

Range Relicense Application – Spurwink Rod & Gun Club

Address: 1250 Sawyer Road, Cape Elizabeth, ME 04107

Mailing Address: P.O. Box 667, Scarborough, ME 04070

Contact: Mark Mayone

Reference	Requirement	Response
24-8-1	License application Must be submitted by legal property owner or lessee	See Deed attached as Appendix 2-1
24-8-1	Shall contain detailed contact information regarding the applicant	See Heading above
24-8-1	Shall contain a professional safety range evaluation	See Appendix 4
24-8-3	Detailed description of types and uses of firearms either used or proposed to be used at the site	Per our original license application in 1955 (see Appendix 1), "Any and all types of pistols and rifles and shot guns". A more detailed response is attached as Appendix 5
24-8-3	Detailed description of ammunition either used or proposed to be used at the site	See Appendix 5
24-9-1	Site plan provided within 90 days of the effective date of the ordinance	Completed
24-9-1	Reasonable efforts to comply with Sec. 24-5-1 within said 90 days (from April 10,2014)	Completed
	24-5-1 shooting range facilities shall be designed to contain all of the bullets, shots, or other projectiles within the facility	See Detailed Site Plan in Appendix 3 for walls and berms, Phasing Plan in Appendix 6-5, Backstop material in Appendix 6-6, Baffles in Appendix 6-7
	24-5-1 shooting range facilities shall be designed to contain all of the shot debris within the facility	Backstop material in Appendix 6-6
24-9-1	Reasonable efforts to comply with Sec. 24-6-3 within said 90 days (from April 10,2014)	Completed
	24-6-3 requires warning signs meeting or exceeding NRA standards posted at 100 foot intervals along the perimeter of the range and the entire perimeter of the property lines in the same intervals	Warning signs have been installed at the prescribed interval and were inspected by the FRC
24-8-4	Site plan for the entire shooting range facility	See Appendix 3
24-8-4	Site plan drawn by a licensed professional	See Appendix 3-1 Contract with Ross Boundary Surveys November 1994 & 3-2 Original Ross survey document
24-8-4	Site plan scale of no less than one inch equals 100 feet with the license application	See Appendices 3-2, 3-3 & 3-4 Three different scales have been provided; 1:200 to show entire property; 1:100 to show range area detail in congruence with 3-2 and requirement 24-8-4; 1:60 in a shooting direction up orientation in congruence with M. Mayone's hand-drawn plans (Appendix 3-5)
24-8-4-1	Site plan with property lines	See Appendix 3-2
24-8-4-1	Site plan with north arrow	See Appendices 3-2 & 3-3
24-8-4-1	Site plan scale shown	See Appendices 3-2, 3-3 & 3-4
24-8-4-1	Site plan date	See Appendix 3-2
24-8-4-1	Site plan contains ownership information for the site	See Appendix 3-2
24-8-4-2	Complete layout including shooting stations	See Appendices 3-3, 3-4 & 3-5
24-8-4-2	Complete layout showing firing lines	See Appendices 3-3, 3-4 & 3-5
24-8-4-2	Complete layout showing target areas	See Appendices 3-3, 3-4 & 3-5

24-8-4-2	Complete layout showing shot-fall zones	See Appendices 3-4 & 3-5 "Range Area" outlined in cyan
24-8-4-2	Complete layout showing backstops if any	See Appendices 3-3, 3-4 & 3-5
24-8-4-2	Complete layout showing berms if any	See Appendices 3-3, 3-4 & 3-5
24-8-4-2	Complete layout showing baffles if any	See Appendices 6-5 Phasing & 6-7 Baffles
24-8-4-3	Projected noise contours sufficient to demonstrate compliance as determined by an engineer	Does not apply to existing ranges; See Appendix 6-1 for SRGC Baseline Sound Study
24-8-4-4	Site plan shows existing and proposed structures within 2,640 feet	See Appendices 3-7 & 3-8
24-8-4-4	Site plan shows occupied dwellings within 2,640 feet	See Appendices 3-7 & 3-8
24-8-4-4	Site plan shows roads for the shooting range facility	N/A
24-8-4-4	Site plan shows access areas for the shooting range facility	See Appendices 3-3 & 3-4
24-8-4-4	Site plan shows buffer areas for the shooting range facility	See Appendix 3-6
24-8-4-4	Site plan shows parking areas for the shooting range facility	See Appendices 3-3 & 3-4
24-9-2	License application shall be compliant with all remaining provisions of the ordinance within one year or which may include a phasing plan	See Appendix 6-5 Phasing
24-7-4	Evidence of \$3.0 million per occurrence of liability insurance	See Appendix 6-4
24-7-4	Said insurance names the town as an additional insured	See Appendix 6-4
24-7-4	Hold harmless language in the insurance for the town, its elected officials and its employees	See Appendix 6-4
24-2-2	Each SRF shall be designed to contain the bullets, shots and ricochets of the same discharged at or within the SRF	The Phased Site Plan has this objective as its primary goal.
24-2-3	Each SRF shall be designed to minimize off site noise impacts generated by activities at the SRF	The containment plan will have the added benefit of reducing noise impacts by containing/redirection noise within the range facility.
24-5-2	Noise levels at the property line shall not exceed 65 dBA when said line is within 1000 feet of an occupied dwelling subject to 30-A M.R.S.A 3011	Subject to the limitations of 30-A M.R.S.A. 3011, as it may be amended, regarding existing Shooting Range Facilities.
24-6-1	Where not otherwise specified, SRF shall meet or exceed the design standards for general and utility type of range specified by the NRA	In compliance.
24-6-2	Shooting stations and targets located closer than 300 feet from any property line shall not be allowed to further encroach on that setback	Acknowledged; Submitted plans are in compliance.
24-6-2	The surface danger zone shall be contained within the property boundary line.	See Appendices 3-4 & 3-5 "Range Area" outlined in cyan
24-6-4	Existing SRF located closer than 1/2 mile from any existing occupied dwelling shall not be permitted to relocate or enlarge said range to further encroach	Acknowledged
24-6-5	Access to SRF shall be secured and controlled with ingress and egress permitted only during pertinent hours est. in 24-7-3 except for maintenance and other business not involving shooting firearms	Access to the range is secured and controlled.
24-7-1	Where not otherwise specified, SRF shall be operated and maintained in a manner meeting or exceeding standards in NRA Range Source Book	Range is operated in accordance with the NRA Range Source Book
24-7-2	Shall provide a plan outlining its best management practices relating to lead management	See Appendices 6-2 & 6-3
24-7-2	Said lead management plan shall meet or exceed the standards set forth in the EPA Lead management guidelines	See Appendix 6-3
24-7-3	SRF shall be allowed to operate from 8 a.m. to 30 minutes before sunset Mon-Sat and from noon to 30 minutes before sunset on Sunday	Hours of operation are clearly posted on the range in compliance with this reduction in our traditional shooting hours.

Appendix 1

Spurwink Rod & Gun Club Range History 1955

1. SRGC History-0 Founding Meeting Minutes 1-21-1954
2. SRGC History-1 Original Range Petition
3. SRGC History-2 Reaffirmed Petition to the CE Selectmen
4. SRGC History-3 Notice of Town Meeting re: Petition 6/6/1955
5. SRGC History-4 Town Meeting Minutes 7/20/1955
6. SRGC History-5 Town Meeting Minutes Typed
7. SRGC History-6 Town Ordinances 1941 re: Firearms

Spurwink Rod and Gun Club

Organized January 21, 1954

January 21, 1954

The first meeting was held at the Cape Elizabeth High School. Twenty members were present. Election of officers was held for the opening year. They are as follows:

Pres. Roy Blomberg
 V. Pres. Herbert Straut
 Recording Sec. Elmer Murray
 Treas. Owen Pride
 Financial Sec. Arthur Kennedy

A by-law committee was appointed by the president. They are as follows:

Chairman: Herbert Straut
 Clayton Belger
 Ralph Coe
 Art Peoples
 Roy Maxwell
 Guy Clifford

A refreshment committee was appointed by the president. They are as follows:

Red Smith
 Art Kennedy
 Guy Clifford

Meeting was adjourned until the following Thursday.

Respectfully submitted
 Elmer Murray, Secretary

We, the undersigned citizens of the
Town of Cape Elizabeth, do hereby
request permission for the Spinnick
Rod and Gun Club to erect a
rifle range on its property on
Lawyer Street, said property to
be that leased from the Grant
Estate. This range to be supervised
and approved by the Selectmen
of the Town of Cape Elizabeth and
Police Chief:

Anton H. Murray

William D. Murray

Arthur J. Kennedy

Henry Hill

Alvin Jordan

Kenneth L. Maxwell

Bayer W. Murray

Ernest T. Bagley

Clifford H. H. H. H.

James E. McLaughlin

Petition for the construction and use of a rifle range upon the Spurwink Rod and Gun Property located on Sawyer Rd., previously inspected and approved of by the Town Selectmen and the Officer in Charge of the Police, is hereby made and attested to by the undersigned.

Name	Address
Oscar A. Dunn	Cape Elizabeth.
Clayton W. Bulger	" "
Charles M. Appleton	" "
Simon B. Curran	" "
James W. Surrance	" "
Lynwood Paul Sanford	" "
James C. Catwoods	" "
Paul E. Tuohy	" "
Louis T. Tipton	" "
Peter A. Grant	" "
Robert H. Grant	" "
Owen F. Prude	" "

NOTICE

A petition signed by more than ten residents of the Town, representing the Spurwink Rod and Gun Club, for the establishment of a supervised shooting range located south-westerly of Sawyer Rd. in said Town of Cape Elizabeth on land of Chester C. Froot heirs having been presented to the Selectmen, notice is hereby given the Inhabitants of the Town of Cape Elizabeth that a public hearing will be held at the Town Hall in said Cape Elizabeth on June 20th at seven o'clock in the afternoon, Eastern Standard Time. The purpose of the hearing is to permit all persons interested to be heard.

Dated at Cape Elizabeth this 6th day of June,

A.D. 1955.

Alvin S. Murray
Carl Beyer
Lynette Cousins Jr
Selectmen

Meeting call 7:05 PM
6 in favor attending
no opposed.
meeting adjourned 7:42 PM

Provisionary superior in mailman at all times when issued

Hearing, Town Hall June 20, 1955

Present were:

3 selectmen

Mr. Aronson

Mr. Ralph Cox

Mr. Elmer Murray

Mr. Wayne Murray

Mr. Jim Durance

Mr. Murray read notice for the hearing,
asked for proposal & anybody who had anything to say.
Laid out on fashion of N.R.A. rifle range.

It will be supervised during certain hours and
police are authorized to stop any firing out
of hours. Backstop will be sandbagged, and that
portion of backstop is 40' higher than firing
line.

Mr. Murray asked what calibre of rifle was
to be used. Mr. Durance said any & all might be
used. It was pointed out that it was ~~about~~ at best
2 miles to the houses on Sawyer St in Scarborough and
those in Prout's Neck Rd.

There were no objections to the proposition.

HEARING ON PROPOSED SHOOTING RANGE

A hearing on the petition of 10 interested residents was held at the Town Hall, Cape Elizabeth, Maine at 8 o'clock D. S. T. regarding a permit for a supervised Shooting Range within the town. Mr. Murray read the notice of the meeting which had been posted at least 10 days before said hearing and called for discussion.

There appeared 6 proponents and no opponents to the range.

Mr. Durrance speaking for the group explained that the range would be laid out in accordance with an approved N. R. A. rifle range. He stated that it would be supervised during certain hours and requested police assistance outside those hours to prevent use of the range for unauthorized firing.

The back stop, which is in the form of a high hill, he said, will be sand banked to prevent ricochet. He estimated that the bank was about 40 feet higher than the plane of firing.

Mr. Murray asked what caliber rifle was to be used and Mr. Durrance said any and all types of pistols and rifles and shot guns were considered.

It was further pointed out that at least two miles separated this range and the houses in Scarborough across the swamp.

There was no opposition to the proposal.

The Selectmen took the matter under advisement and the hearing was adjourned at 8:45.

Sec. 14. No person shall fire or discharge firearms, air rifles or air pistols within the limits of the Town of Cape Elizabeth in any street, highway or public place, nor anywhere in that portion of the town located easterly of Spurwink Avenue and northerly of Scott Dyer Road and easterly of Ocean House Road and northerly of Alewife Brook, including also the area bounded by Ocean House Road, Fowler Road, the easterly boundary of land owned by Ammi Hannaford and northerly boundary of land owned by Frank H. Peabbles, provided, however, that this section shall not apply to the use of such weapons at any military exercise or review, or in the lawful defense of the person, family or property of any individual, or on a range constructed for target practice and approved by the municipal officers.

Appendix 2

Ownership & Representation

1. Deeds to the Spurwink Rod & Gun Club Property – See Ross Boundary Survey in Appendix 3 for additional Book/Page & Survey references
2. Minutes of SRGC Meeting on 12/19/2013 (2 pages) designating Mark Mayone as the Firing Range Committee representative
3. Minutes of SRGC Meeting on 5/7/2015 (Page 3 only) reaffirming Mark Mayone as the Firing Range Committee representative

KNOW ALL MEN BY THESE PRESENTS, THAT I, Clara Mary Hanscom of Cape Elizabeth, County of Cumberland and State of Maine, in consideration of One Dollar and other valuable considerations paid by Spurwink Rod and Gun Club, a corporation organized and existing under the laws of the State of Maine and located at Cape Elizabeth, County of Cumberland and State of Maine, the receipt whereof I do hereby acknowledge, do hereby give, grant, bargain, sell and convey unto the said Spurwink Rod and Gun Club, its successors and assigns forever, a certain lot or parcel of land situated in said Cape Elizabeth, bounded and described as follows: Beginning at a drill hole on the easterly side line of Sawyer Road on the division line of land of one Matthews and land of Clara Mary Hanscom; thence north sixty-seven degrees (67°) east seven hundred twenty-four (724) feet to spotted white birch tree on line of a barbed wire fence; thence south twenty-seven degrees (27°) east six hundred sixty-five (665) feet to a spotted fir tree; thence north eighty-seven degrees (87°) east one hundred eighty-four (184) feet to a stone wall; thence south five degrees (5°) west six hundred

Hanscom
to
Spurwink
Rod & Gun
Club
See
Book 11915
Page 208

twenty-seven (627) feet to another stone wall; thence south ninety degrees (90°) west five hundred eighty-eight (588) feet to an iron stake; thence north fifteen degrees (15°) west five hundred eighty-four (584) feet to an iron stake; thence south sixty-seven degrees (67°) west one hundred ninety-eight (198) feet to an iron stake on said Sawyer Road, which last-described course is twenty-five (25) feet northerly from Clara Mary Hanscom's Tool House; thence north twenty-three degrees (23°) west along the easterly side of Sawyer Road four hundred seventy-five (475) feet to drill hole and point of beginning. Bearings are magnetic as of 1955.

Being a part of the premises conveyed to this grantor by Mary B. Matthews by deed dated December 29, 1941, recorded in Cumberland County Registry of Deeds in Book 1659, Page 441.

U.S.I.R.
\$0.55
C.M.H.
2/3/56

TO HAVE AND TO HOLD the aforegranted and bargained premises with all the privileges and appurtenances thereof, to the said Spurwink Road and Gun Club, its successors and assigns, to its and their use and behoof forever.

AND I do COVENANT with the said Grantee, its successors and assigns, that I am lawfully seized in fee of the premises, that they are free of all incumbrances; that I have good right to sell and convey the same to the said Grantee to hold as aforesaid; and that I and my heirs shall and will WARRANT AND DEFEND the same to the said Grantee, its successors and assigns forever, against the lawful claims and demands of all persons.

IN WITNESS WHEREOF, I, the said Clara Mary Hanscom, and Lester G. Hanscom, husband of the said Clara Mary Hanscom, joining in this deed as Grantor, and relinquishing and conveying his right by descent and all other rights in the above described premises, have hereunto set our hands and seals this third day of February in the year of our Lord one thousand nine hundred and fifty-six.

Signed, Sealed and Delivered
in presence of

Edward B. Perry

Clara Mary Hanscom

Seal

Martha E. Downs

Lester G. Hanscom

Seal

STATE OF MAINE, CUMBERLAND, SS.

February 3, 1956.

Personally appeared the above named Clara Mary Hanscom and acknowledged the foregoing instrument to be her free act and deed.

Before me, Edward B. Perry, Notary Public, Notarial Seal

Received February 7, 1956 at 4h. 16m. P.M. and recorded according to the original. /

Know all Men by these Presents,

That SPURWINK ROD & GUN CLUB.

a Corporation organized and existing under the laws of the State
of Maine and located at Cape Elizabeth
in the County of Cumberland and State of Maine

in consideration of ONE DOLLAR (\$1.00) and other valuable
considerations, being less than ONE HUN-
DRED DOLLARS (\$100.00)

paid by INHABITANTS OF THE TOWN OF CAPE ELIZABETH
a corporation organized and existing under the laws of
the State of Maine and located at Cape Elizabeth in said
County of Cumberland and State of Maine

the receipt whereof it does hereby acknowledge, does hereby remise,
release, bargain, sell and convey, and forever quit-claim unto the said

INHABITANTS OF THE TOWN OF CAPE ELIZABETH

its successors heirs and assigns forever,

A certain lot or parcel of land situated in the Town of Cape Elizabeth,
County of Cumberland and State of Maine, and being bounded and described
as follows:

Beginning at a point on the easterly side line of Sawyer Road as now
laid out, said point being North 22°09½' West two hundred sixty-three
and five tenths (263.5) feet along the said easterly side line of said
Sawyer Road from the second angle northerly of the northerly side line
of Wells Road, said second angle being one thousand nineteen (1019)
feet northerly along the easterly line of said Sawyer Road from its
intersection with the northerly line of Wells Road; thence North 22°09½'
West along the easterly line of said Sawyer Road one hundred forty-seven
(147) feet, more or less, to a stake; thence easterly at right angles
to the last described course eight (8) feet to a stake; thence south-
erly and on a curve to the left having a radius of one thousand four
hundred seven and sixty-five hundredths (1407.65) feet one hundred
forty-eight (148) feet, more or less, to the easterly side of said
Sawyer Road and the point of beginning.

Being a portion of the premises conveyed to Spurwink Rod & Gun Club by
Clara Mary Hanscom by deed recorded in the Cumberland County Registry
of Deeds in Book 2263, Page 347.

To Have and to Hold the same, together with all the privileges and appurtenances thereunto belonging, to it the said

INHABITANTS OF THE TOWN OF CAPE ELIZABETH, its successors Heirs and Assigns forever.

And the said Grantor Corporation does covenant with the said INHABITANTS OF THE TOWN OF CAPE ELIZABETH, its

successors Heirs and Assigns, that it will Warrant and Warrant Defend the premises to IT the said Grantee, ITS Heirs and Assigns forever, against the lawful claims and demands of all persons claiming by, through, or under it.

In Witness Whereof, the said SPURWINK ROD & GUN CLUB

with a wafer seal which it hereby adopts as has caused this instrument to be sealed/with its corporate seal and signed in its corporate name by Elmer C. Murray, Raymond B. Lufkin, and Albert H. Simonton, its Trustees thereunto duly authorized, this 5th day of June in the year one thousand nine hundred and Sixty-Seven.

Signed, Sealed and Delivered in presence of

SPURWINK ROD & GUN CLUB



Albert Simonton To Both. By Elmer C. Murray Trustee Raymond B. Lufkin " Albert H. Simonton "

(Corporate Seal)

State of Maine, Cumberland

} ss.

June 5 1967

Personally appeared the above named Albert H. Simonton of said Grantor Corporation as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of said corporation.

Before me,

Seward H. Emery Justice of the Peace.

JUL 26 1967

REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE

Received at 3 H - PM, and recorded in BOOK 3004 PAGE 717 Seward R. Lufkin Register

KNOW ALL MEN BY THESE PRESENTS:

That It, Spurwink Rod and Gun Club, a corporation duly organized and existing under the laws of the State of Maine and located at Cape Elizabeth in the County of Cumberland and State of Maine,

in consideration of

One Dollar (\$ 1.00) and other valuable considerations to it paid by the State of Maine, the receipt whereof is hereby acknowledged, does hereby give, grant, bargain sell and convey unto the State of Maine the right to enter upon, construct and perpetually maintain a public highway over and across a certain lot or parcel of land situated in the Town of Cape Elizabeth in the County of Cumberland and State of Maine, and bounded and described as follows:

Being Parcel No. (1) as shown on a Right of Way Map, State Aid Highway No. 5, Cape Elizabeth, dated September 1967, on file in the office of the State Highway Commission (S.H.C. File No. S-3-320) and to be recorded in the Cumberland County Registry of Deeds.

Beginning at a point thirty-three (33) feet easterly from and as measured along a line at right angles to the Base Line at P. C. Station 13+05.85;

Thence S. 20°-08'-30" E. five and eighty-five hundredths (5.85) feet to a point thirty-three (33) feet easterly from and as measured along a line at right angles to the Base Line at Station 13+00;

Thence westerly along said right angle line about seventeen (17) feet to a point in the easterly line of the Sawyer Road as redefined by the Commissioners of Cumberland County following the hearing on same May 24, 1967;

Thence northerly along the easterly line of said Sawyer Road about one hundred sixty-one (161) feet to a point in the southerly line of land now or formerly of Louis Bernstein et al.;

Thence easterly along the southerly line of land now or formerly of Louis Bernstein et al. about twenty-five (25) feet to a point thirty-three (33) feet easterly from and as measured along a line normal to the Base Line at about Station 14+64;

Thence southerly along a curved line thirty-three (33) feet easterly from and concentric with a 4°-00' curve of the Base Line about one hundred fifty-four (154) feet to the point of beginning.

Excepting and reserving hereby all that portion of the above described premises conveyed by the Grantor herein to the Inhabitants of the Town of Cape Elizabeth by Deed dated June 5, 1967 and recorded in the Cumberland County Registry of Deeds, Book 3004, Page 717.

The above described lot or parcel of land contains approximately 0.06 acre and is a portion of the premises conveyed to the said Grantor herein by Warranty Deed of Clara May Hanscom dated February 3, 1956 and recorded in the Cumberland County Registry of Deeds, Book 2263, Page 347.

Also granting unto the said State of Maine the perpetual right to flow water to, through, over and across said Grantor's land in an easterly direction from a culvert at Station 14+50 right of the Base Line.

And for the aforesaid consideration, said Grantor hereby releases the said State of Maine from all claims for damages to the land of said Grantor adjoining the land hereinabove described, arising from the new location of and change of grade made in State Aid Highway No. 5.

R/W Easement
Corporation Acknowledgment

TO HAVE AND TO HOLD the same unto the said State of Maine with all the incidents thereto belonging to its use and behoof forever.

And the said Grantor Corporation, for itself and its successors and assigns, does hereby covenant with the said State of Maine, that it is the true and lawful owner of said premises; that it is lawfully seized in fee of the same; that it has good right and full power to give, grant, bargain, sell and convey the same in manner aforesaid; that the same are free and clear from all liens and encumbrances; and that it will warrant and defend the same against the lawful claims and demands of all persons.

IN WITNESS WHEREOF, the said SPURWINK ROD AND GUN CLUB, has caused this instrument to be sealed with a wafer seal which it hereby adopts as its ~~has caused its corporate name to be subscribed and its corporate seal to be affixed by its~~ corporate seal and signed its corporate name by its trustees thereunto duly ~~seal to be affixed by its~~ this fifteenth day of

Authorized
January in the year of our Lord one thousand nine hundred and seventy.

Signed and Sealed
in presence of

Elmer C. Munro

Spurwink Rod AND GUN CLUB 

By *Robert B. Morse*

Raymond B. Luffin

Arthur H. Newcomb

State of Maine, }
County of Cumberland } ss.

February 3 1970 .

Then personally appeared the above named Arthur H. Newcomb and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said corporation.

FEB 6 1970

Before me,

Walter H. Gray
Justice of the Peace

REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE

Received at 9 H - *AM*, and recorded in

BOOK 3117 PAGE

157

Edward P. Kelly Registrar

Know all Men by these Presents,

That the Spurwink Rod and Gun Club

a Corporation organized and existing under the laws of the State
of Maine and located at Cape Elizabeth
in the County of Cumberland and State of Maine
in consideration of One (\$1.00) Dollar and other valuable considerations

paid by the State of Maine

the receipt whereof it does hereby acknowledge, does hereby rentise,
release, bargain, sell and convey, and forever quit-claim unto the said
State of Maine, its successors

heirs and assigns forever,

a certain lot or parcel of land situated on the easterly side of State Aid
Highway No. 5 (Sawyer Road) in Cape Elizabeth, said County and State.

Being Parcel No. 8 as shown on a Right of Way Map entitled "State Aid Highway
No. 5, Cape Elizabeth, Project No. C04-05(501)" dated April 1977 on file in the
office of the Department of Transportation, Bureau of Highways at Augusta
(D.O.T. File No. S-3-378) and to be recorded in the Cumberland County Registry
of Deeds.

Beginning at a point in the southerly line of land described in document from the
Grantor herein to the State of Maine, dated February 3, 1970 and recorded in
Book 3117, Page 157 of the Cumberland County Registry of Deeds, said point being
twenty-five (25) feet easterly from and as measured along a line at right angles
to the State Aid Highway No. 5 Base Line at Sta. 21+50.00 Back equals Sta.
13+00.00 Ahead;

Thence S. 20°-08'-30" E. one hundred twenty-nine and one hundredths (129.01) feet
to a point twenty-five (25) feet easterly from and as measured along a line at
right angles to the base line at P.T. Sta. 20+20.99;

Thence southeasterly along a curved line twenty-five (25) feet northeasterly from
and concentric with a 3°-00' curve of the base line about one hundred ninety-four
(194) feet to a point in the northwesterly line of land now or formerly of
Norman S. and Sandra L. Hanscom, said point being on a line normal to the base
line at about Sta. 18+24;

Thence southwesterly along the northwesterly line of land now or formerly of the
said Hanscoms to the center of State Aid Highway No. 5;

Thence northwesterly along the center of State Aid Highway No. 5 as the same now
runs about three hundred twenty-six (326) feet to a point on a line at right
angles to the base line at Sta. 21+50.00 Back equals Sta. 13+00.00 Ahead;

Thence easterly along said right angle line about twenty-five (25) feet to the
point of beginning.

Said lot or parcel of land contains about 0.08 acre and the fee underlying the
easterly half of the present location of State Aid Highway No. 5 (Sawyer Road).

Meaning and intending to convey and hereby conveying a portion, and a portion only, of the premises acquired by the Grantor herein by Warranty Deed of Clara May Hanscom dated February 3, 1956 and recorded in the Cumberland County Registry of Deeds in Book 2263, Page 347.

To Have and to Hold the same, together with all the privileges and appurtenances thereunto belonging, to it the said State of Maine, its successors

Heirs and Assigns forever.

And the said Grantor Corporation does covenant with the said State of Maine, its successors

Heirs and Assigns, that it will Warrant and Forever Defend the premises to it the said Grantee, State of Maine, its successors Heirs and Assigns forever, against the lawful claims and demands of all persons claiming by, through, or under it.

In Witness Whereof, the said Spurwink Rod and Gun Club

has caused this instrument to be sealed with its ^{wafer} ~~corporate~~ seal which it hereby adopts as its corporate seal and signed in its corporate name by its Trustees

, its

thereunto duly authorized, this 7th day of December in the year one thousand nine hundred and seventy-eight.

Signed, Sealed and Delivered in presence of

SPURWINK ROD AND GUN CLUB

Henry E. Hanscom
Henry E. Hanscom
Henry E. Hanscom

By Heyle M. Stovius
Robert P. Mursc
Allan E. Berron
Trustees
(CORPORATE SEAL)



State of Maine } ss.
County of Cumberland

December 18 1978 .

Personally appeared the above named Robert P. Mursc of said Grantor Corporation as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of said corporation.

Before me,

Walter H. Gray
Justice of the Peace.

DEC 22 1978
REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE

Received at 8 H 30 M AM, and recorded in
BOOK 4359 PAGE 198 . Leah S. Tibbitts DEPUTY Register

20176

CORRECTIVE RELEASE DEED

KNOW ALL BY THESE PRESENTS, that SPURWINK ROD AND GUN CLUB, a Maine non-profit corporation, of Cape Elizabeth, Cumberland County, Maine, for consideration paid, releases to HENRY C. ADAMS, whose mailing address is 3 Todd Road, Cape Elizabeth, Maine 04107; DAVID B. SCHEFFLER, whose mailing address is 12 Pheasant Hill Road, Cape Elizabeth, Maine 04107; ANDREW D. TABOR, whose mailing address is 14 Farm Hill Road, Cape Elizabeth, Maine 04107; and EDWARD O. PERRY, whose mailing address is 10 Pine Ridge Road, Cape Elizabeth, Maine 04107, as TRUSTEES FOR THE BENEFIT OF TROOP 30, PINE TREE COUNCIL, BOY SCOUTS OF AMERICA, the premises located in the Town of Cape Elizabeth, Cumberland County, Maine bounded and described as follows:

SEE SCHEDULE A ATTACHED HERETO AND MADE A PART HEREOF

The purpose of this deed is to correct and confirm the boundary between land of the Grantor and Grantee herein. Reference is made to the deed recorded in the Cumberland County Registry of Deeds in Book 2263, Page 347.

WITNESS my hand and seal this 3 day of ^{MAY}~~April~~, 1995.

SPURWINK ROD AND GUN CLUB

By: Frank Nappi
Its: President
Printed Name: Frank Nappi

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

On ^{MAY}~~April~~ 3, 1995, personally appeared before me the above-named Frank Nappi of said corporation in his said capacity, and acknowledged the foregoing to be his free act and deed and the free act and deed of said corporation.

SEAL

Susan Fraitten
Notary Public
Printed Name: SUSAN FRAITTEN
NOTARY PUBLIC, MAINE
MY COMMISSION EXPIRES JUNE 12, 1998

SCHEDULE A

A certain lot or parcel of land in the Town of Cape Elizabeth, County of Cumberland and State of Maine, more particularly described as follows:

That land lying Northerly and Easterly of and adjacent to the following described line in the Town of Cape Elizabeth, County of Cumberland and State of Maine, more particularly described as follows:

Beginning at a 5/8" diameter rebar with cap #2205 set on the Easterly side of Sawyer Road at the Westerly corner of land conveyed to the Spurwink Rod and Gun Club by deed recorded in the Cumberland County Registry of Deeds, Book 2263, Page 347;

Thence N 67°55'45" E a distance of 706.75 feet to a 4 inch square granite monument found with cap #509;

Thence S 30°57'28" E a distance of 610.75 feet to a 5/8" diameter rebar with cap #509;

Thence N 87°50'46" E a distance of 257.98 feet to a 5/8" diameter rebar with cap #509 found at land conveyed to John J. Gabriel and Suzanne Gabriel by deed recorded in said Registry of Deeds in Book 4982, Page 286.

Bearings are referenced to Plan of a Portion of the Sawyer Road in the Town of Cape Elizabeth, Maine as redefined by the Commissioners of Cumberland County following the Hearing on Same May 24, 1967 by H.I. & E.C. Jordan Surveyors dated December 13, 1967. Reference is made to Standard Boundary Survey, Property in Cape Elizabeth, Maine of Trustees for the benefit of Troop 30, Pine Tree Council, Boy Scouts of America for Juan A. Perez-Febles to be recorded in said Registry.

TXR:26103-1.wp

RECEIVED
RECORDED REGISTRY OF DEEDS

95 MAY 12 AM 11:11

CUMBERLAND COUNTY

John B. O'Brien

20177

CORRECTIVE RELEASE DEED

KNOW ALL BY THESE PRESENTS, that We, HENRY C. ADAMS, of Cape Elizabeth, Maine; DAVID B. SCHEFFLER, of Cape Elizabeth, Maine; ANDREW D. TABOR, of Cape Elizabeth, Maine; and EDWARD O. PERRY, of Cape Elizabeth, Maine, as TRUSTEES FOR THE BENEFIT OF TROOP 30, PINE TREE COUNCIL, BOY SCOUTS OF AMERICA, for consideration paid, release to SPURWINK ROD AND GUN CLUB, INC. a Maine non-profit corporation, whose mailing address is Sawyer Road, Cape Elizabeth, Maine 04107, the premises located in the Town of Cape Elizabeth, Cumberland County, Maine, bounded and described as follows:

SEE SCHEDULE A ATTACHED HERETO AND MADE A PART HEREOF

The purpose of this deed is to confirm and correct the boundary line between land of the Grantor and Grantee herein, off Sawyer Road in Cape Elizabeth. Reference is made to deed from the Inhabitants of the Town of Cape Elizabeth dated April 13, 1959 and recorded in the Cumberland County Registry of Deeds in Book 2466, Page 108.

WITNESS our hands and seals this 10th day of March, 1995.

Witness:

M. W. Souther

Trustees for the Benefit of Troop 30
Pine Tree Council, Boy Scouts of America
Henry C. Adams
Henry C. Adams, as Trustee

Witness:

M. W. Souther

David B. Scheffler
David B. Scheffler, as Trustee

Witness:

M. W. Souther

Andrew D. Tabor
Andrew D. Tabor, as Trustee

Witness:

M. W. Souther

Edward O. Perry
Edward O. Perry, as Trustee

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

On March 10, 1995 personally appeared before me the above-named Henry C. Adams, David B. Scheffler, Andrew D. Tabor and Edward O. Perry and each acknowledged the foregoing instrument to be his free act and deed as a Trustee for the benefit of Troop 30, Pine Tree Council, Boy Scouts of America.



Notary Public

MARY McQUILLEN
NOTARY PUBLIC, MAINE
MY COMMISSION EXPIRES SEPTEMBER 3, 1999

SEAL

SCHEDULE A

A certain lot or parcel of land in the Town of Cape Elizabeth, County of Cumberland and State of Maine, more particularly described as follows:

That land lying Southerly and Westerly of and adjacent to the following described line in the Town of Cape Elizabeth, County of Cumberland and State of Maine, more particularly described as follows:

Beginning at a 5/8" diameter rebar with cap #2205 set on the Easterly side of Sawyer Road at the Westerly corner of land conveyed to the Spurwink Rod and Gun Club by deed recorded in the Cumberland County Registry of Deeds, Book 2263, Page 347;

Thence N 67°55'45" E a distance of 706.75 feet to a 4 inch square granite monument found with cap #509;

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Bearings are referenced to Plan of a Portion of the Sawyer Road in the Town of Cape Elizabeth, Maine as redefined by the Commissioners of Cumberland County following the Hearing on Same May 24, 1967 by H.I. & E.C. Jordan Surveyors dated December 13, 1967. Reference is made to Standard Boundary Survey, Property in Cape Elizabeth, Maine of Trustees for the benefit of Troop 30, Pine Tree Council, Boy Scouts of America for Juan A. Perez-Febles to be recorded in said Registry.

TXR:26076-1.wp

RECEIVED
RECORDED REGISTRY OF DEEDS

95 MAY 12 AM 11:12

CUMBERLAND COUNTY

John B O'Brien

Spurwink Rod and Gun Club Business Meeting Minutes

Business Meeting 12/19/2013

Meeting called to order at 7:03 PM by President Mayone, with 21 members and guests present.

Roll call of officers: All officers present or accounted for. Vice President Moen absent.

Guest Speaker: No official guest speaker due to business meeting. Two individuals with interest in having a place to shoot archery came to the club to seek the club's consideration on allowing groups to shoot archery on the range.

Meeting Minutes: Minutes of the previous meeting read by Secretary Koenig and accepted.

Treasurer's Report: All bills paid. Currently have \$2000.00 in checking, \$1000 in petty cash, and \$2000.00 in savings for a total of \$5000.00.

Financial Secretary: All members paid for 2013.

Building Committee: Work party is scheduled for December 28th and 29th starting at 8:00 AM to complete the prep work for the meeting. Looking for some new faces to help out.

Raodrawing Committee: Call #12345 Government World office is underway. 1000 tickets will be sold with the drawing at the meeting on February 6, 2014. You do not need to be present to win. Tickets are one for \$5 or two for \$20. It has been asked that all unused tickets be returned during the January meetings.

President Mayone continues the "Guess how many rounds are in the partially covered with bottle" fundraiser. Members can take a guess at how many total rounds are in the bottle - the member with the most guess wins the bottle which is filled with 20 LR, 3000 Luger, 45 ACP, and 12 Gauge shotgun shells. Guesses cost a dollar, and the fundraiser will continue until the most number is guessed.

Entertainment Committee: January's guest speaker will be Todd Coombs. Mr. Coombs is a 25 year police veteran and the current law enforcement point of contact for Windham Magazine. Looking at getting Brian Smith, our NHNH Field representative, for a future meeting.

Kitchen Committee: Chili is on the menu for January's dinner.

Range Committee: Range is looking pretty good. Nothing new to report.

Bulletin: Nothing new to report.

Member Safety: Nothing new to report.

Legislation: Nothing new to report.

OWB: Gross, income, and demands on club. Parts have been limited to design customer.

Unfinished Business: First safety course scheduled for January.

Range rules will be changed. Required to be voted on at two meetings. Will be voted on at the next meeting.

There will be three board positions opening at the end of the year. If you are interested in running for one of the positions, please see Don Waldman, Don Burke, or Bob Foster.

New Business:

Archery: Talks that want to use the range for archery will need to be current members and be members of the OWB. Shooting will be allowed on Sundays. Motion made to accept the archery motion seconded, motion accepted. A question was raised about liability insurance; the club currently maintains \$1 million per incident, \$1 million personal injury, and a \$2 million cap.

Voting for officers: Doug Brown nominated for Recording Secretary, Jeff Koenig nominated for Financial Secretary, Brian Hill nominated for Trustee, Mark Mayone nominated to the Executive Board.

K

New Position: Mark Mayone is stepping down as the Board President. A new Public Affairs Officer position has been created which will allow Mark to continue to assist the club in that area, specifically with the current town ordinance issues.

Range emergency phone: President Mayone discussed the possibility of placing an emergency cell phone at the firing line. Andy Baker volunteered to look into it.

Action / 10/20 10/21 drawing earned 24, 26.

Motion to adjourn at 8:02 PM.

Respectfully Submitted,



Jeffrey S. Koenig

Recording Secretary

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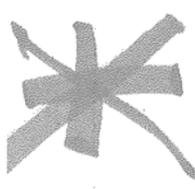
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official TOWN request



MEJION: Mark Mayonne official Liason 2 town of Cape Elizabeth

PASS by acclamation

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Appendix 3

Spurwink Rod & Gun Club Site Plans

1. Contract with Ross Boundary Surveys November 1994
2. Original Ross Boundary Survey 11x17 ~ 1:200 Scale
3. Clip from Ross Boundary Survey 11x17 with Range Detail Added 1:100 Scale
4. Range Area Only 8.5x11 ~ 1:60 Scale
5. Range Detail Hand Drawn by M. Mayone (2 Pages)
6. Wetlands Plan by Statewide Surveys
7. 2,750' Radius Plan by Spatial Alternatives
8. 2,750' Radius Plan with Satellite Overlay by Spatial Alternatives

Ross Boundary Surveys
Steve N. Ross P.L.S. #2205
108 Sawyer Road
Scarborough, Maine 04074
207-883-8583
November 4, 1994

Contract between Ross Boundary Surveys, NABUC Land Associates, and Spurwink Rod & Gun Club

This contract details the responsibilities for a Standard Boundary Survey of the land of Spurwink Rod & Gun Club, among Ross Boundary Surveys, NABUC Land Associates and Spurwink Rod & Gun Club. Ross Boundary Surveys understands that certain other considerations between NABUC Land Associates and Spurwink Rod & Gun Club depend upon this survey, and this contract is concerned only with the aspects of the survey.

Ross Boundary Surveys will perform a Standard Boundary Survey of Spurwink Rod and Gun Club property on Sawyer Road, Cape Elizabeth, Maine. This will include necessary research, determination of the boundaries, setting of capped rebars at corners where no corner markers are found, determination of the apparent streetline of Sawyer Road, preparation of a recordable plan and recording of same if desired by Spurwink Rod & Gun Club, and preparation of a legal description of the bounds of Spurwink Rod & Gun Club. Where possible, traverse points will be set in stone, for future reference. This survey will be performed as promptly as possible, given the current work schedule of Ross Boundary Surveys, but it is recognized by the parties that if there is an early snowfall, it will not be possible to complete the survey until the spring of 1995. Ross Boundary Surveys has a valued relationship with NABUC Land Associates and will complete the survey in full confidence that NABUC Land Associates will complete its obligations under the terms of this contract.

NABUC Land Associates will provide a rod man to assist in the survey when the traverse is run, and pay Ross Boundary Surveys \$1000.00 as per the following schedule:

\$500.00 when the traverse has been completed.
\$500.00 when the recordable plan and legal description are delivered to Spurwink Rod & Gun Club.

Nabuc Land Associates shall also receive a copy of the recordable plan

Spurwink Rod & Gun Club shall personally notify abutters that a boundary survey will be performed, before Ross Boundary Surveys begins the survey. (Ross Boundary Surveys has heard that previous surveyors in the area of the locus were threatened.) After notification from Spurwink Rod & Gun Club that abutters have been notified, Ross Boundary Surveys will also notify abutters that a survey will be performed. Shooting will not take place on the locus when the physical survey is being done, and Spurwink Rod & Gun Club shall provide the name of a contact person for Ross Boundary Surveys to contact before entering the property, and this person shall notify members not to shoot while the surveyors are on the property.

Accepted by *Steve M. Cross* Date *November 4, 1994*
Ross Boundary Surveys

Accepted by *Jeanne Pfeiffer* Date *11/4/94*
NABUC Land Associates

Accepted by *Arthur J. Kennedy, Treas* Date *11/22/94*
Spurwink Rod & Gun Club

Plan References

- 637 Acres of Land in the Town of Falmouth in County of York laid out for Mr. Dominicus Jordan on the North Side of Spurwink Marshes. April 22d, Day 1727. Nicholas Cole Surveyor. Recorded in the Cumberland County Registry of Deeds, Book 4, Page 16.
- Cape Elizabeth The Old Maps of Rural Cumberland County, Maine, in 1871. F. W. Beers & Co., N. Y. Reprinted by Saco Valley Printing, Freyburg, Maine, in August, 1986.
- Survey Made for Charles Rosenbloom Cape Elizabeth, Maine, 1955. Philip C. Roberts & Son Surveyors. Recorded in the Cumberland County Registry of Deeds, Plan Book 44, Page 41.
- Survey Made for Lester G. Hanscom Cape Elizabeth, Maine, December 1955. Philip C. Roberts & Son Surveyors.
- Plan of Wells Road in the Town of Cape Elizabeth, Maine as redefined by the Commissioners of Cumberland County Hearing on Same June 15, 1966. September 13, 1966. H. I. & E. C. Jordan. Surveyors. Sheets 1 and 2 of 2.
- Plan of a Portion of the Sawyer Road in the Town of Cape Elizabeth, Maine as redefined by the Commissioners of Cumberland County following the Hearing on Same May 24, 1967. December 13, 1967. H. I. & E. C. Jordan, Surveyors. Sheets 1 and 2 of 4.
- Maine State Highway Commission Right of Way Map State Aid Highway No. 5 Cape Elizabeth Cumberland County. September 1967. S.H.C. File No. S-3-320. Sheet 2 of 2 sheets.
- Woodcrest Heights Lot Plan for Edward K. Silva Sr. Cape Elizabeth Maine. December 27, 1967. G. T. Pillsbury, C. E. Recorded in the Cumberland County Registry of Deeds, Planbook 77, Page 17.
- State of Maine Department of Transportation Bureau of Highways Right of Way Map. State Aid Highway No. 5 Cape Elizabeth Cumberland County State Aid Project No. C04-05(501). April 1977. D.O.T. File No. S-3-378. Sheet 1 of 1 sheet.
- Ledge H.U.D. Project No. WS-1 20 0005 Southern Feeder 42"-36"-30" Westbrook-Portland-South Portland-Scarborough-Cape Elizabeth Station 373+00 to 387+00. Patten, Silva, Hutchinson. Portland Water District. Sheet No. 27 of 47 Sheets. As-built, 12/68.
- Composit of deed & plan research, tax maps, aerial photos and compass & tape measurements; except for Lot 8 which was surveyed. Circa 1984. Larry Slaughter RLS 1133 Brunswick,
- Plan of Property in Cape Elizabeth, Maine made for Juan A. Perez-Febles Standard Boundary Survey. February 13, 1989. H. I. and E. C. Jordan - Surveyors. Portland, Maine.
- Standard Boundary Survey on Wells Road, Cape Elizabeth, Maine for John & Suzanne Gabriel. Oct. 7, 1992. Owen Haskell, Inc. South Portland, Maine.
- Sawyer Road - Fickett Street Reconstruction Town of Cape Elizabeth. No Date. T. Y. Lin International/Hunter Ballew Associates. Falmouth, Maine.

LEGEND

- Utility Pole
- Hydrant
- Rebar or pipe
- Granite monument
- Water valve
- Water valve
- Water witness
- Edge of pavement, roads
- Dominicus Jordan 1 Probate Division
- Dominicus Jordan 3 Probate Division
- Boundary lines of locus
- Overhead Utility Line
- Boundaries of abutters and neighbors
- Sideline of Sawyer Road and Wells Road
- Other old boundary lines
- Duck pen fence
- Stone walls
- Deed Book / Page reference

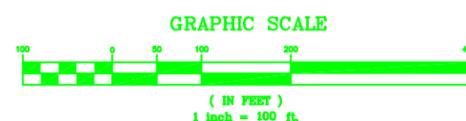
Notes

- Bearings are magnetic, referenced to Plan Reference 5., and calculated from an actual on the ground survey.
- Deed book and page references are found in the Cumberland County Registry of Deeds.
- Ancient probate division and other lines are shown in the approximate locations, compiled from research and placed according to monumentation found on the ground.
- Modern Sawyer Road was redefined by the State of Maine Department of Transportation in 1967 and 1977. See Plan References 6. and 8. Four iron rods were found showing the location of the streetline.
- See Report for NABUC Land Associates Determination of Boy Scout Property by land of NABUC Land Associates Cape Elizabeth, Maine by Steve N. Ross Boundary Surveys Scarborough, Maine April, 1993 recorded in the Cumberland County Registry of Deeds, Book 11437, Pages 312-333.

CERTIFICATION

I certify that this plat is based on, and is the result of, an on the ground field survey, and that it conforms to the Board of Licensure for Professional Land Surveyors Standards for a Category I Condition III survey.

Steve N. Ross, P.L.S. #2205



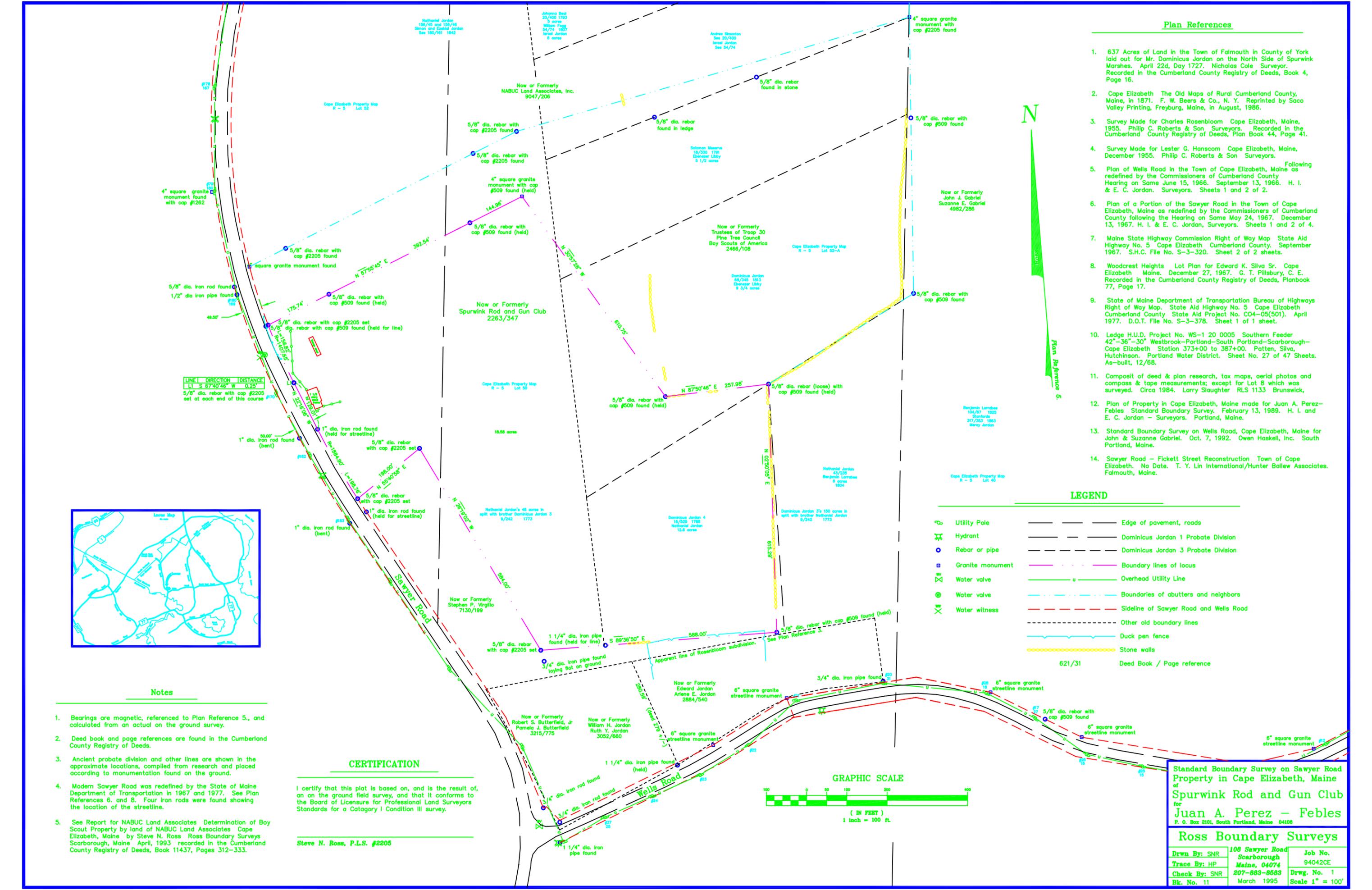
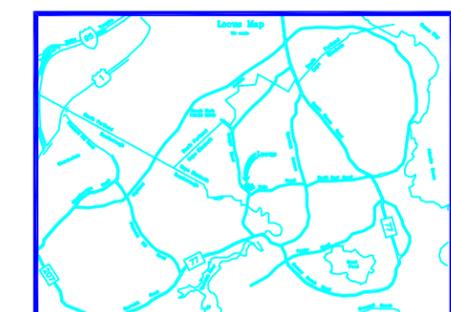
Standard Boundary Survey on Sawyer Road Property in Cape Elizabeth, Maine of Spurwink Rod and Gun Club for Juan A. Perez - Febles
 P. O. Box 2101, South Portland, Maine 04106

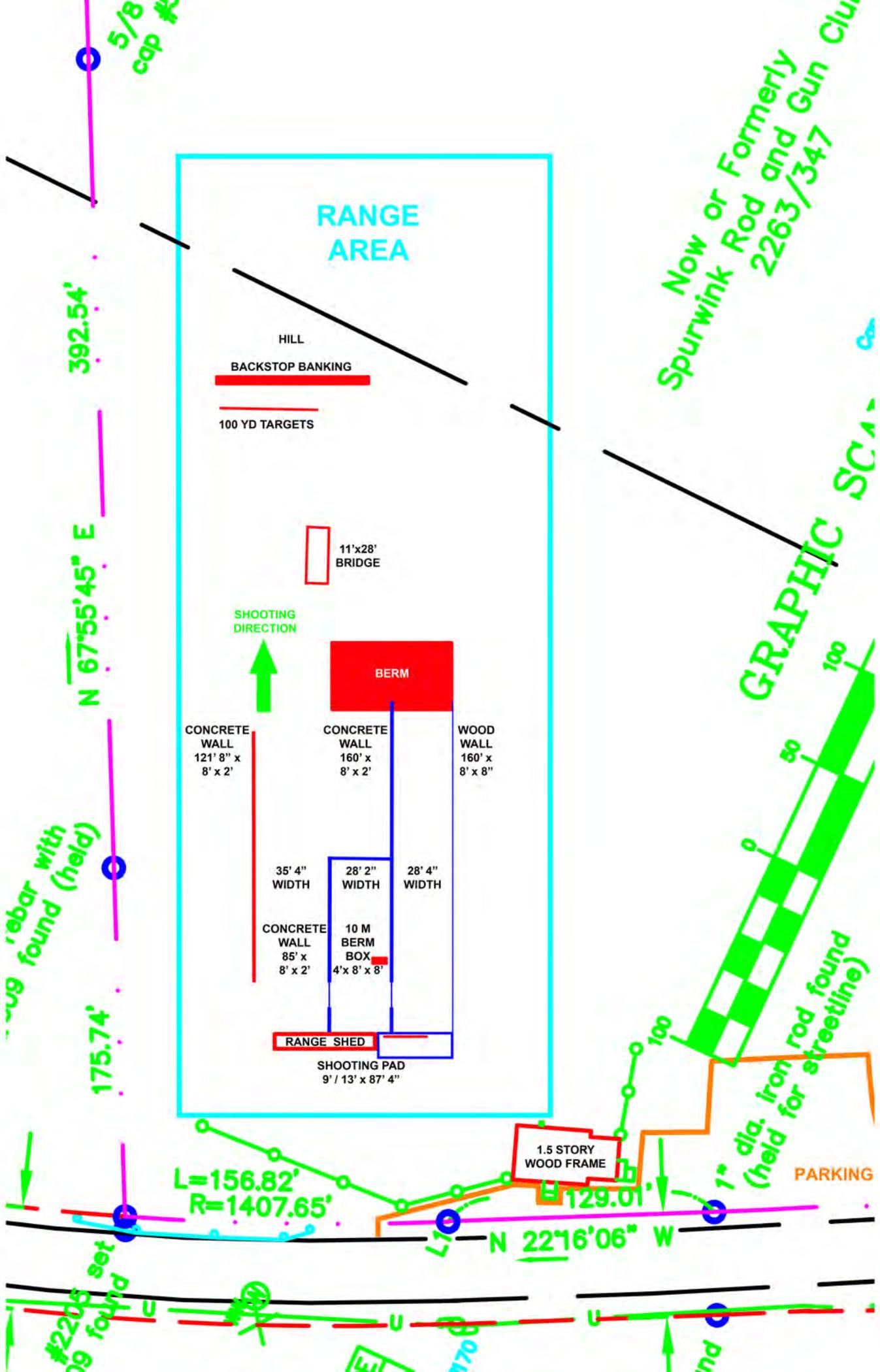
Ross Boundary Surveys

Drawn By: SNR	108 Sawyer Road Scarborough Maine, 04074	Job No. 940420E
Trace By: HP		Drwg. No. 1
Check By: SNR	207-883-8583	Scale 1" = 100'
Bk. No. 11	March 1995	

LINE	DIRECTION	DISTANCE
L1	S 67°40'46" W	0.25'

5/8" dia. rebar with cap #2205 set at each end of this course





392.54'

N 67°55'45" E

175.74'

L=156.82'
R=1407.65'

N 22°16'06" W

1.5 STORY WOOD FRAME

129.01'

PARKING

GRAPHIC SCALE

Now or Formerly
Spurwink Road and Gun Club
2263/347

rebar with
found (held)

7" dia. iron rod found
(held for streetline)

#2205 set
found

1706'

Concrete wall 8' x 2' x 36'

wood wall filled with crushed rock

concrete wall 8' x 2' x 32'

ATCNEY AREA (Proposed)

Concrete Wall 8' x 2' x 36'

100 yd RANGE

34'

Concrete Wall 8' x 2' x 36'

20' 1" x 5 1/2" W wood wall Filled with crushed rock

Concrete Wall 8' x 2' x 36'

25 yd RANGE

5 yds

12' Maintenance Access

Concrete Wall 8' x 2' x 160'

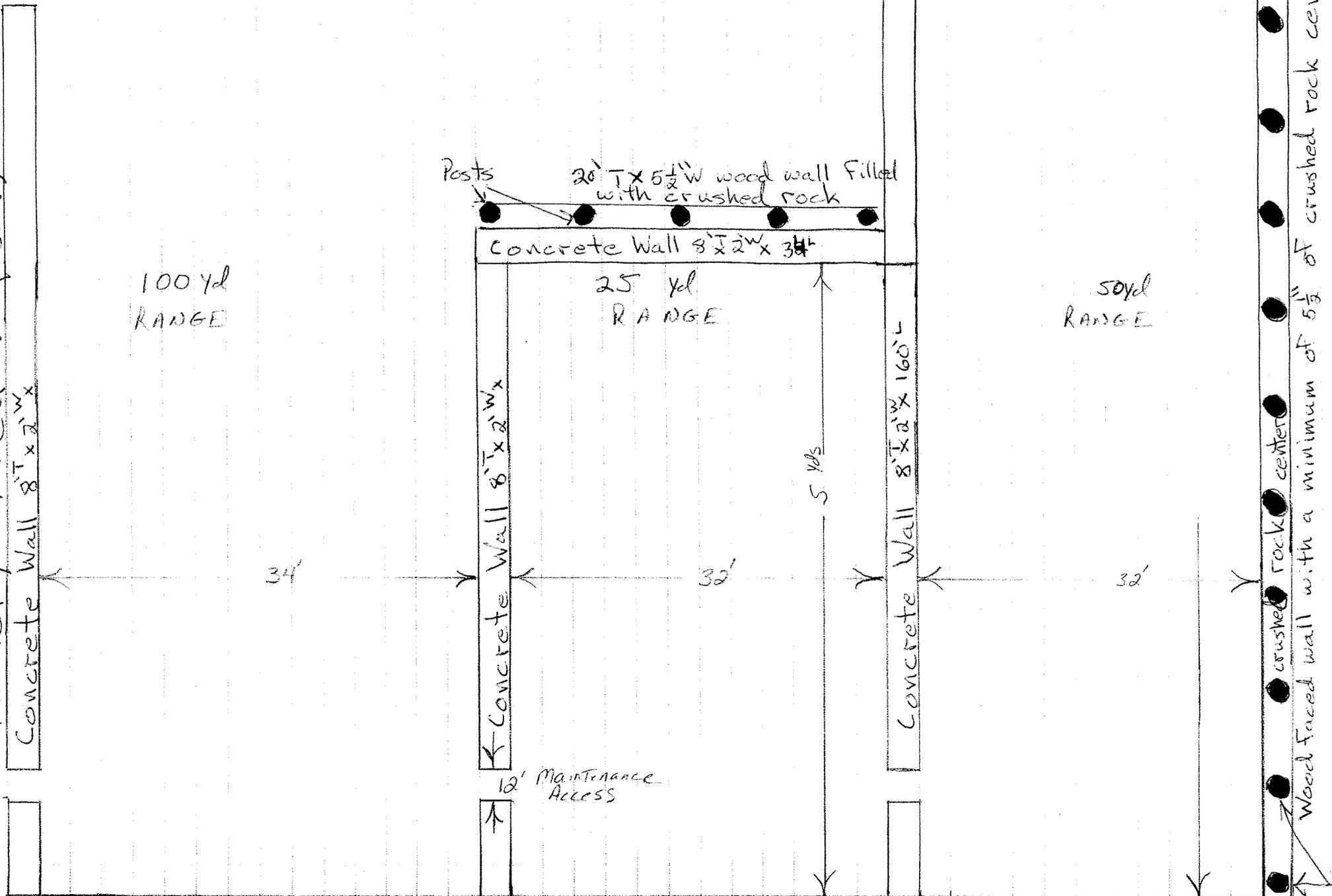
50 yd RANGE

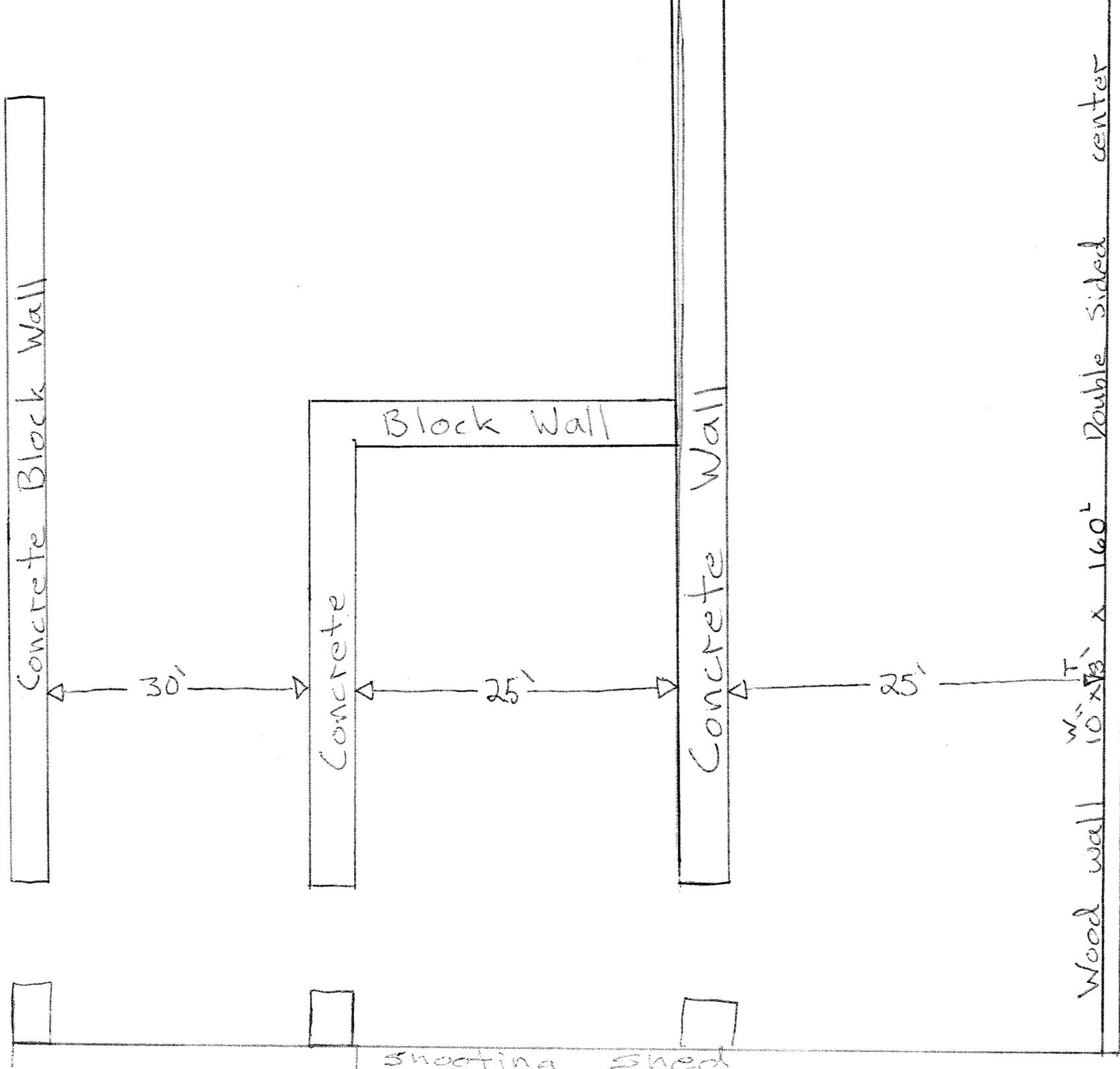
32'

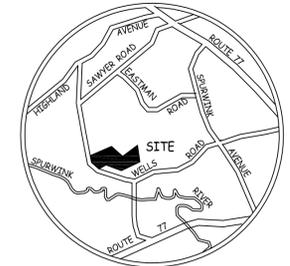
Wood faced wall with a minimum of 5 1/2" of crushed rock center

EXISTING SHOOTING SHED

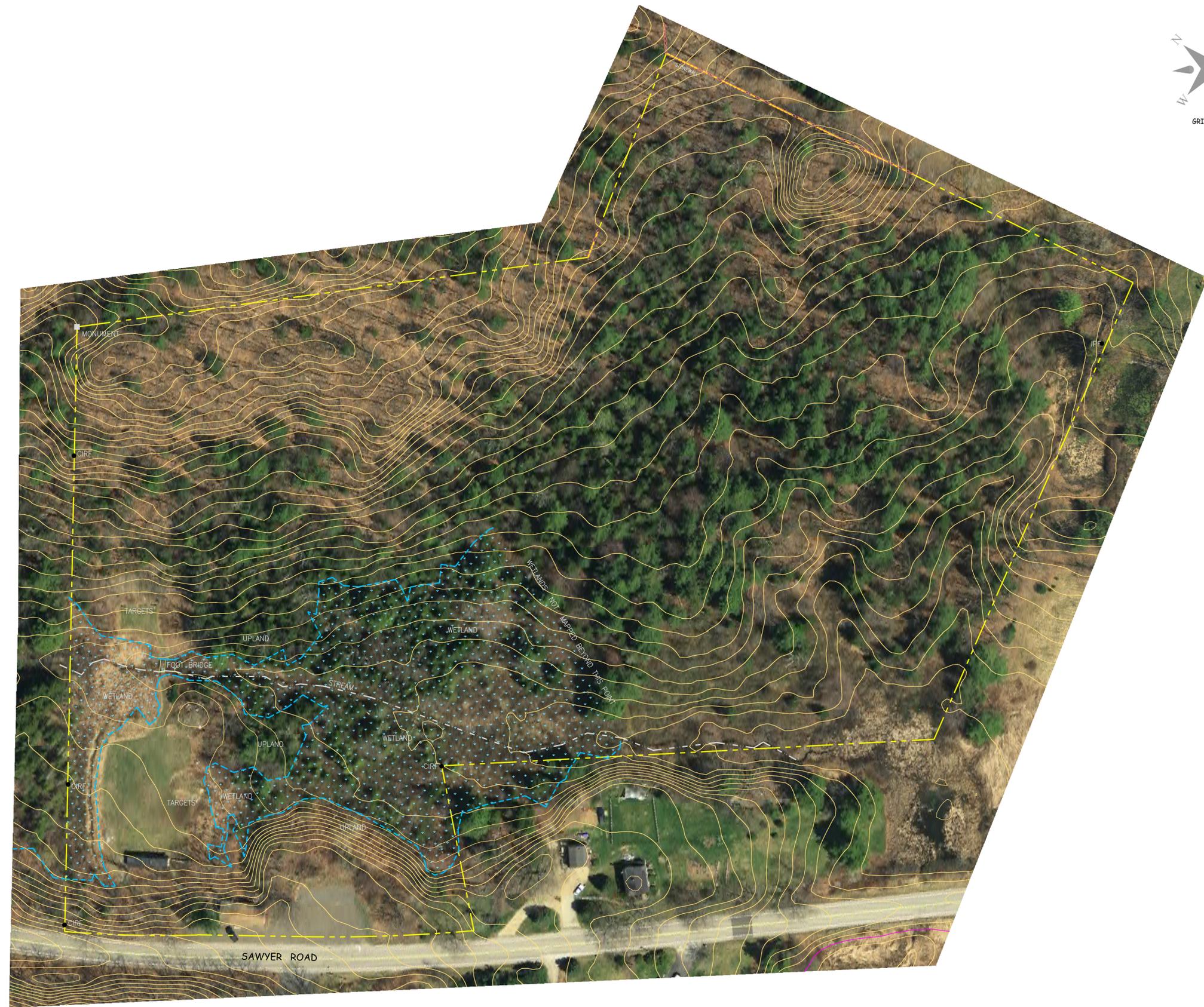
NEW SLAB







LOCATION MAP
NOT TO SCALE



PLAN NOTES

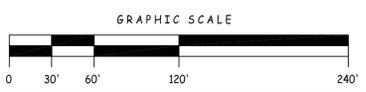
1. THIS IS NOT A BOUNDARY SURVEY AND SHOULD NOT BE USED AS A BOUNDARY SURVEY. THE PLAN WAS DEVELOPED BY COMPILING EXISTING SURVEY PLANS, AERIAL PHOTOGRAPHY AND A GLOBAL POSITIONING SYSTEM (GPS) WITHOUT THE BENEFIT OF CONVENTIONAL SURVEY DATA OR LAND TITLE SURVEYS.
2. ORTHOIMAGERY AND TOPOGRAPHY FROM MAINE OFFICE OF GIS GEOLIBRARY 2012.
3. THE WETLAND DELINEATION FOLLOWED THE U.S. ARMY CORPS OF ENGINEERS (USACE) NORTHEAST REGIONAL SUPPLEMENT TO THE 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL. NO REPORT WRITTEN.
4. THE WETLAND BOUNDARIES WERE LOCATED WITH A TRIMBLE GEO-XH GPS (SUB-METER) EQUIPPED WITH A ZEPHYR ANTENNA AND SHOULD BE CONSIDERED WITH ONE TO TWO METER (1-2M) POSITIONING. THE GPS POINTS WERE DIFFERENTIALLY CORRECTED WITH AN EXTERNAL BASE STATION. THE COORDINATE SYSTEM USED IS NAD 83, MAINE STATE PLANE, WEST ZONE IN U.S. SURVEY FEET.
5. THE WETLAND BOUNDARIES WERE FLAGGED IN THE FIELD IN THE VICINITY OF PROPOSED IMPROVEMENTS AND THE ENTIRE PROPERTY (18.6 ACRES) WAS NOT DELINEATED FOR THIS EFFORT.

PLAN REFERENCES

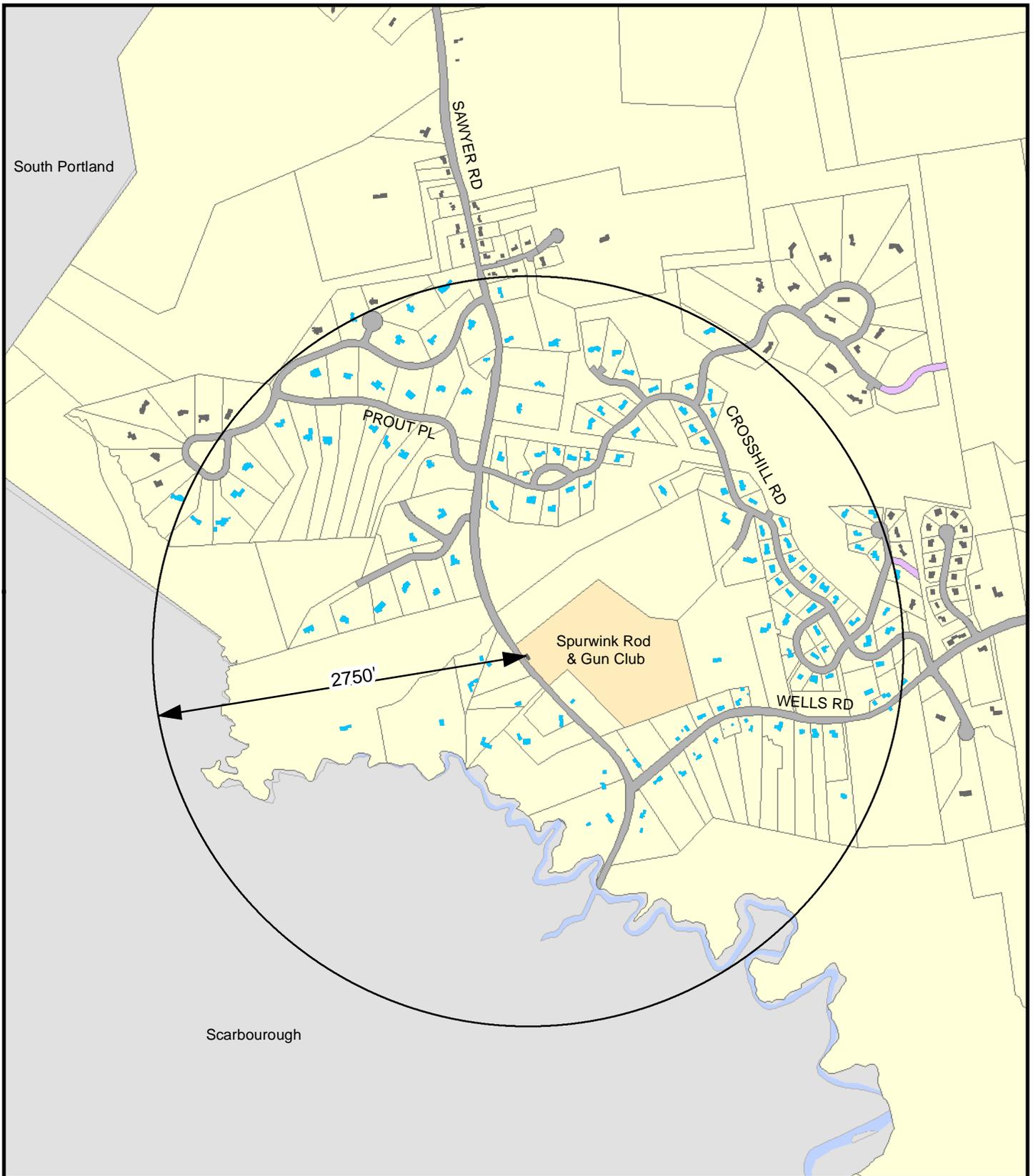
1. "STANDARD BOUNDARY SURVEY ON SAWYER ROAD PROPERTY IN CAPE ELIZABETH, MAINE OF SPURWINK ROD AND GUN CLUB FOR JUAN A. PEREZ-FEBLES" DATED MARCH 1995 BY ROSS BOUNDARY SURVEYS.
2. TOWN OF CAPE ELIZABETH TAX MAP R5.

PLAN LEGEND

- CIRF CAPPED IRON ROD FOUND
- IPF IRON PIPE FOUND
- IRF IRON ROD FOUND
- PROPERTY LINES



WETLAND PLAN		
AT SPURWINK ROD AND GUN CLUB SAWYER ROAD, CAPE ELIZABETH, MAINE MADE FOR THE SPURWINK ROD AND GUN CLUB		
STATEWIDE SURVEYS, INC. <small>LAND SURVEYORS & SOIL SCIENTISTS</small> 35 EASTMAN ROAD, CAPE ELIZABETH, ME 04107 PHONE/FAX: (207) 767-4200		
Drawn By: ECB	Date: SEPTEMBER 2014	Job #: 14022W
Trace By: ECB	Scale: 1" = 60'	Drawing #: ONE
Check By: DAB		
Field Book: GPS		



Data Sources:
 Town of Cape Elizabeth
 Maine Office of GIS

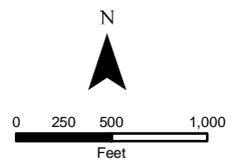
Map Prepared by:

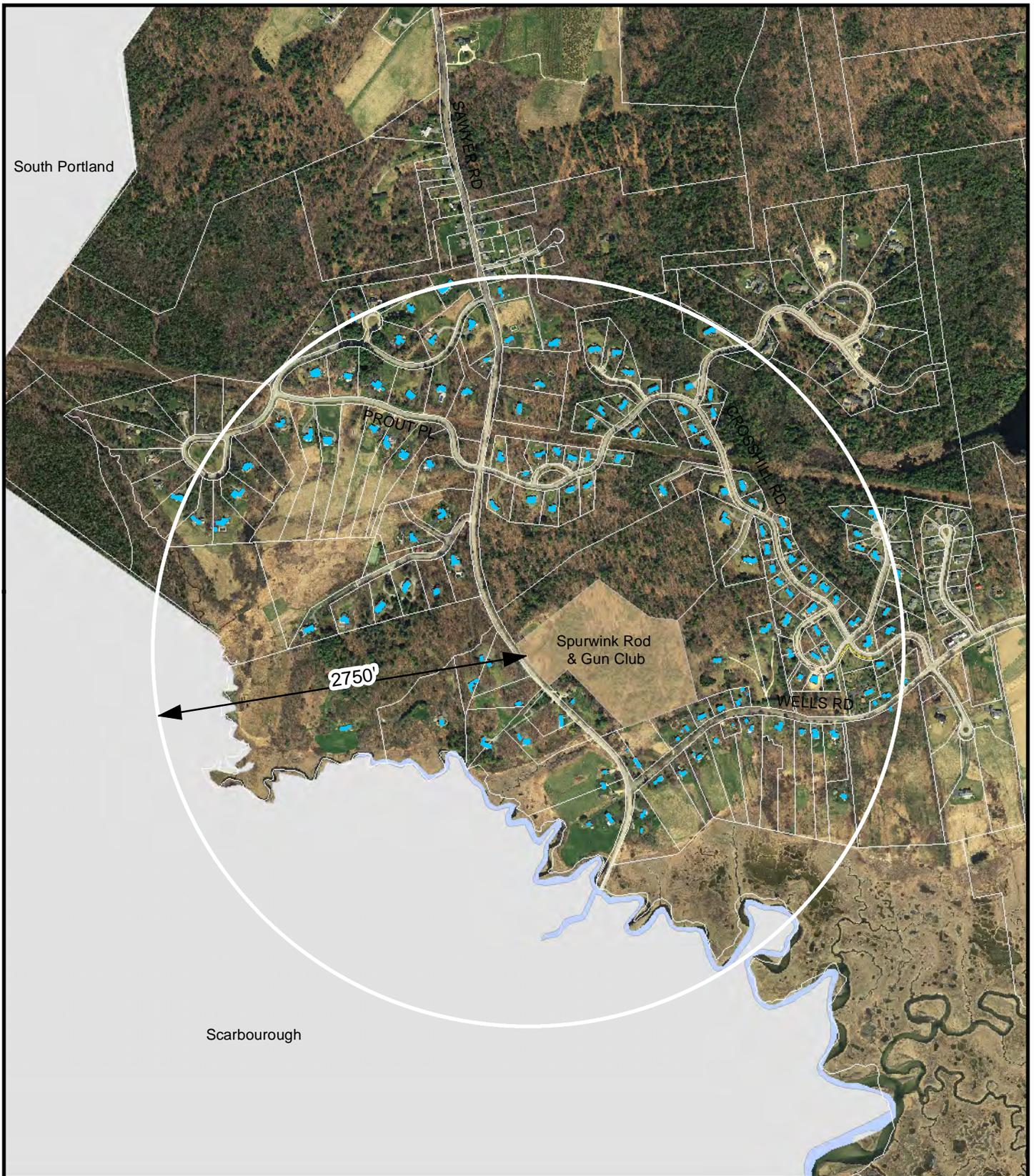


Map Produced: May, 2015

Spurwink Rod and Gun Club

Buildings Within 2,750 ft of Clubhouse





Data Sources:
 Town of Cape Elizabeth
 Maine Office of GIS

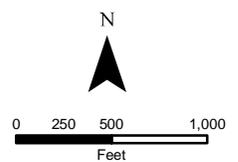
Map Prepared by:



Map Produced: May, 2015

Spurwink Rod and Gun Club

Buildings Within 2,750 ft of Clubhouse



Appendix 4

Range Safety Evaluation

1. Range Evaluation Report dated 8/14/2012

Range Evaluation Report

Case #: RCN ME-1796-11
Subject: Spurwink Rod and Gun Club
Date: August 14, 2012

STATEMENT REGARDING INFORMATION IN THIS REPORT

Nothing in the information that follows should be considered "requirements" of the NRA. The informational items are "suggestions". The range operator may or may not chose to act upon any or all of these suggestions. It should not be interpreted by anyone that a failure on any part of the range operator to accept and/or implement any of the suggestions set forth herein as evidence of a "cavalier attitude" regarding health and/or safety. A range operator may otherwise be very safety and health conscious without having to resort to any or all of these suggestions.

Report prepared by
RTTA Quirino Lucarelli
NRA Range Technical Team Advisor

THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE PERMISSION OF THE
NATIONAL RIFLE ASSOCIATION OF AMERICA

NATIONAL RIFLE ASSOCIATION OF AMERICA
RANGE TECHNICAL TEAM
RANGE DEPARTMENT
FIELD OPERATIONS DIVISION

Quirino "Skip" Lucarelli
NRA RANGE TECHNICAL TEAM ADVISOR
111 Summit Terrace Rd
South Portland, ME 04106
207-450-

8516

skipl@maine.rr.com

Range Evaluation Report

Case #: RCN ME-1796-11
Date: August 14, 2012
Subject: Spurwink Rod and Gun Club

Opening Statement

I would like to thank Mark Mayone, of Spurwink Rod and Gun Club, for meeting with me, Range Technical Team Advisor, Quirino Lucarelli on August 14, 2012. I would like to make the following Observations, and Suggestions based on the NRA Range Source Book.

Observations

The Spurwink Gun Club has posted all their property every 10 feet around the boundary with signage "Keep Out" and other signage "Active Range "at the road side of range is a chain link fence with gates. The entrance gate has an electronic entry coded for all club members that is recorded for time and date. There is a shooting shed with a solid rear wall for sound.

Also note that this club requires all members to belong to the NRA with no exceptions.

Suggestions

On the left and right side if the shooting building a concrete block wall using (poured concrete blocks 2'x2'x6') extending down range to a distance to protect any bullet leaving range from the left or right of shooting building.

The recommended height impact berm is 20' high and 5' above maximum height of bullet trajectory. The earth should be free of rocks to avoid ricochet of projectiles. By installing bullet catcher at the backstop above target would help avoid deflection of bullets. Ballistic sand should be used at the impact area of backstop.(Refer to NRA Range Source Book Page 1-1-15 section 3.04.5.1 section a and b)

The Rifle Range has a shooting shed which can be used for prone, sitting, and off hand. As an alternative protect any bullet from going over the backstop is to consider the Blue-sky elimination technique. By eliminating the shooter's view the likelihood that any bullet will travel over the backstop, leaving the range. This can be accomplished through installation of a single or multiple set of baffles. Another proven technique is the installation of a sight restrictor at the firing line, preventing the shooter from seeing above a certain height. This can be in the form of a portable stand made of wood or other materials that eliminates sight above a pre-selective height on the backstop, a piece installed from the front of the firing line enclosure, or similar devise

Summary

Virtually every range is required to possess liability insurance, weather operating as a commercial business or a non-profit entity, in the event that there is an injury on the range facility. To go along with that liability protection, each range operator's responsibility is to maintain a level of security at their range, protecting your investment, keeping out vandals, also limiting operating hours and range rules. For your Insurance information I recommend you call Lockton Risk Insurance at 1-877-487-5407.

Conclusion

Thank you for your cooperation. If you have any questions please do not hesitate to call (207) 450-8516. If you need additional information please feel free to contact me or Eric Whitescarver at the National Rifle Association (703) 267-1279

Range technical evaluation was conducted by:

RTTA Quirino "Skip" Lucarelli
NRA Range Technical Team

Appendix 5

Small Arms Allowed for use at the Spurwink Rod & Gun Club

Guns are generally classified according to use, size, and tradition. The small arms allowed for use at the Spurwink Rod & Gun Club (hereinafter SRGC) have not varied substantially in their range of capability since the founding of the club. However, smaller rifle calibers have become more predominant in the past 60 years due to performance improvements that have allowed them to supplant larger caliber firearms, and larger pistol calibers have become more popular with the advent of handgun hunting and long distance target shooting.

Broadly speaking, small arms are those weapons designed for personal use, as opposed to light weapons that are designed for use by several persons serving as a crew.

Small arms munitions typically contain projectiles that are 0.5 inches or less in caliber and are no longer than approximately 4 inches. They are fired from various sizes of weapons, such as revolvers, pistols, carbines, rifles, automatic rifles, shotguns, and machine guns, however automatic rifles and machine guns are not allowed for use at the SRGC except when fired in "select fire" (single shot per trigger pull) mode. There are hundreds of different small arms ammunition types that vary from a caliber of about 2mm to .70 inches in diameter. See the attached list for some of the more common cartridges.

Additionally, non-firearm (black powder) muzzle-loading and breech-loading arms may use up to .775 caliber or even larger lead projectiles. In popular use, the term "bullet" is often misused to refer to a complete cartridge, whereas that term only properly refers to the projectile.

A cartridge (also called a round or a shell) is a type of ammunition packaging a bullet or shot, a propellant substance (usually either smokeless powder or black powder) and a primer within a metallic, paper, or plastic case that is precisely made to fit within the firing chamber of a firearm. The primer is a small charge of an impact-sensitive or electric-sensitive chemical mixture that can be located at the center of the case head (centerfire ammunition), inside a rim (rimfire ammunition), or in a projection such as in a pinfire or teat-fire cartridge. Military and commercial producers also make caseless ammunition. A cartridge without a bullet is called a blank. One that is completely inert (contains no active primer and no propellant) is called a dummy.

Cartridge specifications are determined by several standards organizations, including SAAMI in the United States, and C.I.P. in many European states. NATO also performs its own tests for military cartridges for its member nations.

Bullet diameter is measured either as a fraction of an inch (usually in 1/100 or in 1/1000) or in millimeters. Cartridge case length can also be designated in inches or millimeters.

Shotguns

The gauge of a shotgun is a unit of measurement used to express the diameter of the barrel. Gauge is determined from the weight of a solid sphere of lead that will fit the bore of the firearm, and is expressed as the multiplicative inverse of the sphere's weight as a fraction of a pound (e.g., a 1/12th pound ball fits a 12-gauge bore). Thus there are twelve 12-gauge balls per pound (etc.). The term is related to the measurement of cannon, which were also measured by the weight of their iron round shot; an 8 pounder would fire an 8 lb (3.6 kg) spherical cast iron ball and had a bore diameter of about 91 mm (3.6 in).

The most common size is 12 gauge, with up to 50% of the overall shotgun market in the United States. The 20 gauge shotgun is favored by shooters uncomfortable with the weight and recoil of a 12 gauge gun, and is popular for upland game hunting. The next most popular sizes are 28 gauge and .410 caliber. The considerably more powerful 10 gauge as well as the 16 gauges, while a little less common, are still readily available in the United States.

Shotguns and shells exceeding 10 gauge, such as the 8 and 4 gauge, are rather rarely manufactured and only a few manufacturers of the otherwise large market of shotgun, rifle and ammo makers across the United States still produce them. Shells are usually black powder paper cartridges.

Small Arms Definitions

Small arms definitions are inherently flexible and generally linked to specific operational doctrines or legal definitions. Offered here are some common definitions for a variety of small arms types.

Pistol - A pistol is a hand-operated firearm having a chamber integral with or permanently aligned with the bore.

Revolver - A revolver is a hand-operated firearm with a revolving cylinder containing chambers for individual cartridges.

Rifle - A rifle is a shoulder firearm which can discharge a bullet through a rifled barrel 16 inches or longer. The spiral parallel grooves in the bore impart spin in the projectile, providing stability and extended range. This feature applies to most small arms other than smooth-bore shotguns.

Carbine or Short-Barreled Rifle - A carbine is a shoulder firearm which has a barrel under 16 inches in length, and typically exhibits ballistics that tend to be inferior to the full length version of the rifle it is adapted from.

Assault Rifle – A rifle or carbine capable of single shot or automatic fire using a short cartridge providing accurate fire and more controllable recoil force than a standard rifle cartridge. Only single shot firing is allowed at SRGC.

Machine Pistol - A machine pistol is a hand-operated firearm originally designed to be capable of being fired fully automatically by a single pull of the trigger. Only single shot firing is allowed at SRGC.

Submachine Gun - Lightweight one-man weapons capable of automatic fire, firing a low-powered pistol cartridge with limited range and accuracy. Only single shot firing is allowed at SRGC.

Machine Gun - A general purpose machine gun functions as either a squad light automatic weapon [light machine gun] when mounted on a bipod and fired from the shoulder, or as a sustained fire long-range weapon [heavy machine gun] when mounted on a tripod or light vehicle and provided with an optical sight. Again, only single shot firing is allowed at SRGC.

Shotgun - A shotgun (or historically a fowling piece) is a firearm that is usually designed to be fired from the shoulder, which uses the energy of a fixed shell to fire a number of small spherical pellets called shot, or a solid projectile called a slug. Shotguns come in a wide variety of sizes, ranging from 5.5 mm (.22 inch) bore up to 5 cm (2.0 in) bore, and in a range of firearm operating mechanisms, including breech loading, single-barreled, double or combination gun, pump-action, bolt-, and lever-action, semi-automatic, and even fully automatic variants. A shotgun is generally a smoothbore firearm, which means that the inside of the barrel is not rifled. A short section of rifling may exist in the end of the barrel (usually in a removable choke tube) to stabilize slugs. When firing shot, the restriction called the choke in the end of the barrel determines how quickly the shot pattern spreads and therefore what utility and effective range the individual barrel provides, which is generally much shorter than with other cartridge firearms.

Common Small Arms Cartridges

Legend

- H/R: **H**andgun or **R**ifle - dominant usage of the cartridge (although several dual-purpose cartridges exist)
- Size: Metric size - may not be official
- MV: Muzzle velocity, in feet-per-second
- ME: Muzzle energy, in foot-pounds
- P: Momentum, in pound-foot per second. A guide to the recoil from the cartridge, and an indicator of bullet penetration potential. The .30-06 Springfield (at 2.064 lb-ft/s) is considered the upper limit for tolerable recoil for inexperienced rifle shooters.
- Chr: Propellant charge, in grains
- Dia: Bullet diameter, in inches
- BC: Ballistic Coefficient, G1 model

Name	Date	Nation	H/R	Size	MV (fps)	ME (ft-lb)	P (lb-ft/s)	Chr (gr)	Dia (in)	BC	Comments
2 mm Kolibri	1914	Austria-Hungary	H	2.7×9mm	650	3	0.009		0.108		Obsolete. Smallest round ever manufactured.
4.6×30mm	2000	Germany	H	4.6×30mm	2410	401	0.333		0.183		Bottlenecked high velocity PDW cartridge designed by Heckler & Koch in conjunction with the Heckler & Koch MP7 .
5 mm Remington Rimfire Magnum	1970	USA	R	5×26mm	2100	327	0.311		0.205		Obsolete. Rimfire.
5.45×39mm	1974	USSR	R	5.45×39mm	2810	1052	0.749		0.215		Developed for AK-74 .
5.56×45mm NATO	1960	USA	R	5.56×45mm	3130	1196	0.764	29.5	0.224		Militarized .223 Rem. Not interchangeable.
5.56×45mm NATO SS109	1979	Belgium	R	5.56×45mm	3130	1196	0.764	29.5	0.224		NATO (1980), 2nd gen. Current NATO service including M16 rifle , Steyr AUG , SA80 , FAMAS , Heckler & Koch G36 . Similar, but not interchangeable with .223 Rem.
5.6mm Gw Pat 90	1987	Switzerland	R	5.6×45mm	4000	1243	0.622	29.5	0.224		Swiss military version of the 5.56×45mm NATO / 223 Remington. For SIG SG 550 and variants.
5.7×28mm	1990	Belgium	H	5.7×28mm	2800	1106	0.79	13	0.224		Bottlenecked high velocity PDW cartridge designed by FN Herstal in conjunction with the FN P90 personal defense weapon and FN Five-seven pistol.
5.8×42mm DBP87	1987	China	R	5.8×42mm	3100	1395	0.9		0.236		Chinese service rifle QBZ-95
6 mm PPC	1975	USA	R	6.17×38.5mm	3212	1660	1.034	31.7	0.243	0.376	Benchrest cartridge - "the most accurate round ever developed."

Name	Date	Nation	H/R	Size	MV (fps)	ME (ft-lb)	P (lb-ft/s)	Chr (gr)	Dia (in)	BC	Comments
											.22 PPC case necked up to 6mm.
6mm Remington	1963	USA	R	6.18×56.72mm	3235	2207	1.364	54.5	0.243	0.376	Same cartridge as .244 Remington and interchangeable. Rifles marked .244 Remington may not stabilize heaviest 6mm Remington bullets. BC=0.405
6.5mm Creedmoor	2012	USA	R	6.72×48.77mm	3050	2493	1.635	47.0	0.264	0.585	
6.5 Grendel	2003	USA	R	6.5×39mm	2620	1875	1.431	32.0	0.264	0.509	Developed by Alexander Arms as a "low recoil, high accuracy, long-range cartridge for the AR-15 platform."
6.5 mm JDJ	1978	USA	R	6.5mm	2714	1635	1.205	38.5	0.264	0.509	.225 Winchester case necked up to 6.5mm and then blown out.
6.5×50mmSR Arisaka	1897	Japan	R	6.5×50SR	2717			42	0.264		aka 6.5×50mm Japanese. Used in Arisaka Japanese service rifles.
6.5×52mm Mannlicher-Carcano	1891	Italy	R	6.80×52mm	2414	1818	1.506	43	0.264		
6.5×53mmR	1892	Austria-Hungary	R	6.5×53mmR	2650	2360	1.781	38	0.263		Romanian and Dutch service rifles
6.5×55mm	1895	Union of Sweden and Norway	R	6.5×55mm	2735	2325	1.7	52	0.264	0.509	aka 6.5×55 Swedish Mauser.
6.5×58mm Verqueiro	1904	Portugal	R	6.5×58mm	2775	2372	1.71	46	0.264		Portuguese service rifle 1904-1939
6.5×68mm	1939	Germany	R	6.5×68mm	3700	2983	1.612	73	0.265		aka 6.5×68mm Schuler
6.8 mm Remington SPC	2003	USA	R	6.8×43mm	2570	1613	1.255	31.0	0.277	0.370	Developed by Remington with members of 5th Special Forces Group .
7mm-08 Remington	1980	USA	R	7.2×51.7mm	2950	2686	1.821	50.4	0.284	0.531	.308 Winchester case necked down to 7mm.
7mm BR Remington	1978	USA	R	7.21×55.6mm	2425	1525	1.258	34	0.284	0.531	6mm BR necked up to 7mm.
7mm Remington Magnum	1962	USA	R	7.2×64mm	3240	3302	2.038	80.0	0.284	0.652	
7mm Remington Short Action Ultra Magnum	2004	USA	R	7.23×51.69mm	3175	3221	2.029	68.0	0.284	0.414	
7mm Remington Ultra Magnum	2002	USA	R	7.23×72.39mm	3425	3682	2.15	107.0	0.284	0.533	
7mm STW	2000	USA	R	7.23×72.39mm	3325	3436	2.067	91.0	0.284	0.390	Belted.
7mm Weatherby Magnum	1944	USA	R	7.22×64.74mm	3300	3501	2.122	81.8	0.284	0.525	Belted.

Name	Date	Nation	H/R	Size	MV (fps)	ME (ft-lb)	P (lb-ft/s)	Chr (gr)	Dia (in)	BC	Comments
7mm WSM	2002	USA	R	7.2×53.3mm	3647	3562	1.953	73.0	0.284	0.531	Winchester Short Magnum
7×57mm Mauser	1892	Germany	R	7×57mm	2740	2351	1.716	52.6	0.284	0.531	aka 7mm Mauser
7×64mm	1917	Germany	R	7.25×64.00mm	2950	2705	1.834	57.6	0.284	0.450	aka 7×64mm Brenneke.
7.35×51mm Carcano	1938	Italy	R	7.35×51mm	2550	2175	1.706	41.0	0.298		aka 7.35mm Italian Carcano
7.5×55mm Swiss	1889	Switzerland	R	7.5×55mm	2839	2924	2.06	52.0	0.308		a.k.a GP-11, 7.5×55mm Schmidt Rubin.
7.5×57mm MAS	1924	France	R	7.8×57mm	2800	2397	1.712	54.0	0.308		a.k.a 7.5×54mm French. Used in fusil-mitrailleur mle 1924 .
7.62×38mmR	1895	Russia	H	7.62×38mmR	1100	290	0.527	3	0.295		a.k.a 7.62mm Nagant.
7.62×39mm	1943	USSR	R	7.62×39mm	2360	1521	1.289	31.5	0.312		Intermediate cartridge concept, following 7.92×33mm Kurz and preceding 5.56×45mm NATO. SKS and AK-47 USSR service rifles.
7.62×51mm NATO	1950	Belgium/USA	R	7.62×51mm	3165	2997	1.894	54.0	0.308	0.588	NATO (1953), T65. Current NATO service including M14 rifle , Heckler & Koch G3 , FN FAL . Very similar to .308 Win.
7.62×54mmR	1891	Russia	R	7.62×54mm	2894	2713	1.875	52.6	0.308	0.462	Designed for the Mosin-Nagant Russian service rifle. Oldest cartridge still in official military use, used in SVD Dragunov with Russia and the PSL rifles with many other countries.
7.63×25mm Mauser	1893	Germany	H	7.62×25mm	1410	375	0.532	6	0.308		aka 30 Mauser. Based on 7.65×25mm Borchardt . Most famous for use in Mauser C96 pistol. Basis for 7.62×25mm Tokarev round.
7.65×21mm Parabellum	1900	Germany	H	7.65×21mm	1085	325	0.599	4.2	0.309		a.k.a 7,65 Parabellum, 7.65mm Luger, .30 Parabellum and (wrongly) .30 Luger.
7.7×58mm Arisaka	1939	Japan	R	7.7×58mm	2529	2510	1.985	55.0	0.311		aka 7.7×58mm Japanese Arisaka or 31 Jap
7.92mm DS	1934	Poland	R	7.92×107mm							Used for kbk ppanc wz.35 anti-tank rifle .
7.92×33mm Kurz	1938	Germany	R	7.92×33mm	2247	1305	1.162	23	0.323		First assault rifle round, used in Mk42 .
7.92×57mm Mauser	1888	Germany	R	7.92×57mm	3208	3171	1.977	57	0.323	0.450	a.k.a 8×57mm Mauser, 8mm Mauser and 8 × 57 JS (or JRS for

Name	Date	Nation	H/R	Size	MV (fps)	ME (ft-lb)	P (lb-ft/s)	Chr (gr)	Dia (in)	BC	Comments
											the rimmed version).
8mm Lebel	1886	France	R	8×50mmR	2640	2212	1.676	49	0.323		a.k.a 8×50mmR French. Adapted from the 11mm Gras. The first smokeless powder cartridge for military use, started the small-bore smokeless revolution.
8mm Remington Magnum	1978	USA	R	8.22×72.39mm	2900	3734	2.575	92.0	0.323	0.332	Belted.
8×53Rmm Murata	1880	Japan	R	8×53mmR	1850	1810	1.957	47.4	0.329		11×60mm Murata case necked down to 8mm.
8×58mmR	1889	Denmark	R	8×58mmR	2500	2720	2.176	54.5	0.322		aka 8×58mmR Danish Krag. Danish service rifle 1889-1945
8×68mm S	1939	Germany	R	8×68mm	3500	3958	2.262	81	0.323	0.450	aka 8×68Smm Magnum.
9mm Browning Long	1903	Belgium	H	9.09×20.20mm	1100	300	0.545	5.0	0.355		Developed for the FN Browning 1903 Model pistol.
9mm Mars	1900	UK	H	9.14×36.23mm	1400	675	0.964		0.360		Bottle necked cartridge for the Webley- Mars Automatic Pistol .
9×19mm Parabellum	1902	Germany	H	9×19mm	1155	342	0.592	8.2	0.355	0.212	a.k.a 9mm Parabellum, 9mm Para, or (incorrectly) 9mm Luger.
9×57mm Mauser	1890s	Germany	R	9.06×56.8mm	2423	2692	2.222	46	0.356		Also available in a rimmed version.
9.3×62mm	1905	Germany	R	9.3×62mm	2360	3537	2.997	67	0.366	0.494	Designed by Otto Bock for use in magazine rifles, e.g. Mauser 98 , for African game.
10mm Auto	1983	Sweden	H	10×25.2mm	1551	680	0.877	11.2	0.400	0.164	
11mm Gras	1874	France	R	11×59mmR	1493	1903	2.549	78	0.445		The first French brass cartridge for military use. Blackpowder. Replaced by 8mm Lebel.
11×60mm Mauser	1871	Germany	R	11×60mmR	1430	2013	2.815	77	0.446		The first black powder cartridge adopted in large numbers by the unified German Army, it was used in the 1871 and 1871/84 rifles.
11×60mm Murata	1880	Japan	R	11×60mmR	1487	263	0.354	77	0.432		The first black powder cartridge adopted in large numbers by the Japanese Army, it was used in the Murata rifle, a hybrid of French Gras and German Mausers 1871 and 1871/84 rifles.
.17 Hornet	1950s	USA	R	4.37×35.31mmR	3629	705	0.389	13.2	0.172		Necked-down .22 Hornet . Watch out for differences between older .17 Ackley Hornet and current .17

Name	Date	Nation	H/R	Size	MV (fps)	ME (ft-lb)	P (lb-ft/s)	Chr (gr)	Dia (in)	BC	Comments
											Hornady Hornet. No CIP or SAAMI specs found.
.17 HM2	2004	USA	R	4.4×18.1mm	2100	166	0.158		0.172	0.125	Rimfire.
.17 HMR	2002	USA	R	4.5×26.9mm	2525	246	0.195		0.179	0.125	Rimfire.
.17 Remington	1971	USA	R	4.4×45.6mm	4123	952	0.462	27	0.172	0.151	
.17 Remington Fireball	2007	USA	R	4.4×36.1mm	4037	723	0.358	20.5	0.172		High-performance approx 4,000 ft/s in a small case.
.17 WSM	2012	USA	R	4.4×31mm	3000	400	0.267		0.172	0.230	Rimfire.
.204 Ruger	2004	USA	R	5.2×47mm	4456	1351	0.614	31.5	0.204	0.275	Varmint round.
.218 Bee	1938	USA	R	5.7×34.2mmR	3545	822	0.464	14.9	0.224		Rimmed.
.22 BR Remington	1963	USA	R	5.69×38.15mm	3617	1590	0.879	32.8	0.224	0.415	Wildcat.
.22 Hornet	1930	USA	R	5.7×35.6mmR	3070	732	0.477	13.0	0.224	0.415	First centerfire cartridge widely adapted for varmint hunting .
.22 Long Rifle	1887	USA	R	5.7×15.6mmR	1750	204	0.233	5	0.223		Rimfire. Most common cartridge in the world (by units sold). Blackpowder propellant charge listed - smokeless likely lower.
.22 PPC	1974	USA	R	5.7×38.5mm	3684	1427	0.775	32.0	0.224		
.22 Short	1857	USA	H	5.6×11mmR	1164	87	0.149	4	0.222		Rimfire. Oldest commercial cartridge being loaded today. Blackpowder propellant charge listed - smokeless likely lower.
.22 WMR	1959	USA	R	5.7×26.8mmR	2200	322	0.293		0.224	0.095	Rimfire.
.22-250 Remington	1965	USA	R	5.7×48.6mm	4545	1776	0.798	43.0	0.224	0.264	Varminter.
.220 Swift	1935	USA	R	5.7×56.0mm	4423	1727	0.897	46.0	0.224	0.264	
.221 Remington Fireball	1963	USA	H	5.7×35.6mm	3791	780	0.412	22.0	0.224	0.415	Handgun round adapted from 222 Remington.
.222 Remington	1950	USA	R	5.7×43.2mm	3760	1099	0.585	26.2	0.224	0.242	
.223 Remington	1955	USA	R	5.56×45mm	4000	1243	0.622	29.5	0.224	0.395	Lengthened .222 Remington . Similar but not interchangeable with 5.56NATO.
.223 WSSM	2003	USA	R	5.7×42.4mm	4568	1918	0.849	50.5	0.224	0.415	Winchester Super Short Magnum

Name	Date	Nation	H/R	Size	MV (fps)	ME (ft-lb)	P (lb-ft/s)	Chr (gr)	Dia (in)	BC	Comments
.224 Boz	1997	UK	H	5.56×23mm							10mm Auto case necked down to 5.56mm.
.224 Weatherby Magnum	1963	USA	R	5.70×48.84mm	3865	1704	0.882	36.5	0.224	0.415	Smallest belted magnum case available commercially.
.225 Winchester	1964	USA	R	5.7×49.0mmSR	3650	1621	0.888	37.0	0.224	0.415	Semi-rimmed.
.240 Weatherby Magnum	1968	USA	R	6.18×63.50mm	3817	2633	1.38	59.0	0.243		Belted.
.243 Winchester	1955	USA	R	6.2×51.9mm	3925	2140	1.09	51.0	0.243	0.405	.308 Winchester case necked down to 6mm.
.243 WSSM	2003	USA	R	6.2×42.4mm	4068	2323	1.142	54.0	0.243	0.525	Winchester Super Short Magnum
.25 ACP	1906	USA	H	6.4×15.6mmR	970	73	0.151	1.8	0.251	0.072	Handgun round, popular for small size and weight.
.25 WSSM	2004	USA	R	6.5×42.4mm	3762	2581	1.372	52.0	0.257	0.418	Winchester Super Short Magnum
.25-06 Remington	1969	USA	R	6.54×63.35mm	3350	2513	1.5	62.0	0.257	0.391	Necked-down 30-06.
.25-20 Winchester	1895	USA	R	6.6×32.8mmR	2101	675	0.643	15	0.257	0.418	.32-20 Winchester case necked down.
.250-3000 Savage	1915	USA	R	6.6×48.6mm	3341	2138	1.28	40.5	0.257	0.418	
.256 Winchester Magnum	1962	USA	H	6.5×32.5mmR	2386	705	0.591	18.0	0.257		.357 Magnum case necked down to .257". aka 256 Winchester. Obsolete handgun and lever action round.
.257 Roberts	1934	USA	R	6.55×56.72mm	2946	2255	1.531	54.0	0.257	0.391	
.257 Weatherby Magnum	1944	USA	R	6.54×64.74mm	3550	2708	1.526	80.0	0.257	0.390	Belted.
.260 Remington	1998	USA	R	6.72×51.69mm	3313	2043	1.233	51.0	0.264	0.719	
.264 Winchester Magnum	1958	USA	R	6.73×63.50mm	3863	3020	1.564	78.0	0.264	0.561	Belted.
.270 Weatherby Magnum	1943	USA	R	7.04×64.74mm	3647	3639	1.996	81.0	0.277	0.625	Belted. First of Weatherby's line of necked-down 300 H&H-based magnums.
.270 Winchester	1925	USA	R	7.0×64.5mm	3200	2968	1.855	64.0	0.277	0.495	
.270 WSM	2002	USA	R	7.0×53.3mm	3789	3485	1.84	73.0	0.277	0.625	Winchester Short Magnum
.280 Ackley Improved	2007	USA	R	7.23×64.14mm	3271	3084	1.886	66.0	0.284		Former wildcat now registered by Nosler with SAAMI.
.280 British	1946	UK	R	7.2×43mm				28.5	0.283		a.k.a 7mm FN Short. Intermediate

Name	Date	Nation	H/R	Size	MV (fps)	ME (ft-lb)	P (lb-ft/s)	Chr (gr)	Dia (in)	BC	Comments
											round adopted in 1951.
.280 Remington	1957	USA	R	7.2×64.5mm	3433	2899	1.689	64.0	0.284	0.486	.30-06 Springfield case necked down to 7mm.
.30 Carbine	1940	USA	R	7.62×33mm	2000	977	0.977	16.0	0.308		M1 Carbine US service rifle
.30 Remington AR	2008	USA	R	7.849×38.86mm	3076	2208	1.436	40.0	0.308		Billed as "The worlds only 30-caliber big-game cartridge for the light weight AR-15 platform."
.30 Herrett	1973	USA	H	7.8mm	2270	1470	1.295	27.0	0.308		Wildcat handgun cartridge, based on a shortened .30-30 Winchester .
.30-06 Springfield	1906	USA	R	7.62×63mm	3080	3178	2.064	62.5	0.308	0.480	M1 Garand US service rifle.
.30-30 Winchester	1895	USA	R	7.8×51.8mmR	2500	2046	1.637	39	0.308	0.330	a.k.a. .30 Winchester Centerfire and .30 WCF. First smokeless cartridge designed for big game hunting.
.30-40 Krag	1892	USA	R	7.8×58.8mmR	2898	2766	1.909	51	0.308	0.730	Rimmed cartridge.
.30-378 Weatherby Magnum	1959	USA	R	7.83×73.99mm	3690	4956	2.686	123.5	0.308	0.730	Belted. Necked-down 378 Weatherby Magnum, developed for 1000-yard performance. Was military-only from 1959 to 1996.
300 AAC Blackout	2011	USA	R	7.62×35mm	2388			20.0	0.308		Developed for suppressed CQB as a sub sonic round. Supersonic is also available.
.300 H&H Magnum	1925	UK	R	7.82×72.39mm	3394	3485	2.054	81.0	0.308	0.730	Belted. aka 300 H&H Super aka Holland's Super 30.
.300 Remington SA Ultra Mag	2002	USA	R	7.85×51.18mm	3663	3761	2.054	69.0	0.308	0.730	Beltless, rebated rim. Remington Short Action Ultra Magnum.
.300 Remington Ultra Magnum	1998	USA	R	7.85×72.39mm	3638	4414	2.427	107.0	0.308	0.730	Beltless, rebated rim. Fastest cartridge for Nosler's 210-grain AccuBond Long-Range 0.308" bullet.
.300 Ruger Compact Magnum	2007	USA	R	7.62×53mm	3310	3716	2.245	67.5	0.308	0.480	Based on .375 Ruger case.
.300 Savage	1920	USA	R	7.8×47.5mm	2740	2500	1.825	45.2	0.308	0.370	
.300 Weatherby Magnum	1944	USA	R	7.8×71.8mm	3375	3890	2.305	90.0	0.308	0.447	
.300 Whisper	2009	USA	R	7.84×34.90mm	1020	480	0.941	12.0	0.308	0.648	Designed for quiet, accurate, subsonic applications. Year is for homologation by CIP - earlier proprietary and wildcat versions

Name	Date	Nation	H/R	Size	MV (fps)	ME (ft-lb)	P (lb-ft/s)	Chr (gr)	Dia (in)	BC	Comments
											existed.
.300 Winchester Magnum	1963	USA	R	7.8×67mm	3709	3893	2.29	88.0	0.308	0.730	
.300 WSM	2001	USA	R	7.8×53.5mm	3697	3872	2.095	74.5	0.308	0.730	Winchester Short Magnum
.303 British	1889	UK	R	7.7×56mmR	2685	2401	1.788	54	0.311	0.361	Former British Service rifle Lee-Enfield .
.307 Winchester	1982	USA	R	7.8×51mmR	3000	2083	1.389	53.0	0.308		Rimmed version of the .308 Winchester , for use in lever-action rifles.
.308 Marlin Express	2006	USA	R	7.62×48mm	2800	2514	1.796	47.7	0.308	0.395	Based upon a slightly shortened .308 Winchester cases with FTX bullets and special powder to approach .308 ballistics from a Marlin lever action rifle.
.308 Norma Magnum	1960	Sweden	R	7.85×65.00mm	3687	3640	1.975	84.0	0.308		Belted. European cartridge designed for the US market.
.308 Winchester	1955	USA	R	7.62×51mm	3165	2997	1.894	54.50	0.308	0.530	Civilian 7.62mm NATO.
.32 ACP	1899	Belgium	H	7.65×17mm	937	129	0.275	3	0.312	0.090	.32 Automatic Colt Pistol. a.k.a 7.65mm Browning.
.32 H&R Magnum	1984	USA	H	7.9×27.3mmR	1150	235	0.409	12.0	0.314		Lengthened .32 S&W Long .
.32 NAA	2002	USA	H	7.95×17.3mm	1000	178	0.356	5.4	0.311		North American Arms
.32 rimfire	1861	USA	H								a.k.a .32 Short and .32 Long. Introduced in Smith & Wesson's Model 2 revolver.
.32 S&W	1878	USA	H	7.9×15mmR	595	115	0.387	1.4	0.314		
.32 S&W Long	1896	USA	H	7.9×23.4mmR	865	132	0.305	3	0.314		Lengthened .32 S&W case.
.32 Winchester Self-Loading	1905	USA	R	8.2×31mmR	1440	775	1.076	12.5	0.320		a.k.a .32 WSL or .32 SL. Obsolete. Only chambered commercially in the Winchester Model 1905 rifle.
.32 Winchester Special	1895	USA	R	8.18×51.82mmR	2359	1748	1.482	38.5	0.321		Lever action, rimmed. Developed for the Winchester Model 1894 .
.32-20 Winchester	1882	USA	R	7.94×33.4mmR	1031	1151	2.233	7.5	0.312		
.325 WSM	2005	USA	R	8.2×53.3mm	3360	3762	2.239	75.0	0.323		Winchester Short Magnum
.327 Federal Magnum	2008	USA	H	7.9×30mmR	1600	370	0.463	14.0	0.312		

Name	Date	Nation	H/R	Size	MV (fps)	ME (ft-lb)	P (lb-ft/s)	Chr (gr)	Dia (in)	BC	Comments
.338 Federal	2007	USA	R	8.61×51.18mm	2937	3061	2.084	52.0	0.338	0.410	Necked up .308 Win.
.338 Lapua Magnum	1983	Finland	R	8.6×70mm	2900	4768	3.288	106.0	0.338	0.700	Designed for military sniper rifles.
.338 Marlin Express	2010	USA	R	8.60×48.01mmR	2565	2922	2.278	49.3	0.338	0.430	Rimmed lever action cartridge designed for the Marlin Model 336 .
.338 Remington Ultra Magnum	2000	USA	R	8.60×70.1mm	3332	4492	2.696	104.0	0.338		Beltless, rebated rim cartridge based on the .300 Remington Ultra Magnum.
.338 Ruger Compact Magnum	2007	USA	R	8.6×51.2mm	2980	3865	2.594	63.0	0.338	0.515	Based on .375 Ruger case.
.338 Winchester Magnum	1958	USA	R	8.61×63.50mmR	3080	4077	2.647	78.0	0.338	0.515	Belted.
.348 Winchester	1936	USA	R	8.8×57.3mmR	2630	2685	2.042	70.0	0.348		One of the most powerful rimmed cartridges ever used in a lever rifle.
.35 Remington	1906	USA	R	9.1×49mm	2302	1958	1.701	45.0	0.358	0.300	Lever action.
.35 Whelen	1922	USA	R	9.1×63mm	2891	3363	2.327	65.0	0.358	0.282	Necked up .30-06.
.35 Winchester Self-Loading	1905	USA	R	8.9×29.3mmR	1452	848	1.168	13.5	0.351		a.k.a .35 WSL or .35 SL. Obsolete. Only chambered commercially in the Winchester Model 1905 rifle.
.350 Remington Magnum	1965	USA	R	9.12×55.12mm	2775	3419	2.464	64.5	0.358	0.293	Belted.
.351 Winchester Self-Loading	1906	USA	R	8.9×34.9mmR	1850	981	1.061	19.5	0.351		a.k.a .351 WSL or .351 SL. Only chambered commercially in the Winchester Model 1907 rifle.
.357 Magnum	1935	USA	H	9.1×33mR	1500	624	0.832	23.0	0.357	0.206	Lengthened .38 Special .
.357 SIG	1994	Germany/USA	H	9.02×21.97mm	1350	502	0.744	10.8	0.355	0.212	
.358 Winchester	1955	USA	R	9.11×51.18mm	2475	2720	2.198	52.0	0.368	0.282	
.375 Holland & Holland Magnum	1912	UK	R	9.5×72.4mm	2800	4700	3.357	87	0.375	0.430	The rimmed .375 H&H Flanged Magnum for double-guns and the .375 H&H Belted Rimless Magnum with a headspacing belt for magazine-fed rifles were released simultaneously in 1912.
.375 Ruger	2007	USA	R	9.5×65.5mm	2840	4835	3.405	90.5	0.375	0.430	Developed in collaboration between Ruger and Hornady .
.375 RUM	2002	USA	R	9.5×72.4mm	3293	5421	3.292	105.0	0.375		A beltless, rebated rim cartridge developed by Remington Arms by necking up the .300 Remington

Name	Date	Nation	H/R	Size	MV (fps)	ME (ft-lb)	P (lb-ft/s)	Chr (gr)	Dia (in)	BC	Comments
											Ultra Magnum case.
.375 Weatherby Magnum	1945	USA	R	9.5×72.6mm	3110	5223	3.359	99.0	0.375		Belted magnum based on the .375 H&H, blown out & reshouldered.
.380 ACP	1912	Belgium	H	9×17mm	1000	200	0.4	4.3	0.355		a.k.a .380 Auto, 9mm Browning Short
.38 Long Colt	1877	USA	H	9.2×26.2mmR	777	195	0.502	3.7	0.358		a.k.a .38 LC. Obsolete.
.38 S&W	1877	USA	H	9.2×19.7mmR	675	176	0.521	2.6	0.358		4th or 5th oldest commercial cartridge being loaded today.
.38 Special	1902	USA	H	9.1×29.3mmR	1090	290	0.532	6.8	0.357	0.206	
.38 Super	1929	USA	H	9.04×22.86mmR	1300	500	0.769	5.4	0.356		a.k.a .38 Super and .38 Colt Auto.
.38-40 Winchester	1874	USA	R	10.17×33.15mmR	1160	538	0.928	19.5	0.401	0.172	a.k.a 38-40 WCF. Crossover rifle/handgun cartridge.
.38-55 Winchester	1884	USA	R	9.59×53.0mmR	1853	1165	1.257	35.0	0.379		
.40 S&W	1990	USA	H	10.2×21.6mm	1180	479	0.812	11.5	0.400	0.164	
.400 Corbon	1997	USA	H								.45 ACP case necked down to .40 caliber.
.400 H&H Magnum	2003	UK	R	10.4×72.3mm		5015					Belted magnum.
.401 Winchester Self-Loading	1910	USA	R	10.31×38mmR	2135	1958	1.834	29.0	0.406		Rimmed. a.k.a .401 WSL or .401 SL. Obsolete. Only chambered commercially in the Winchester Model 1910 and the Belgian Clement-Neumann rifle.
.404 Jeffery	1909	UK	R	10.72×73.02mm	2600	4700	3.615	96.4	0.423	0.358	aka 404 Rimless Nitro Express.
.408 Cheyenne Tactical	2001	USA	R	10.4×77mm		7744					Used in Cheyenne Tactical's M200 Intervention , and M310 rifles.
.41 Action Express	1986	USA	H	10.4×22.0mm	1114	457	0.82	8.4	0.410		
.41 Remington Magnum	1964	USA	H	10.4×32.8mmR	1887	788	0.835	26.5	0.410		
.416 Barrett	2006	USA	R	10.6×83mm	3150	8764	5.564	200	0.416	0.72	Designed as an alternative to the .50 BMG for sniper rifles.
.416 Remington Magnum	1988	USA	R	10.6×72.4mm	2400	5116	4.263	90.0	0.416	0.367	
.416 Rigby	1911	UK	R	10.6×74mm	2415	5180	4.29	116.0	0.416	0.319	Later used parent cartridge of the .338 Lapua Magnum .

Name	Date	Nation	H/R	Size	MV (fps)	ME (ft-lb)	P (lb-ft/s)	Chr (gr)	Dia (in)	BC	Comments
.42 Berdan	1868	Russia	R	10.75×58mmR	1450	1724	2.378	77	0.430		Blackpowder Russian service rifle. a.k.a 4.2 Line Berdan. Designed by American inventor/soldier Hiram Berdan, adopted by Russia in trapdoor 1868 and turnbolt 1870 Berdan Rifles.
.44 AMP	1971	USA	H		1485	1600	2.155	27.0	0.429		a.k.a .44 Auto Mag Pistol .
.44 Henry	1860	USA	R	11×23mmR	1125	568	1.01	28	0.423		a.k.a .44 Rimfire, .44 Long Rimfire, or 11×23mmR. Obsolete blackpowder cartridge.
.44 Magnum	1955	USA	H	10.9×32.6mmR	1550	999	1.289	31.5	0.430	0.245	a.k.a .44 Remington Magnum. Lengthened .44 Special . Crossover rifle/handgun cartridge.
.44 S&W American	1869	USA	H	11.0×29mmR	765	259	0.677	5.5	0.434		Obsolete blackpowder/smokeless handgun cartridge.
.44 Special	1907	USA	H	10.9×29mmR	1000	400	0.8	15.0	0.430	0.138	
.44-40 Winchester	1873	USA	H	10.8×33.3mmR	1117	656	1.175	7.3	0.428	0.123	First developed for lever-action, later used in revolver.
.444 Marlin	1964	USA	R	10.9×57.2mmR	2400	3389	2.824	56.0	0.429	0.225	Lengthened .44 Magnum case, but a lever-action rifle cartridge.
.45 ACP	1905	USA	H	11.43×23mm	850	369	0.868	10	0.451	0.188	Automatic Colt Pistol, first self-loading U.S. Army pistol round.
.45 Colt	1873	USA	H	11.58×32mm	960	460	0.958	13	0.452	0.140	a.k.a .45 Long Colt or .45 LC. Used in both handgun and rifle.
.45 GAP	2003	Austria	H	11.5×19.2mm	1152			9.0	0.451		Glock Automatic Pistol.
.45 Magnum	1979	USA	H	11.5×30.4mm	1472	1406	1.91	18.0	0.451		a.k.a .45 Winchester Magnum. Lengthened / strengthened .45 ACP.
.45-70	1873	USA	R	11.6×53.5mmR	2394	2518	2.104	63	0.458	0.230	a.k.a .45-70 Government. One of the oldest centerfire cartridges still in commercial production.
.450 Adams	1868	UK	H	11.6×18mmR	700	245	0.7	13	0.455		a.k.a .450 Boxer and .450 Revolver. Obsolete blackpowder handgun cartridge.
.450 Marlin	2000	USA	R	11.6×53mmR	2225	3572	3.211	59.0	0.458	0.230	Lever action round. Shortened .458 Winchester Magnum case, designed to match .45-70 performance.
.450 Nitro Express	1895	UK	R	12.1×83mmR	2150	4927	4.583	157	0.458	0.325	J. Rigby smokeless cartridge based

Name	Date	Nation	H/R	Size	MV (fps)	ME (ft-lb)	P (lb-ft/s)	Chr (gr)	Dia (in)	BC	Comments
											upon .450 Black Powder Express .
.454 Casull	1959	USA	H	11.5×35.1mmR	1900	1924	2.025	38.2	0.452	0.180	Lengthened .45 Colt, most powerful handgun round until the 1990s.
.455 Webley	1897	UK	H	11.5×19.6mmR	700	285	0.814	5.0	0.455		Originally a blackpowder handgun cartridge.
.458 Lott	1971	USA	R	11.66×71.12mm	2300	5873	5.107	79.0	0.458	0.389	Belted.
.458 Winchester Magnum	1956	USA	R	11.66×64mm	2140	5084	4.751	81.0	0.458	0.295	
.46 rimfire	1870	USA	H	11.6×21.2mmR				026			a.k.a .46 Short, .46 Remington Carbine. First large-caliber metallic handgun cartridge. Blackpowder.
.460 S&W Magnum	2005	USA	H	11.5×46mmR	2200	2149	1.954	48.5	0.452	0.151	Revolver cartridge for handgun hunting.
.460 Weatherby	1958	USA	R	11.6×74mm	2808	7504	5.345	128.0	0.458		aka 460 Weatherby Magnum
.465 H&H Magnum	2003	UK	R	11.9×73.5mm		6121		134	0.468		Belted magnum.
.470 Nitro Express	1907	UK	R	12.1×83mmR	1885	5132	5.445	125	0.475	0.290	Designed by Joseph Lang.
.476 Enfield	1881	UK	H	11.6m×22mR				5.5	0.472		a.k.a .476 Eley. Blackpowder/smokeless handgun cartridge.
.480 Ruger	2001	USA	H	12.1×32.6mmR	1539	1315	1.709	26.5	0.475	0.150	Shortened .475 Linebaugh case.
.50 Action Express	1988	USA	H	12.7×32.6mm	1475	1449	1.965	32.5	0.500	0.120	For IMI Desert Eagle handgun.
.50 BMG	1921	USA	R	12.7×99mm	2815	13196	9.375	265	0.510	1.050	Used in Heavy Machine Guns and long-range rifles.
.50 Remington	1867	USA	H		750	330	0.88	7.0	0.508		a.k.a 50 Remington Pistol Navy Model 1867 and 50 Remington (M71 Army). Rimmed case 0.875" in length. Obsolete blackpowder/smokeless handgun cartridge.
.50-90 Sharps	1872	USA	R	13.0×64mmR	1652	2210	2.676	37.0	0.509		The mainstay of the American bison (buffalo) hunter. Blackpowder/smokeless.
.500 S&W Magnum	2003	USA	H	12.7×57.2mmR	1950	2533	2.598	45.3	0.500	0.185	One of the most powerful handgun-specific cartridges.
.577 Snider	1867	UK	R	14.5×51mmR	1380	1689	2.448	30	0.570		The first black powder cartridge for British military use. Later loaded smokeless.

Name	Date	Nation	H/R	Size	MV (fps)	ME (ft-lb)	P (lb-ft/s)	Chr (gr)	Dia (in)	BC	Comments
.577/450 Martini-Henry	1871	UK	R	11.43×61mmR	1600	1870	2.338	38	0.455		Rimmed. The second blackpowder (later smokeless) cartridge for British military use. Evolved from the .577 Snider case, lengthened and necked down to .45 (nominal) caliber. Used in the Martini rifles from 1871 to the present.
.600 Nitro Express	1899	UK	R	15.7×76mmR	2050	7614	7.428	120	0.622		Rimmed. Jeffrey, 900-grain (58 g) bullet.
.700 Nitro Express	1988	UK	R	17.8×89mmR	2000	10566	10.566		0.700		Big game cartridge.

Appendix 6

Spurwink Rod & Gun Club Additional Items

1. SRGC Baseline Sound Study
2. SRGC Review of Lead Management 3-11-1999
3. SRGC Lead Management Plan
4. SRGC Certificate of Liability Insurance
5. SRGC Enhancements Phasing
6. Ballistic Rubber Scrap as Firing Range Backstop Material
7. Example of Firing Range Baffles

September 10, 2014

Spurwink Rod and Gun Club
1250 Sawyer Road
Cape Elizabeth, ME 04107

Attn: Ms. Tammy Walter

Ref: Sound Study

Dear Ms. Walter;

I have completed the requested baseline sound test for the Spurwink Rod and Gun Club range. The survey was performed on September 9, 2014 from noon to 2 pm. Weather conditions were favorable for acoustic measurements. The sound test was supported Mark Mayone, a club member. The purpose of the test was to assess the existing ambient sound levels and determine the maximum noise level produced by a 30 caliber rifle shot. It was not appropriate to use the MeDEP's Chapter 375.10 noise regulation to evaluate the Spurwink range.

Measurements were made with a Svantek, model 949 precision integrating sound level meter. Calibration level was verified with a Larson Davis, model 200 acoustic calibrator at the start and end of the survey. The meter was on a tripod, about 5-1/2-ft above the ground. The microphone was fitted with an 8-inch diameter windscreen. All instruments functioned properly and have certificates traceable to a certified calibration standard (NIST).

The meter was programed to produce a continuous 100-msec interval time-history record over a duration sufficient to meet the test requirements. Measurements were made at nine locations on the shoulders of Sawyer, Wells, and Cross Hill Roads. Measurements were made with an observer noting audible sounds and audibility of the rifle shot. The sound level data was downloaded to a computer.

Post-analysis identified the quietest (minimum), the ambient residual (L90; the level exceeded 90% of the time or quietest 10%), and the rifle shot noise level maximum. The noise level data is tabulated with observer comments, as shown on the next page.

This sound survey revealed that the range is situated in a relatively rural area away from noise producing commercial and industrial activity. Background sound levels ranged from 35 to 45 dBA when traffic and natural sounds were at a minimum. The rifle shot audibility was directly related to distance and background sound level when the shot occurred.

Please feel free to contact me with any questions or comments. Thank you,

Respectfully,



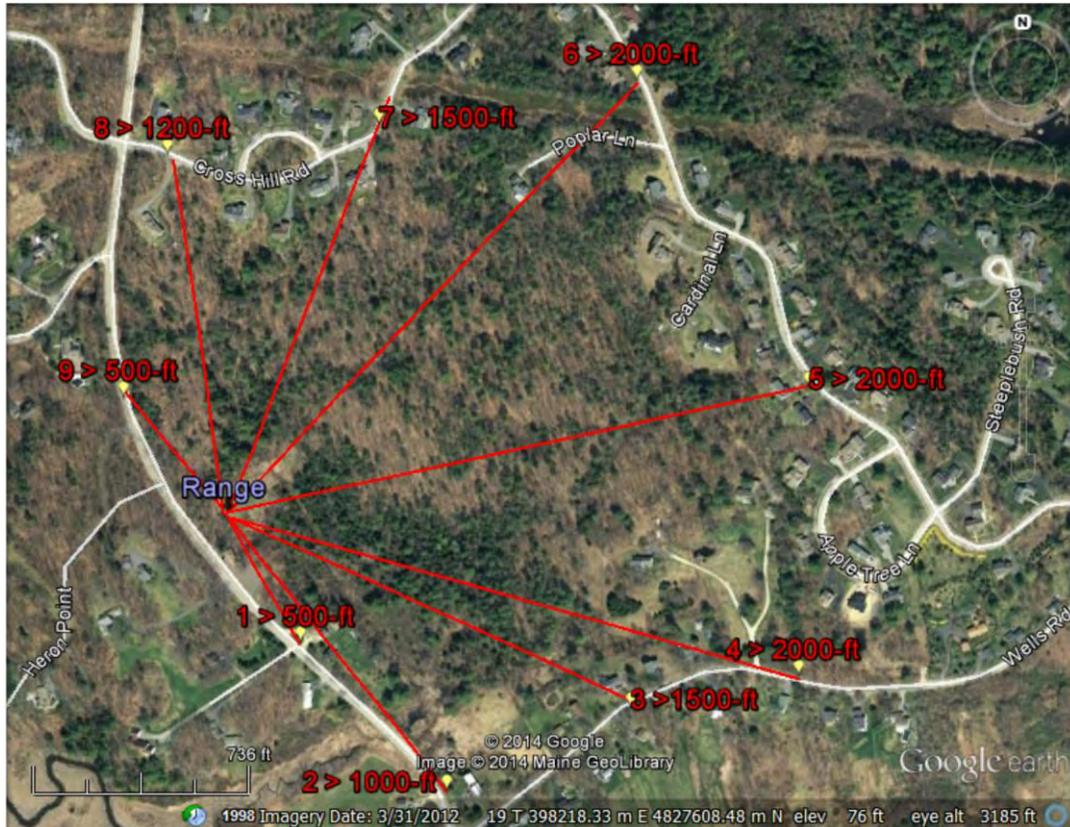
Stephen E. Ambrose, ASA, INCE, *Board Certified*
Principal Consultant

Tel: 207-892-6691

S.E. Ambrose & Associates
15 Great Falls Road, Windham, ME 04062
Acoustics, Environmental Sound & Industrial Noise

Email; seaa@myfairpoint.net

Spurwink Rod & Gun Club - Cape Elizabeth, Maine
September 9, 2014 - Sound Measurements - Svantek 949, sn 6028



Loc. Dist.	Time (24-hr)	Min dBA	L90 dBA	Comments	Shot Max dBA
				Weather; clear, wind SW 4 to 10, ~70°F 30 cal rifle	
1 500-ft	1210	42.5	44.9	< 1257 Sawyer Rd, wind in trees, light local traffic Shot sound; noticeable, crisp, sharp >	78.5
2 1000-ft	1217	42.6	44.4	< 1267 Sawyer Rd, wind in trees, light local traffic Shot sound: noticeable, crisp, sharp >	78.6
3 1500-ft	1225	37.4	38.5	< 89 Wells Rd, wind in trees, light local traffic, crickets Shot sound; noticeable, dull, thump >	60.3
4: 2000-ft	1235	40.9	44.4	< 74 Wells Rd, Wind in trees, crickets light local traffic Shot sound; audible, dull, faint, other sounds >	66.2
5 2000-ft	1248	36.4	39.3	< 22 Cross Hill Rd, local traffic, crickets, distant traffic Shot sound; audible, dull, faint >	60.9
6 2000-ft	1303	34.5	37.4	< 41 Cross Hill Rd, local traffic crickets, distant traffic Shot sound: audible dull, faint >	64.3
7 1500-ft	1310	35.7	38.8	< 59 Cross Hill Rd, wind in trees, loc traffic, dist mowing No Shot, no radio communication >	--
8 1200-ft	1320	40.0	41.6	< 71 Cross Hill Rd, Sawyer Rd & loc traffic, wind in trees Shot sound; noticeable, crisp, sharp >	67.3
9 500-ft	1337	43.6	44.9	< Sawyer Rd at hydrant, local traffic, crickets Shot sound: noticeable, crisp, sharp >	79.8

SPURWINK ROD & GUN CLUB

Cape Elizabeth, Maine 04101

March 11, 1999

Mr. Fred Brown
16 Fenway Road
Cape Elizabeth, ME

Dale Brewer
35 Eastman Road
Cape Elizabeth, ME

Dear Fred:

I have had some time to do a little research and touch base with a few reputable environmental scientists directly involved with the remediation of LEAD Contaminated E.P.A. Superfund sites. I have worked on two of these sites with known lead contamination and other similar metals and materials:

SACO TANNERY Scarborough, Maine. E.P.A. controlled
MASSACHUSETTS MILITARY RESERVATION Falmouth, Mass. E.P.A. controlled

From these experiences, soil chemistry, reference materials and conversing with a registered Wildlife Biologist, and two Environmental Scientists in this field, these preliminary conclusions have been found:

- Lead does not readily “breakdown” and migrate into groundwater.
- Lead is not known to leach into subsoil or migrate through the soil profiles.
- Lead is not known to break down into any other substances in the environment.
- Lead is harmful or toxic if ingested.

The following is a preliminary conclusion of the possible lead contamination issue in the wetland areas at the Spurwink Rod & Gun Club:

It is unlikely wildlife, waterfowl or other mammalia are ingesting “eating” lead at the S.R.&G.C. due to:

1. This small wetland area is not known to or have been known to be a feeding, staging or breeding habitat for waterfowl. Unlikely, also due to close proximity of the Spurwink Marsh.

Brown - pg. 2

2. From observing the landscape in relation to elevation differences (SEE PLAN PROFILE), most lead or shot is either absorbed by the earthen berms behind the targets or into the berm at the end of range.
3. Shotgun pellets have the most potential of entering the wetland. The range and trajectory of the shotgun pellets is going to ensure clearance of wetland areas in most instances due to distance and elevation change, most or no pellets will fall into the lower areas.
4. Most shotgun pellets are currently being made of nontoxic substances by manufacturers, and with the minimal skeet shooting events, contamination is not believed to be significant.
5. The surrounding vegetation, trees, saplings, shrubs and herbaceous layers all seem to be of health and vigor, with a large diversity of cover.
6. Wetland areas are dominated by cattail stands (*Typha latifolia*), speckled alders (*Alnus rugosa*), sensitive ferns (*Onoclea sensibilis*), etc.

Fred, I hope that this may aid you and the S.R.&G.C. with the environmental portion of the issues raised by you. Due to the quick timeliness of this lead issue and winter conditions, I will be available for further assistance in the future if necessary, feel free to contact me at home in the evenings.

Sincerely,



Dale A. Brewer
Wetland Scientist
C.S.S./L.S.I.T.

Lead Management Plan

Suggestions on this plan were taken from the
United States Environmental Agencies Best Management
Practices for Lead at Outdoor Shooting Ranges

EPA-902-B-01-001

Revised June 2005

Region 2

This lead management plan will contain 4 parts

Step 1 Control and Contain

- S.R.G.C. Will control the positions at which shooting occurs from and control where to.
- S.R.G.C.'s containment of bullets and shot will be in a rubber "ballistic aramid" shred backstops. Steel shotfall zones will be on our property.

Step 2 Prevent Migration

- Monitor and adjust soil pH (e.g., lime spreading) Ideal soil pH is 6.5-8.5
- Immobilize lead (e.g. phosphate spreading)
- Control runoff (e.g. a level shooting plane)
- Plant vegetation and utilize organic ground cover
- Implement engineered runoff controls (e.g. a level shooting plane)

Step 3 Remove and Recycle

- Removal of lead from the rubber backstops will be a hybrid procedure involving heavy equipment to pull apart the rubber and raking/shoveling to pick up the bullet components
- The bullet components will not be stored on site longer than needed to find a recycler

Step 4 Document Activities and Record keeping

- Document BMP used to control migration
- Document date and provider of services
- Keep Records for the life of the range plus 10 years
- Evaluate the BMP (Best Management Practices) of the L.M.P.

Summary of Key B.M.P. Found in this L.M.P.

- Bullets and shot will be contained in rubber shred backstop, steel shot will be contained on our land.
- Preventing Lead Migration
- Adjust soil pH to between 6.5 ~ 8.5
- Each August 20 lbs of phosphate will be added to every 1000 Feet of shooting lane by a garden/seed spreader.
Note: Phosphate binds lead and prevents migration.
- Each August lime will be added to adjust soil pH. in each shooting lane by a garden/seed spreader.
Note: pH kit can be found at garden centers
75 lbs of lime will raise pH of 1000 square feet approximately 1 pH for approximately one to four years.
- The geo-textile filter material under each backstop will be replaced in conjunction with each lead/bullet reclamation.
- Ground contouring will be the method used to assist in controlling runoff
- Records will be kept on the L.M.P. and reviewed yearly starting in 2016.

Spurwink Rod & Gun Club Range Enhancement Phasing

Based on current funding levels, the enhancements to the Range Facility will be carried out in 4 Phases. Increases in funds availability may allow acceleration of later phases.

Phase 1: Install concrete wall on left side of 100 Yard range and 10 Meter Berm Box. Extend shooting position platform in preparation for Phase 2 & 3 work. Completed in 2014.

Phase 2: Install additional walls and backstops per site plans. Perform site leveling. Estimate 1 Year commencing in 2015 – presently underway.

Phase 3: Extend shooting platform shed coverage to entire firing line. Install Eyebrow Baffle at firing line and baffles at backstops. Reconstruct existing bridge to 100 Yard targets. Estimate 2 Years commencing in 2016.

Phase 4: Install additional intermediary baffles to complete double-layer baffling. Estimate 1 Year commencing in 2018.

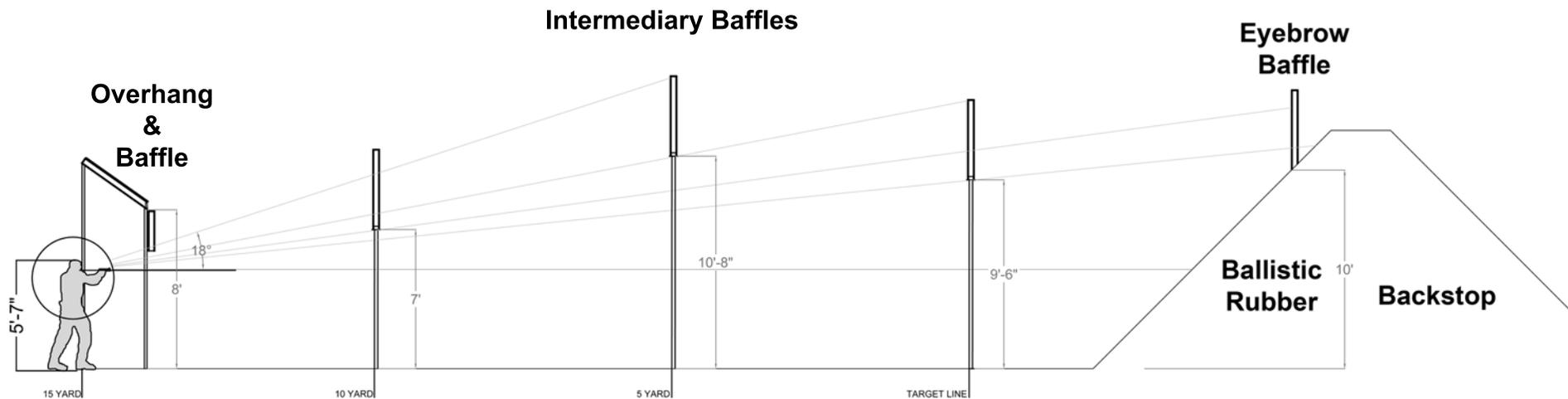
Ballistic Rubber Scrap as Firing Range Backstop Material



Rubber mulch

- Ballistic Rubber is used for both indoor and outdoor ranges.
- Bullet-Stopping Power & Environmentally Friendly Results.
- As the bullet ricochets off the ballistic medium in the backstop at all different angles, its energy and velocity is quickly diminished before it grinds to a complete stop. It's a process of energy transformation known as inelastic collision.
- Ballistic Rubber Mulch will stop and contain everything from .22 caliber rimfire to .50 BMG and because projectiles are stopped before impacting on a hard wall, bullets are sometimes left nearly intact.

Example of Firing Range Baffles



Backstop: A device constructed to stop, redirect, and or contain bullets fired on a range.

Baffles: Barriers designed to contain, deflect, or fragment bullets, may be used to limit the height or direction the muzzle end of a firearm can traverse. May be designed to reduce, redirect or suppress sound waves. Baffles are placed either overhead, alongside or at ground level and can be used to restrict barrel movement or interrupt errant or off-the-target shots.



CERTIFICATE OF LIABILITY INSURANCE

OP ID: TG

DATE (MM/DD/YYYY)

06/08/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Noyes Hall & Allen Insurance www.noyeshallallen.com 170 Ocean Street, PO Box 2403 South Portland, ME 04116-2403		CONTACT NAME: PHONE (A/C, No, Ext): _____ FAX (A/C, No): _____ E-MAIL ADDRESS: _____ PRODUCER CUSTOMER ID #: SPURW-1	
INSURED Spurwink Rod & Gun Club Richard Aspinall P.O. Box 667 Scarborough, ME 04074		INSURER(S) AFFORDING COVERAGE INSURER A : Philadelphia Insurance Co INSURER B : _____ INSURER C : _____ INSURER D : _____ INSURER E : _____ INSURER F : _____	
		NAIC #	

COVERAGES**CERTIFICATE NUMBER:****REVISION NUMBER:**

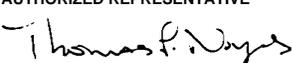
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC	X		PHPK1239553	11/03/2014	11/03/2015	EACH OCCURRENCE \$ 1,000,000
	DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 50,000						
							MED EXP (Any one person) \$ 5,000
							PERSONAL & ADV INJURY \$ 1,000,000
							GENERAL AGGREGATE \$ 3,000,000
							PRODUCTS - COMP/OP AGG \$ 2,000,000
							\$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) \$
							BODILY INJURY (Per person) \$
							BODILY INJURY (Per accident) \$
							PROPERTY DAMAGE (PER ACCIDENT) \$
							\$
							\$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DEDUCTIBLE RETENTION \$			TBD	06/08/2015	11/03/2015	EACH OCCURRENCE \$ 2,000,000
	AGGREGATE \$						
							\$
							\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y / N <input checked="" type="checkbox"/> N / A If yes, describe under DESCRIPTION OF OPERATIONS below						<input type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

RE: Certificate of Insurance is issued as evidence of coverage and to add the Town of Cape Elizabeth and employees with additional insured status.

CERTIFICATE HOLDER**CANCELLATION**

Town of Cape Elizabeth 320 Ocean House Road PO Box 6260 Cape Elizabeth, ME 04107	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
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