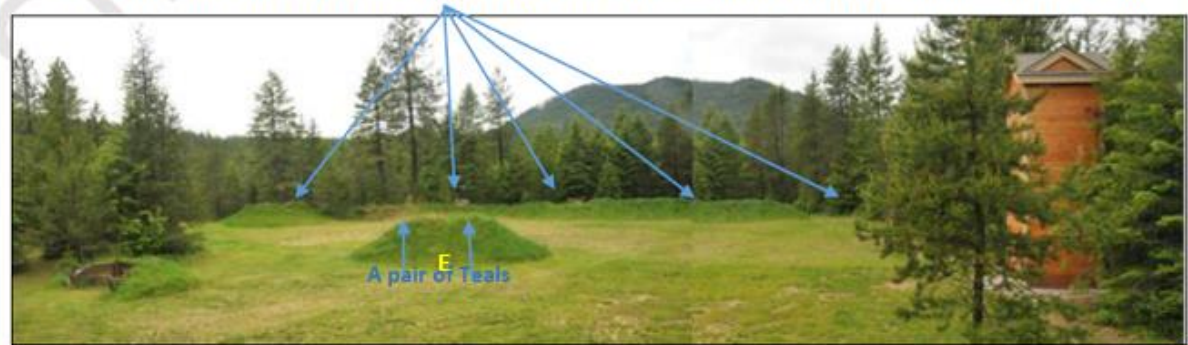
A high bird, and two rabbits from this tower.



2 high birds from the tower behind, a crosser and rabbit.



Several traps hidden behind the berms throw crossing and incoming birds (high and low / fast and slow.)



These have been installed over 4 years (the first 10 years).
You can see from the aerial shot and from the photo immediately above, there is very little if any, target debris visible.

Overshot targets land in the trees, with most broken bits behind the berms and in the mowed grass (6" – 8" tall).



Two towers (40') and (30'),
provide the high targets.



Before we leave the subject of Target Debris, a point to make about “Bio-Degradable” Clays.

Although a good idea, the results are not too good.

They do slowly dissolve, but go through a “sticky” phase where they turn into a product similar to wet chewing gum. If you walk through the target debris area, you collect ever increasing “globbs” of white, sticky stuff on your shoes and finish up wearing the equivalent of snow shoes, also collecting acorns, pinecones, twigs and broken clay pieces.

But, most of all, they contain a very strong weed killer, vegetation killer. They sterilize any ground they land on, killing weeds, grass, bushes and trees.



To the left is an aerial view of a Sporting Clay Course using Bio-Degradable clays. You can clearly see the shooting areas and where the clays land.

Immediately below is a blow up of a section of that land. The lower left looks like a fire went through the land.



There is an alternative called Eco-Friendly clays.

But, they are only manufactured in Europe and can be purchased by the 20' container load (1400 cases). The manufacturer is trying to start bringing them in.

While on the subject of “pollution”, any shotgun shooting discipline has to take notice of lead shot pollution and any water features, especially designated “wetlands”.

Although on private ranges where the quantity of shooting is so miniscule, it is always good to have a lead-mitigation report to hand to work with CERCLA or the EPA if an issue arises.

A recognized Course Designer will be aware of this and help prepare one accordingly.

Let's go back to BASICS... (by any name the same) COMPACT / COMPAK / 5 STAND Sporting First a commercial range.

In a commercial set up, we can just do basic places to stand to separate the shooters. (The International rules specifies distances between shooters etc.)



Then we have more elaborate decks, basically marking where people stand.

But, for a “show-piece” shooting deck, we want something more – unique. This is getting better – it keeps the group together.



Several clubs have extended their Compak Sporting to have covered shooting positions. For example....



This is one of four units I built for the Boy Scout Jamboree in West Virginia last year. It kept the shooters sheltered and dry, but not suitable for “private” use. These four units had to “process” squads of shooters as quickly as possible – in one end – out the other.



Now look at some of my client's Compact Sporting Decks and Buildings.

Although this is a commercial deck, in one of the most prestigious Shooting Grounds in the country, I had to include it as it was the first deck built for **Compact Sporting**. I designed this in 1999 for the Shooting Academy at Nemacolin Woodlands Resort and Spa, in PA owned by Joe Hardy of 84 Lumber. This was the deck that started the "ball-rolling", with many, many copies and variations being built around the country in the following years.



My first “elaborate”, “PRIVATE” **Compact Sporting** Deck, I designed and built for a real-estate investor in MD. After visiting Nemacolin, he wanted something similar; also giving me two weeks to complete it (and 12 Sporting clay stations) for his son’s Bar Mitzvah present.



Another **Compact Sporting** Deck was designed and built at The Shooting Academy in Nemacolin Woodlands Resort and Spa. This was enclosed, and features a back waiting room with “pot-belly” stove for keeping warm during the winter months of shooting.



Then there came two **Compact Sporting** Decks designed and built for my client in Sandpoint, ID. (The original one is in the background, facing away)



Here's the shooting deck and relaxing room of the second **Compact Sporting** Deck – we saw this ground earlier.



The view of the target area from the shooting deck. Both these layouts incorporate 15 traps each.



To present high targets, simulating ducks and pheasants, the owner wanted high towers built to launch the birds from. (Plus they had all to match.)



Perhaps the most expensive and elaborate **Compact Sporting** “Villas” ever built, were the four units I designed and had built for the Al Forsan International Shooting Range, owned by His Highness General Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, Deputy Supreme Commander of the UAE Armed Forces and Chairman of the Abu Dhabi Executive Council.!

These four units have Honduras mahogany woodwork and travertine tiling throughout, and of course, full air conditioning.

These “villas” are regularly rented out for corporate entertainment days (at a very high rate)



These four units (red arrows), were constructed as part of the Sporting Clay Range which has 36 Sporting Stations in a circle all facing inwards.



The photo below shows the rear of one of the building, with the conference room, restrooms and pantry.



The tower in the background, supplies high birds to a number of stations (shown in yellow left), plus the **Compact Sporting Villa** in the foreground.



March 2016 – Latest Design – FRESNO, CA

Private Client wanted a Compact Sporting Deck with 8 target combinations. The location to be on the side of a hill with beautiful views. Cabin can also be available for evening relaxation, unwinding with light snacks (cheese and wine), while overlooking the valley and distant mountains, not necessarily shooting. After examining various locations the view below was chosen. This is facing EAST so the sun would be shining for the majority of the time, behind the shooter.



The following photos are of the Shooting Deck



Rear of cabin – Roll down blinds provide security and wind-break.



Rear approach to cabin.

Trap mounted below deck.



Cabin interior – used for “non-shooting” relaxing with views of mountains.



Solar powered Flood-Lights for evening shooting.



View from shooting deck towards mountains.



Solar powered Flood-Lights for evening shooting.



Further Information

In the above document, I concentrate on **Compact Sporting** to show how to have fun with great camaraderie as opposed to the serious scoring procedures associated with a game of Skeet, where Skeet shooters' prime purpose, even amongst friends, is to score 25/25.

Compact Sporting is a fun, "laughing", "back-slapping" game where the scoring takes second place to having fun.

I have written many documents describing these games and more information can be downloaded from my website at:

www.shooting-academy.com/SS.html

Here you can download several PDF files that go into great details on the History and formation of Sporting Clays, (way back in the 19th century), covering "Why the game was needed?", to the first clay targets, through the development of clay target launchers, through the emergence of **Compact Sporting** Clays and how this game is catching up and replacing corporate entertainment on the golf circuit.

The Shooting Academy website, has a documentation section where anyone can visit and download numerous free PDF files describing almost every aspect of shooting ranges, covering shotgun, rifle and handguns. There is also a section on lead pollution – the CWA, RCRA, CERCLA and, mitigation plans and remediation methods approved by the EPA.

Any range has to be designed and operated in accordance to the pollution controls in force. Many of these enforced by the EPA. Although there are lead pollution problems, there are ways and alternatives that can be discussed to ensure correct and lawful operation.

www.shooting-academy.com/Range%20Plans.html

My company, Shooting Academy, is solely concerned with shooting ranges; How to design and build fun and safe ranges. Although I concentrate on private, luxurious ranges, I also design commercial ranges where the emphasis is on advanced technology, safety and profit.

Thrill and Skill without the Kill – Since 1982

