

**ELDREDGE SURVEYING
& ENGINEERING, LLC**

1038 Main Street
Chatham, Massachusetts 02633

LETTER OF TRANSMITTAL

July 28, 2017

CHATHAM PLANNING BOARD

Town Hall
595 Main Street
Chatham, MA 02633

Re: **DEFINITIVE SITE PLAN -**
Frank O'Keefe, LLC, Owner
c/o Frederick Bierwirth
P.O. Box 56
North Chatham, MA 02650

Dear Members:

On behalf of the owner, Frank O'Keefe, LLC, enclosed please find the following:

1. Two (2) full size and ten (10) reduced copies of each of the following plans:
 - Sheet 1 of 2 Existing Conditions Plan, dated -7-24-2017
 - Sheet 2 of 2 Definitive Site Plan dated 07-24-2017
 - Architectural Plans sheets A1-15 and S1- S4; and ME1-ME3
 - Landscape Plan Prepared by Sorbello Landscaping, Inc. dated 06-13-2017
2. Drainage Details, sheets 1 and 2 of 2; and
3. Drainage calculations, sheets 1 – 4 of 4
4. Soil boring log
5. 12 copies of **Application** for Site Plan Review;
6. 2 copies of the Cost Estimate;
7. List of abutters;

8. Filing fee in the amount of **\$1,095.00**¹, payable to the Town of Chatham); and
9. Copy of current deeds.

The project consists of:

The demolition of the existing structure to the foundation followed shortly thereafter with the construction of a new building. The footprint is being expanded to include a porch and the deck on the westerly side is being modified.

Inside, the applicants are proposing a fitness center, workshare office space and a juice bar. A childcare facility incidental to the fitness center and shared workspace is being provided.

The parking calculations have been reviewed and an estimated 56 spaces are required where 53 are provided on the site. The waiver request for the deficient parking is based on the fluctuating times for the various uses combined with rights to park on adjacent properties.

The drainage design has been modified from the Pre-Application Site Plan. The front parking lot is proposed to be regraded to alleviate the puddle that forms there by diverting the stormwater runoff into the existing catch basin to the east and a proposed catch basin to the west. This divides the stormwater runoff from the northerly portion of the property to two independent leaching systems.

The drainage design has an additional twist. The drainage areas have been divided into five: 1A, 1B, 1C, 2 and 3.

- 1A is the area of contribution on the abutting property that enters the existing catch basin on the subject property.
- 1B and 1C are the areas of contribution that currently contribute to the same catch basin as 1A. These have been divided as the proposed regrading will direct the runoff from area 1B to the existing catch basin and the runoff from 1C to the proposed catch basin.
- 2 is the area of contribution generated from the roof on the rear of the building.
- 3 is the area of contribution generated from the remainder of the property.

- Area 1A generates slightly more stormwater runoff than Area 3.

The proposal is to collect and dispose of the stormwater runoff generated from Areas 1A, 1B, 1C and 2. The runoff from Area 3 is to continue in the historical pattern onto the abutters' property.

This system design results in the applicant taking responsibility an amount of stormwater generated from the applicant's property without requesting that the neighbor go to the expense to upgrade their drainage infrastructure. This will substantially decrease the runoff that is currently draining onto the abutting property.

It is my understanding that the Public Hearing for this project will be held on Tuesday, August 22, 2017 at or after 7:00PM.

Respectfully,

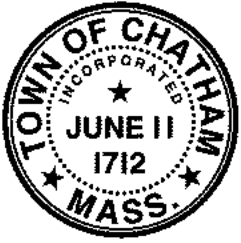
***ELDREDGE SURVEYING
& ENGINEERING, LLC***

J. Thaddeus Eldredge, PLS

JTE/gee
enc.

C-4693-01.0
Copy:
Fred & Lindsay Bierwirth
James Norcross

Y:\Clients\Bierwirth, Fred 4693\Planning Board\Definitive\04 LOT Def Site Plan2017-07-28 - Copy.docx



APPLICATION FOR SITE PLAN REVIEW*/**



Scheduled Review Date: _____

Application Fee Paid: _____

Applicant Information:

Location of Project/Street Address: _____

Assessor's Map: _____ Lot: _____

Applicant Name: _____

Applicant Address: _____

Applicant Phone #: _____ Fax #: _____

Owner Name/Address/Phone (if not applicant): _____

The owner's title to the land is derived from _____

by deed dated _____ and recorded in Barnstable Registry of Deeds Book _____ Page _____, registered in the Barnstable District Registry District of the Land Court, Certificate of Title No. _____.

Engineer/Surveyor: _____

Description of Project: (Describe proposed use or uses of the property. Provide as much information as possible, attach additional pages if needed): _____

Site Plan: Include Site Plan showing existing conditions and any proposed changes.

Estimated Cost of Site Improvements: (provide estimated cost of all site improvements from a contractor exclusive of building construction cost including but not limited to the following: paving, drainage, sidewalks, handicap access facilities, refuse storage and disposal facilities, retaining walls, outdoor lighting and landscaping):

Estimated Cost: _____ Prepared by: _____ Date: _____

Total land area involved: _____ Zoning Classification: _____

Formula Business Establishment:

Two (2) or more of the following items: standardized (Formula) array of services and/or merchandise including menu, trademark, logo, service mark, symbol, décor, architecture, façade, layout, uniforms, color scheme, and which are utilized by ten (10) or more other businesses worldwide regardless of ownership or location. Yes ___ No ___

If YES, Zoning Board of Appeal Special Permit is required.

Signed: _____

* Section VI, Supplementary Regulations, Site Plan Review of the Protective Zoning Bylaw.

** Any alterations to this application will constitute an incomplete filing;

Incomplete applications will not be accepted.



Cost Estimate

Bierwirth - Chatham Works, LLC
Job #: 4693

Pavement 17150 S.F. @ \$2.5/S.F.	Allowance: \$42,875
Drainage	
2 catch basins @ \$2000 ea	\$4,000
4 leach pits @ \$2500 ea	\$10,000
2 Dry Wells @ \$500 ea	\$1,000
Retaining Walls	
96 L.F. @ \$300/L.F.	\$28,800
Landscaping	Allowance: \$1,500
Refusal Disposal	Allowance: \$500
Sidewalk/handicap access	Allowance: \$5,000
Outdoor Lighting	Allowance: \$500
	Total: \$94,175
	Approx. \$95,000

REQUEST FOR ABUTTERS' LIST

DATE REQUESTED July 27, 2017

LOCATION OF **SUBJECT** PROPERTY 323 Orleans Road

REQUEST FOR ABUTTERS WITHIN **HOW MANY FEET** OF SUBJECT PROPERTY 300'

PURPOSE FOR ABUTTERS' LIST ZBA

NAME OF PERSON(S) REQUESTING ABUTTERS' LIST Gail Eldredge
PLEASE PRINT

SIGNATURE *Gail Eldredge*

TELEPHONE NUMBER 508 945-3965

508 945-3550

FOR ASSESSORS' USE ONLY

ABUTTERS' LIST COMPLETED BY: AK

DATE COMPLETED 7/27/17

PARCEL ID OF SUBJECT PROPERTY 141/41/4A.

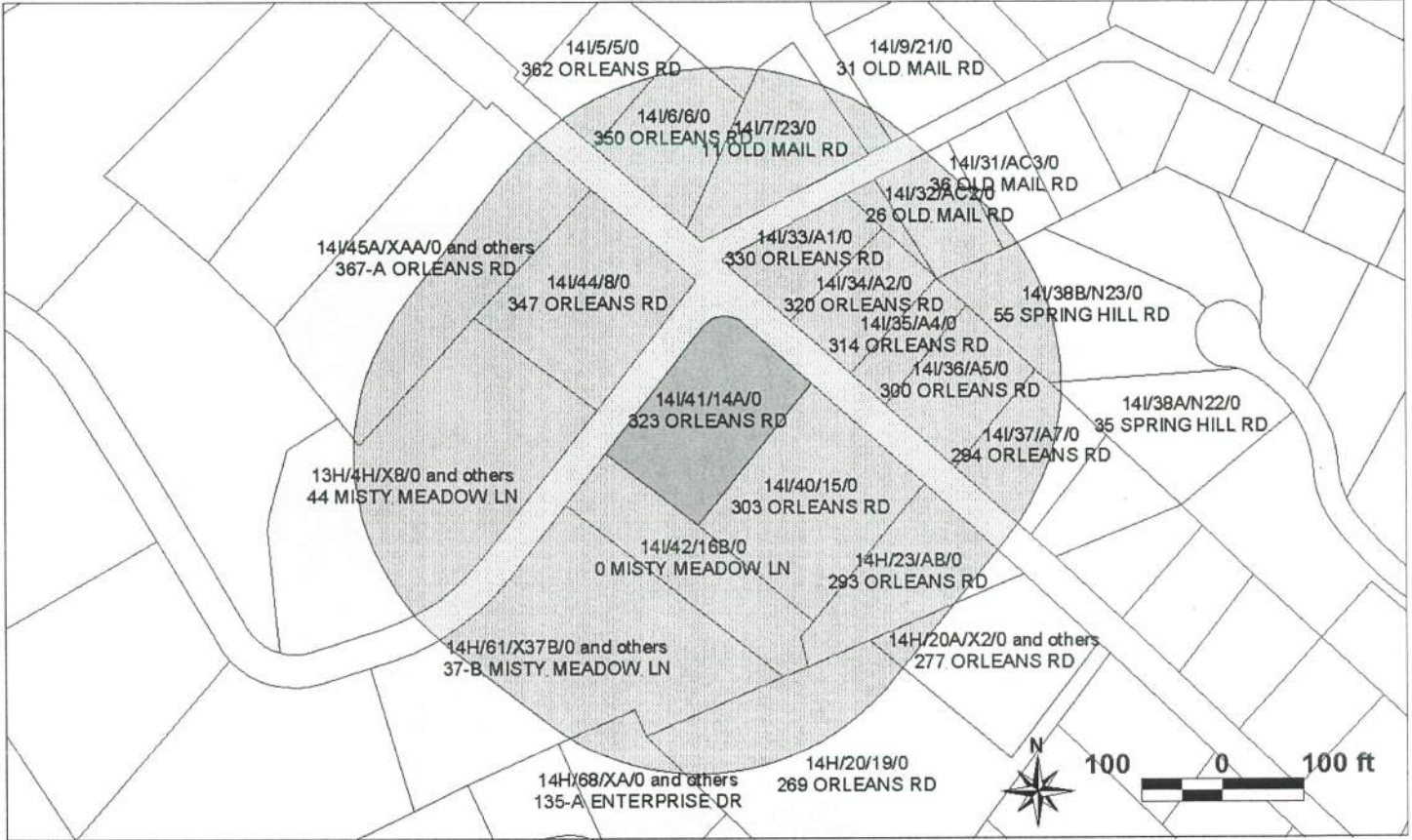




TOWN OF CHATHAM, MA
 BOARD OF ASSESSORS
 549 MAIN STREET CHATHAM MA 02633

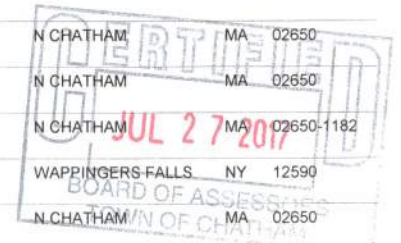


Abutters List Within 300 feet of Parcel 14I/41/14A/0



Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
1919	13H-4A-X1-0-R	FERLITA JANET	36 MISTY MEADOW LN	APT 1 36 MISTY MEADOW LN	N CHATHAM	MA	02650
1920	13H-4B-X2-0-R	DUARTE HEATHER	36 MISTY MEADOW LN	PO BOX 64	N CHATHAM	MA	02650-0064
1921	13H-4C-X3-0-R	REDMOND THOMAS A	36 MISTY MEADOW LN	PO BOX 475	N CHATHAM	MA	02650
1922	13H-4D-X4-0-R	TAVALONE PAUL J	36 MISTY MEADOW LN	76 QUAKER LN	BOLTON	MA	01740
1923	13H-4E-X5-0-R	WEBSTER EDMUND JR & ABIGAIL DOHER NANCY NOMINEE TRUST	44 MISTY MEADOW LN	PO BOX 75	CHATHAM	MA	02633
1924	13H-4F-X6-0-R	HAMMOND JANE	44 MISTY MEADOW LN	12 JUNIPER DR	MASHPEE	MA	02649-2146
1925	13H-4G-X7-0-R	ANDERSON RITA M	44 MISTY MEADOW LN	44 MISTY MEADOW LN #7	N CHATHAM	MA	02650
1926	13H-4H-X8-0-R	HOWARD ROBERT F III & CECILIA B	44 MISTY MEADOW LN	136 POWDER HILL RD	BEDORD	NH	03110
7903	13H-PORT-VLG1-0-E	PORTSIDE VILLAGE CONDO 1	0 MISTY MEADOW LN	0 MISTY MEADOW LN	CHATHAM	MA	02633
2683	14H-20-19-0-R	COLONIAL GAS CO DBA NATIONAL GRID	269 ORLEANS RD	PROPERTY TAX DEPT 40 SYLVAN RD	WALTHAM	MA	02451
2684	14H-20-X1-0-R	MILLER JOHN	275 ORLEANS RD	PO BOX 79	S CHATHAM	MA	02659-0079
2692	14H-23-AB-0-R	293 ORLEANS ROAD LLC	293 ORLEANS RD	17 BUCKINGHAM ST	CAMBRIDGE	MA	02138
2737	14H-61-X37A-0-R	DOYLE STEPHEN HD & BRIDGET K	37-A MISTY MEADOW LN	6 CHATHAM WAY	S HADLEY	MA	01075
8459	14H-61-X37B-0-R	ALAIMO JAMES J JR	37-B MISTY MEADOW LN	PO BOX 1120	ENFIELD	CT	06083-1120
8220	14H-61-X39-0-R	KONOPKA JOAN	39 MISTY MEADOW LN	PO BOX 103	CHATHAM	MA	02633

Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
8458	14H-61-X41A-0-R	HUFNAGEL JAMES M & PAMELA S	41-A MISTY MEADOW LN	49 GEORGETOWN CT	BASKING RIDGE	NJ	07920
8460	14H-61-X41B-0-R	STAMP WILLIAM J & HEIDI A	41-B MISTY MEADOW LN	41-B MISTY MEADOW LN	N CHATHAM	MA	02650
8461	14H-61-X43A-0-R	43A MISTY MEADOW LN REALTY TRUST THOMAS P KING JR TRUSTEE	43-A MISTY MEADOW LN	14 WALNUT HILL DR	SCITUATE	MA	02066
8462	14H-61-X43B-0-R	MAZZER THOMAS C & MARIA C	43-B MISTY MEADOW LN	43B MISTY MEADOW LN	N CHATHAM	MA	02650-1138
12913	14H-68-XA-0-R	SWENSON PETER E TR SWENSON JUDITH L TR	135-A ENTERPRISE DR	1370 MAIN ST	CHATHAM	MA	02633
12914	14H-68-XB-0-R	PETER E & JUDITH L SWENSON TRUSTS	135-B ENTERPRISE DR	1370 MAIN ST	CHATHAM	MA	02633
12915	14H-68-XC-0-R	FLOCCO THOMAS J	135-C ENTERPRISE DR	256 SHERIDAN RD	WINNETKA	IL	60093
12916	14H-68-XD-0-R	LONGERSTAEY JACQUES M IPEKDJIAN DIANA N	135-D ENTERPRISE DR	2209 WRENWOOD PONT CT	CHARLOTTE	NC	28211-1800
12917	14H-68-XE-0-R	TISQUANTUM ROAD LLC	135-E ENTERPRISE DR	109 TISQUANTUM ROAD	CHATHAM	MA	02633
2685	14H-20A-X2-0-R	BOBER MATTHEW D & NANCY D	277 ORLEANS RD	44 NONANTUM LN	CHATHAM	MA	02633
2686	14H-20B-X3-0-R	279 ORLEANS RD LLC STEPHEN W WILLIAMS	279 ORLEANS RD	279 ORLEANS RD	N CHATHAM	MA	02650
2687	14H-20C-X4-0-R	BOYLE KEVIN M & ELLEN WRAGA	281-1 ORLEANS RD	3 D APPLEWOOD DR	BALLSTON LAKE	NY	12019
2688	14H-20D-X5-0-R	ERENO RODRIGO	281-2 ORLEANS RD	PO BOX 281	SOUTH CHATHAM	MA	02659
2689	14H-20E-X6-0-R	OCONNELL THOMAS R	281-3 ORLEANS RD	281 ORLEANS UNIT 3	N CHATHAM	MA	02650
2690	14H-20F-X7-0-R	BROWN PETER G & THOMAS	281-4 ORLEANS RD	PO BOX 483	N CHATHAM	MA	02650-0483
2691	14H-20G-X8-0-R	ROSS CAROLYN L	281-5 ORLEANS RD	PO BOX 473	N CHATHAM	MA	02650-0473
2743	14H-TOY-BOX-0-E	ENTERPRISE DR NOMINEE TRUST	135 ENTERPRISE DR	155 CROWELL RD	CHATHAM	MA	02633
7908	14H-HYTD-CON-0-E	HYTIDE CONDO ASSOCIATION	0 ORLEANS RD				
8445	14H-NCHA-VILL-0-E	NORTH CHATHAM VILLAGE CONDO	0 MISTY MEADOW LN	0 MISTY MEADOW LN	CHATHAM	MA	02633
2812	14I-5-5-0-R	WATSON SHAYNE N	362 ORLEANS RD	362 ORLEANS RD	N CHATHAM	MA	02650
2817	14I-6-6-0-R	BAILEY RICHARD K JR	350 ORLEANS RD	19 RIVER RD	ORLEANS	MA	02653
2818	14I-7-23-0-R	DOANE THOMAS L & LINDA L	11 OLD MAIL RD	PO BOX 1322	W CHATHAM	MA	02689-1322
2819	14I-8-24-0-R	MCINTIRE KENNETH A & MOLLY T/E	25 OLD MAIL RD	25 OLD MAIL RD	N CHATHAM	MA	02650
2820	14I-9-21-0-R	HILDEBRANDT JONATHAN H & MARY L	31 OLD MAIL RD	385 HANOVER ST	HANOVER	MA	02339
2778	14I-31-AC3-0-R	THE ROSKEY FAMILY TRUST FUND ROSKEY SEAN T & FLORENCE A TRUSTEE	36 OLD MAIL RD	135 MARKET ST APT B	PORTSMOUTH	NH	03801
2779	14I-32-AC2-0-R	MARSDEN PETER V & MARY ELLEN	26 OLD MAIL RD	9 SILVER BIRCH LN	LINCOLN	MA	01773
2781	14I-33-A1-0-R	HOLLYDENE LLC	330 ORLEANS RD	330 ORLEANS RD	N CHATHAM	MA	02650
2782	14I-34-A2-0-R	GALLAGHER DEREK & RYAN CARLA J/T wf	320 ORLEANS RD	5C ALBION PL	CHARLESTOWN	MA	02129
2783	14I-35-A4-0-R	HEFERNAN DAVID & MARIA	314 ORLEANS RD	9 MEADOWOOD LN	E FALMOUTH	MA	02536-6267
2784	14I-36-A5-0-R	MELDON JOHN J TRUSTEE N CHATHAM BUILD RE TRUST	300 ORLEANS RD	60 N WATER ST	NEW BEDFORD	MA	02740
2785	14I-37-A7-0-R	MCGUIRE KATHLEEN & PAUL CROOK	294 ORLEANS RD	26 HINCKLEY ST #1	DORCHESTER	MA	02125
2795	14I-40-15-0-R	PAONE ERIC	303 ORLEANS RD	PO BOX 824	N CHATHAM	MA	02650
2796	14I-41-14A-0-R	FRANKEL O'KEEFE, LLC	323 ORLEANS RD	323 ORLEANS RD	N CHATHAM	MA	02650
2797	14I-42-16B-0-R	PAONE ERIC	0 MISTY MEADOW LN	PO BOX 824	N CHATHAM	MA	02650
2798	14I-44-8-0-R	SORBELLO ALFRED M & ELIZABETH M C/O SORBELLO TRUST	347 ORLEANS RD	28 LADY SLIPPER LN	MARSTON MILLS	MA	02648
2780	14I-32A-AC1-0-R	MARSDEN PETER & MARY ELLEN	0 OLD MAIL RD	9 SILVER BIRCH LN	LINCOLN	MA	01773
2788	14I-38A-N22-0-R	MAGIERA PHILLIP & SERAFINO JACQUELII	35 SPRING HILL RD	35 SPRING HILL RD	N CHATHAM	MA	02650
2789	14I-38B-N23-0-R	LYONS MARK E & NANCY C PAULSEN T/E	55 SPRING HILL RD	55 SPRING HILL RD	N CHATHAM	MA	02650
2799	14I-45A-XAA-0-R	FOUGERE LEONARD L & DOROTHY G	367-A ORLEANS RD	367A ORLEANS RD	N CHATHAM	MA	02650-1182
2800	14I-45B-XAB-0-R	CHRISTOPHER NEILL KIDD 1/2 JEFFREY P KIDD 1/2	367-B ORLEANS RD	11 FARMS END RD	WAPPINGERS FALLS	NY	12590
2801	14I-45C-XAC-0-R	BLAKE VIVIANNE A	367-C ORLEANS RD	367 ORLEANS RD APT C	N CHATHAM	MA	02650



Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
2802	14I-45D-XAD-0-R	STRETTON JOANNE	367-D ORLEANS RD	35 BENEDICT RD	BETHEL	CT	06801
2803	14I-46A-XBA-0-R	JUDITH T DOE LIVING TRUST JUDITH T DOE TRSUTEE	369-A ORLEANS RD	369A ORLEANS RD	N CHATHAM	MA	02650
2804	14I-46B-XBB-0-R	PEIRCE ANNE M	369-B ORLEANS RD	369 ORLEANS RD #B	N CHATHAM	MA	02650
2805	14I-46C-XBC-0-R	THOMAS A CALLAHAN REV TRUST MARION E CALLAHAN TRUSTEE	369-C ORLEANS RD	633 NEWTON ST	S HADLEY	MA	01075
2806	14I-46D-XBD-0-R	YASSAMAN JOHN MARY DUPAY	369-D ORLEANS RD	PO BOX 3278	NAPLES	FL	34106
2807	14I-46E-XBE-0-R	CHRISTIANSSEN XENIA A	369-E ORLEANS RD	369-E ORLEANS RD	N CHATHAM	MA	02650
7909	14I-RYD-HOL-0-E	RYDER HOLLOW CONDO ASSOCIATION	0 ORLEANS RD				



13H-4A-X1-0-R	13H-4B-X2-0-R	13H-4C-X3-0-R
FERLITA JANET APT 1 36 MISTY MEADOW LN N CHATHAM, MA 02650	DUARTE HEATHER PO BOX 64 N CHATHAM, MA 02650-0064	REDMOND THOMAS A PO BOX 475 N CHATHAM, MA 02650
13H-4D-X4-0-R	13H-4E-X5-0-R	13H-4F-X6-0-R
TAVALONE PAUL J 76 QUAKER LN BOLTON, MA 01740	WEBSTER EDMUND JR & ABIGAIL DOHERT NANCY NOMINEE TRUST PO BOX 75 CHATHAM, MA 02633	HAMMOND JANE 12 JUNIPER DR MASHPEE, MA 02649-2146
13H-4G-X7-0-R	13H-4H-X8-0-R	13H-PORT-VLG1-0-E
ANDERSON RITA M 44 MISTY MEADOW LN #7 N CHATHAM, MA 02650	HOWARD ROBERT F III & CECILIA B 136 POWDER HILL RD BEDORD, NH 03110	PORTSIDE VILLAGE CONDO 1 0 MISTY MEADOW LN CHATHAM, MA 02633
14H-20-19-0-R	14H-20-X1-0-R	14H-23-AB-0-R
COLONIAL GAS CO DBA NATIONAL GRID PROPERTY TAX DEPT 40 SYLVAN RD WALTHAM, MA 02451	MILLER JOHN PO BOX 79 S CHATHAM, MA 02659-0079	293 ORLEANS ROAD LLC 17 BUCKINGHAM ST CAMBRIDGE, MA 02138
14H-61-X37A-0-R	14H-61-X37B-0-R	14H-61-X39-0-R
DOYLE STEPHEN HD & BRIDGET K 6 CHATHAM WAY S HADLEY, MA 01075	ALAIMO JAMES J JR PO BOX 1120 ENFIELD, CT 06083-1120	KONOPKA JOAN PO BOX 103 CHATHAM, MA 02633
14H-61-X41A-0-R	14H-61-X41B-0-R	14H-61-X43A-0-R
HUFNAGEL JAMES M & PAMELA S 49 GEORGETOWN CT BASKING RIDGE, NJ 07920	STAMP WILLIAM J & HEIDI A 41-B MISTY MEADOW LN N CHATHAM, MA 02650	43A MISTY MEADOW LN REALTY TRUST THOMAS P KING JR TRUSTEE 14 WALNUT HILL DR SCITUATE, MA 02066
14H-61-X43B-0-R	14H-68-XA-0-R	14H-68-XB-0-R
MAZZER THOMAS C & MARIA C 43B MISTY MEADOW LN N CHATHAM, MA 02650-1138	SWENSON PETER E TR SWENSON JUDITH L TR 1370 MAIN ST CHATHAM, MA 02633	PETER E & JUDITH L SWENSON TRUSTS 1370 MAIN ST CHATHAM, MA 02633
14H-68-XC-0-R	14H-68-XD-0-R	14H-68-XE-0-R
FLOCCO THOMAS J 256 SHERIDAN RD WINNETKA, IL 60093	LONGERSTAEY JACQUES M IPEKDJIAN DIANA N 2209 WRENWOOD PONT CT CHARLOTTE, NC 28211-1800	TISQUANTUM ROAD LLC 109 TISQUANTUM ROAD CHATHAM, MA 02633
14H-20A-X2-0-R	14H-20B-X3-0-R	14H-20C-X4-0-R
BOBER MATTHEW D & NANCY D 44 NONANTUM LN CHATHAM, MA 02633	279 ORLEANS RD LLC STEPHEN W WILLIAMS 279 ORLEANS LN N CHATHAM, MA 02650	BOYLE KEVIN M & ELLEN WRAGA 3 D APPLEWOOD DR BALLSTON LAKE, NY 12019
14H-20D-X5-0-R	14H-20E-X6-0-R	14H-20F-X7-0-R
ERENO RODRIGO PO BOX 281 SOUTH CHATHAM, MA 02659	OCONNELL THOMAS R 281 ORLEANS UNIT 3 N CHATHAM, MA 02650	BROWN PETER G & THOMAS PO BOX 483 N CHATHAM, MA 02650-0483

14H-20G-X8-0-R	14H-TOY-BOX-0-E	14H-HYTD-CON-0-E
ROSS CAROLYN L PO BOX 473 N CHATHAM, MA 02650-0473	ENTERPRISE DR NOMINEE TRUST 155 CROWELL RD CHATHAM, MA 02633	HYTIDE CONDO ASSOCIATION
14H-NCHA-VILL-0-E	14I-5-5-0-R	14I-6-6-0-R
NORTH CHATHAM VILLAGE CONDO 0 MISTY MEADOW LN CHATHAM, MA 02633	WATSON SHAYNE N 362 ORLEANS RD N CHATHAM, MA 02650	BAILEY RICHARD K JR 19 RIVER RD ORLEANS, MA 02653
14I-7-23-0-R	14I-8-24-0-R	14I-9-21-0-R
DOANE THOMAS L & LINDA L PO BOX 1322 W CHATHAM, MA 02669-1322	MCINTIRE KENNETH A & MOLLY T/E 25 OLD MAIL RD N CHATHAM, MA 02650	HILDEBRANDT JONATHAN H & MARY L 385 HANOVER ST HANOVER, MA 02339
14I-31-AC3-0-R	14I-32-AC2-0-R	14I-33-A1-0-R
THE ROSKEY FAMILY TRUST FUND ROSKEY SEAN T & FLORENCE A TRUSTEE 135 MARKET ST APT B PORTSMOUTH, NH 03801	MARSDEN PETER V & MARY ELLEN 9 SILVER BIRCH LN LINCOLN, MA 01773	HOLLYDENE LLC 330 ORLEANS RD N CHATHAM, MA 02650
14I-34-A2-0-R	14I-35-A4-0-R	14I-36-A5-0-R
GALLAGHER DEREK & RYAN CARLA J/T wR 5C ALBION PL CHARLESTOWN, MA 02129	HEFERNAN DAVID & MARIA 9 MEADOWOOD LN E FALMOUTH, MA 02536-6267	MELDON JOHN J TRUSTEE N CHATHAM BUILD RE TRUST 60 N WATER ST NEW BEDFORD, MA 02740
14I-37-A7-0-R	14I-40-15-0-R	14I-41-14A-0-R
MCGUIRE KATHLEEN & PAUL CROOK 26 HINCKLEY ST #1 DORCHESTER, MA 02125	PAONE ERIC PO BOX 824 N CHATHAM, MA 02650	FRANKEL O'KEEFE, LLC 323 ORLEANS RD N CHATHAM, MA 02650
14I-42-16B-0-R	14I-44-8-0-R	14I-32A-AC1-0-R
PAONE ERIC PO BOX 824 N CHATHAM, MA 02650	SORBELLO ALFRED M & ELIZABETH M C/O SORBELLO TRUST 28 LADY SLIPPER LN MARSTON MILLS, MA 02648	MARSDEN PETER & MARY ELLEN 9 SILVER BIRCH LN LINCOLN, MA 01773
14I-38A-N22-0-R	14I-38B-N23-0-R	14I-45A-XAA-0-R
MAGIERA PHILLIP & SERAFINO JACQUELIN 35 SPRING HILL RD N CHATHAM, MA 02650	LYONS MARK E & NANCY C PAULSEN T/E 55 SPRING HILL RD N CHATHAM, MA 02650	FOUGERE LEONARD L & DOROTHY G 367A ORLEANS RD N CHATHAM, MA 02650-1182
14I-45B-XAB-0-R	14I-45C-XAC-0-R	14I-45D-XAD-0-R
CHRISTOPHER NEILL KIDD 1/2 JEFFREY P KIDD 1/2 11 FARMS END RD WAPPINGERS FALLS, NY 12590	BLAKE VIVIENNE A 367 ORLEANS RD APT C N CHATHAM, MA 02650	STRETTON JOANNE 35 BENEDICT RD BETHEL, CT 06801
14I-46A-XBA-0-R	14I-46B-XBB-0-R	14I-46C-XBC-0-R
JUDITH T DOE LIVING TRUST JUDITH T DOE TRSUTEE 369A ORLEANS RD N CHATHAM, MA 02650	PEIRCE ANNE M 369 ORLEANS RD #B N CHATHAM, MA 02650	THOMAS A CALLAHAN REV TRUST MARION E CALLAHAN TRUSTEE 633 NEWTON ST S HADLEY, MA 01075

14I-46D-XBD-0-R

14I-46E-XBE-0-R

14I-RYD-HOL-0-E

YASSAMAN JOHN MARY DUPAY
PO BOX 3278
NAPLES, FL 34106

CHRISTIANSEN XENIA A
369-E ORLEANS RD
N CHATHAM, MA 02650

RYDER HOLLOW CONDO ASSOCIATION



Doc: 876,683 06-26-2002 1:29
Ctf#: 165726
BARNSTABLE LAND COURT REGISTRY

QUITCLAIM DEED

Shooting Star Realty, LLC, a Massachusetts Limited Liability Company with a principal office at 323 Orleans Road, North Chatham, Massachusetts 02650,

for consideration in the amount of SEVEN HUNDRED THOUSAND AND 00/100 (\$700,000.00) DOLLARS paid,

grants to

Frankel O'Keefe, LLC, a Massachusetts Limited Liability Company with a principal office at 323 Orleans Road, North Chatham, Massachusetts 02650,

with QUITCLAIM COVENANTS

The land in Chatham, Barnstable County, Massachusetts, described in EXHIBIT A attached hereto

PROPERTY ADDRESS: 323 ORLEANS ROAD, (NORTH) CHATHAM,

IN WITNESS WHEREOF, the said Shooting Star Realty, LLC has caused its seal to be hereto affixed and these presents to be signed in its name and behalf by Elizabeth M. Chiappetta, its Manager, this 25th day of June, 2002

Shooting Star Realty, LLC

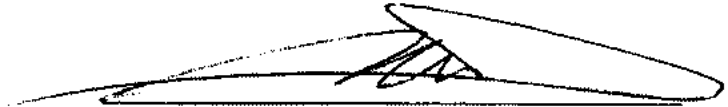
By: Elizabeth M. Chiappetta
Elizabeth M. Chiappetta, Manager

COMMONWEALTH OF MASSACHUSETTS

Suffolk, ss

June 25, 2002

Then personally appeared the above-named Elizabeth M. Chiappetta, Manager and acknowledged the foregoing instrument to be the free act and deed of Shooting Star Realty, LLC, before me,



Notary Public NEAL E. SATRAN
My commission expires: 9/3/04

Exhibit "A"

Property Address: 323 Orleans Road
N. Chatham, MA

Parcel I

A certain parcel of registered land, together with the buildings thereon, situated in Chatham, in the County of Barnstable and Commonwealth of Massachusetts, bounded and described as follows:

Northeasterly	by the southwesterly line of the State Highway, one hundred five (105) feet;
Southeasterly	by Lot 15, one hundred thirty-one and 17/100 (131.17) feet;
Westerly	by a portion of land now or formerly of the Town of Chatham, one hundred seventy-six and 28/100 (176.28) feet; and
Northerly	by Lot 12, forty-nine and 83/100 (49.83) feet.

All of said boundaries are determined by the Court to be located as shown on subdivision plan 12310-G dated November 22, 1966, drawn by Nickerson & Berger, Surveyors, and filed in the Land Registration Office at Boston, a copy of which is filed in Barnstable County Registry of Deeds in Land Registration Book 235, Page 49 with Certificate of Title No. 30309 and said land is shown thereon as Lot 14.

Said lot is subject to the restrictions set forth in Document No. 80,760 Barnstable Registry District so far as now in force and applicable.

Said lot is subject to and has the benefit of the reservations, rights and restrictions set forth in Document No. 110,305.

For title to Parcel I, see Certificate of Title No. 161766

Parcel II

A certain parcel of unregistered land, together with the buildings thereon, situated in said Chatham, bounded and described as follows:

Northwesterly	by the sideline of Misty Meadow Lane, two hundred one and 90/100 (201.90) feet;
Easterly	by registered land, now or formerly Certificate No. 39455, one hundred seventy-six and 28/100 (176.28) feet;
Southeasterly	by Lot 15, ninety-nine and 98/100 (99.98) feet; and

Southwesterly by Lot 16, one hundred fifty-five (155) feet.

Containing an area of 23,526 square feet of land, more or less.

Said premises are shown as Lot 14 on plan of land entitled "Plan Showing Subdivision of Lot 13, Land Court Plan 12310F, Lot 13 of Plan recorded Barnstable Registry Book 181, Page 103 & Lot D, Plan for Nanly Homes Inc. Dated Nov. 1966, Land in Chatham, Mass. Scale 1" = 30' Nov. 22, 1966 Nickerson & Berger, Eng'rs. Eastham & Chatham", duly recorded with Barnstable County Registry of Deeds, unregistered land section. as Plan 216/105.

Subject to restrictions of record so far as the same may still be in force and applicable.

For title to Parcel II see deed in Book 13913, Page 134.

BARNSTABLE COUNTY
REGISTRY OF DEEDS
EXCISE TAX

CANCELLED

DATE 06.26.'02 WED

TAX \$1596.00
TOTAL \$1596.00
CHECK \$1596.00
CLERK 1 NO. 012437
TIME 12:34 2222

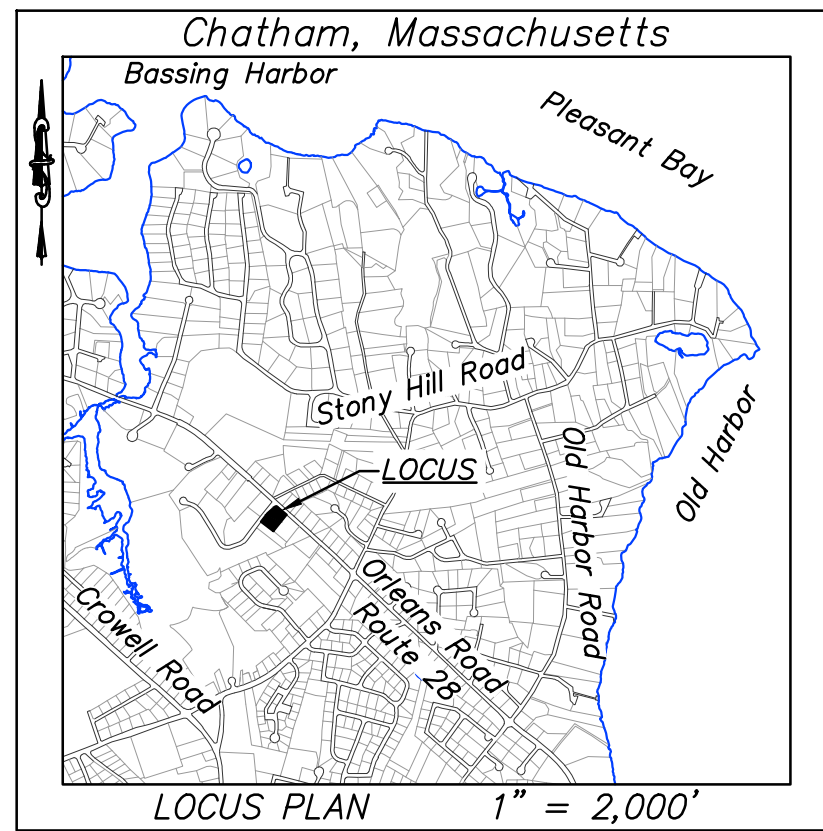
CANCELLED
REG OF DEEDS
REG # 123
BARNSTABLE

06/26/02 12:33PM 04
000000 #7170

FEE \$2394.00

BARNSTABLE COUNTY
REGISTRY OF DEEDS
A TRUE COPY, ATTEST
John F. Meade
JOHN F. MEADE, REGISTER

CASH \$2394.00



Assessors' ID: 141-41-14A

OWNER OF RECORD:

Frankel O'Keefe, LLC
 Deed Book 15,302, Page 269
 Plan Book 216, Page 105, Lot 14
 Certificate No. 165,726
 L.C. Plan 12,310-G, Lot 14

ZONING REQUIREMENTS

Zone GB-3, General Business
 Minimum Area 10,000 S.F.
 Minimum Frontage 100 Ft.
 Front Yard Setback (Primary) 50 Ft.
 Front Yard Setback (Secondary) 30 Ft.
 Side and Rear Yard Setback 15 Ft.
 Maximum Lot Coverage 60%
 Maximum Building Coverage N/A
 Required Green Area 40%
 Front Parking Setback 20 Ft.
 Side Parking Setback 15 Ft.

The features on the subject property were located with total station, GPS (geographic positioning system) and mobile LIDAR (light detection and ranging). The features depicted from these methods meet the requirements of 250 CMR. The features on the abutting properties are based on mobile LIDAR, aerial LIDAR and aerial photogrammetry. The features depicted from these methods meet the National Map Accuracy Standards.

Parking Spaces:
 Lot 14: 37 spaces, 2 handicapped spaces
 Lot 15: 40 spaces, 2 handicapped spaces
 Lot 10: 19 spaces
 Total: 100 spaces

Proposed Parking Spaces:
 Lot 14: 50 spaces, 3 handicapped spaces
 Lot 15: 40 spaces, 2 handicapped spaces
 Lot 10: 19 spaces
 Total: 114 spaces

The striping on Lot 10 is worn and the spaces have been based on a 9' x 18' parking space. There are areas where parking is likely to the north of the Service Road but no spaces are delineated.

The utility locations are based on the following sources:
 The overhead utilities are depicted as single lines running from located pole to located pole where there are multiple lines between the poles.
 The underground natural gas is based on "Dig-Safe" markings.
 The underground water is based partially on "Dig-Safe" markings and partially on the locations provided by the Town of Chatham Water Department.

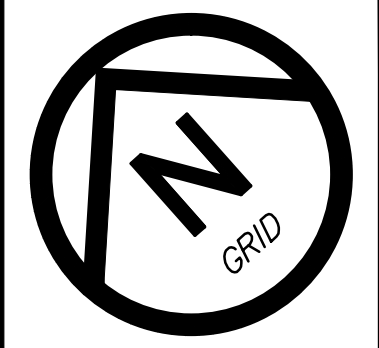
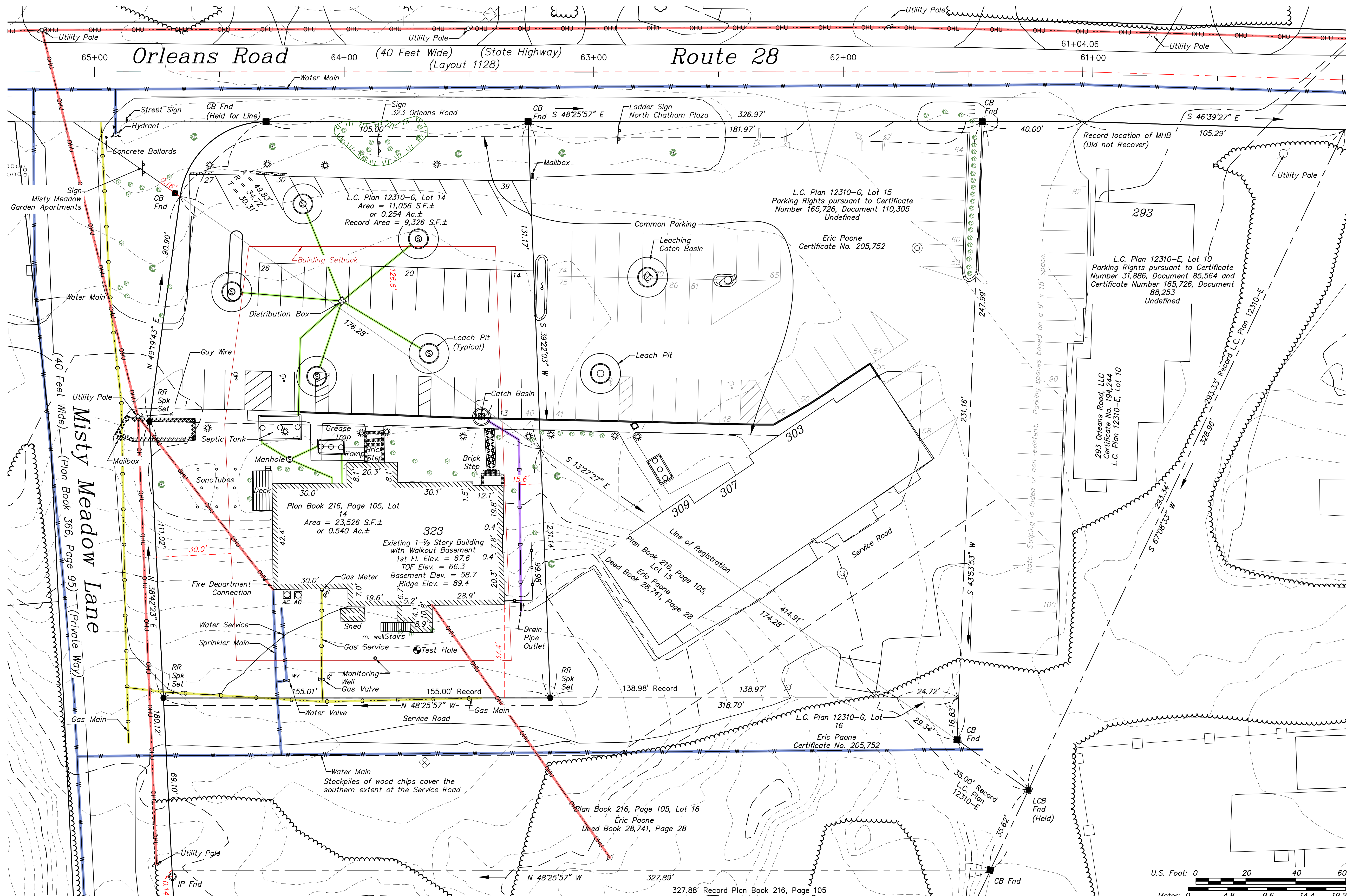
The underground septic system is based on the visible manholes and on the measurements provided in a Title 5 Official Inspection Form dated 06-13-2016 prepared by James Ford for Stuart Rapp on file with the Town of Chatham Health Department.

The underground drainage system is based on the locations of the catch basin and exposed pipe with an estimated angle in between the two.

CHATHAM PLANNING BOARD

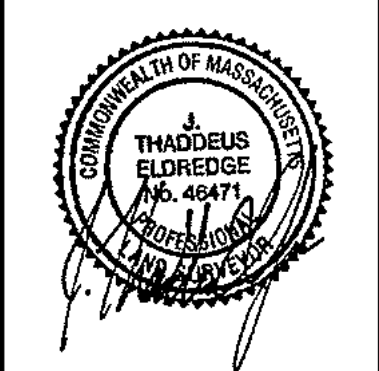
Date of Approval _____

Chairman _____



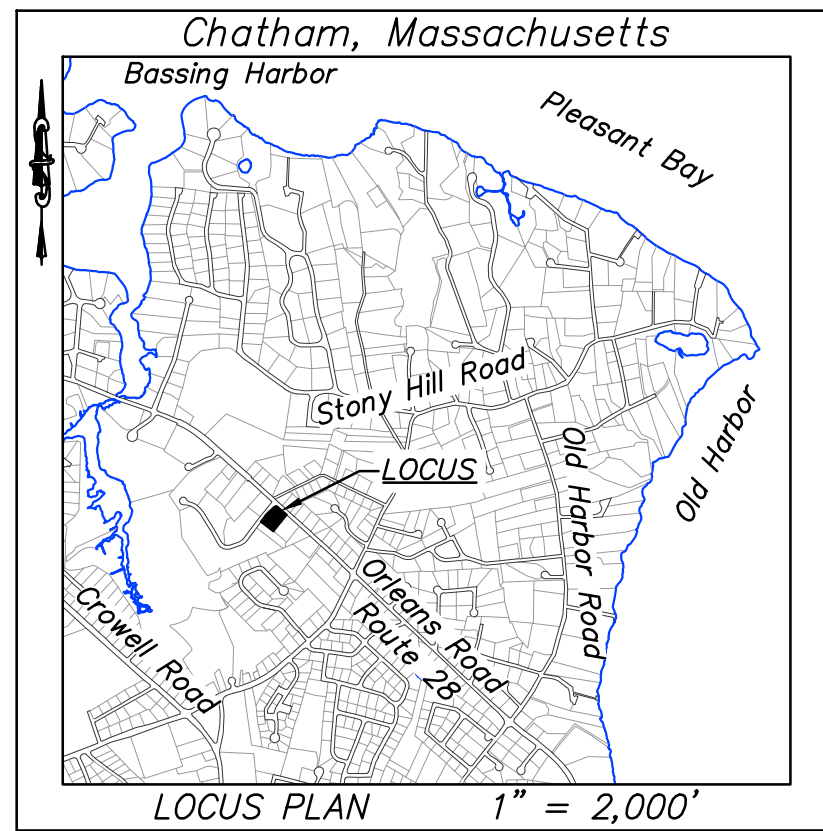
Rev. #	Date	Description of Revision

FRED BIERWIRTH
ELDRIDGE SURVEYING, LLC
& ENGINEERING, LLC
 1038 Main Street, Chatham, MA; (508) 945-3965; Fax: (508) 945-5885



Date: 07-24-2017
 Scale: 1" = 20'
 Project No.: C-4693-01.0

Sheet No.: 1 of 2



Assessors' ID: 141-41-14A

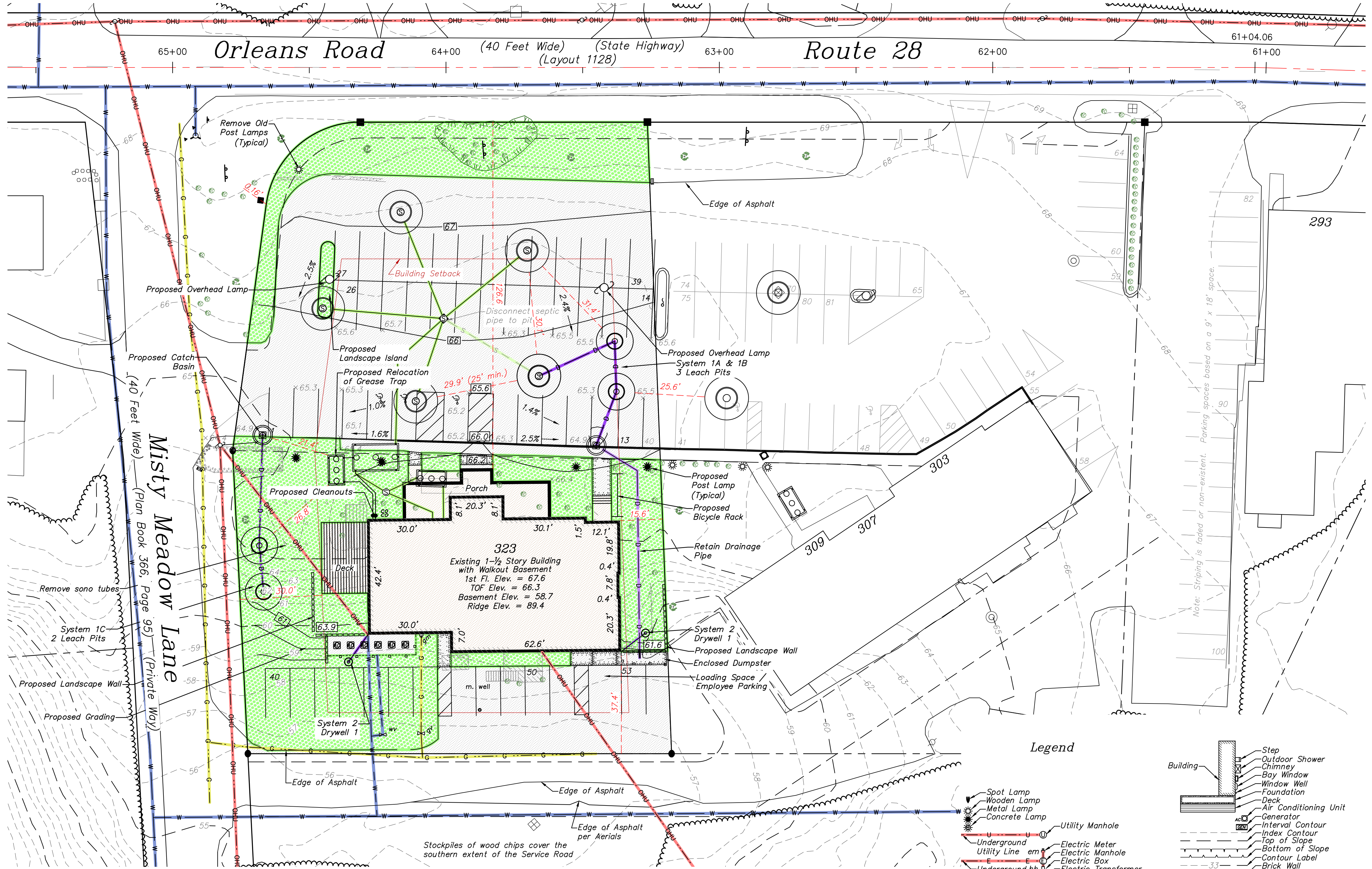
OWNER OF RECORD:

Frankel O'Keefe, LLC
 Deed Book 15,302, Page 269
 Plan Book 216, Page 105, Lot 14
 Certificate No. 165,726
 L.C. Plan 12,310-G, Lot 14

Zone	GB-3 (General Business)		
	Existing	Required	Proposed
Lot Area	34,582 S.F.±	10,000 S.F.	34,582 S.F.±
Buildable Upland	34,582 S.F.±	10,000 S.F.	34,582 S.F.±
Frontage	306.92 Ft.	100 Ft.	306.92 Ft.
Front Yard Setback (Primary)	136.5 Ft.	50 Ft.	128.0 Ft.
Front Yard Setback (Secondary)	39.5 Ft.	30 Ft.	30.0 Ft.
Side and Rear Yard Setback	15.6 Ft.	15 Ft.	15.6 Ft.
Lot Coverage	23,357 S.F.±	20,749 S.F.	23,340 S.F.±
or	67.5%	60%	67.5%
Green Area	11,225 S.F.±	13,833 S.F.	11,250 S.F.±
Front Parking Setback	10.2 Ft.	20 Ft.	10.2 Ft.
Side Parking Setback	0 Ft.	15 Ft.	0 Ft.

BUILDING HEIGHT CALCULATION			
Building	Elevation		Average
NORTH	65.8 + 65.3 + 65.2	=	196.3 / 3 = 65.4
EAST	65.2 + 58.6	=	123.8 / 2 = 61.9
SOUTH	57.4 + 56.7 + 57.8	=	171.9 / 3 = 57.3
WEST	59.5 + 66.0	=	125.5 / 2 = 62.8
TOTAL			247.4
247.4 / 4 =			61.8
61.8 + 30 =			91.8
91.8 - Top of Foundation 66.3			25.5
25.5 MAXIMUM HEIGHT ABOVE TOP OF FOUNDATION			
91.8 - Ridge Elevation 89.4			2.4
			COMPLIES
EXISTING BUILDING HEIGHT			27.6

PROPOSED BUILDING HEIGHT CALCULATION			
Building	Elevation		Average
NORTH	65.8 + 65.3 + 65.2	=	196.3 / 3 = 65.4
EAST	65.2 + 61.6	=	126.8 / 2 = 63.4
SOUTH	57.4 + 56.7 + 57.8	=	171.9 / 3 = 57.3
WEST	63.9 + 66.0	=	129.9 / 2 = 65.0
TOTAL			251.1
251.1 / 4 =			62.8
62.8 + 30 =			92.8
92.8 - Top of Foundation 66.3			26.5
26.5 MAXIMUM HEIGHT ABOVE TOP OF FOUNDATION			
92.8 - Ridge Elevation 92.8			0.0
			COMPLIES
PROPOSED BUILDING HEIGHT			30.0



Parking Requirements			
Dedicated Areas	4630 S.F.	1 space per 200 S.F.	24
Fitness Center	300 S.F.	1 space per 150 S.F.	2
Retail / Juice Bar	8 seats	1 space per 4 seats	2
Juice Bar Seating	2155 S.F.	70% capacity	21
Office (35 desks)	2690 S.F.	None	0
Other (Accessory Space)	7	7 Employees	7
Employees			
Total			56 spaces

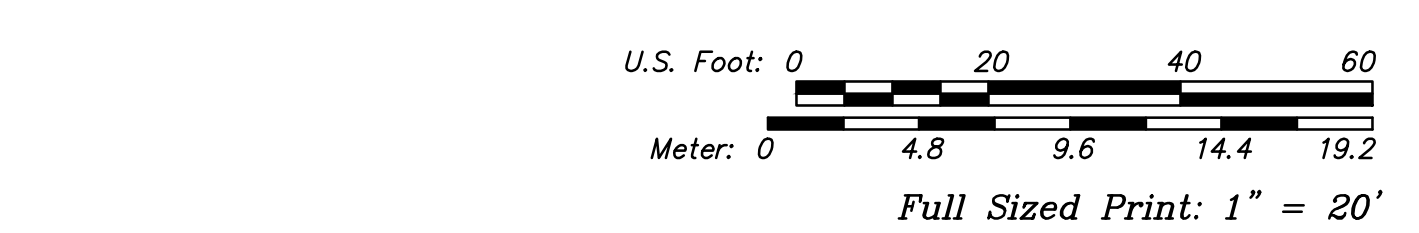
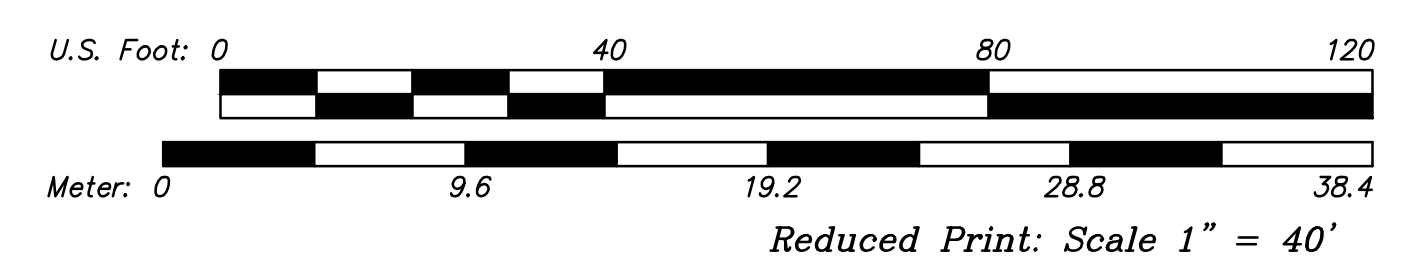
Parking Notes:
 The proposed uses in the building are primarily the Work Share (Office) space and the Fitness Center. The Retail and Juice Bar will likely be incidental to the other uses, but have been included as the numbers are minimal. The other proposed uses are wholly incidental and have been described as Accessory Space. These areas include the Child Care, Lockers, Bathrooms and Hallways.

The Fitness Center has been calculated with a low based on 1 space per 200 S.F. which is a standard from the Falmouth Bylaw, the International Health, Racquet & Sportsclub Association and the requirement used for Bodystrong in South Chatham.

The shared workspace calculation has been based 70% occupancy which is an estimate for such uses provided by WorkBar, the workspace management program.

The total parking required by these calculations is 56 spaces. 53 spaces are provided which requires a waiver for the 3 spaces deficient. The basis of the waiver is twofold: first, the peak use times for the uses are not fully coincident. Fitness Centers have more traffic before and after the workday and Offices have more traffic during the workday. The second basis is that there are parking rights that extend into the two properties to the east.

Existing Flow			
Restaurant	203 seats	35 gallons per day per seat	7,105 gallons per day
Proposed Flow			
Fitness Center	70 lockers	20 gallons per day per locker	1,400 gallons per day
Office	2,155 S.F.	75 gallons per day per 1000 S.F.	162 gallons per day
Retail / Juice Bar	385 S.F.	50 gallons per day per 1000 S.F.	20 gallons per day
Employees	8 seats	35 gallons per day per seat	280 gallons per day
Total			1,862 gallons per day



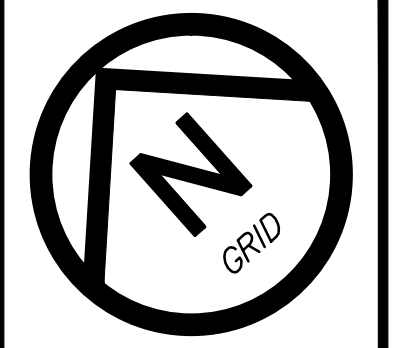
Legend

- Spot Lamp
- Wooden Lamp
- Metal Lamp
- Concrete Lamp
- Utility Manhole
- Electric Meter
- Electric Manhole
- Electric Box
- Electric Transformer
- Underground Utility Pole
- Guy Pole
- Utility Pole
- Guy Wire
- Anchor
- Telephone Pedestal
- Telephone Manhole
- Cable Manhole
- Cable Pedestal
- Underground Communications Line
- Gas Meter
- Gas Manhole
- Gas Gate
- Sewer Service
- Sewer Cleanout
- Sewer Valve
- Sewer Manhole
- Sewer Main
- Septic Vent
- Septic Cleanout
- Septic Manhole
- Septic Line
- Sprinkler Head
- Irrigation Control Box
- Irrigation Line
- Monitoring Well
- Well
- Water Shut Off
- Water Meter Pit
- Water Meter
- Water Valve
- Water Main
- Catch Basin
- Drainage Manhole
- Round Catch Basin
- Drainage Line
- Step
- Outdoor Shower
- Chimney
- Bay Window
- Window Well
- Foundation
- Deck
- Air Conditioning Unit
- Generator
- Interval Contour
- Index Contour
- Top of Slope
- Bottom of Slope
- Contour Label
- Brick Wall
- Foundation
- Concrete Wall
- Stone Wall
- Stone Wall
- Edge of Brush
- Bush / Shrub
- Edge of Garden
- Edge of Landscaping
- Edge of Lawn
- Tree
- Treeline
- Chain Link Fence
- Guardrail
- Picket Fence
- Post and Rail Fence
- Stockade Fence
- Wire Fence
- Solid Fence
- Mailbox
- Concrete Ballard
- Metal Ballard
- Flag Pole
- Centerline
- Striping
- Edge of Asphalt
- Edge of Brick
- Edge of Concrete
- Asphalt Curb
- Concrete Curb
- Stone Curb
- Edge of Dirt
- Flowline
- Edge of Rock
- Edge of Shell
- Edge of Stone
- Edge of Tile
- Edge of Wood

CHATHAM PLANNING BOARD

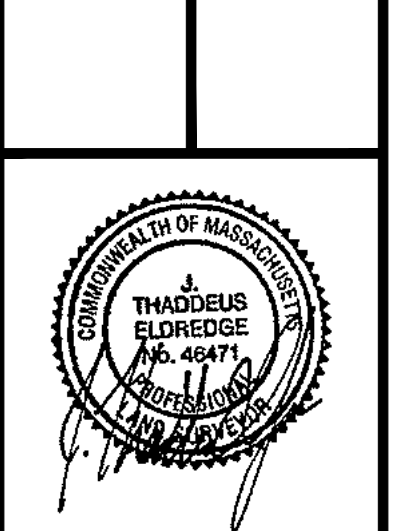
Date of Approval _____

Chairman _____



DEFINITIVE SITE PLAN
 323 Orleans Road, Chatham (North), Massachusetts
 Date _____
 Description of Revision _____
 Rev. # _____

CHATHAM WORKS, LLC
ELDRIDGE SURVEYING & ENGINEERING, LLC
 1038 Main Street, Chatham, MA; (508) 945-3965; Fax: (508) 945-5885



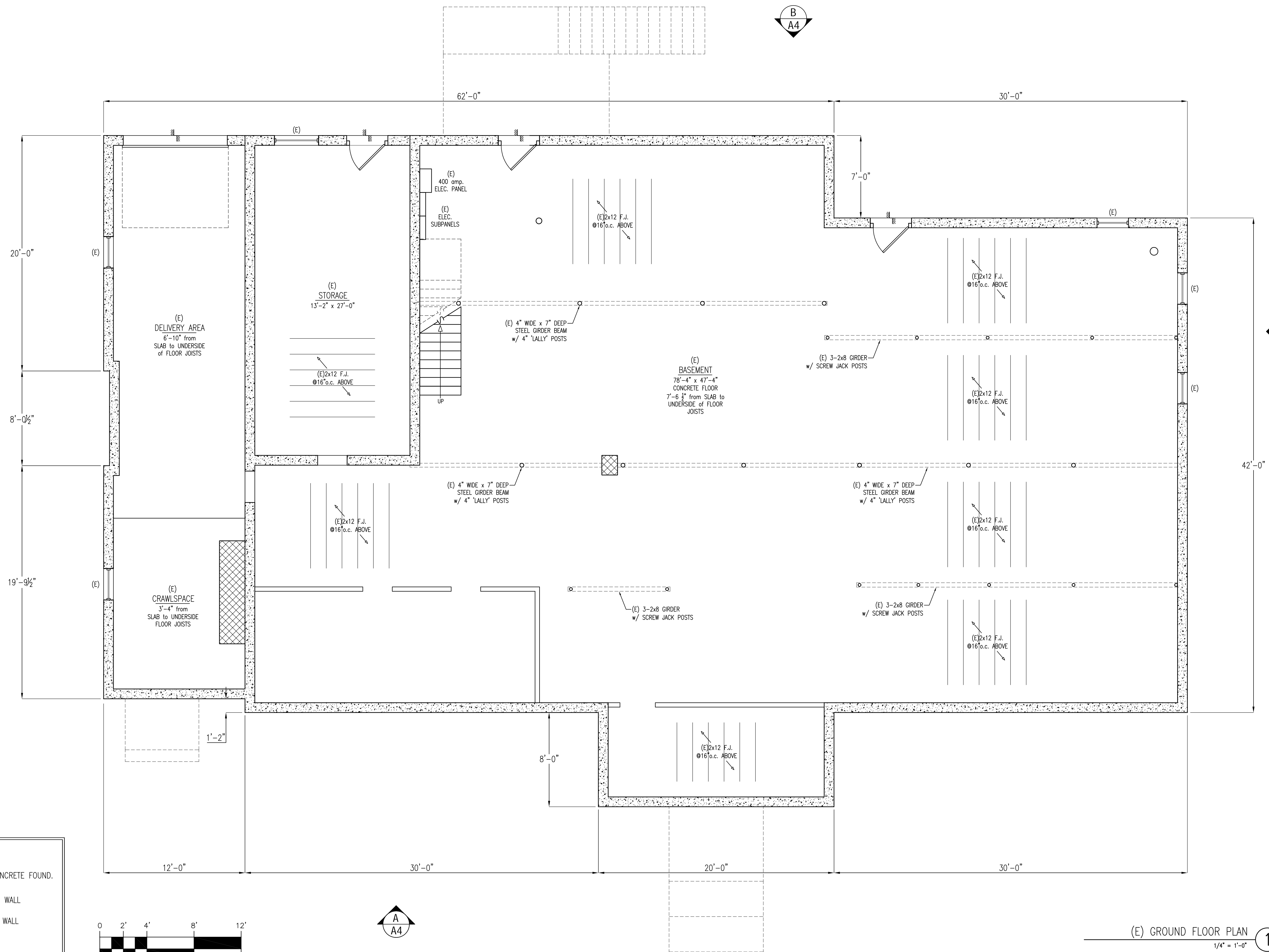
Date: 07-24-2017
 Scale: 1" = 20'
 Project No.: C-4693-01.0
 Sheet No.: 2 of 2

REVISIONS:

PROJECT NUMBER:	-
DATE:	6.16.2017
SCALE:	1/4"=1'-0"
DRAWN:	JEB
CHECK:	ROH

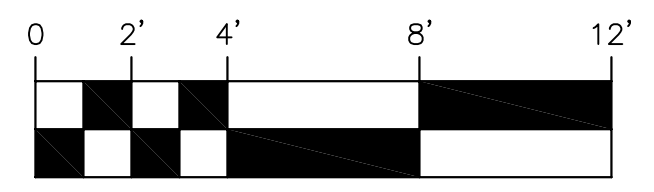
DRAWING NUMBER:

A1



WALL SCHEDULE

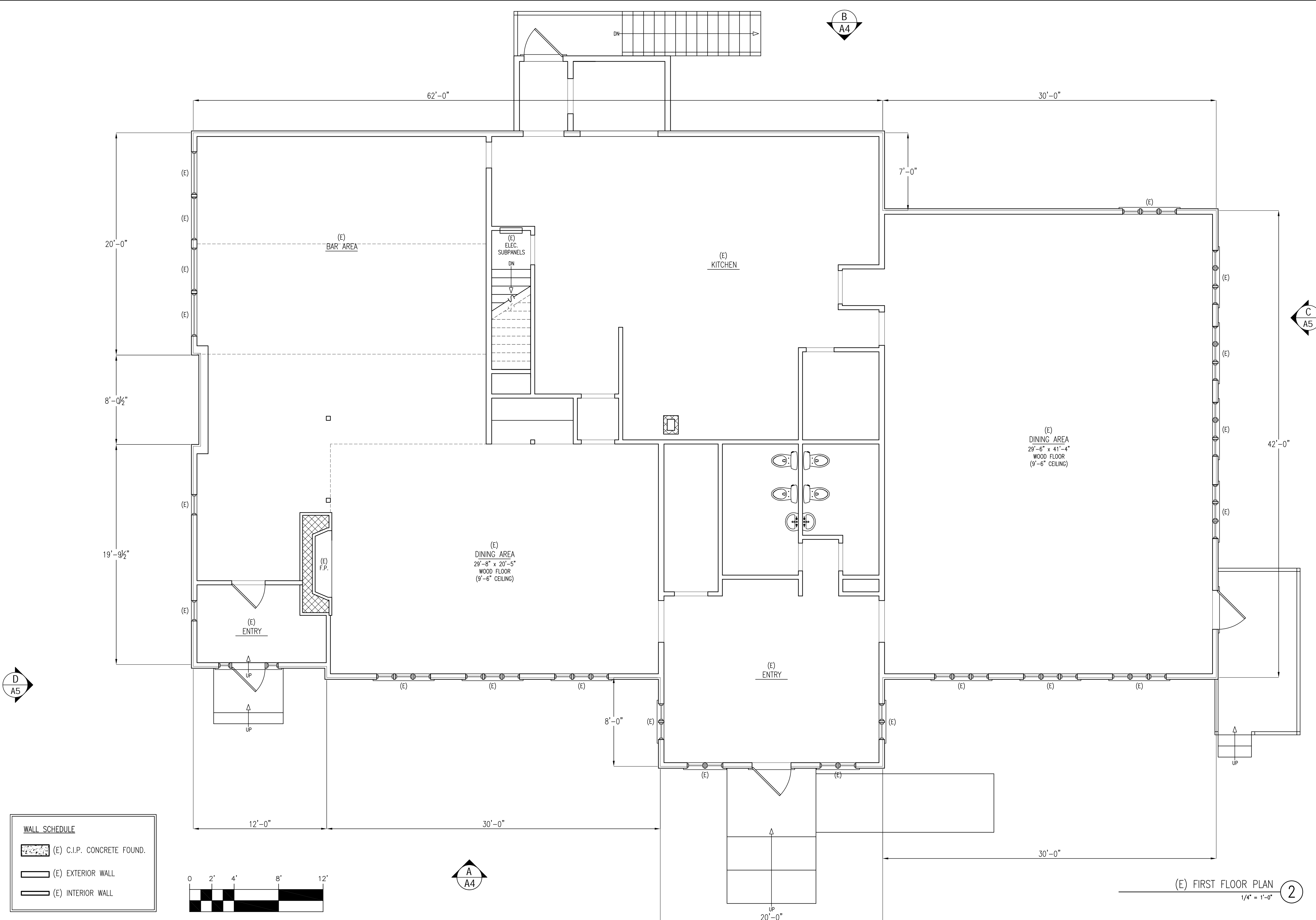
	(E) C.I.P. CONCRETE FOUND.
	(E) EXTERIOR WALL
	(E) INTERIOR WALL
	(E) C.M.U.



(E) GROUND FLOOR PLAN
 1/4" = 1'-0" ①

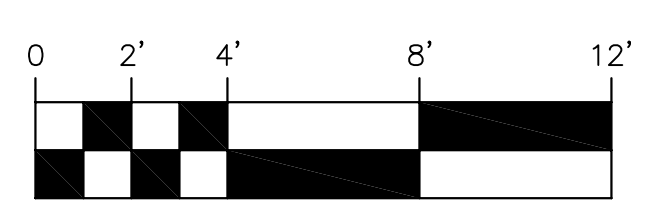
REVISIONS:

PROJECT NUMBER: -
 DATE: 6.16.2017
 SCALE: 1/4"=1'-0"
 DRAWN: JEB
 CHECK: ROH

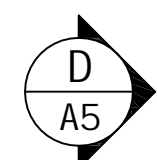
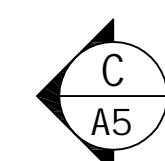
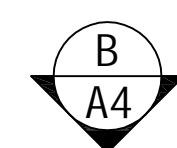
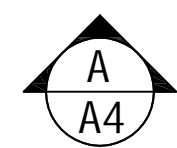
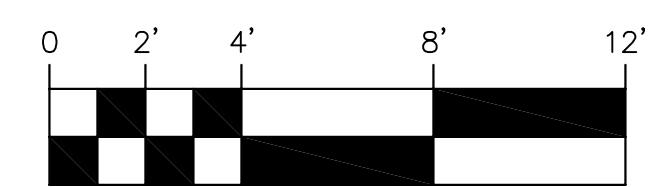
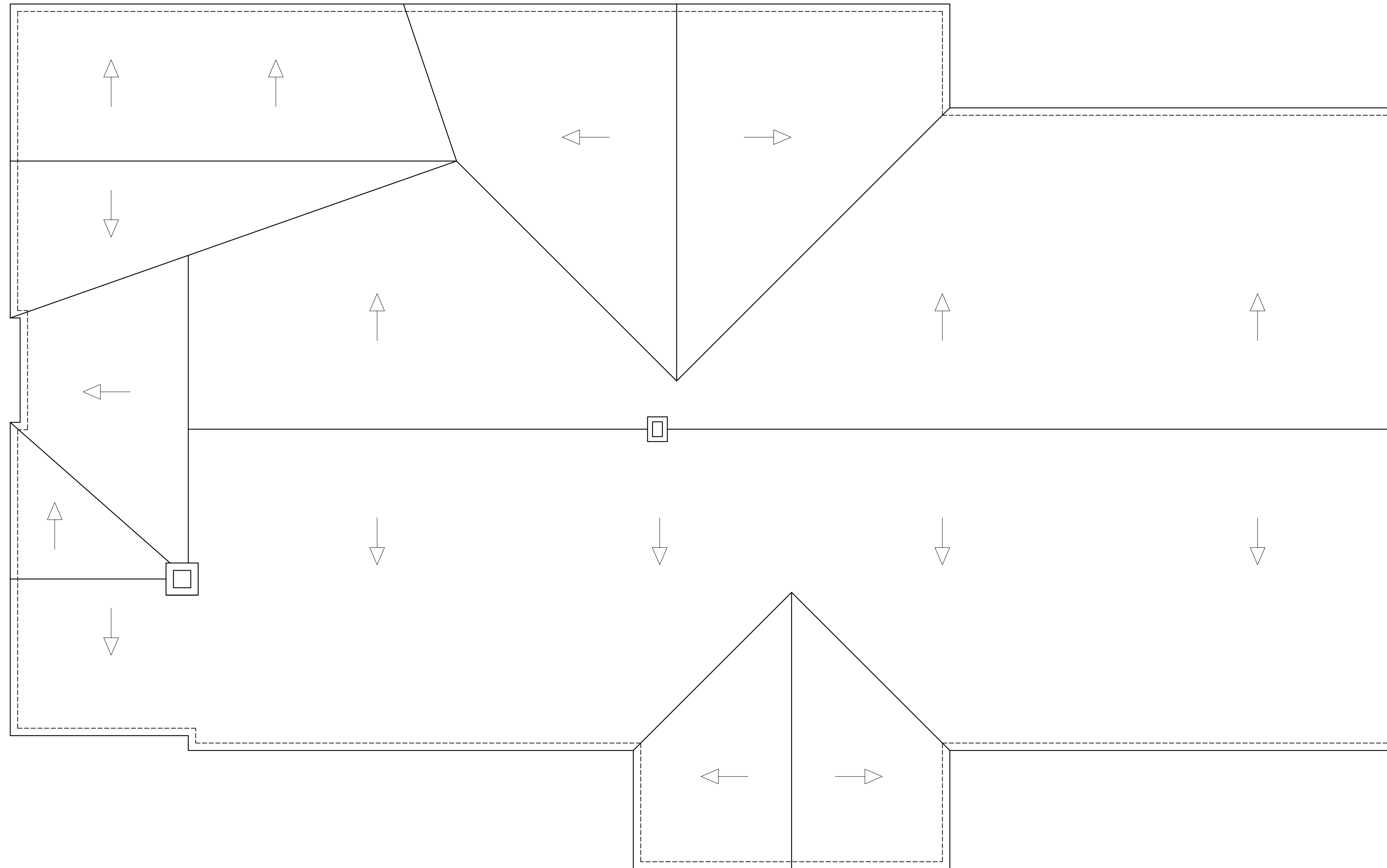


WALL SCHEDULE

	(E) C.I.P. CONCRETE FOUND.
	(E) EXTERIOR WALL
	(E) INTERIOR WALL

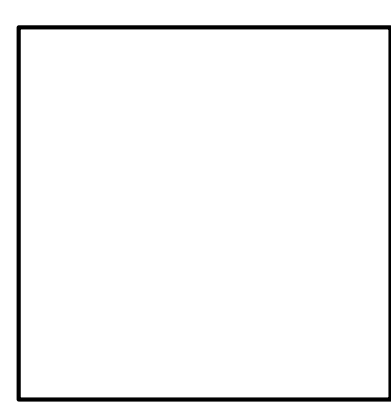
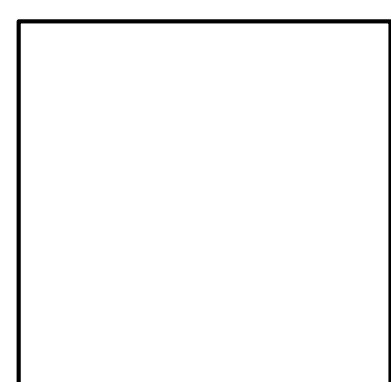


(E) FIRST FLOOR PLAN
 1/4" = 1'-0" **2**



(E) ROOF PLAN 3
1/4" = 1'-0"

ROGER O. HOIT, AIA
ARCHITECT
1175 MAIN STREET, HINGHAM, MA 02043
TEL: 781-749-5563



EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
Chatham, MA 02620

(E) ROOF PLAN

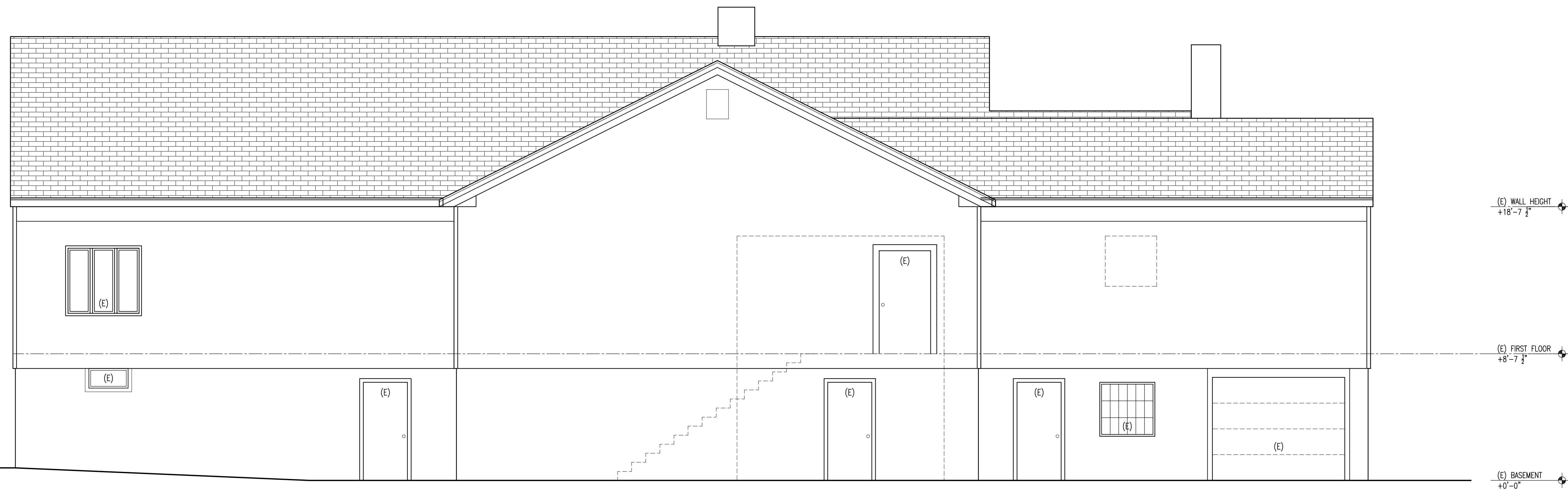
REVISIONS:

PROJECT NUMBER:	-
DATE:	6.16.2017
SCALE:	1/4"=1'-0"
DRAWN:	JEB
CHECK:	ROH

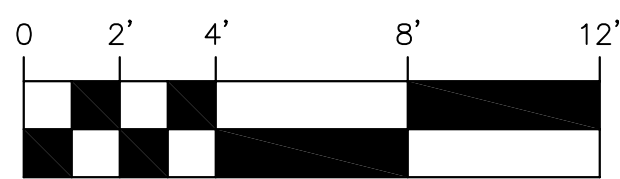
DRAWING NUMBER:
A3



(E) FRONT ELEVATION A



(E) REAR ELEVATION B



ROGER O. HOIT, AIA
ARCHITECT
1175 MAIN STREET, HINGHAM, MA 02043
TEL: 781-749-5563

EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
Chatham, MA 02620

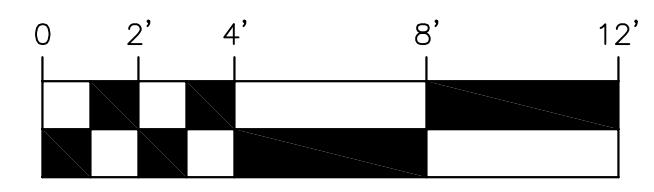
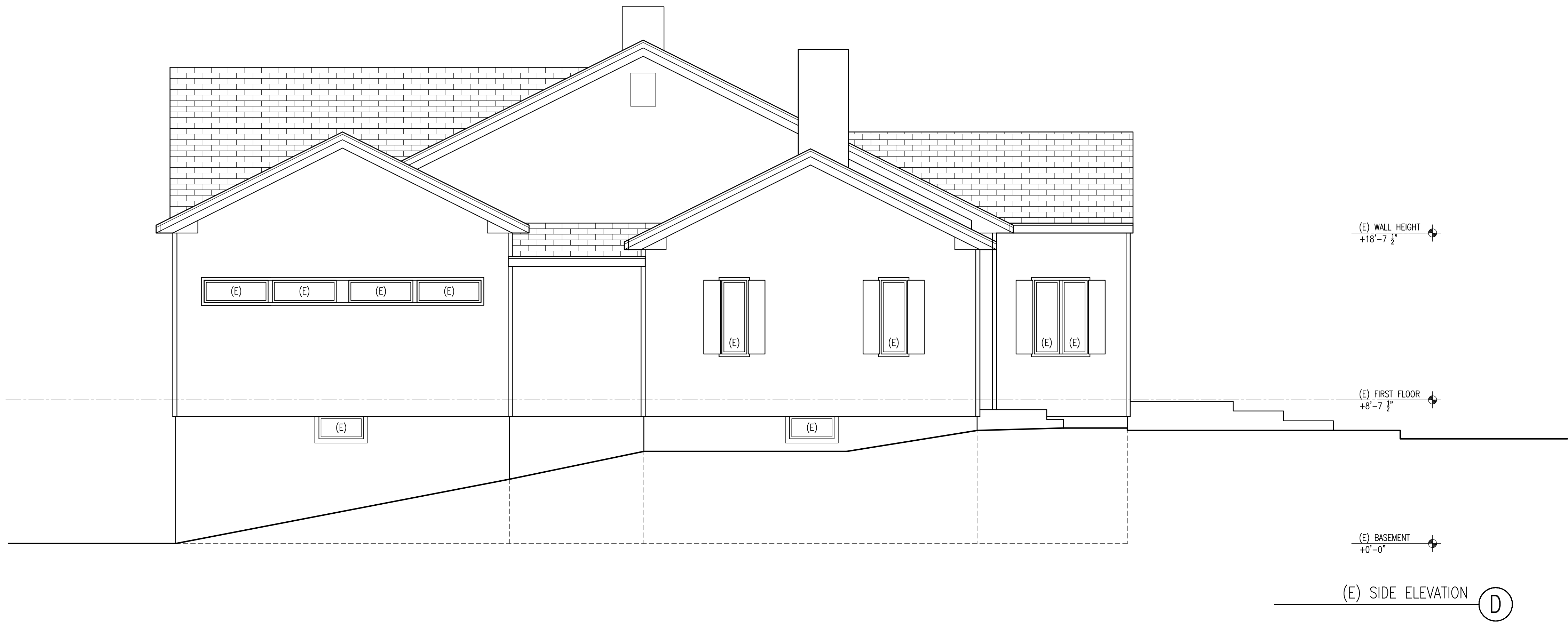
(E) ELEVATIONS

REVISIONS:

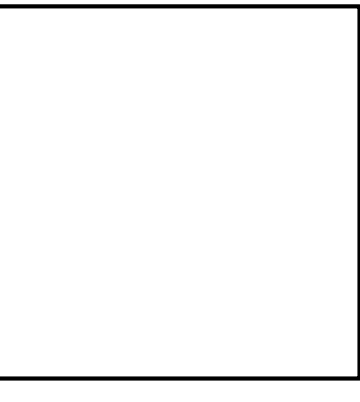
PROJECT NUMBER: -
DATE: 6.16.2017
SCALE: 1/4"=1'-0"
DRAWN: JEB
CHECK: ROH

DRAWING NUMBER:

A4



ROGER O. HOIT, AIA
 ARCHITECT
 1175 MAIN STREET, HINGHAM, MA 02043
 TEL: 781-749-5563

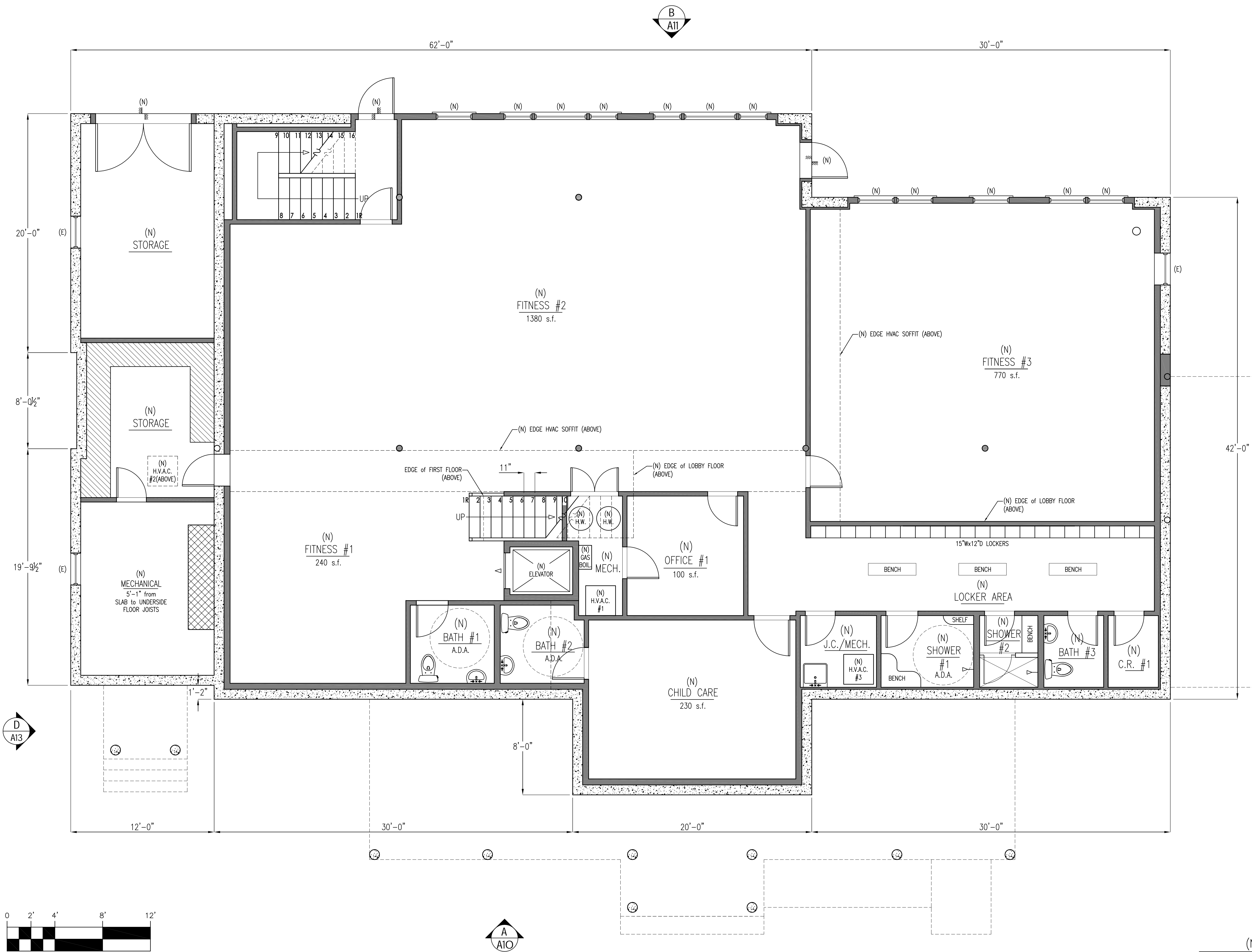


EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
Chatham, MA 02620
 (E) ELEVATIONS

REVISIONS:

PROJECT NUMBER:	-
DATE:	6.16.2017
SCALE:	1/4"=1'-0"
DRAWN:	JEB
CHECK:	ROH

DRAWING NUMBER:
A5



WALL SCHEDULE

- (E) C.I.P. CONCRETE FOUND.
- (E) EXTERIOR WALL
- (E) INTERIOR WALL
- (E) C.M.U.
- (N) 2x6 STUD WALL (EXT.)
- (N) 2x4 STUD WALL (INT.)
- (N) ASPHALT ROOF
- (N) COMPOSITE DECKING
- (N) MEMBRANE ROOFING
- (N) C.I.P. CONCRETE FOUND.

ROGER O. HOIT, AIA
 ARCHITECT
 1175 MAIN STREET, HINGHAM, MA 02043
 TEL: 781-749-5563

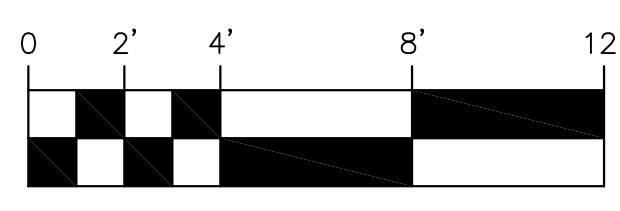
EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
Chatham, MA 02626
(N) GROUND FLOOR PLAN

REVISIONS:

PROJECT NUMBER: -
 DATE: 6.16.2017
 SCALE: 1/4"=1'-0"
 DRAWN: JEB
 CHECK: ROH

DRAWING NUMBER:

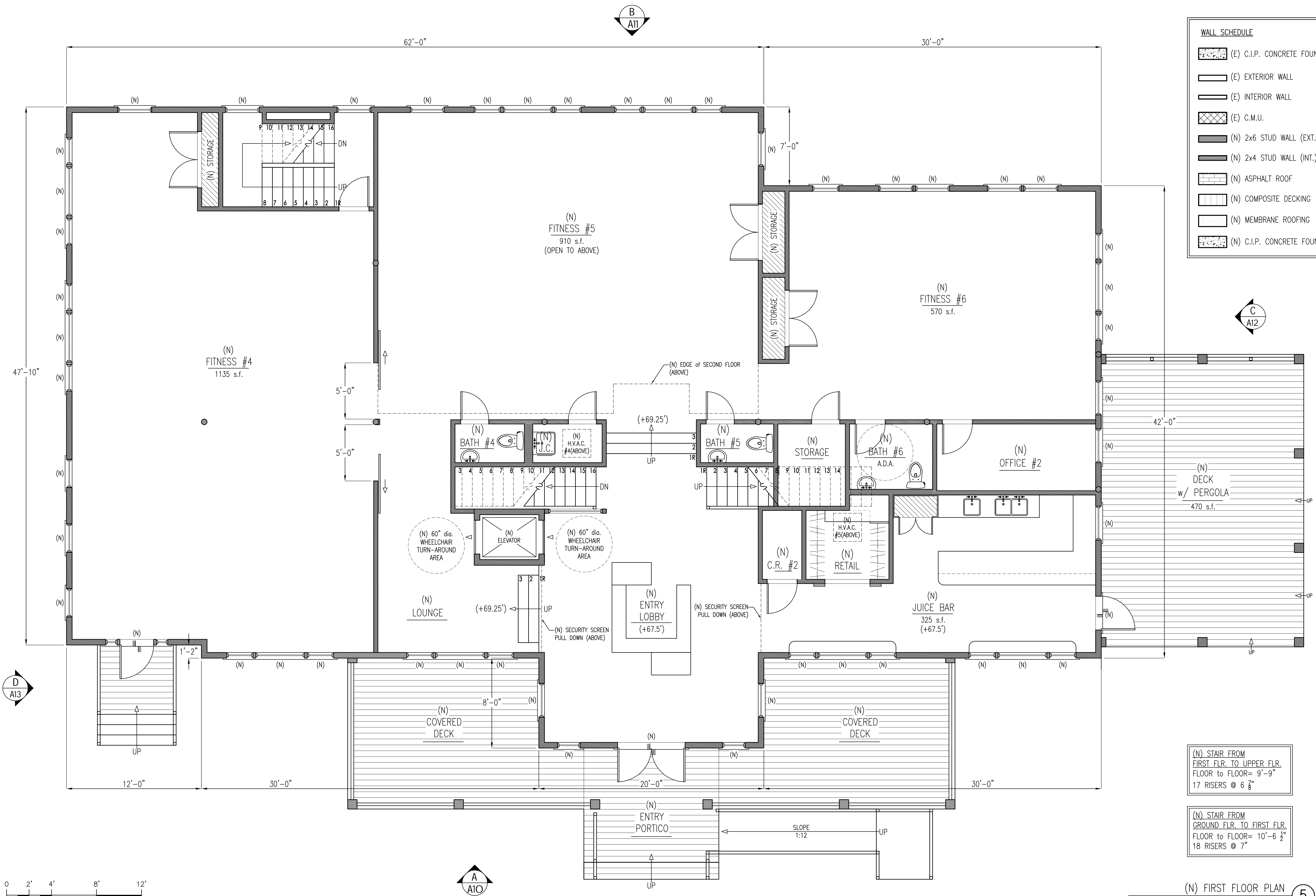
A6



(N) STAIR FROM GROUND FLR. TO FIRST FLR.
 FLOOR to FLOOR= 10'-6 1/2"
 18 RISERS @ 7"

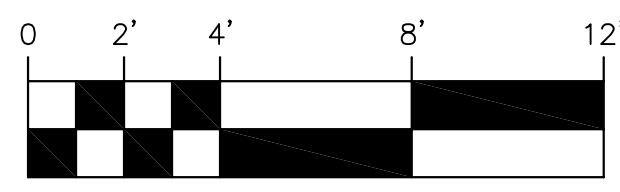
(N) STAIR FROM GROUND FLR. TO LOBBY FLOOR
 FLOOR to FLOOR= 8'-9 1/2"
 16 RISERS @ 6 5/8"

(N) GROUND FLOOR PLAN 4
 3475 S.F.



WALL SCHEDULE

- (E) C.I.P. CONCRETE FOUND.
- (E) EXTERIOR WALL
- (E) INTERIOR WALL
- (E) C.M.U.
- (N) 2x6 STUD WALL (EXT.)
- (N) 2x4 STUD WALL (INT.)
- (N) ASPHALT ROOF
- (N) COMPOSITE DECKING
- (N) MEMBRANE ROOFING
- (N) C.I.P. CONCRETE FOUND.



(N) STAIR FROM
FIRST FLR. TO UPPER FLR.
FLOOR TO FLOOR= 9'-9"
17 RISERS @ 6 7/8"

(N) STAIR FROM
GROUND FLR. TO FIRST FLR.
FLOOR TO FLOOR= 10'-6 1/2"
18 RISERS @ 7"

(N) FIRST FLOOR PLAN 5
4265 S.F.

ROGER O. HOIT, AIA
ARCHITECT
1175 MAIN STREET, HINGHAM, MA 02043
TEL: 781-749-5563

EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
Chatham, MA 02620
(N) FIRST FLOOR PLAN

REVISIONS:

PROJECT NUMBER: -

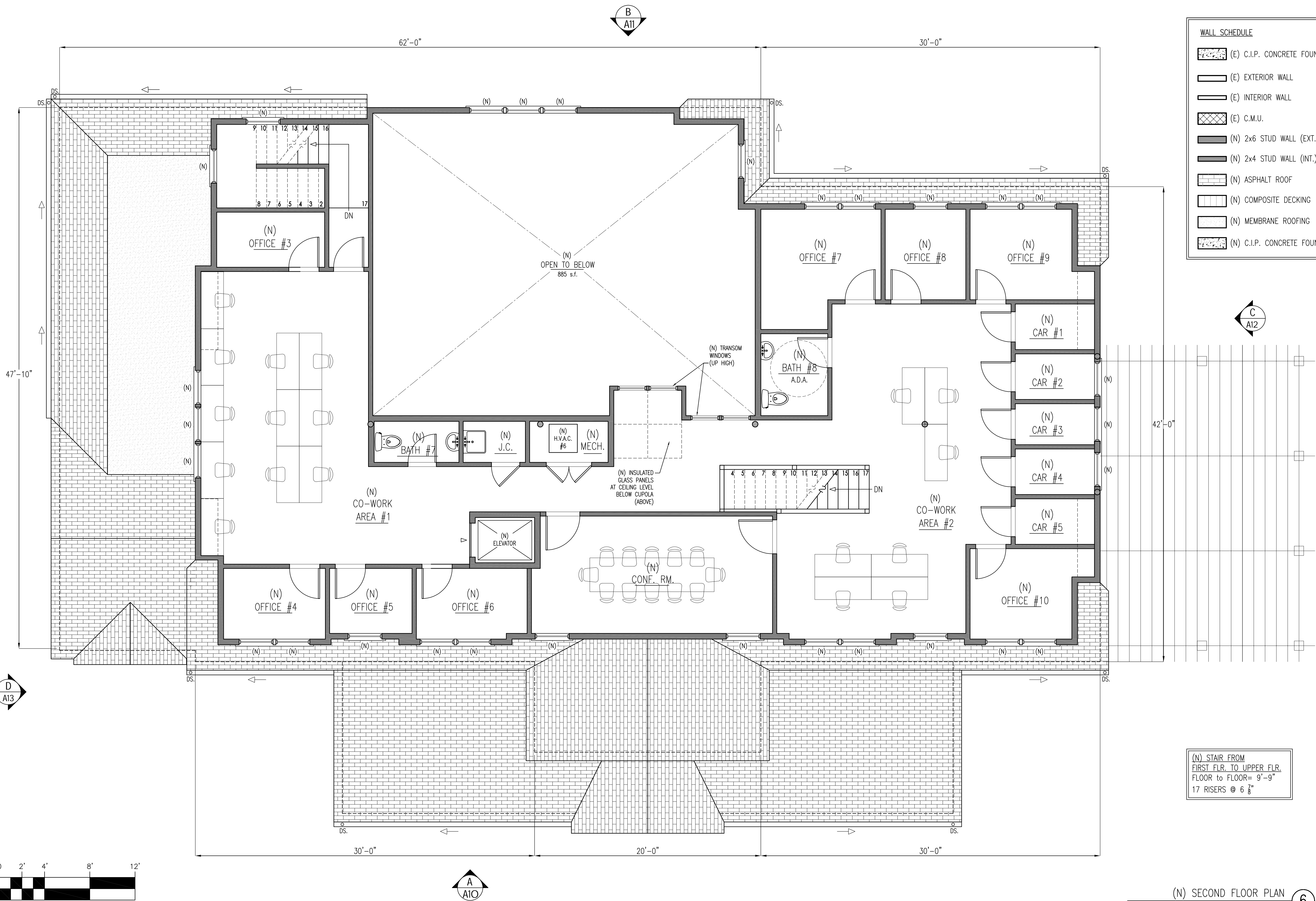
DATE: 6.16.2017

SCALE: 1/4"=1'-0"

DRAWN: JEB

CHECK: ROH

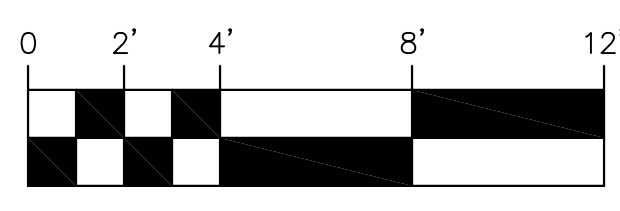
DRAWING NUMBER:
A7



WALL SCHEDULE

	(E) C.I.P. CONCRETE FOUND.
	(E) EXTERIOR WALL
	(E) INTERIOR WALL
	(E) C.M.U.
	(N) 2x6 STUD WALL (EXT.)
	(N) 2x4 STUD WALL (INT.)
	(N) ASPHALT ROOF
	(N) COMPOSITE DECKING
	(N) MEMBRANE ROOFING
	(N) C.I.P. CONCRETE FOUND.

(N) STAIR FROM
 FIRST FLR. TO UPPER FLR.
 FLOOR TO FLOOR= 9'-9"
 17 RISERS @ 6 7/8"



(N) SECOND FLOOR PLAN 6
 2205 S.F.

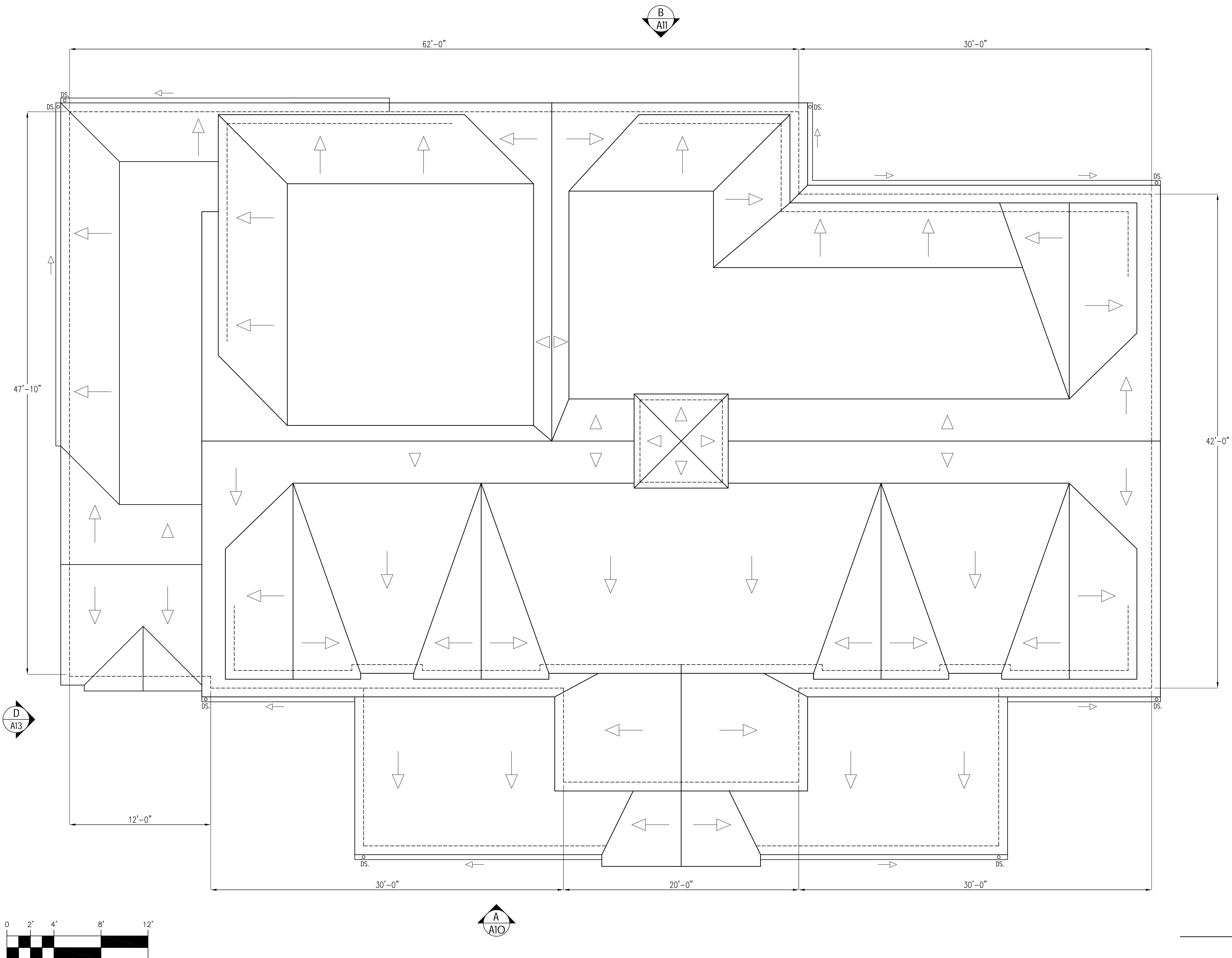
ROGER O. HOIT, AIA
 ARCHITECT
 1175 MAIN STREET, HINGHAM, MA 02043
 TEL: 781-949-5563

EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
Chatham, MA 02626
 (N) SECOND FLOOR PLAN


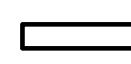
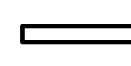



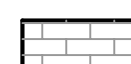



REVISIONS:

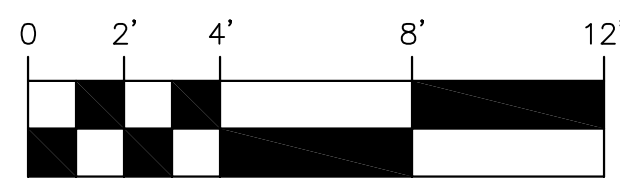
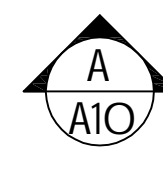
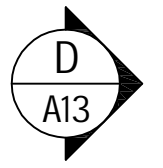
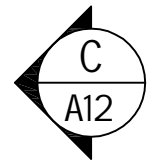
PROJECT NUMBER: -
 DATE: 6.16.2017
 SCALE: 1/4"=1'-0"
 DRAWN: JEB
 CHECK: ROH

DRAWING NUMBER:
A8



WALL SCHEDULE

-  (E) C.I.P. CONCRETE FOUND.
-  (E) EXTERIOR WALL
-  (E) INTERIOR WALL
-  (E) C.M.U.
-  (N) 2x6 STUD WALL (EXT.)
-  (N) 2x4 STUD WALL (INT.)
-  (N) ASPHALT ROOF
-  (N) COMPOSITE DECKING
-  (N) MEMBRANE ROOFING
-  (N) C.I.P. CONCRETE FOUND.



(N) ROOF PLAN ⑦
1/4" = 1'-0"

ROGER O. HOIT, AIA
ARCHITECT
1175 MAIN STREET, HINGHAM, MA 02043
TEL: 781-749-5563

EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
Chatham, MA 02620

(N) ROOF PLAN

REVISIONS:

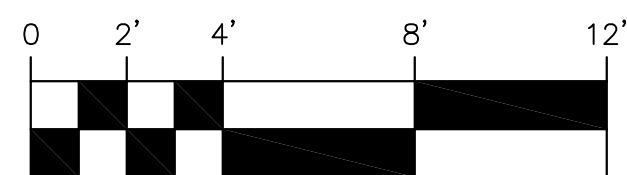
PROJECT NUMBER: -
DATE: 6.16.2017
SCALE: 1/4"=1'-0"
DRAWN: JEB
CHECK: ROH

DRAWING NUMBER:
A9

ROGER O. HOIT, AIA
 ARCHITECT
 1175 MAIN STREET, HINGHAM, MA 02043
 TEL: 781-749-5563



(N) FRONT ELEVATION A



EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
Chatham, MA 02630

(N) FRONT ELEVATION

REVISIONS:

PROJECT NUMBER: -
 DATE: 6.16.2017
 SCALE: 1/4"=1'-0"
 DRAWN: JEB
 CHECK: ROH

DRAWING NUMBER:

A10

ROGER O. HOIT, AIA
 ARCHITECT
 1175 MAIN STREET, HINGHAM, MA 02043
 TEL: 781-749-5563



(N) REAR ELEVATION (B)

EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
Chatham, MA 02620

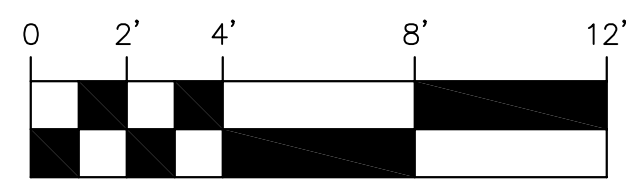
(N) REAR ELEVATION

REVISIONS:

PROJECT NUMBER: -
DATE: 6.16.2017
SCALE: 1/4"=1'-0"
DRAWN: JEB
CHECK: ROH

DRAWING NUMBER:
A11

ROGER O. HOIT, AIA
 ARCHITECT
 1175 MAIN STREET, HINGHAM, MA 02043
 TEL: 781-749-5563



EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
Chatham, MA 02620

(N) SIDE ELEVATION

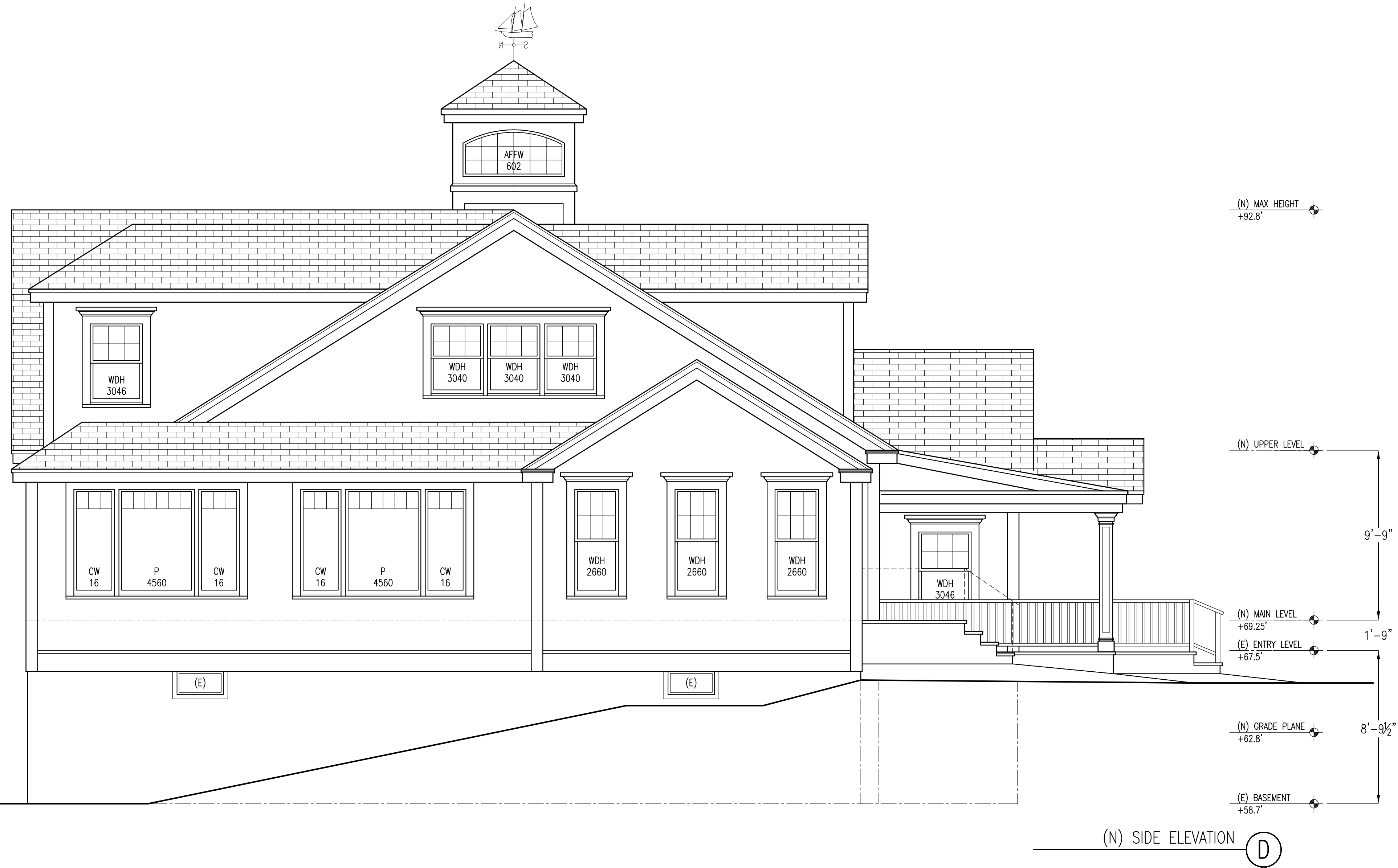
REVISIONS:

PROJECT NUMBER: -
 DATE: 6.16.2017
 SCALE: 1/4"=1'-0"
 DRAWN: JEB
 CHECK: ROH

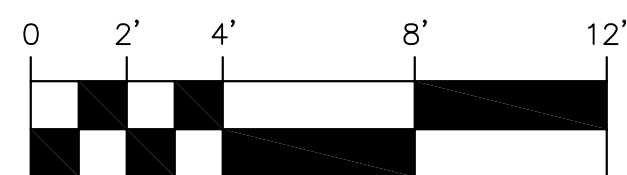
DRAWING NUMBER:

A12

ROGER O. HOIT, AIA
 ARCHITECT
 1175 MAIN STREET, HINGHAM, MA 02043
 TEL: 781-749-5563



(N) SIDE ELEVATION (D)



EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
 Chatham, MA 02620

(N) SIDE ELEVATION

REVISIONS:

PROJECT NUMBER: -
 DATE: 6.16.2017
 SCALE: 1/4"=1'-0"
 DRAWN: JEB
 CHECK: ROH

DRAWING NUMBER:

A13

F
A14

(N) CLEAR WHITE CEDAR
WALL SHINGLES
(TYPICAL)

(N) 'KOMA' COMPOSITE
1x12 RAKE BOARDS w/
1x5 TRIM BOARD &
ALUM. DRIP EDGE
(TYPICAL)

(N) 'KOMA' COMPOSITE
 $\frac{5}{4}$ x 6 WINDOW CASING
w/ PVC. CROWN, TOP CAP
& ALUM. DRIP EDGE.
& 2" PVC. SILL
(TYPICAL)

(N) 'KOMA' COMPOSITE
 $\frac{5}{4}$ x 7 CORNER BOARDS
(TYPICAL)

(N) ASPHALT ROOF
per SPEC.
(TYPICAL)

(N) 'KOMA' COMPOSITE
WRAPPED TRELIS
STRUCTURE

(N) 'KOMA' COMPOSITE
1x9 FASCIA BOARDS
w/ 1x3 TRIM BOARD,
ALUM. DRIP EDGE,
'KOMA' COMPOSITE
SOFFIT & TRIM
(TYPICAL)

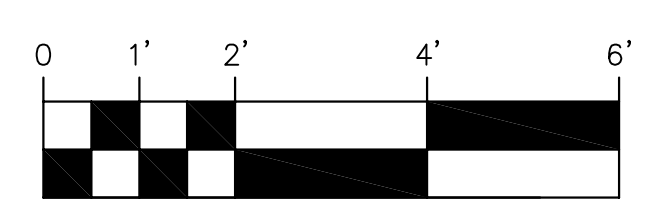
(N) 'KOMA' COMPOSITE
 $\frac{5}{4}$ x 8 CORNER BOARDS
(TYPICAL)

(N) 'KOMA' COMPOSITE
POST WRAPS
& TRIM BOARDS
(TYPICAL)

(N) $\frac{5}{4}$ x 6 COMPOSITE DECKING,
'KOMA' WATER TABLE & FASCIA
BOARD per SPEC.
(TYPICAL)

(N) CLEAR WHITE
CEDAR
WALL SHINGLES
(TYPICAL)

(N) COMPOSITE RAILINGS
& $\frac{5}{4}$ x 6 COMPOSITE DECKING
per SPEC.
(TYPICAL)



(N) TRIM/SIDING DETAILS (F)

ROGER O. HOIT, AIA
ARCHITECT
1175 MAIN STREET, HINGHAM, MA 02043
TEL: 781-749-5563

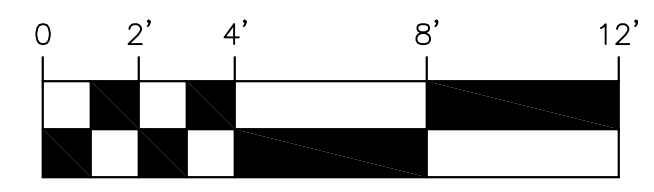
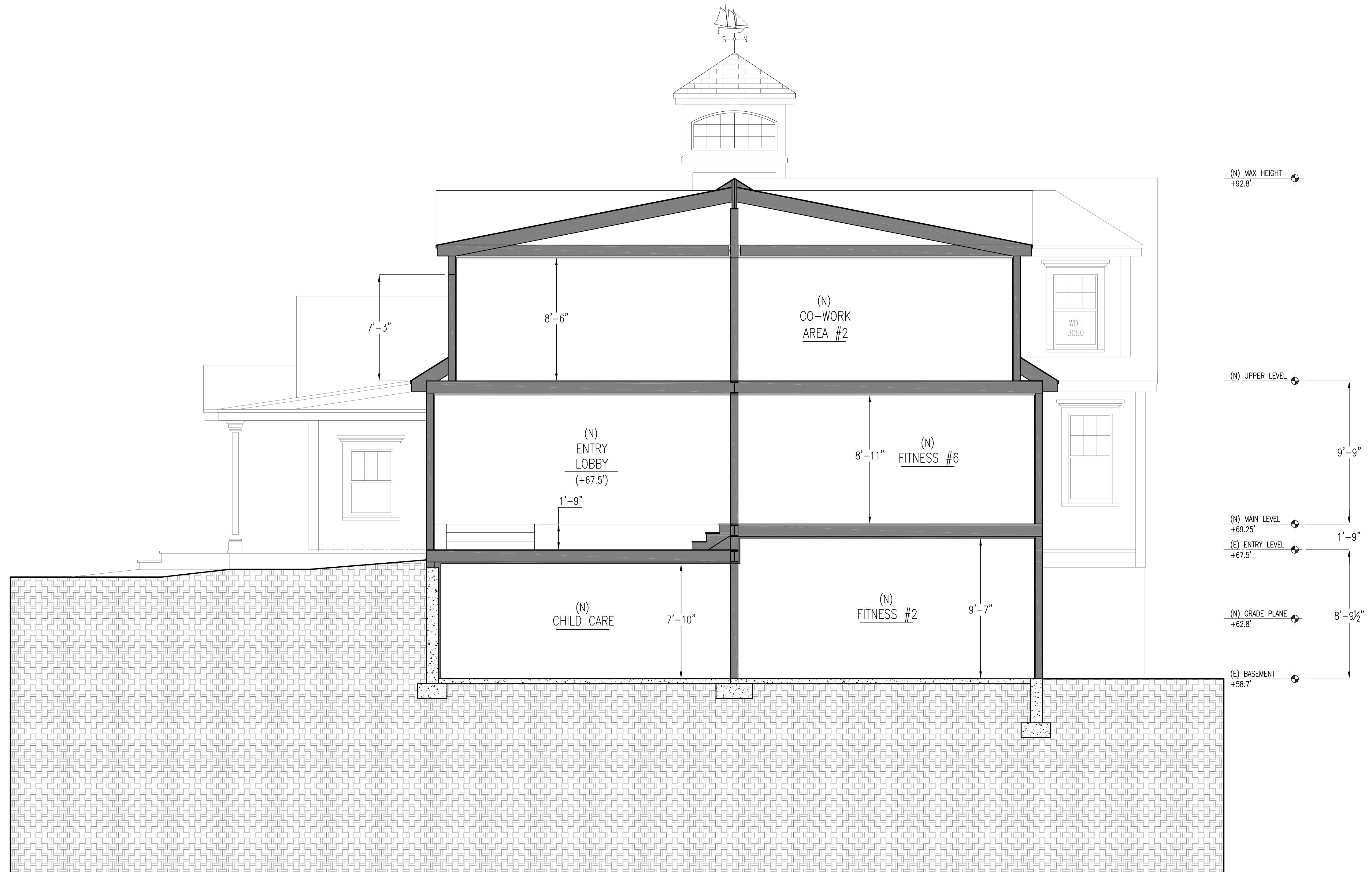
EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
Chatham, MA 02620

(N) EXT. TRIM/SIDING DETAILS

REVISIONS:

PROJECT NUMBER:	-
DATE:	6.16.2017
SCALE:	1"=1'-0"
DRAWN:	JEB
CHECK:	ROH

DRAWING NUMBER:
A14



(N) SCHEMATIC CROSS SECTION AA

EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
Chatham, MA 02620

(N) SCHEMATIC CROSS SECTION

REVISIONS:

PROJECT NUMBER:	-
DATE:	6.16.2017
SCALE:	1/4"=1'-0"
DRAWN:	JEB
CHECK:	ROH

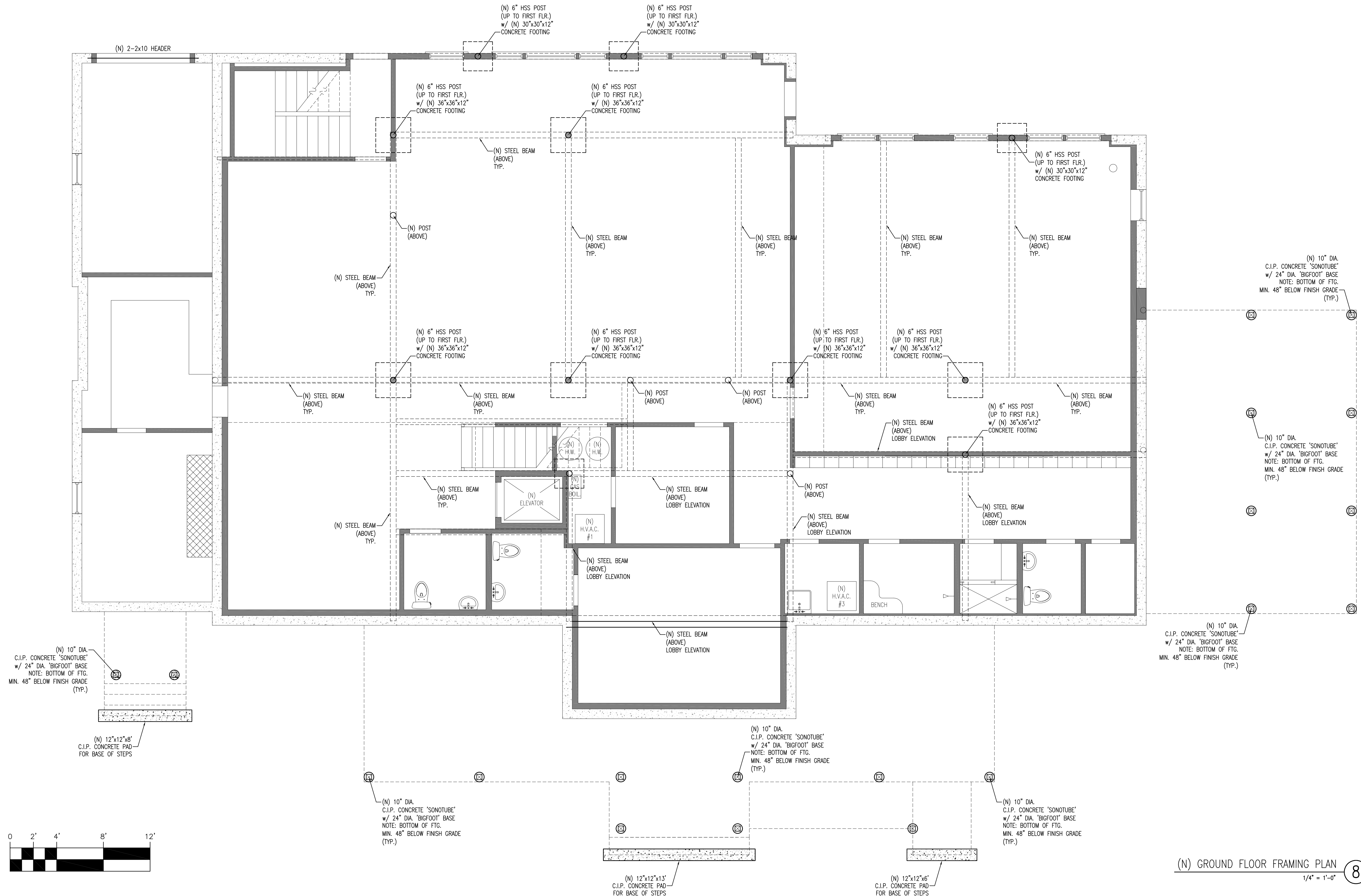
DRAWING NUMBER:
A15

REVISIONS:

PROJECT NUMBER:	-
DATE:	6.16.2017
SCALE:	1/4"=1'-0"
DRAWN:	JEB
CHECK:	ROH

DRAWING NUMBER:

S1



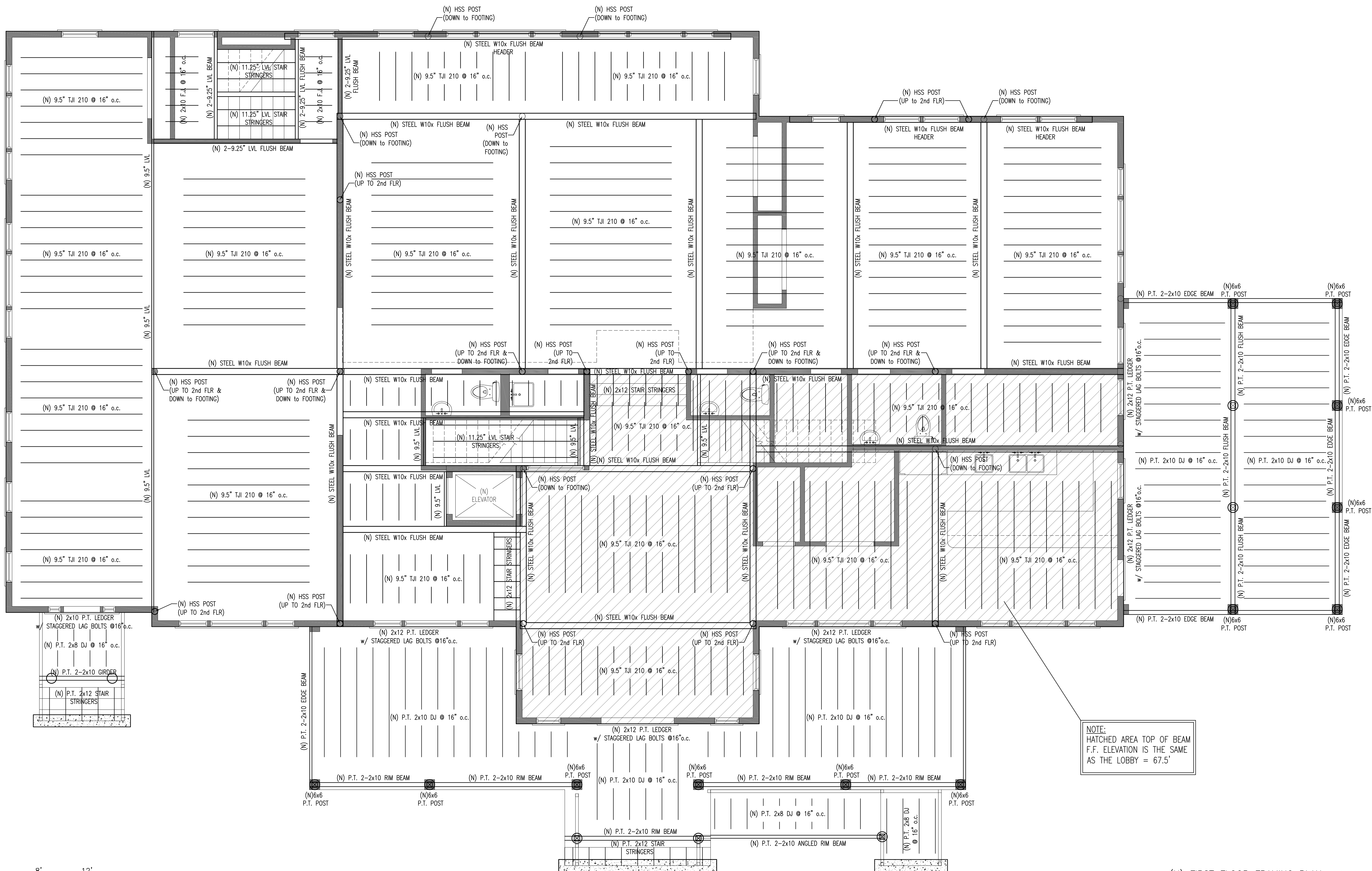
(N) GROUND FLOOR FRAMING PLAN 8
 1/4" = 1'-0"

REVISIONS:

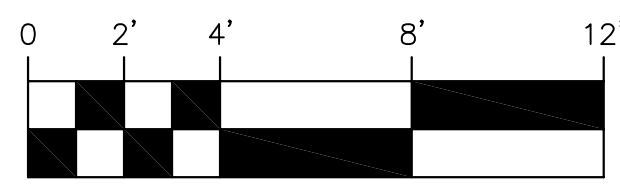
PROJECT NUMBER:	-
DATE:	6.16.2017
SCALE:	1/4"=1'-0"
DRAWN:	JEB
CHECK:	ROH

DRAWING NUMBER:

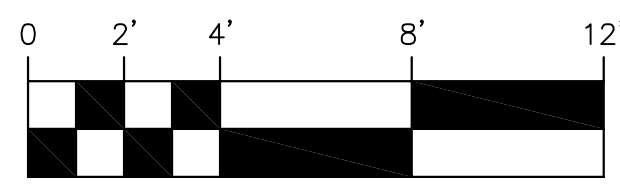
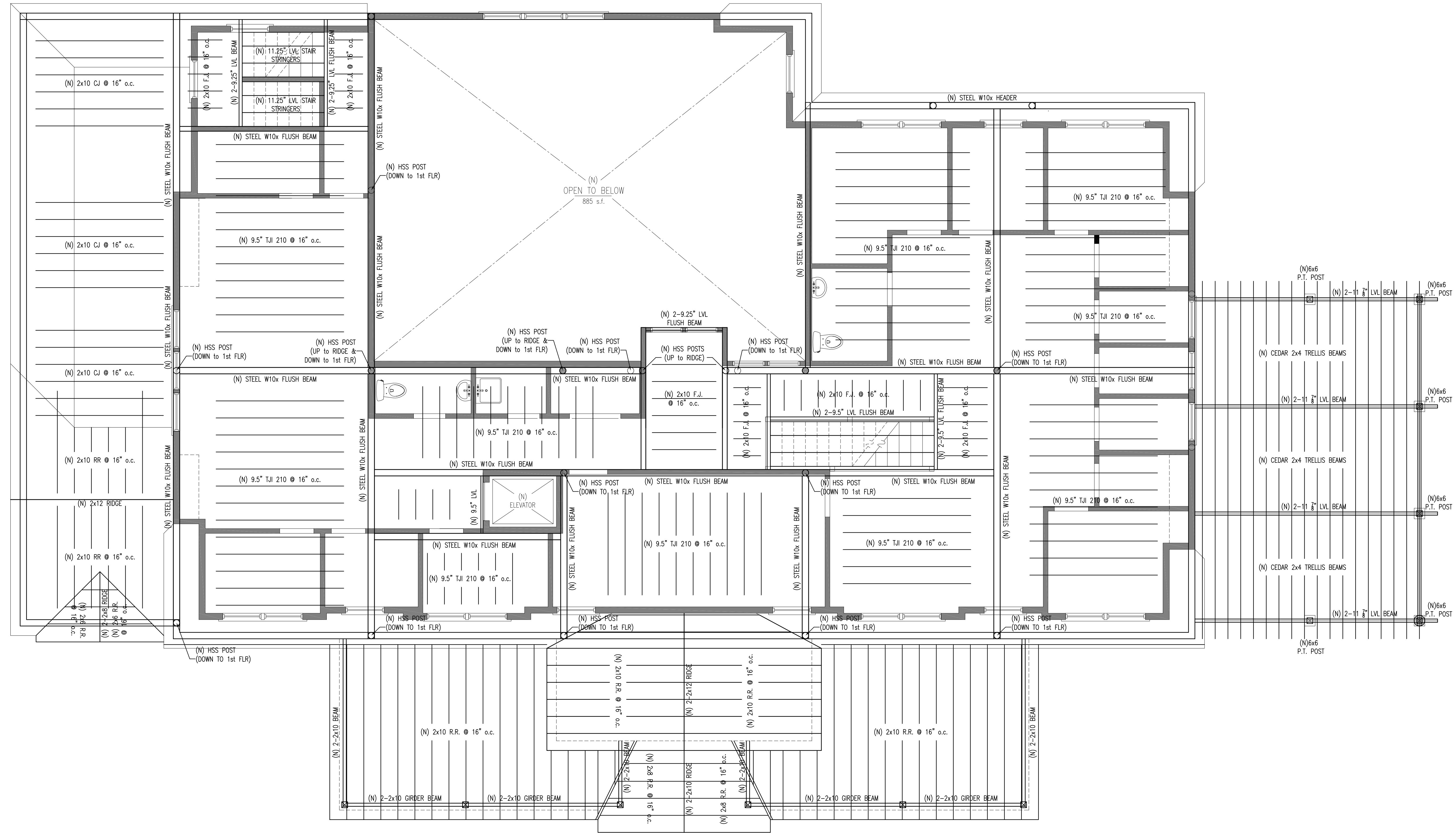
S2



NOTE:
HATCHED AREA TOP OF BEAM
F.F. ELEVATION IS THE SAME
AS THE LOBBY = 67.5'



(N) FIRST FLOOR FRAMING PLAN 9
1/4" = 1'-0"



(N) SECOND FLOOR FRAMING PLAN
 1/4" = 1'-0" 10

EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
 Chatham, MA 02620

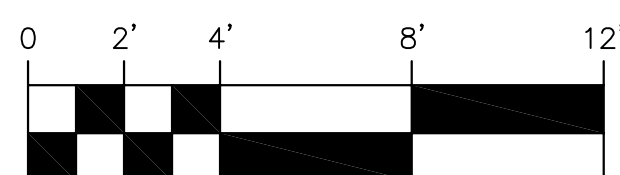
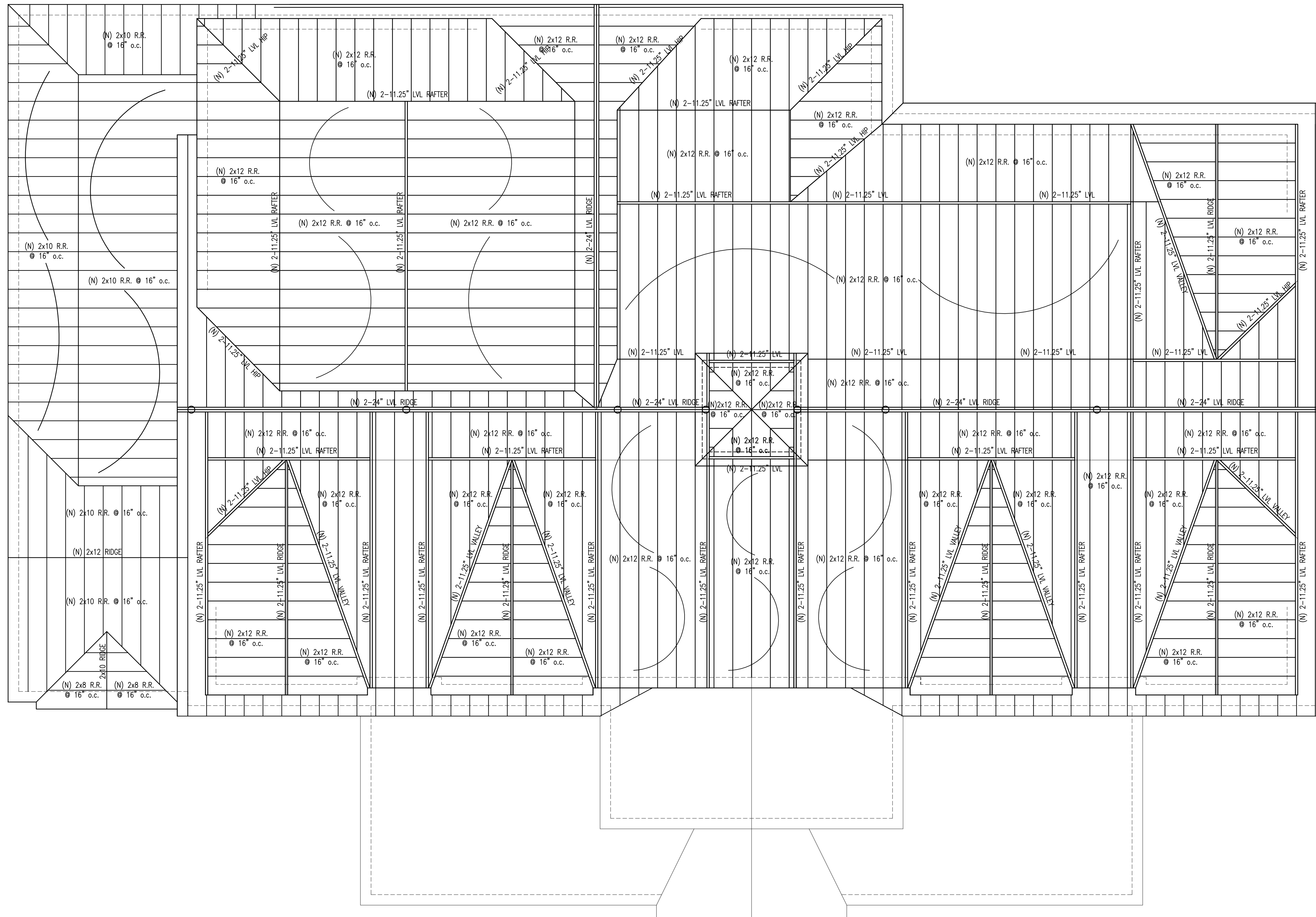
(N) SECOND FLOOR FRAMING PLAN

REVISIONS:

PROJECT NUMBER: -
 DATE: 6.16.2017
 SCALE: 1/4"=1'-0"
 DRAWN: JEB
 CHECK: ROH

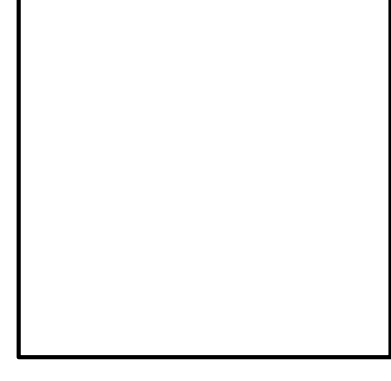
DRAWING NUMBER:

S3



(N) ROOF FRAMING PLAN 12
1/4" = 1'-0"

ROGER O. HOIT, AIA
ARCHITECT
1175 MAIN STREET, HINGHAM, MA 02043
TEL: 781-749-5563



EXISTING CONDITIONS FOR:
323 ORLEANS ROAD
Chatham, MA 02620

(N) ROOF FRAMING PLAN

REVISIONS:

PROJECT NUMBER: -
DATE: 6.16.2017
SCALE: 1/4"=1'-0"
DRAWN: JEB
CHECK: ROH

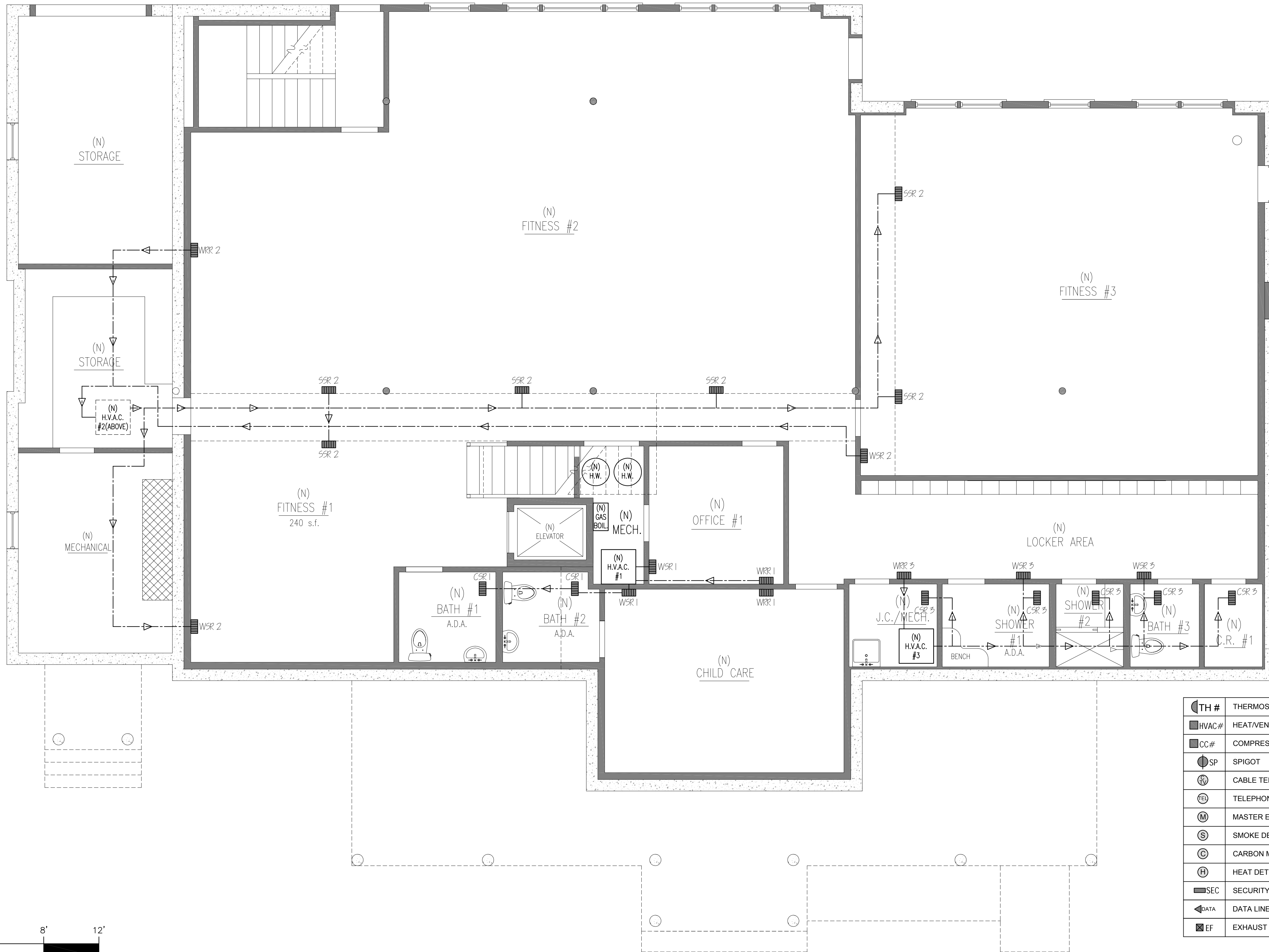
DRAWING NUMBER:
S4

REVISIONS:

PROJECT NUMBER: -
 DATE: 6.16.2017
 SCALE: 1/4"=1'-0"
 DRAWN: JEB
 CHECK: ROH

DRAWING NUMBER:

ME1



SYMBOL LEGEND

⊕	STANDARD DUPLEX OUTLET
⊕ FL	FLOOR OUTLET
⊕ E	EQUIPMENT SERVICE
⊕ EXT	EXTERIOR OUTLET
⊕ CLG	CEILING OUTLET

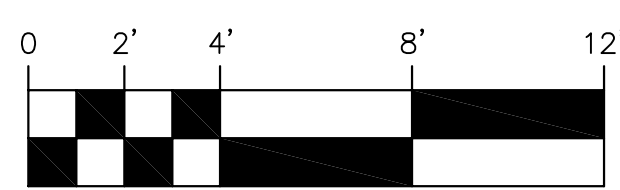
S	SWITCH
ES	EXISTING SWITCH
DS	DOOR SWITCH
EDS	EXISTING DOOR SWITCH
R	RHEOSTAT SWITCH
MDS	MAGNETIC DOOR SWITCH
ERS	EXISTING RHEOSTAT SWITCH

▬ SRR	SOFFIT SUPPLY REGISTER
▬ CSR	CEILING SUPPLY REGISTER
▬ FSR	FLOOR SUPPLY REGISTER
▬ TSR	TOE SPACE REGISTER
▬ WSR	WALL SUPPLY REGISTER
▬ WRR	WALL RETURN REGISTER
▬ TSH	TOE SPACE HEATER

▬ WS	WALL SCONCE LIGHT
▬ WB	WALL BRACKET LIGHT
▬ CL	CLOSET LIGHT (ON WALL ABOVE DOOR)
▬ D	DECK LIGHT
▬ FL	FLOOD LIGHT
▬ CL	CEILING LIGHT
▬ GL	GARAGE LIGHT
▬ SL	SURFACE-MOUNTED LIGHT
▬ BL	BASEMENT LIGHT
▬ UCL	UNDERCABINET LIGHT
▬ FL	FLOURESCENT LIGHT
● RC	RECESSED CAN LIGHT
● LV RC	LOW VOLTAGE RECESSED CAN LIGHT
● RC	RECESSED CAN LIGHT, PINHOLE
● WW	WALL WASHER LIGHT
● LV WW	LOW VOLTAGE RECESSED CAN LIGHT
● ARC	ADJUSTABLE RECESSED CAN LIGHT
● ERC	EXTERIOR RECESSED CAN LIGHT
● CH	CHANDELIER
● CUL	CEILING UP LIGHT
● LV CUL	LOW VOLTAGE CEILING UP LIGHT
▬ TRL	TRACK LIGHT
● MRL	MIRROR LIGHT

⊖ TH #	THERMOSTAT
▬ HVAC#	HEAT/VENT/AC UNIT
▬ CC#	COMPRESSOR/CONDENSER UNIT
⊕ SP	SPIGOT
⊕ TV	CABLE TELEVISION
⊕ TEL	TELEPHONE
⊕ M	MASTER EXTERIOR LIGHT SWITCH
⊕ S	SMOKE DETECTOR
⊕ C	CARBON MONOXIDE DETECTOR
⊕ H	HEAT DETECTOR
▬ SEC	SECURITY PANEL
▬ DATA	DATA LINE
⊕ EF	EXHAUST FAN

(N) GROUND FLOOR MECHANICAL PLAN 13
 1/4" = 1'-0"

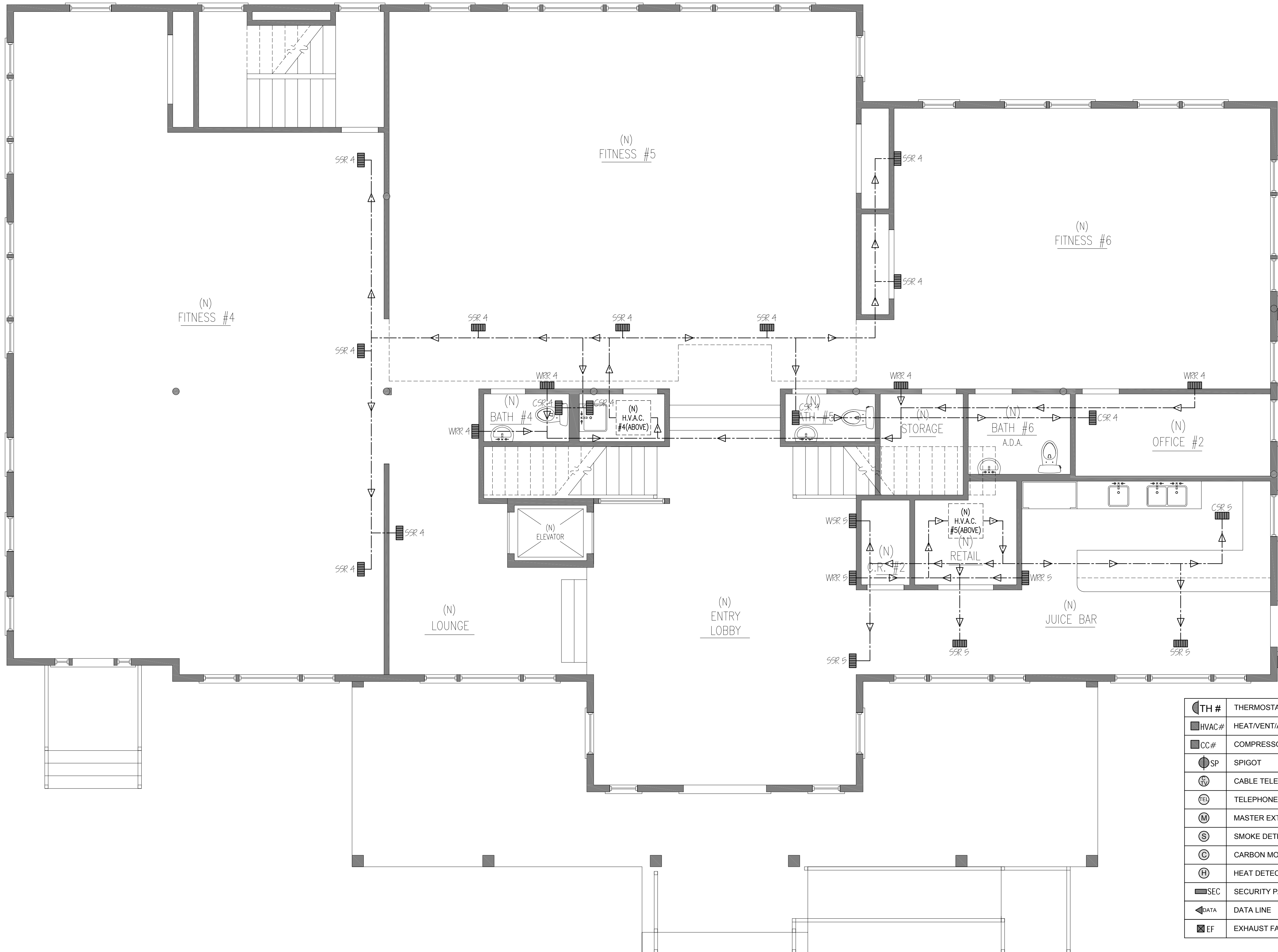


REVISIONS:

PROJECT NUMBER: -
DATE: 6.16.2017
SCALE: 1/4"=1'-0"
DRAWN: JEB
CHECK: ROH

DRAWING NUMBER:

ME2



SYMBOL LEGEND

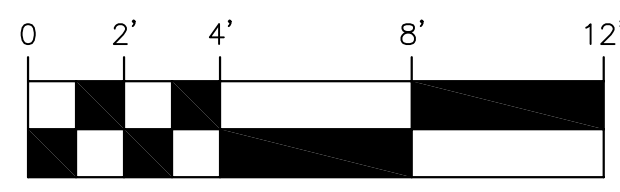
	STANDARD DUPLEX OUTLET
	FLOOR OUTLET
	EQUIPMENT SERVICE
	EXTERIOR OUTLET
	CEILING OUTLET

S	SWITCH
ES	EXISTING SWITCH
DS	DOOR SWITCH
EDS	EXISTING DOOR SWITCH
R	RHEOSTAT SWITCH
MDS	MAGNETIC DOOR SWITCH
ERS	EXISTING RHEOSTAT SWITCH

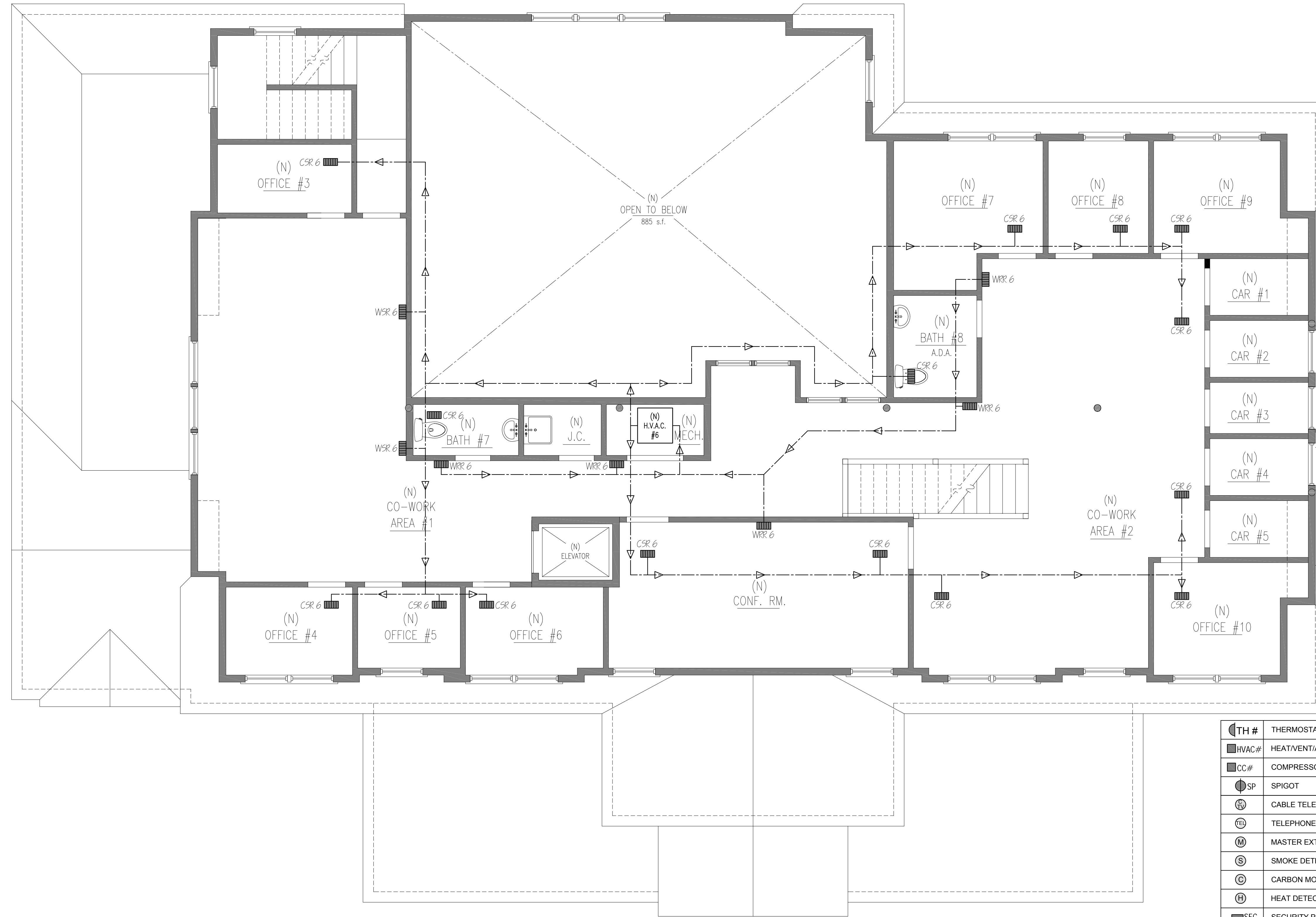
	SOFFIT SUPPLY REGISTER
	CEILING SUPPLY REGISTER
	FLOOR SUPPLY REGISTER
	TOE SPACE REGISTER
	WALL SUPPLY REGISTER
	WALL RETURN REGISTER
	TOE SPACE HEATER

	WALL SCONCE LIGHT
	WALL BRACKET LIGHT
	CLOSET LIGHT (ON WALL ABOVE DOOR)
	DECK LIGHT
	FLOOD LIGHT
	CEILING LIGHT
	GARAGE LIGHT
	SURFACE-MOUNTED LIGHT
	BASEMENT LIGHT
	UNDERCABINET LIGHT
	FLOUORESCENT LIGHT
	RECESSED CAN LIGHT
	LOW VOLTAGE RECESSED CAN LIGHT
	RECESSED CAN LIGHT, PINHOLE
	WALL WASHER LIGHT
	LOW VOLTAGE RECESSED CAN LIGHT
	ADJUSTABLE RECESSED CAN LIGHT
	EXTERIOR RECESSED CAN LIGHT
	CHANDELIER
	CEILING UP LIGHT
	LOW VOLTAGE CEILING UP LIGHT
	TRACK LIGHT
	MIRROR LIGHT

	TH # THERMOSTAT
	HVAC# HEAT/VENT/AC UNIT
	CC# COMPRESSOR/CONDENSER UNIT
	SP SPIGOT
	CABLE TELEVISION
	TELEPHONE
	M MASTER EXTERIOR LIGHT SWITCH
	S SMOKE DETECTOR
	C CARBON MONOXIDE DETECTOR
	H HEAT DETECTOR
	SEC SECURITY PANEL
	BATA DATA LINE
	EF EXHAUST FAN



(N) FIRST FLOOR MECHANICAL PLAN 14
1/4" = 1'-0"



SYMBOL LEGEND	
	STANDARD DUPLEX OUTLET
	FLOOR OUTLET
	EQUIPMENT SERVICE
	EXTERIOR OUTLET
	CEILING OUTLET

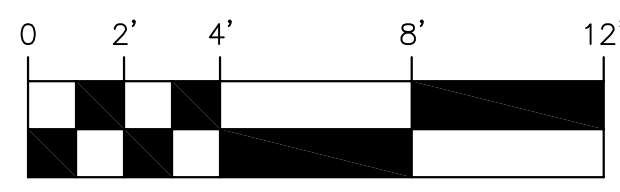
S	SWITCH
ES	EXISTING SWITCH
DS	DOOR SWITCH
EDS	EXISTING DOOR SWITCH
R	RHEOSTAT SWITCH
MDS	MAGNETIC DOOR SWITCH
ERS	EXISTING RHEOSTAT SWITCH

	SOFFIT SUPPLY REGISTER
	CEILING SUPPLY REGISTER
	FLOOR SUPPLY REGISTER
	TOE SPACE REGISTER
	WALL SUPPLY REGISTER
	WALL RETURN REGISTER
	TOE SPACE HEATER

	WALL SCONCE LIGHT
	WALL BRACKET LIGHT
	CLOSET LIGHT (ON WALL ABOVE DOOR)
	DECK LIGHT
	FLOOD LIGHT
	CEILING LIGHT
	GARAGE LIGHT
	SURFACE-MOUNTED LIGHT
	BASEMENT LIGHT
	UNDERCABINET LIGHT

	TH # THERMOSTAT
	HVAC# HEAT/VENT/AC UNIT
	CC# COMPRESSOR/CONDENSER UNIT
	SP SPIGOT
	CABLE TELEVISION
	TELEPHONE
	M MASTER EXTERIOR LIGHT SWITCH
	S SMOKE DETECTOR
	C CARBON MONOXIDE DETECTOR
	H HEAT DETECTOR
	SEC SECURITY PANEL
	DATA DATA LINE
	EF EXHAUST FAN

	FL FLOURESCENT LIGHT
	RC RECESSED CAN LIGHT
	LV RC LOW VOLTAGE RECESSED CAN LIGHT
	RC RECESSED CAN LIGHT, PINHOLE
	WW WALL WASHER LIGHT
	LV WW LOW VOLTAGE RECESSED CAN LIGHT
	ARC ADJUSTABLE RECESSED CAN LIGHT
	ERC EXTERIOR RECESSED CAN LIGHT
	CH CHANDELIER
	CUL CEILING UP LIGHT
	LV CUL LOW VOLTAGE CEILING UP LIGHT
	TL TRACK LIGHT
	ML MIRROR LIGHT



(N) SECOND FLOOR MECHANICAL PLAN
 1/4" = 1'-0" 15

EXISTING CONDITIONS FOR:
 323 ORLEANS ROAD
 Chatham, MA 02630

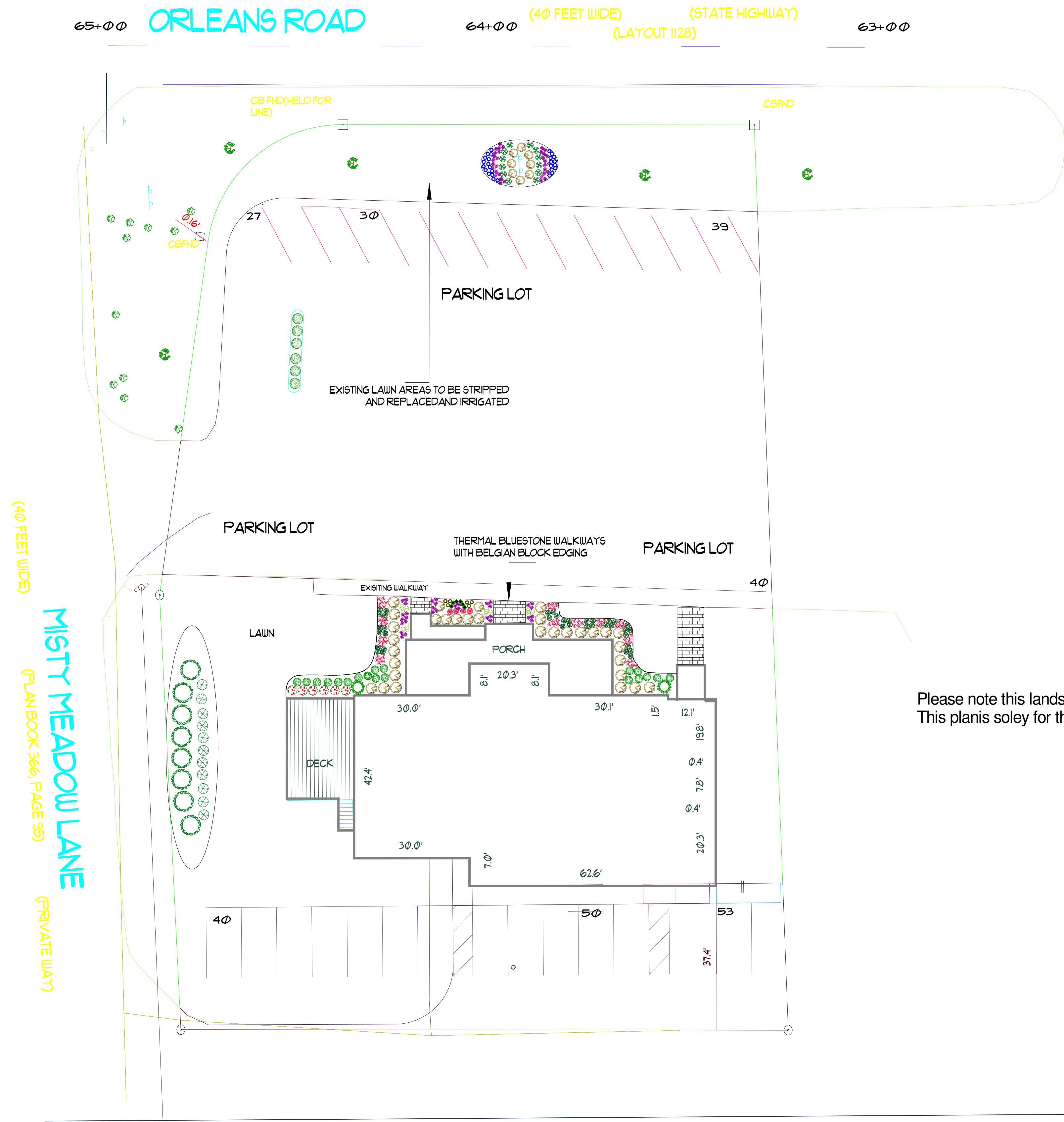
(N) SECOND FLR. MECHANICAL PLAN

REVISIONS:

PROJECT NUMBER:	-
DATE:	6.16.2017
SCALE:	1/4"=1'-0"
DRAWN:	JEB
CHECK:	ROH

DRAWING NUMBER:

ME3



LEGEND		
COMMON NAME	QTY	PRICE
FLOWER, GRASS		
GRASS, HAMELN	6	\$5.00
GRASS, LITTLE BLUESTEM	20	\$5.00
FLOWER, PERENNIAL		
ALCHEMILLA, LADY'S MANTLE	36	\$5.00
CATMINT, BLUE WONDER	59	\$5.00
CATMINT, WALKER'S LOW	27	\$5.00
COREOPSIS, 'MOONBEAM'	12	\$5.00
DAYLILY, 'HAPPY RETURNS'	22	\$5.00
DEADNETTLE, GOLDEN, HERMAN'S	6	\$5.00
HEUCHERA, 'CRIME BRLE'	6	\$5.00
HOLLYHOCK, PINK DWARF	4	\$5.00
SHRUB, DECIDUOUS		
HYDRANGEA, ENDLESS SUMMER HEDGE	40	\$5.00
ROSE, KNOCKOUT	6	\$5.00
SHRUB, EVERGREEN BROADLEAF		
INKBERRY, COMPACT	11	\$5.00
SHRUB, EVERGREEN CONIFER		
JUNIFER BLUE STAR	12	\$5.00
TREE, EVERGREEN		
CYPRRESS, LEYLANDII	8	\$5.00
HINOKI FALSE CYPRRESS	2	\$5.00

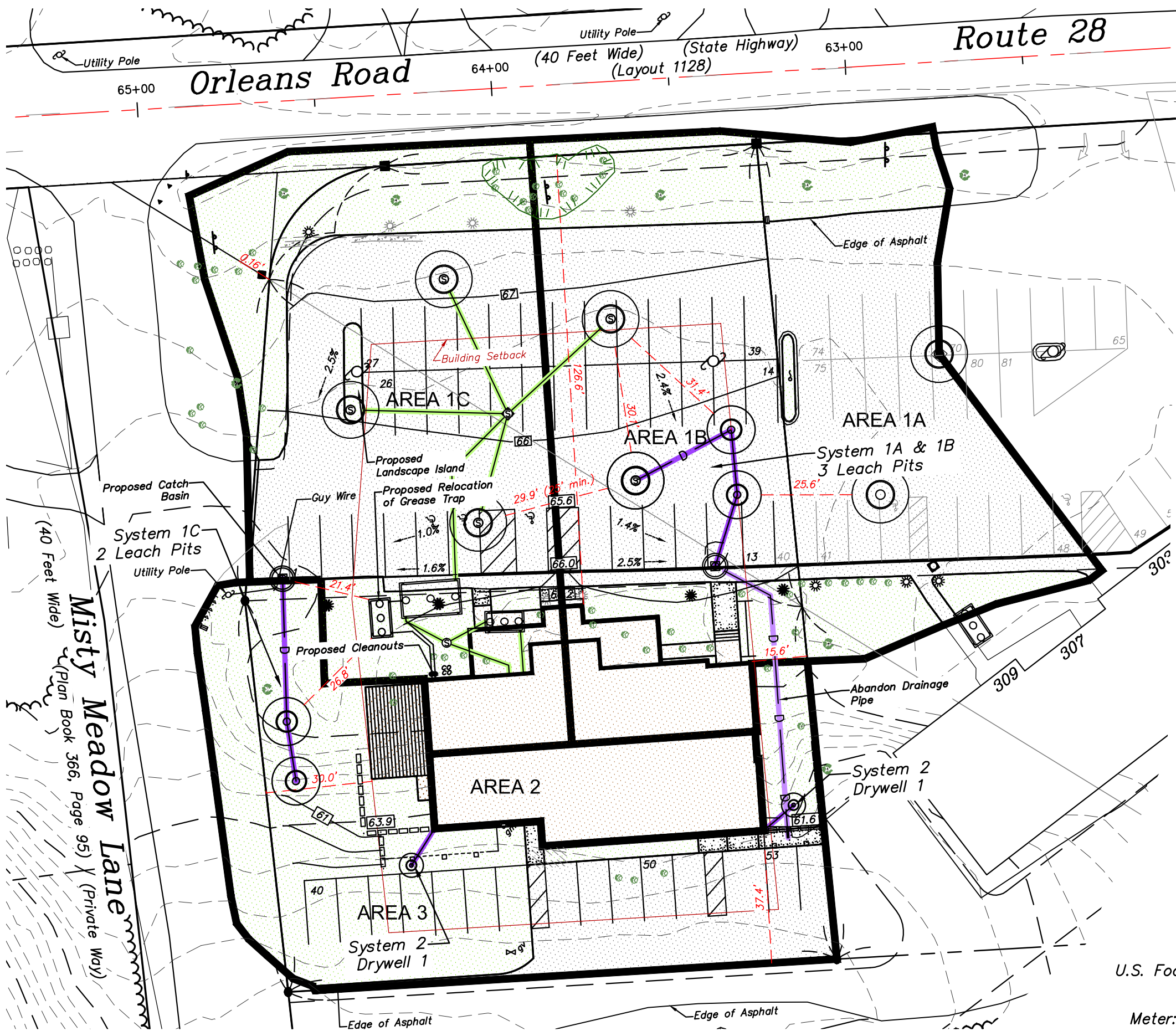
Please note this landscape plan is based on plans by others. Tape measuring on site not from instrument survey. This plan is solely for the purpose of landscape planning only and should not be used for any other purpose.

Revision #: 001
Date: 6/13/17

Scale:
1/16" = 1'

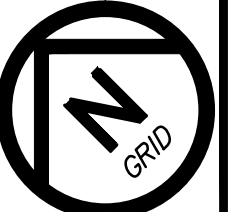
Landscape Plan: 001
Chatham Works

Landscape Design by: Al Sorbello / Val Davis
Sorbello Landscaping Inc.



Watershed Areas

Area	Lawn / Landscape	Paved	Building	Total
Area 1A	2,270 S.F.±	5,980 S.F.±		8,250 S.F.±
Area 1B	2,530 S.F.±	6,790 S.F.±	1,600 S.F.±	10,920 S.F.±
Area 1A & 1B	4,800 S.F.±	12,770 S.F.±	1,600 S.F.±	19,170 S.F.±
Area 1C	4,580 S.F.±	7,260 S.F.±	1,330 S.F.±	13,170 S.F.±
Area 2			2,390 S.F.±	2,390 S.F.±
Area 3	7,460 S.F.±	3,100 S.F.±	460 S.F.±	11,020 S.F.±



WATERSHED AREAS

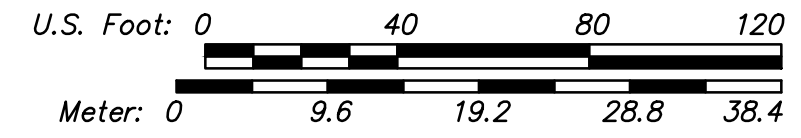
323 Orleans Road, Chatham (North), Massachusetts

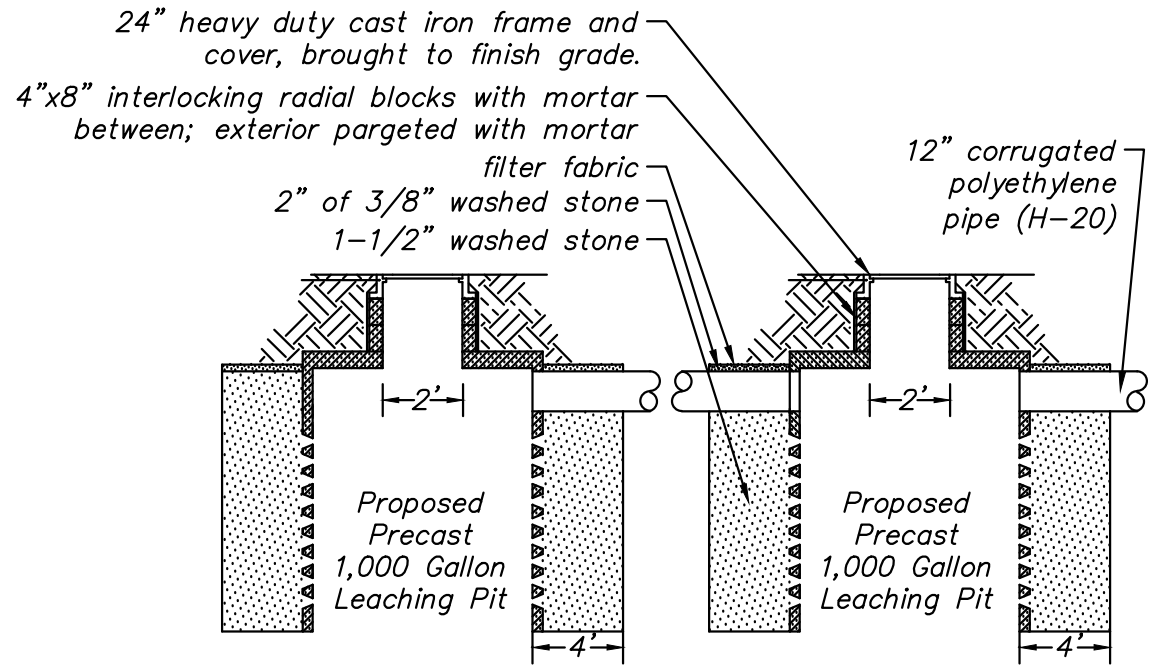
CHATHAM WORKS, LLC

ELDRIDGE SURVEYING & ENGINEERING, LLC
 1038 Main Street, Chatham, MA 02633
 (508) 945-3965; Fax: (508) 945-5885

#	Description of Revision	Date

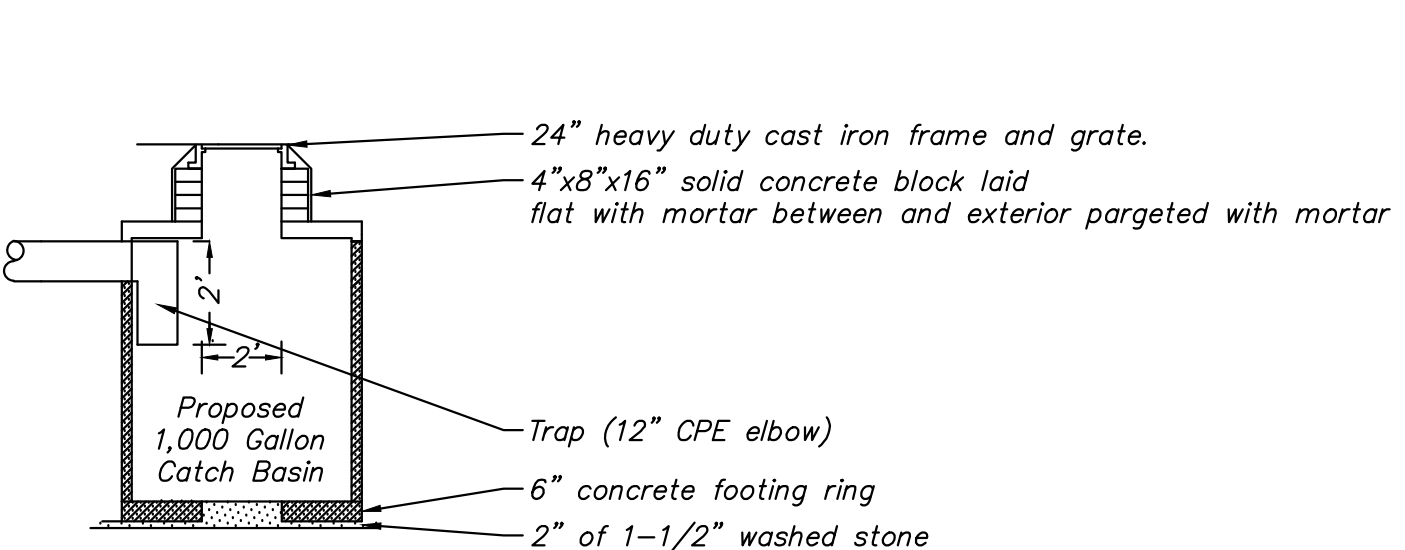
Date: 07-24-2017
 Scale: 1" = 40'
 Project No.: C-4693-01.0





CROSS-SECTION
LEACHING PITS
Not To Scale

SYSTEM 1C



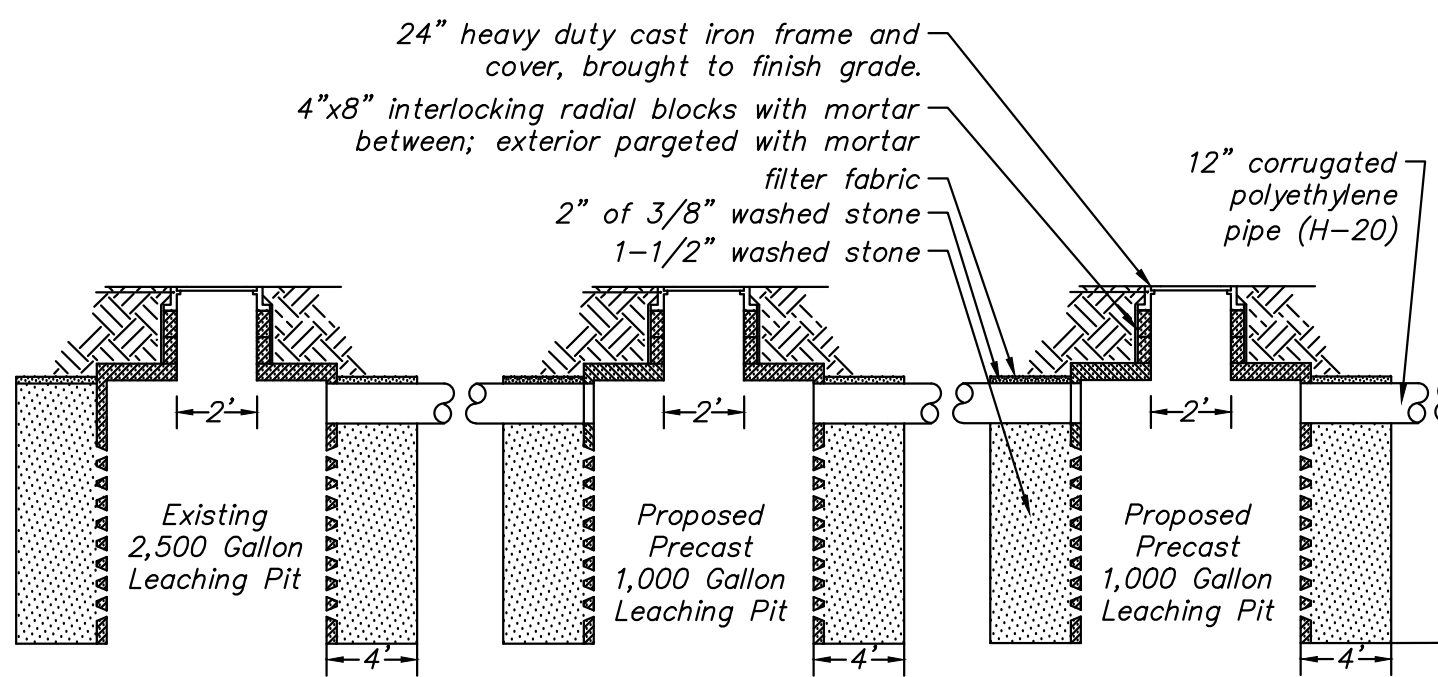
CROSS-SECTION
CATCH BASIN
Not to Scale

Notes:
Contractor to inspect all existing leach pits for septic and drainage to ensure structural stability.

Engineer to inspect existing 2,500 gallon leaching pit. If it is not acceptable, contractor to replace with a 1,000 gallon leaching pit with 4' of stone.

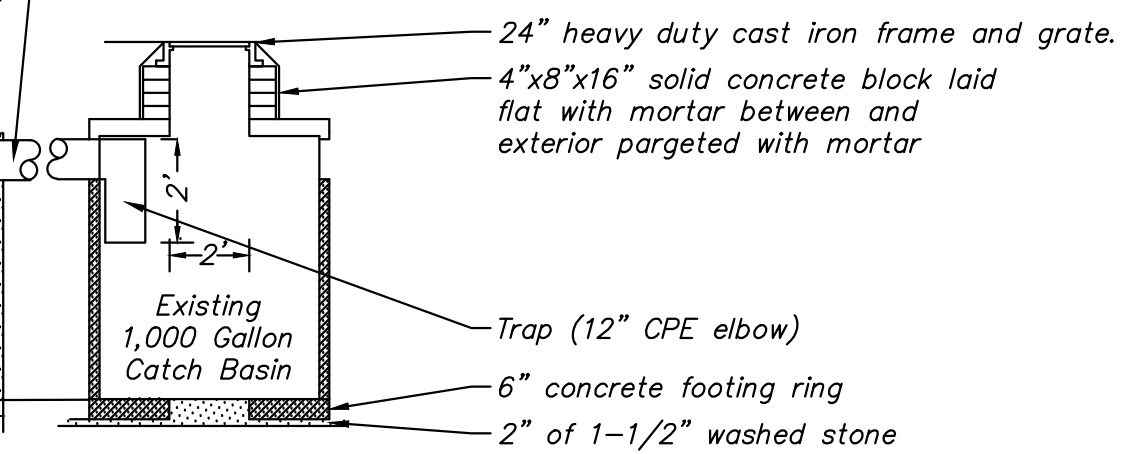
Existing 12" overflow pipe to be abandoned.

Contractor to ensure that the frame and grate on the existing 1,000 gallon catch basin is accessible.



CROSS-SECTION
LEACHING PITS
Not To Scale

SYSTEM 1A & 1B



CROSS-SECTION
CATCH BASIN
Not to Scale

DRAINAGE DETAILS
323 Orleans Road, Chatham (North), Massachusetts

#

CHATHAM WORKS, LLC

ELDRIDGE SURVEYING & ENGINEERING, LLC
1038 Main Street, Chatham, MA 02633
(508) 945-3965; Fax: (508) 945-5885

Date: 07-24-2017
Scale: NTS
Project No.: C-4693-01.0

Sheet No.: 2 of 2

SYSTEM # Chatham Works - System 1A + 1B (to be constructed)

1. Area of contribution (A)

Impervious area:

Pavement Area 12770 S.F. = 0.293 Acres

Roof Area 1600 S.F. = 0.037 Acres

Pervious area (Grass): 4800 S.F. = 0.110 Acres

Total area = 19170 S.F. = **0.440 Acres**

2. Composite coefficient of runoff (C)

= (Impervious area * 0.98) + (Pervious area * 0.39) / Total area

= **0.83**

3. Rainfall intensity (i) from formula: $i = 230 / (\text{time of concentration [in minutes]} + 30)$

2.80 inches per hour for 60 minute duration

4. Average runoff (Q) = CiA in c.f. per sec. (for initial sizing of leaching facility)

= 0.83 * 2.80 in/hr * 0.44 acres

= 1.0 c.f. per sec. for 60 min duration

or 61.5 c.f. per min. for 60 min duration

5. Infiltration rate of soils (permeability) from tables

= 0.70 gal per min. per s.f. / 7.5 gal per c.f.

= 0.09 c.f. per min. per s.f.

6. Infiltration area required to leach average runoff

= (Q c.f. per sec. * 60 sec per min.) / infiltration rate in c.f. per min. per s.f.

= 659 s.f. required

7. Initial sizing of system (using 6 ft dia. leach pit) to meet the required infiltration area

3 six foot diameter leaching basin(s) 6 feet deep

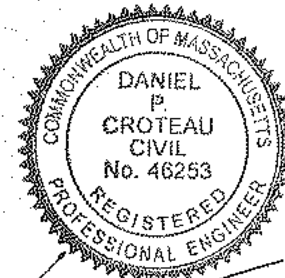
with 4.0 feet of stone all around

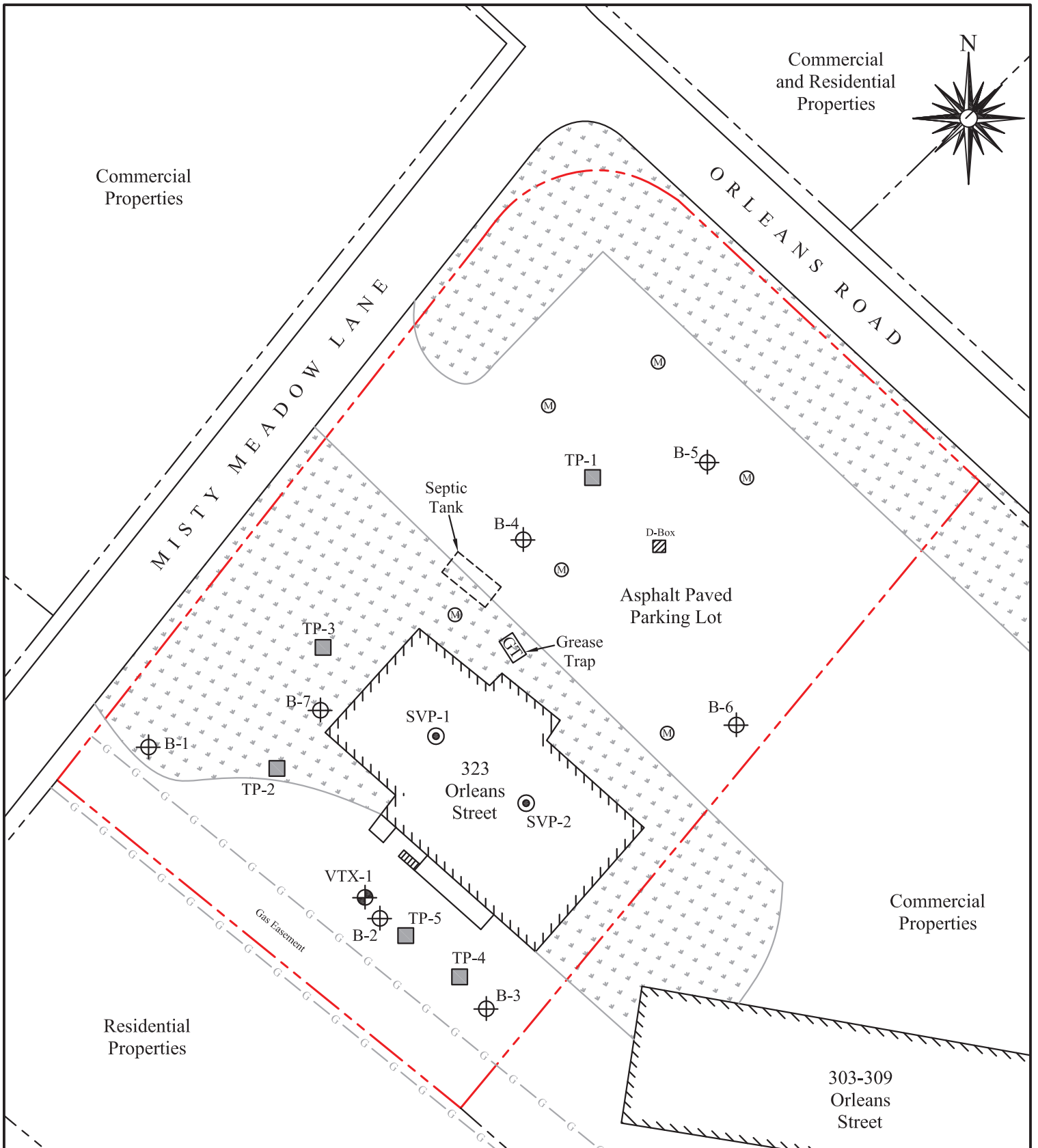
8. Infiltration area, sidewalls only (actual)

= # of structures * Diameter of system * pi * depth of system

= 3 basin(s) * 14 feet * pi * 6 feet deep

= 792 s.f. provided





Legend

- Subject Property Boundary
- Property Boundaries
- ▨ Building
- G- Gas Easement Boundary
- ▨ Landscaping
- ⊙ Sewer Manhole
- ▨ D-Box
- ⊕ VTX-1 Monitoring Well Location
- ⊕ B-1 Soil Boring Location
- ▨ TP-1 Test Pit Location
- ⊙ SVP-1 Soil Vapor Sampling Point



Note: Site features are approximate and for illustrative purposes only.



25 Buttrick Road, Unit D2
Londonderry, NH 03053

CLIENT:
Fred Bierwirth

PROJECT:
323 Orleans Road
Chatham, MA

TITLE: Site Plan

DESIGNED: SLK	DRAWN: SLK	CHECKED: CAL	APPROVED: RJW	FIGURE NO.: 1
SCALE: 1" = 40'	DATE: 02/14/2016	FILE NO.: Figure	PROJECT NO.: 2556-001	



B-1

SOIL BORING LOG
323 Orleans Road
Chatham, Massachusetts

Drilling Utility

Drilling Co.: TDS, Inc.
Foreman:
Vehicle: Truck Rig
Model: CME 75
Method: 3" Split Spoon
Sampler: 2ft
Hammer(lb): 140
Fall(in): 30

Well Specifications

Type: NA
Well Dia.: NA
Well Mat.: NA
Depth(ft): NA
Screen Int.: NA
Wellhead: NA
Ground Elev.: NA
Wellhead Elev.: NA

DEPTH (ft)	Stratigraphic Interval (ft)	PEN/REC (in)	Blow Counts (per 6" inches)	FIELD SCREENING (ppm Benzene)	Boring Location: Southwest Corner (grass area)		NOTE	WELL / STRATIGRAPHY DIAGRAM
					WTC Coordinates: N	E		
					Ground Surface Elevation:			
					Date Started:	1/30/2017		
					Date Completed:	1/30/2017		
					GW depth at time of installation (ft):	NA		
SAMPLE DESCRIPTION								
0							1	
0-2'	24/24	3-4-5-5	0.1	Light brown, fine SAND, dry				
2								
4								
4-6'	24/14	5-3-3-5	0.1	Light brown, fine to medium SAND, large Gravel at 5-6', dry.				
6								
8								
9-11'	24/15	6-4-4-3	0.1	Light brown, fine to medium SAND, dry.				
12	11-13'	4-3-2-6	0.1	Light brown to dark grey, fine to medium SAND, moist.				
14	13-15'	6-6-4-5	0.0	Debris (glass) at 13' Light grey, fine to medium SAND, moist. Yellowish orange, fine SAND from 14.5-15'				
Debris found at 13'								
16								
18								
20								
21								

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/ft	DENSITY	BLOWS/ft	CONSISTENCY
0-4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V.DENSE	15-30	V.STIFF
		>30	HARD

WELL KEY:

- RISER
- SCREEN
- BENTONITE
- WELL SAND
- FILL
- PORTLAND

NOTES:
1. Boring Logged by EndPoint personnel.



B-2

SOIL BORING LOG
323 Orleans Road
Chatham, Massachusetts

Drilling Utility

Drilling Co.: TDS, Inc.
Foreman:
Vehicle: Truck Rig
Model: CME 75
Method: 3" Split Spoon
Sampler: 2ft
Hammer(lb): 140
Fall(in): 30

Well Specifications

Type: NA
Well Dia.: NA
Well Mat.: NA
Depth(ft): NA
Screen Int.: NA
Wellhead: NA
Ground Elev.: NA
Wellhead Elev.: NA

DEPTH (ft)	Stratigraphic Interval (ft)	PEN/REC (in)	Blow Counts (per 6" inches)	FIELD SCREENING (ppm Benzene)	Boring Location:		NOTE	WELL / STRATIGRAPHY DIAGRAM
					WTC Coordinates: N	E		
					Ground Surface Elevation:			
					Date Started:		1/30/2017	
					Date Completed:		1/30/2017	
					GW depth at time of installation (ft):		NA	
SAMPLE DESCRIPTION								
0							1	
0-2'	24"/17"	6-7-8-8	0.0	Yellowish-orange, fine to medium SAND, dry.				
2								
4-6'	24"/23"	23-6-5-7	0.0	Similar to above.				
6-8'	24"/18"	7-10-7-7	0.0	Light brown to dark grey, fine to medium SAND, some fine Gravel. Glass and plastic debris at 7'				
8	Debris found at 7'							
10								
12								
14								
16								
18								
20								
21								

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/ft	DENSITY	BLOWS/ft	CONSISTENCY
0-4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V.DENSE	15-30	V.STIFF
		>30	HARD

WELL KEY:

	RISER
	SCREEN
	BENTONITE
	WELL SAND
	FILL
	PORTLAND

NOTES:
1. Boring Logged by EndPoint personnel.



B-3

SOIL BORING LOG
323 Orleans Road
Chatham, Massachusetts

Drilling Utility

Drilling Co.: TDS, Inc.
Foreman:
Vehicle: Truck Rig
Model: CME 75
Method: 3" Split Spoon
Sampler: 2ft
Hammer(lb): 140
Fall(in): 30

Well Specifications

Type: NA
Well Dia.: NA
Well Mat.: NA
Depth(ft): NA
Screen Int.: NA
Wellhead: NA
Ground Elev.: NA
Wellhead Elev.: NA

DEPTH (ft)	Stratigraphic Interval (ft)	PEN/REC (in)	Blow Counts (per 6" inches)	FIELD SCREENING (ppm Benzene)	Boring Location:		NOTE	WELL / STRATIGRAPHY DIAGRAM
					WTC Coordinates: N	E		
					Ground Surface Elevation:			
					Date Started:		1/30/2017	
					Date Completed:		1/30/2017	
					GW depth at time of installation (ft):		NA	
SAMPLE DESCRIPTION								
0							1	
0-2'	24"/21"	9-9-11-9	0.0	Yellowish-orange, fine to medium SAND, dry.				
2								
4-6'	24"/18"	4-3-2-4	0.1	Similar to above.				
6-8'	24"/4"	3-4-4-3	0.0	Light brown to dark grey, fine to medium SAND, some fine Gravel. Glass and plastic debris at 7'				
8	Debris found at 7'							
10								
12								
14								
16								
18								
20								
21								

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/ft	DENSITY	BLOWS/ft	CONSISTENCY
0-4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V.DENSE	15-30	V.STIFF
		>30	HARD

WELL KEY:

	RISER
	SCREEN
	BENTONITE
	WELL SAND
	FILL
	PORTLAND

NOTES:
1. Boring Logged by EndPoint personnel.



B-4

SOIL BORING LOG
323 Orleans Road
Chatham, Massachusetts

Drilling Utility

Drilling Co.: TDS, Inc.
Foreman:
Vehicle: Truck Rig
Model: CME 75
Method: 3" Split Spoon
Sampler: 2ft
Hammer(lb): 140
Fall(in): 30

Well Specifications

Type: NA
Well Dia.: NA
Well Mat.: NA
Depth(ft): NA
Screen Int.: NA
Wellhead: NA
Ground Elev.: NA
Wellhead Elev.: NA

DEPTH (ft)	Stratigraphic Interval (ft)	PEN/REC (in)	Blow Counts (per 6" inches)	FIELD SCREENING (ppm Benzene)	Boring Location:		NOTE	WELL / STRATIGRAPHY DIAGRAM
					WTC Coordinates: N	E		
					Ground Surface Elevation:			
					Date Started:		1/30/2017	
					Date Completed:		1/30/2017	
					GW depth at time of installation (ft):		NA	
SAMPLE DESCRIPTION								
0							1	
0-2'	24/20	10-11-14-14	0.0	Light brown, fine to medium SAND, trace gravel, dry.				
2								
4								
4-6'	24/24	11-11-11-14	0.1	4'-5': Similar to above 5'-6': Yellowish-orange, coarse SAND, some fine to coarse Gravel, dry.				
6								
8								
10								
10-12'	24/22	6-6-7-6	0.0	10-11': Similar to above 11-12': White, light Brown fine to medium SAND, dry.				
12								
12-14'	24/23	8-10-11-11	0.1	Similar to above				
14								
16								
18								
18-20'	24/6	5-28-35-31	0.1	Similar to above				
20	No debris encountered							
21								

GRANULAR SOILS		COHESIVE SOILS		WELL KEY:
BLOWS/ft	DENSITY	BLOWS/ft	CONSISTENCY	
0-4	V. LOOSE	<2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
>50	V.DENSE	15-30	V.STIFF	
		>30	HARD	

NOTES:
1. Boring Logged by EndPoint personnel.



B-5

SOIL BORING LOG
323 Orleans Road
Chatham, Massachusetts

Drilling Utility

Drilling Co.: TDS, Inc.
Foreman:
Vehicle: Truck Rig
Model: CME 75
Method: 3" Split Spoon
Sampler: 2ft
Hammer(lb): 140
Fall(in): 30

Well Specifications

Type: NA
Well Dia.: NA
Well Mat.: NA
Depth(ft): NA
Screen Int.: NA
Wellhead: NA
Ground Elev.: NA
Wellhead Elev.: NA

DEPTH (ft)	Stratigraphic Interval (ft)	PEN/REC (in)	Blow Counts (per 6" inches)	FIELD SCREENING (ppm Benzene)	Boring Location:		NOTE	WELL / STRATIGRAPHY DIAGRAM
					WTC Coordinates: N	E		
					Ground Surface Elevation:			
					Date Started:		1/30/2017	
					Date Completed:		1/30/2017	
					GW depth at time of installation (ft):		NA	
SAMPLE DESCRIPTION								
0								1
0-2'	24/20	10-8-9-11	0.0	Yellowish-orange, fine SAND, dry.				
2								
4								
4-6'	24/24	11-9-11-14	0.0	4'-5': Similar to above 5'-6': White, light brown, fine to medium SAND, dry.				
6								
8								
10								
10-12'	24/18	4-5-6-9	0.0	Similar to above				
12								
14								
16								
18								
18-20'	24/16	5-7-8-10	0	Similar to above, signs of rebox				
20				No debris encountered				
21								

GRANULAR SOILS		COHESIVE SOILS		WELL KEY:
BLOWS/ft	DENSITY	BLOWS/ft	CONSISTENCY	
0-4	V. LOOSE	<2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
>50	V.DENSE	15-30	V.STIFF	
		>30	HARD	

NOTES:
1. Boring Logged by EndPoint personnel.



B-6

SOIL BORING LOG
323 Orleans Road
Chatham, Massachusetts

Drilling Utility

Drilling Co.: TDS, Inc.
Foreman:
Vehicle: Truck Rig
Model: CME 75
Method: 3" Split Spoon
Sampler: 2ft
Hammer(lb): 140
Fall(in): 30

Well Specifications

Type: NA
Well Dia.: NA
Well Mat.: NA
Depth(ft): NA
Screen Int.: NA
Wellhead: NA
Ground Elev.: NA
Wellhead Elev.: NA

DEPTH (ft)	Stratigraphic Interval (ft)	PEN/REC (in)	Blow Counts (per 6" inches)	FIELD SCREENING (ppm Benzene)	Boring Location:		NOTE	WELL / STRATIGRAPHY DIAGRAM
					WTC Coordinates: N	E		
					Ground Surface Elevation:			
					Date Started:		1/30/2017	
					Date Completed:		1/30/2017	
					GW depth at time of installation (ft):		NA	
SAMPLE DESCRIPTION								
0							1	
0-2'	24/19	6-5-8-7	0.0	Yellowish-orange, fine to medium SAND, dry.				
2								
4								
4-6'	24/19	9-13-16-16	0.0	Yellowish-orange, fine to medium SAND, some fine to coarse Gravel, dry.				
6								
8								
10								
10-12'	24/20	5-6-7-9	0.0	Light brown, fine to medium SAND, dry.				
12								
14								
16								
18								
18-20'	24/21	7-9-10-9	0.1	Light brown, fine to medium SAND, some fine to coarse Gravel, dry.				
20	No debris encountered							
21								

GRANULAR SOILS		COHESIVE SOILS		WELL KEY:
BLOWS/ft	DENSITY	BLOWS/ft	CONSISTENCY	
0-4	V. LOOSE	<2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
>50	V.DENSE	15-30	V.STIFF	
		>30	HARD	

NOTES:
1. Boring Logged by EndPoint personnel.



B-7

SOIL BORING LOG
323 Orleans Road
Chatham, Massachusetts

Drilling Utility

Drilling Co.: TDS, Inc.
Foreman:
Vehicle: Truck Rig
Model: CME 75
Method: 3" Split Spoon
Sampler: 2ft
Hammer(lb): 140
Fall(in): 30

Well Specifications

Type: NA
Well Dia.: NA
Well Matl.: NA
Depth(ft): NA
Screen Int.: NA
Wellhead: NA
Ground Elev.: NA
Wellhead Elev.: NA

DEPTH (ft)	Stratigraphic Interval (ft)	PEN/REC (in)	Blow Counts (per 6" inches)	FIELD SCREENING (ppm Benzene)	Boring Location: Adjacent to building to the west		NOTE	WELL / STRATIGRAPHY DIAGRAM
					WTC Coordinates: N	E		
					Ground Surface Elevation:			
					Date Started: 1/30/2017			
					Date Completed: 1/30/2017			
					GW depth at time of installation (ft): NA			
SAMPLE DESCRIPTION								
0							1	
0-2'	24/19	2-3-5-7	0.0	Yellowish-orange, fine to medium SAND, some fine to coarse Gravel, dry.				
2								
4								
4-6'	24/8	2-2-2-2	0.0	Yellowish-orange, fine to medium SAND, trace fine gravel, dry.				
6								
8								
9-11'	24/10	12-6-3-4	0.0	9-10': Similar to above 10-11': Dark grey, fine to medium SAND, some Silt, some fine to coarse Gravel.				
12								
11-13'	24/24	4-3-3-4	0.0	11-12': Similar to above. 12-13': Yellowish-orange, fine to medium SAND, trace fine gravel, dry.				
14								
13-15'	24/24	4-6-8-7	0.0	Yellowish-orange, fine to medium SAND, some fine to coarse Gravel, dry.				
16	No debris identified							
18								
20								
21								

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/ft	DENSITY	BLOWS/ft	CONSISTENCY
0-4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V.DENSE	15-30	V.STIFF
		>30	HARD

WELL KEY:

	RISER
	SCREEN
	BENTONITE
	WELL SAND
	FILL
	PORTLAND

NOTES:
1. Boring Logged by EndPoint personnel.

SYSTEM # Chatham Works - System 1C

1. Area of contribution (A)

Impervious area:			
Pavement Area	4580	S.F. = 0.105	Acres
Roof Area	7260	S.F. = 0.167	Acres
Pervious area (Grass):	<u>1330</u>	<u>S.F. = 0.031</u>	<u>Acres</u>
Total area =	13170	S.F. = 0.302	Acres

2. Composite coefficient of runoff (C)

$$= (\text{Impervious area} * 0.98) + (\text{Pervious area} * 0.39) / \text{Total area}$$
$$= \mathbf{0.92}$$

3. Rainfall intensity (i) from formula: $i = 230 / (\text{time of concentration [in minutes]} + 30)$

$$\mathbf{2.80} \text{ inches per hour for } \mathbf{60} \text{ minute duration}$$

4. Average runoff (Q) = CiA in c.f. per sec. (for initial sizing of leaching facility)

$$= 0.92 * 2.80 \text{ in/hr} * 0.30 \text{ acres}$$
$$= 0.8 \text{ c.f. per sec. for } 60 \text{ min duration}$$
$$\text{or } 46.8 \text{ c.f. per min. for } 60 \text{ min duration}$$

5. Infiltration rate of soils (permeability) from tables

$$= 0.70 \text{ gal per min. per s.f.} / 7.5 \text{ gal per c.f.}$$
$$= 0.09 \text{ c.f. per min. per s.f.}$$

6. Infiltration area required to leach average runoff

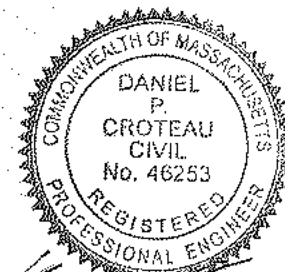
$$= (Q \text{ c.f. per sec.} * 60 \text{ sec per min.}) / \text{infiltration rate in c.f. per min. per s.f.}$$
$$= \mathbf{501} \text{ s.f. required}$$

7. Initial sizing of system (using 6 ft dia. leach pit) to meet the required infiltration area

$$\mathbf{2} \text{ six foot diameter leaching basin(s)} \quad \mathbf{6} \text{ feet deep}$$
$$\text{with } \mathbf{4.0} \text{ feet of stone all around}$$

8. Infiltration area, sidewalls only (actual)

$$= \# \text{ of structures} * \text{Diameter of system} * \pi * \text{depth of system}$$
$$= 2 \text{ basin(s)} * 14 \text{ feet} * \pi * 6 \text{ feet deep}$$
$$= \mathbf{528} \text{ s.f. provided}$$



A handwritten signature in black ink, appearing to read "D. P. Croteau", written over the bottom portion of the professional seal.

SYSTEM # Chatham Works - System 2

1. Area of contribution (A)

Impervious area:

Pavement Area

0 S.F. = 0.000 Acres

Roof Area

2390 S.F. = 0.055 Acres

Pervious area (Grass):

0 S.F. = 0.000 Acres

Total area =

2390 S.F. = **0.055 Acres**

2. Composite coefficient of runoff (C)

= (Impervious area * 0.98) + (Pervious area * 0.39) / Total area

= **0.98**

3. Rainfall intensity (i) from formula: $i = 230 / (\text{time of concentration [in minutes]} + 30)$

2.80 inches per hour for 60 minute duration

4. Average runoff (Q) = CiA in c.f. per sec. (for initial sizing of leaching facility)

= 0.98 * 2.80 in/hr * 0.05 acres

= 0.2 c.f. per sec. for 60 min duration

or 9.0 c.f. per min. for 60 min duration

5. Infiltration rate of soils (permeability) from tables

= 0.70 gal per min. per s.f. / 7.5 gal per c.f.

= 0.09 c.f. per min. per s.f.

6. Infiltration area required to leach average runoff

= (Q c.f. per sec. * 60 sec per min.) / infiltration rate in c.f. per min. per s.f.

= **97 s.f. required**

7. Initial sizing of system (using 6 ft dia. leach pit) to meet the required infiltration area

2 six foot diameter leaching basin(s) **3** feet deep

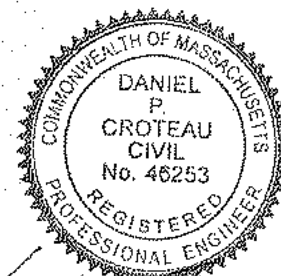
with **2.0** feet of stone all around

8. Infiltration area, sidewalls only (actual)

= # of structures * Diameter of system * pi * depth of system

= 2 basin(s) * 7 feet * pi * 3 feet deep

= **132 s.f. provided**



A handwritten signature in black ink, appearing to read "D. Croteau", written over the bottom portion of the professional seal.

SYSTEM # Chatham Works - System 1A - Abutting property for comparison

1. Area of contribution (A)

Impervious area:			
Pavement Area	5980 S.F. = 0.137	Acres	
Roof Area	0 S.F. = 0.000	Acres	
Pervious area (Grass):	<u>2270 S.F. = 0.052</u>	<u>Acres</u>	
Total area =	8250 S.F. = 0.189	Acres	

2. Composite coefficient of runoff (C)

$$= (\text{Impervious area} * 0.98) + (\text{Pervious area} * 0.39) / \text{Total area}$$
$$= \mathbf{0.82}$$

3. Rainfall intensity (i) from formula: $i = 230 / (\text{time of concentration [in minutes]} + 30)$

2.80 inches per hour for 60 minute duration

4. Average runoff (Q) = CiA in c.f. per sec. (for initial sizing of leaching facility)

$$= 0.82 * 2.80 \text{ in/hr} * 0.19 \text{ acres}$$
$$= 0.4 \text{ c.f. per sec. for 60 min duration}$$

or 26.0 c.f. per min. for 60 min duration

SYSTEM # Chatham Works - System 3 (for comparison with system 1A)

1. Area of contribution (A)

Impervious area:			
Pavement Area	3100 S.F. = 0.071	Acres	
Roof Area	460 S.F. = 0.011	Acres	
Pervious area (Grass):	<u>7460 S.F. = 0.171</u>	<u>Acres</u>	
Total area =	11020 S.F. = 0.253	Acres	

2. Composite coefficient of runoff (C)

$$= (\text{Impervious area} * 0.98) + (\text{Pervious area} * 0.39) / \text{Total area}$$
$$= \mathbf{0.58}$$

3. Rainfall intensity (i) from formula: $i = 230 / (\text{time of concentration [in minutes]} + 30)$

2.80 inches per hour for 60 minute duration

4. Average runoff (Q) = CiA in c.f. per sec. (for initial sizing of leaching facility)

$$= 0.58 * 2.80 \text{ in/hr} * 0.25 \text{ acres}$$
$$= 0.4 \text{ c.f. per sec. for 60 min duration}$$

or 24.7 c.f. per min. for 60 min duration

