Burlington Design Advisory Board
149 Church Street, City Hall
Burlington, VT 05401
www.burlingtonvt.gov/PZ/DAB
Phone: (802) 865-7188
Fax: (802) 865-7195

Matthew Bushey
Ron Wanamaker
Sean McKenzie
Steven Offenhartz
Todd Thomas
Philip Hammerslough, Alt.
Jeremy Gates, Alt.

DESIGN ADVISORY BOARD
Tuesday, April 28, 2015 at 3:00 PM
Conference Room 12, City Hall, Burlington, VT

Each applicant has about 10 minutes to present his/her application to the board within their allotted session time. ***Please note session times are approximate.***

Session I - 3:00-3:30 p.m.
15-0938SD; 380 Colchester Ave (RL, Ward 1E) Nathaniel Hayward
Change of use of primary dwelling from two residential units to three residential units. Subdivision of property into three separate lots.

The programs and services of the City of Burlington are accessible to people with disabilities.
Individuals who require special arrangements to participate are encouraged to contact the Department of Planning & Zoning at least 72 hours in advance so that proper accommodations can be arranged. For information call 865-7188 (TTY users: 865-7142).

EXISTING CONDITIONS PLAN

ZONING TABLE

ZONING DISTRICT: RL–LOW DENSITY RESIDENTIAL
CURRNET AND PROPOSED USE: DUPLEX AND ABOVE

	REQUIRED	EXISTING	PROPOSED
MIN LOT SIZE	6,000 SF	62,491 SF (1.43 AC.)	LOT 1: 48,961 SF (1.12 AC.) LOT 2: 6,065 SF (0.14 AC.) LOT 3: 7,465 SF (0.17 AC.)
MIN LOT FRONTAGE	60'	289.56'	LOT 1: 79.00' LOT 2: 65.00' LOT 3: 65.00'
MAX LOT COVERAGE	35%	4.94% (3,088 SF)	LOT 1: 9.98% (4,885 SF) LOT 2: 12.35% (749 SF) LOT 3: 5.92% (442 SF)
MAX BUILDING HEIGHT	35'	27.3'	(4) LOT 1: 27.3' LOT 2: N/A LOT 3: N/A
MIN/MAX FRONT YARD SETBACK (1)	LOT 1: 15.7' (EXIST.) LOT 2: 17.2' +/- 5' LOT 3: 20.25' +/- 5'	LOT 1: 15.7' (EXIST.) LOT 2: N/A LOT 3: N/A	LOT 1: 15.7' LOT 2: N/A LOT 3: N/A
MIN SIDE YARD SETBACK (2)	LOT 1: 8.0' LOT 2: 7.0' LOT 3: 7.0'	LOT 1: 65.94' (EXIST.) LOT 2: N/A LOT 3: N/A	LOT 1: 12.33' LOT 2: N/A LOT 3: N/A
MIN REAR YARD SETBACK (3)	LOT 1: 66.6' (EXIST.) LOT 2: 31.0' LOT 3: 32.0'	LOT 1: 177.0' (EXIST.) LOT 2: N/A LOT 3: N/A	LOT 1: 160.3' LOT 2: N/A LOT 3: N/A

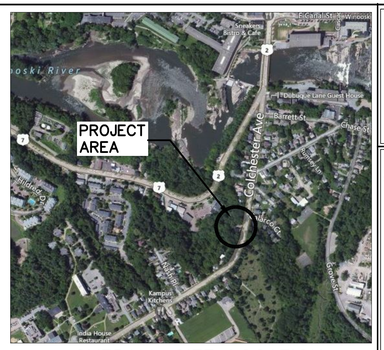
NOTES

(1) FRONT YARD BASED ON AVG. OF 2 ADJACENT LOTS ON BOTH SIDES.
- LOT 1: EXISTING BUILDING AND EXISTING 15.7' SETBACK USED.
- LOT 2:
  - ADJACENT PROPERTIES SOUTH: 352 COLCHESTER AVE. = 21.7'; 338 COLCHESTER AVE. = 15.4'
  - ADJACENT PROPERTIES NORTH: 380 COLCHESTER AVE. = 15.7'; 406 COLCHESTER AVE. = 16.0'; AVG = 17.2'
- LOT 3:
  - ADJACENT PROPERTIES SOUTH: 380 COLCHESTER AVE. = 15.7'; 352 COLCHESTER AVE. = 21.7'
  - ADJACENT PROPERTIES NORTH: 406 COLCHESTER AVE. = 16.0'; 408 COLCHESTER AVE. = 27.6'; AVG = 20.25'

(2) SIDE YARD BASED ON 10% OF LOT WIDTH
- LOT 1: PROP. LOT WIDTH = 79.4' x 10% = 7.94' (USE 8')
- LOT 2: PROP. LOT WIDTH = 65.0' x 10% = 6.5' (USE 7')
- LOT 3: PROP. LOT WIDTH = 65.0' x 10% = 6.5' (USE 7')

(3) REAR YARD BASED ON 25% OF LOT DEPTH
- LOT 1: PROP. LOT DEPTH = 266.4' x 25% = 66.6'
- LOT 2: PROP. LOT DEPTH = 121.71' x 25% = 30.4' (USE 31')
- LOT 3: PROP. LOT DEPTH = 126.85' x 25% = 31.7' (USE 32')

(4) BUILDING HEIGHT CALCULATION
- MIDPOINT OF RISE OF HIGHEST GABLE = 525.5 +/–
- AVERAGE ELEVATION WITHIN A 10FT. PERIMETER OF THE BUILDING = 498.2
- HEIGHT = 525.5 – 498.2 = 27.3'



OVERALL SITE LOCATION

0 300 600 1200
SCALE: 1" = 600'
N

LEGEND

CLEAN OUT	WATERCOURSE
MANHOLE	TREELINE
CATCH BASIN	FENCE
STORM MANHOLE	CONTOUR
TAPPING SLEEVE AND VALVE	SWALE
CULVERT	STONE WALL
CONCRETE HEADWALL	EXISTING PROPERTY LINE
FLARED END SECTION	PROPOSED PROPERTY LINE
GATE VALVE	EDGE OF PAVEMENT
HYDRANT	SANITARY SEWER LINE
WATER SHUT OFF	STORM LINE
WELL	WATER LINE
LIGHT POLE	UNDERGROUND ELECTRIC
UTILITY POWER POLE	OVERHEAD ELECTRIC
SOIL BORING	UNDERGROUND TELEPHONE
TEST PIT	GAS LINE
SIGN	UNDER DRAIN
SPOT ELEVATION	RIGHT–OF–WAY LINE
TREE	SETBACK
SURVEY POINT	AREAS OF STEEP SLOPES (>15%)
HIE / AdB	SOILS BOUNDARY

GENERAL NOTES

1. THIS PLAN IS BASED ON A FIELD SURVEY PERFORMED BY RICHARD W. BELL LAND SURVEYING, INC., DATED JANUARY, 2014. BOUNDARY INFORMATION SHOWN HEREON TAKEN FROM A BOUNDARY SURVEY PERFORMED BY RICHARD W. BELL LAND SURVEYING, INC. DATED JANUARY, 2014. REFER TO PLAN ENTITLED "EXISTING CONDITIONS PLAN – GHISLAINE L. LEVEILLE (SHEET C1)", PREPARED BY RICHARD W. BELL LAND SURVEYING, INC., AND DATED JANUARY 2014.

2. THE PROPERTY LINES, EASEMENTS AND OTHER REAL PROPERTY DESCRIPTIONS PROVIDED IN THIS PLAN ARE FOR THE USE OF THE CITY OF BURLINGTON AND FOR LOCAL PERMITTING ONLY. THEY DO NOT DEFINE LEGAL RIGHTS OR MEET LEGAL REQUIREMENTS FOR A LAND SURVEY AS DESCRIBED IN VT, AND SHALL NOT BE USED IN LIEU OF A SURVEY AS THE BASIS OF ANY LAND TRANSFER OR ESTABLISHMENT OF ANY PROPERTY RIGHT.

3. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES. EXISTING UTILITY LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITY CONFLICTS. ALL DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT, OWNER, AND ENGINEER. THE CONTRACTOR SHALL CONTACT DIG SAFE A MINIMUM OF 48 HOURS PRIOR TO ANY CONSTRUCTION.

SITE SOILS

SYMBOL	DESCRIPTION	HYDROLOGIC SOIL GROUP
AdB	ADAMS AND WINDSOR LOAMY SANDS, 5% TO 12% SLOPES	A
HIE	HARTLAND VERY FINE SANDY LOAM 25% TO 60% SLOPES	B

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2/27/2015

Stamp

Rev. No.	Description	Chkd.

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A Burlington, VT 05401
tel. 802.863.6225 • fax 802.863.6306
85 Mechanic Street, Suite 330A Lebanon, NH 03766
tel. 603.442.3333 • fax 603.442.3331
www.engineeringventures.com

Client: NATHANIEL HAYWARD
302 Mountain View Drive
Colchester, VT 05446
(802) 578–5078

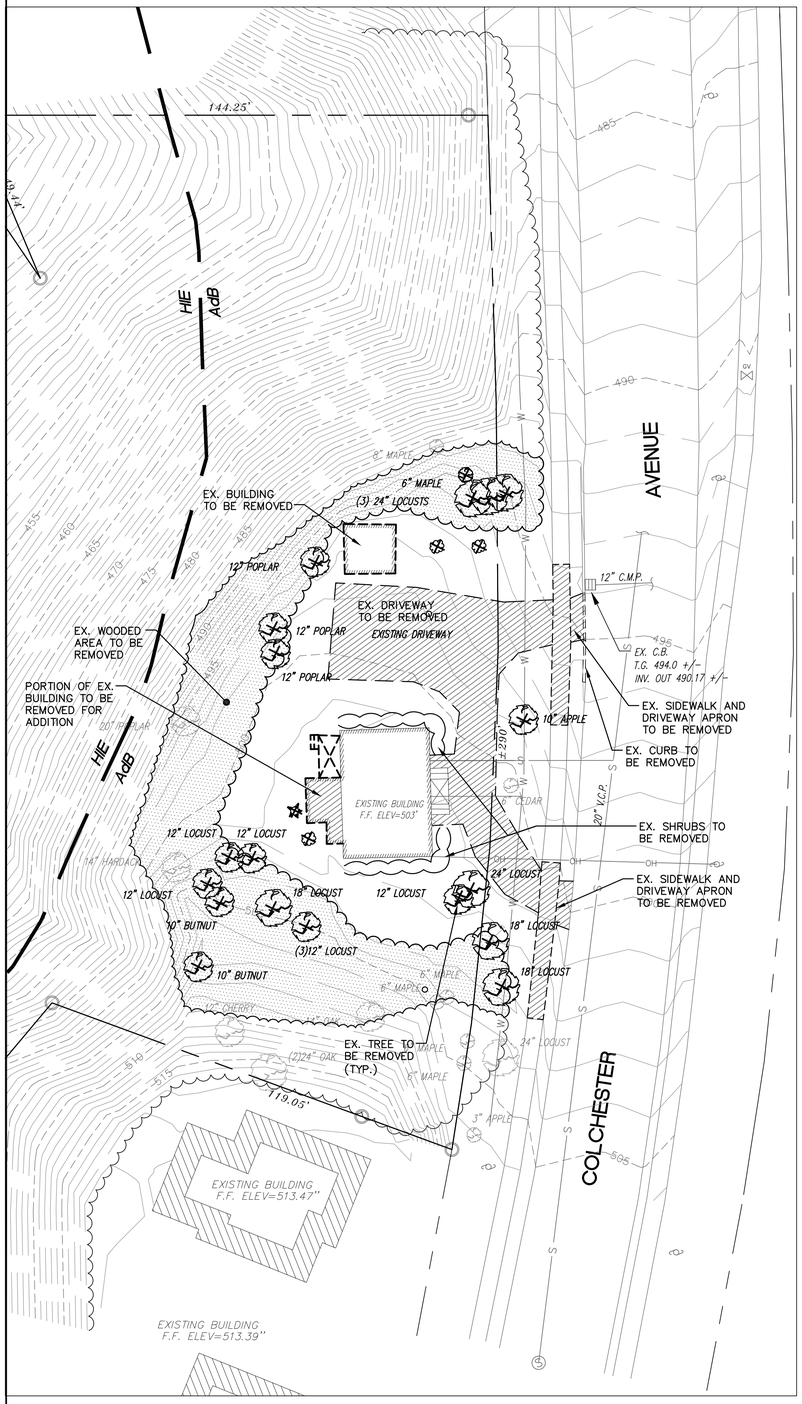
Sheet Title: Existing Conditions Plan

Project Title: 380 Colchester Avenue
Burlington, VT

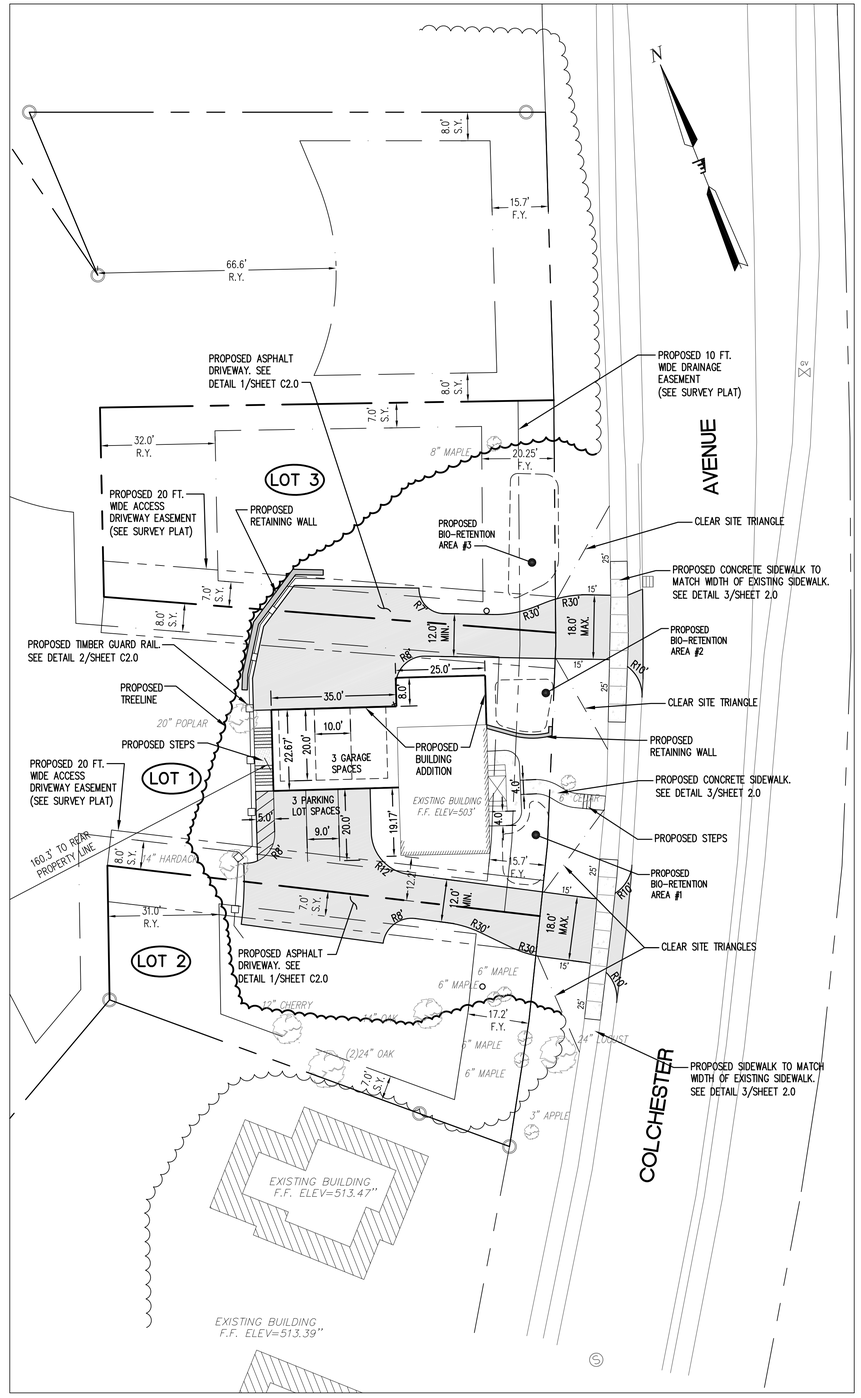
Designed By:	MD/KW
Checked By:	KW
Drawn By:	MD
Scale:	1" = 20'
Date:	02/27/15

C1.0

EV#14062



DEMOLITION PLAN



SITE LAYOUT PLAN

GRAPHIC SCALE

20 0 10 20 40 80

1 inch = 20 ft.
for sheet size 24" x 36"

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REVIEW
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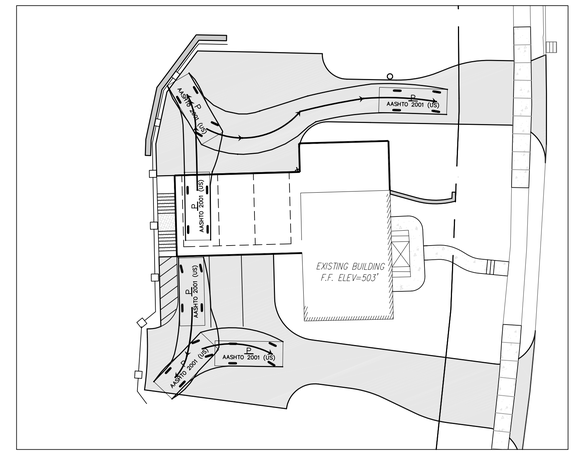

TURNING MOVEMENT EXHIBIT

SCALE: 1" = 20'

PROPOSED SURFACES LEGEND

- PROPOSED PAVEMENT
- PROPOSED CONCRETE SIDEWALK

DEMOLITION LEGEND

- EXISTING IMPERVIOUS SURFACE TO BE REMOVED
- EXISTING WOODS TO BE REMOVED
- EXISTING TREE TO BE REMOVED

LEGEND

EXISTING FEATURES		PROPOSED FEATURES
c/o	CLEAN OUT	c/o
	MANHOLE	
	CATCH BASIN	
	STORM MANHOLE	
	WATER SHUT OFF	
	LIGHT POLE	
	UTILITY POWER POLE	
+ 100.00	SPOT ELEVATION	+ 100.5
	TREE	
	TREELINE	
100	CONTOUR	100
	PROPERTY LINE	
	EASEMENT	
	EDGE OF PAVEMENT	
S	SANITARY SEWER LINE	S
ST	STORM LINE	ST
W	WATER LINE	W
UE	UNDERGROUND ELECTRIC	UE
OH	OVERHEAD ELECTRIC	OH
UT	UNDERGROUND TELEPHONE	UT
G	GAS LINE	G
	RIGHT-OF-WAY LINE	
	REQUIRED SETBACK	
	PROPOSED BUILDING	

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Client: NATHANIEL HAYWARD
302 Mountain View Drive
Apt. 100
Colchester, VT 05446
(802) 578-3078

Sheet Title: Demolition Plan / Site Layout Plan

Project Title: 380 Colchester Avenue
Burlington, VT

Designed By:	MD/KW
Checked By:	KW
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Scale:	1" = 20'
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C1.1

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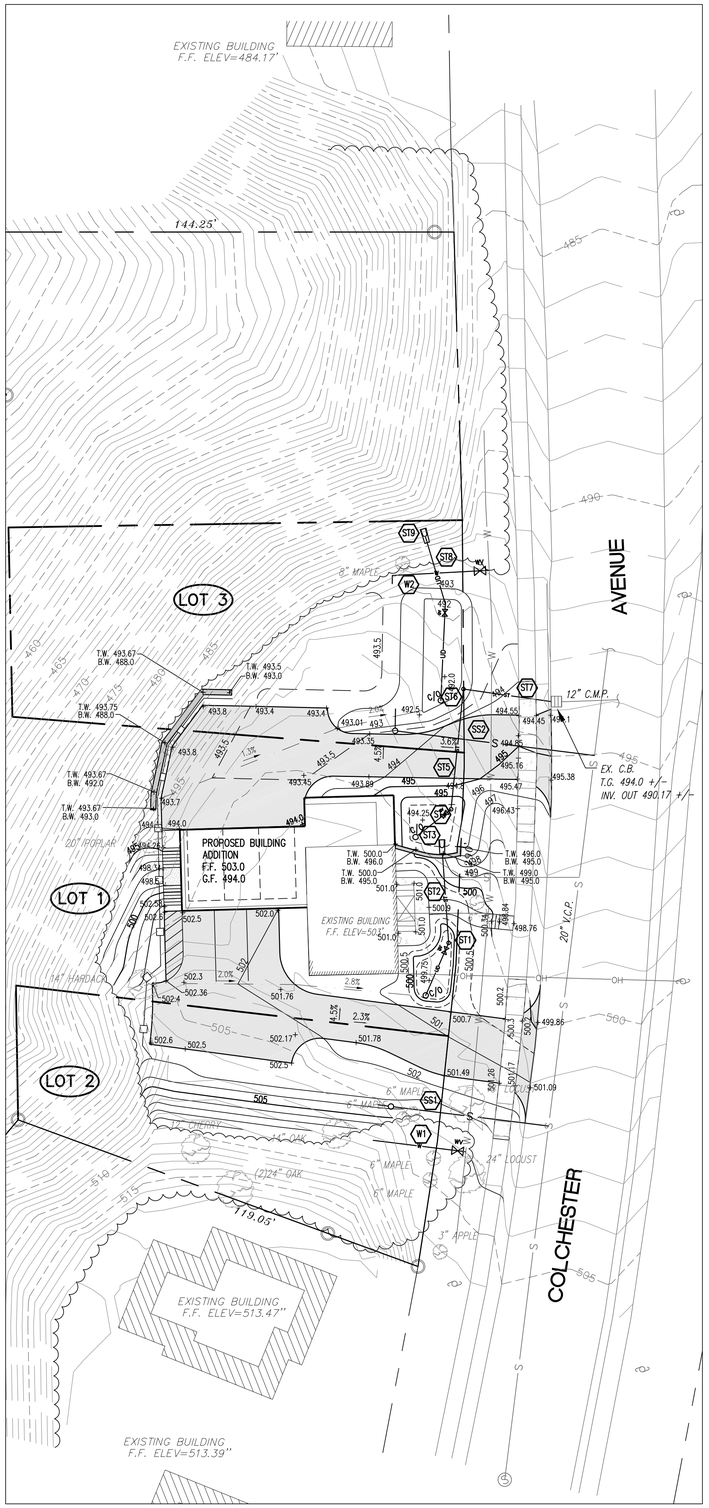
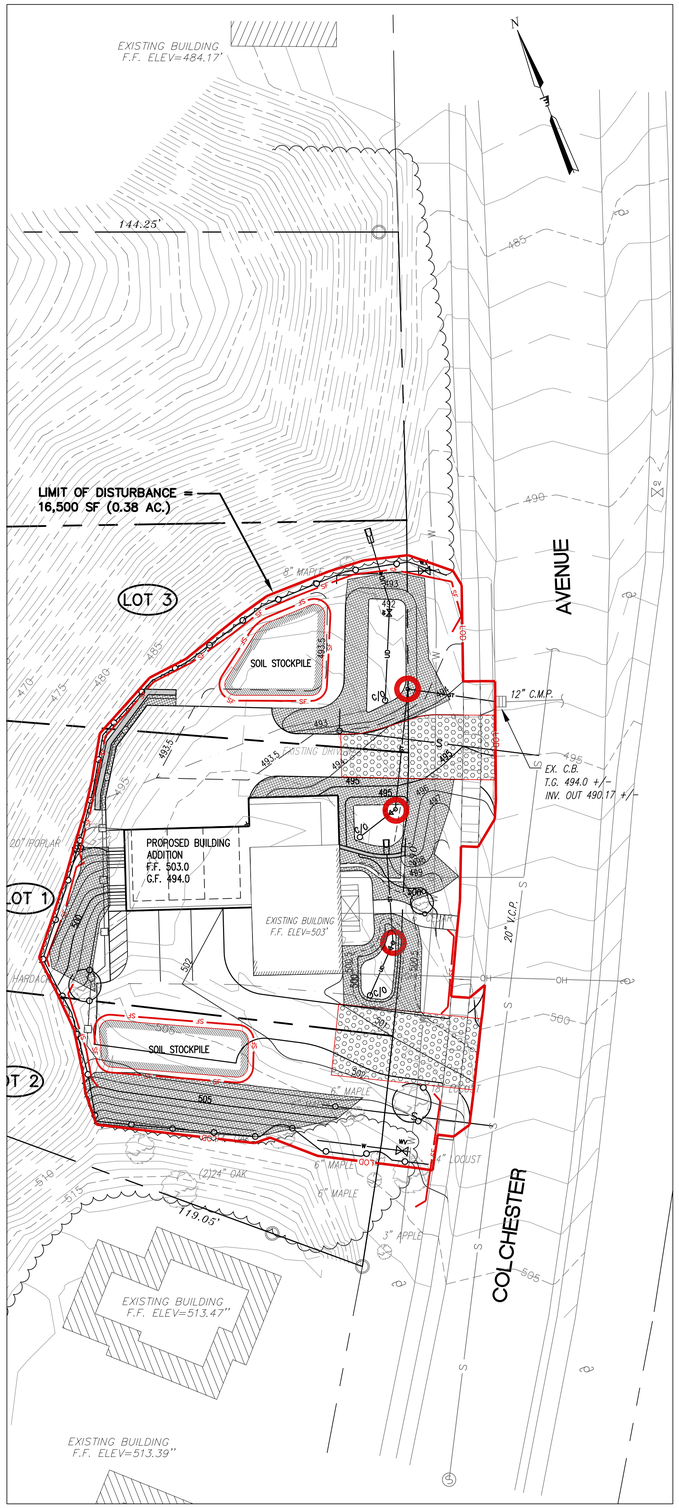


GRADING, UTILITY, AND STORMWATER MANAGEMENT PLAN



EROSION PREVENTION AND SEDIMENTATION CONTROL PLAN

STORM SEWER NOTES

- ST1 — PROP 6" PVC RISER FOR BIO-RETENTION AREA #1 OUTLET
  RIM: 500.25
  INV. OUT: 496.50
- ST2 — 27 LF OF 8" PVC AT 1.85%
  UPSTREAM INV: 496.50
  DOWNSTREAM INV: 496.00
- ST3 — PROP FLARED END SECTION
  INV. 496.00
- ST4 — PROP 6" PVC RISER FOR BIO-RETENTION AREA #2 OUTLET
  RIM: 494.75
  INV. OUT: 490.50
- ST5 — 34 LF OF 8" PVC AT 0.59%
  UPSTREAM INV: 490.50
  DOWNSTREAM INV: 490.30
- ST6 — PROP 6" PVC RISER FOR BIO-RETENTION AREA #3 OUTLET
  RIM: 492.50
  INV. IN: 490.30
  INV. OUT: 490.30
- ST7 — 25 LF OF 8" PVC AT 0.52%
  UPSTREAM INV: 490.30
  DOWNSTREAM INV: 490.17
- ST8 — PORTION OF UNDERDRAIN DOWNSLOPE OF GATE VALVE
  22 LF OF 8" PVC AT 1.0%
  UPSTREAM INV: 488.92
  DOWNSTREAM INV: 488.70
- ST9 — PROP FLARED END SECTION
  INV. 488.70

SANITARY SEWER NOTES

- SS1 — 48 LF +/- OF 4" PVC SANITARY SEWER SERVICE FOR FUTURE CONNECTION TO BUILDING ON LOT 2 (2.0% MINIMUM SLOPE). PROVIDE ADEQUATE COVER ON PIPE AS SHOWN IN DETAIL PROVIDE CLEANOUT AND CAP ON END OF PIPE UNTIL FUTURE CONNECTION IS MADE.
- SS2 — 60 LF +/- OF 4" PVC SANITARY SEWER SERVICE FOR FUTURE CONNECTION TO BUILDING ON LOT 3 (2.0% MINIMUM SLOPE). PROVIDE ADEQUATE COVER ON PIPE AS SHOWN IN DETAIL PROVIDE CLEANOUT AND CAP ON END OF PIPE UNTIL FUTURE CONNECTION IS MADE

WATER NOTES

- W1 — 26 LF +/- OF 3/4" TYPE 'K' COPPER WATER SERVICE FOR FUTURE CONNECTION TO BUILDING ON LOT 2. PROVIDE ADEQUATE COVER ON PIPE AS SHOWN IN DETAIL. PROVIDE PLUG ON END OF PIPE UNITL FUTURE CONNECTION IS MADE
- W2 — 30 LF +/- OF 3/4" TYPE 'K' COPPER WATER SERVICE FOR FUTURE CONNECTION TO BUILDING ON LOT 3. PROVIDE ADEQUATE COVER ON PIPE AS SHOWN IN DETAIL. PROVIDE PLUG ON END OF PIPE UNITL FUTURE CONNECTION IS MADE

GRAPHIC SCALE

20 0 10 20 40 80

1 inch = 20 ft.
for sheet size 24" x 36"

GRADING PLAN LEGEND

EXISTING FEATURES		PROPOSED FEATURES
c/o	CLEAN OUT	c/o
Ⓢ	MANHOLE	Ⓢ
	CATCH BASIN	
Ⓓ	STORM MANHOLE	Ⓓ
WV	TAPPING SLEEVE AND VALVE	WV
	FLARED END SECTION	
	GATE VALVE	
	HYDRANT	
	WATER SHUT OFF	
W	WELL	W
	LIGHT POLE	
	UTILITY POWER POLE	
SB 1	SOIL BORING	SB 1
TP 1	TEST PIT	TP 1
	SIGN	
+ 100.00	SPOT ELEVATION	+100.5
	TREE	
	WATERCOURSE	
	TREELINE	
X	FENCE	X
	CONTOUR	100
	SWALE	
	STONE WALL	
	PROPERTY LINE	
	EDGE OF PAVEMENT	
S	SANITARY SEWER LINE	S
ST	STORM LINE	ST
W	WATER LINE	W
UE	UNDERGROUND ELECTRIC	UE
OH	OVERHEAD ELECTRIC	OH
UT	UNDERGROUND TELEPHONE	UT
G	GAS LINE	G
UD	UNDER DRAIN	UD
	RIGHT-OF-WAY LINE	
	SETBACK	
	SILT FENCE	SF
	PROPOSED BUILDING	

EROSION PREVENTION AND SEDIMENT CONTROL STRUCTURE LEGEND

EROSION PREVENTION AND SEDIMENT CONTROL STRATEGY
THE FOLLOWING TECHNIQUES WILL BE UTILIZED AS PART OF A SEDIMENT AND EROSION CONTROL PROGRAM. THE SEDIMENT AND EROSION CONTROL PROGRAM WILL BE IMPLEMENTED IN STAGES. CERTAIN ITEMS FROM ONE STAGE WILL LIKELY OVERLAP OR TAKE PLACE CONCURRENTLY WITH ITEMS FROM OTHER STAGES.

LOD — LIMIT OF DISTURBANCE
DISTURBANCE LIMITS TO BE MARKED IN THE FIELD WITH ORANGE RIBBON, CONSTRUCTION FENCE, OR CHAIN LINK FENCE IN EACH WORK AREA, PRIOR TO EARTH DISTURBANCE IN THAT AREA. TOTAL LIMIT OF DISTRUBANCE IS 0.38 AC.

TEMPORARY INLET PROTECTION
INSTALL AS INDICATED ON PLANS. STONE TO BE REMOVED AND REPLACED WITH CLEAN STONE WHEN SEDIMENT REACHES ≤ 1/2 DEPTH OF STONE. REMOVE ALL SEDIMENT IF COLLECTED IN STRUCTURE AS SOON AS POSSIBLE. FIBER ROLLS MAY BE USED AS AN ALTERNATIVE TO CRUSHED STONE. SEE DETAIL 2/SHEET 2.2.

SF — SILT FENCING
THIS STRUCTURAL MEASURE IS A TEMPORARY BARRIER OF GEOTEXTILE FABRIC USED TO INTERCEPT SEDIMENT LADEN RUNOFF FROM SMALL DRAINAGE AREAS OF DISTURBED SOIL. IT IS INSTALLED ALONG THE PERIMETER OF IMPACTED AREAS AND ALONG THE BASE OF THE FILL SLOPES. SILT FENCE IS TO BE INSTALLED PARALLEL TO SITE CONTOURS. ADDITIONALLY, WHEN DESIGNATED ALONG THE LIMITS OF DISTURBANCE, INSTALL CONSTRUCTION FENCE BEHIND THE SILT FENCE. SILT FENCE IS EFFECTIVE IN REDUCING STORMWATER RUNOFF VELOCITIES, ASSISTING IN THE DEPOSITION OF TRANSPORTED SEDIMENT LOAD AND PREVENTING THE MIGRATION OF ERODED SOIL PARTICLES ONTO ADJACENT AREAS. THESE WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED. SEE DETAIL 3/SHEET 2.2

STABILIZED CONSTRUCTION ENTRANCE.
THIS STRUCTURAL MEASURE IS A STABILIZED PAD OF AGGREGATE UNDERLAIN WITH FILTER FABRIC LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY, SIDEWALK, OR PARKING AREA. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY OR STREETS. THIS WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED. ONCE REMOVED, THE IMPACTED AREA SHALL BE STABILIZED WITH PAVEMENT, MULCH OR VEGETATION(AS INDICATED). SEE DETAIL 4/SHEET 2.2.

EROSION CONTROL NETTING.
THIS STRUCTURAL MEASURE IS INSTALLED IN AREAS THAT HAVE SLOPES GREATER THAN 3:1 AND OTHER LOCATIONS INDICATED ON THIS PLAN TO STABILIZE THE SLOPE AND REDUCE THE EROSION POTENTIAL. THE NETTING IS TYPICALLY IMPREGNATED WITH GRASS SEED AND SOMETIMES STAPLED TO THE EXPOSED SOIL. THESE WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED. THE NETTING IS ALSO USED TO LINE PROPOSED CHANNELS TO PREVENT EROSIVE CONDITIONS (SEE CHANNEL DETAILS)

TREE PROTECTION FENCING
THIS STRUCTURAL MEASURE IS INSTALLED AROUND EXISTING TREES TO PREVENT CONSTRUCTION ACTIVITIES FROM IMPACTING THE TREE, INCLUDING THE DRIPLINE AND ROOTS. THIS FENCING IS TYPICALLY JUST ORANGE CONSTRUCTION FENCING (SNOW FENCE) AND SHALL BE INSTALLED ACCORDING TO THE DETAIL SHOWN – SEE DETAIL 6/ SHEET 2.2

SF — SOIL STOCKPILE
APPROXIMATE SOIL STOCKPILE AREAS.
THESE ARE APPROVED LOCATIONS WHERE TOPSOIL AND OTHER SOIL MATERIALS MAY BE STORED. THESE STOCKPILES WILL BE PROTECTED FROM EROSION BY A NUMBER OF METHODS, INCLUDING INSTALLING SILT FENCING AROUND THE DOWN GRADIENT PERIMETER OF THE STOCKPILE AND SEEDING AND MULCHING THE STOCKPILE WHEN NOT IN USE FOR MORE THAN FIVE DAYS. CONTRACTOR SHALL SUBMIT PROPOSED AREA FOR ENGINEER APPROVAL.

GENERAL EROSION CONTROL NOTES

1. APPLICANT WILL CALL (802) 540-1748 OR EMAIL mmoir@burlingtonvt.us AT LEAST 24 HOURS PRIOR TO INITIATING EARTH DISTURBANCE AND SUBMIT THE NAME AND CONTACT (CELL PHONE AND EMAIL) OF THE EROSION CONTROL COORDINATOR FOR THE PROJECT.
2. APPLICANT SHALL POST NOTICE FOR WORK IN A VISIBLE LOCATION.
3. A COPY OF THE EPSC PLAN, WITH ALL AMENDMENTS AND ASSOCIATED REPORTS, SHALL BE KEPT ON SITE DURING CONSTRUCTION, AND SHALL BE MADE AVAILABLE TO AUTHORIZED REPRESENTATIVES OF THE CITY OF BURLINGTON UPON REQUEST.
4. DISTURBANCE LIMITS ARE TO BE MARKED, AND THE FOLLOWING MANAGEMENT PRACTICES INSTALLED, PRIOR TO BEGINNING EARTH WORK IN ANY GIVEN AREA; SILT FENCE AND TREE PROTECTION FENCING.
5. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE "VERMONT HANDBOOK FOR SOIL EROSION AND SEDIMENT CONTROL ON CONSTRUCTION SITES," AND BURLINGTON ORDINANCE.
6. SEDIMENT SHALL NOT ENTER SURFACE WATER BODIES AND CITY CONVEYANCE INFRASTRUCTURES.
7. ALL SEDIMENT SHALL BE REMOVED FROM THE CITY RIGHT-OF-WAY (SIDEWALKS AND ROADWAYS) BY THE END OF EACH WORK DAY.
8. DURING THE NON-WINTER CONSTRUCTION SEASON (APRIL 15-NOVEMBER 1): AFTER AN INITIAL 14-DAY PERIOD OF INITIAL DISTURBANCE, TEMPORARY OR PERMANENT STABILIZATION (MULCHING, EROSION CONTROL MATTING OR TARPS FOR STOCKPILES, OR OTHER APPROVED METHOD) OF EXPOSED AREAS AND STOCKPILES SHALL OCCUR AT THE END OF EACH WORK DAY UNLESS:
   A. EARTHWORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO LIQUID PRECIPITATION FORECAST FOR THE NEXT 24 HOURS; OR
   B. IF WORK IS OCCURRING IN A SELF CONTAINED EXCAVATION (NO OUTLET) WITH A DEPTH OF 2 FEET OR GREATER (E.G. HOUSE FOUNDATION EXCAVATION OR UTILITY TRENCHES)
9. DURING THE WINTER CONSTRUCTION PERIOD FROM NOVEMBER 1 TO APRIL 15, ANY NEW DISTURBANCE SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED (MULCHING, EROSION CONTROL MATTING OR TARPS FOR STOCKPILES, OR OTHER APPROVED METHOD) AT THE END OF EACH WORK DAY UNLESS:
   A. EARTHWORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO LIQUID PRECIPITATION FORECAST FOR THE NEXT 24 HOURS; OR
   B. IF WORK IS OCCURRING IN A SELF CONTAINED EXCAVATION (NO OUTLET) WITH A DEPTH OF 2 FEET OR GREATER (E.G. HOUSE FOUNDATION EXCAVATION OR UTILITY TRENCHES)
10. THE PERIMETER OF THE SITE AND ALL BMPs SHALL BE INSPECTED AT THE END OF EACH WORKDAY TO ENSURE THAT SEDIMENT WILL NOT LEAVE THE SITE. IF SEDIMENT HAS BEEN CONVEYED BEYOND THE SITE BOUNDARY, IT SHALL BE SWEPT UP OR OTHERWISE REMOVED AND DEPOSITED ON-SITE IN AN UP-GRADIENT AREA AT THE END OF EACH WORK DAY.
11. THE OWNER AND HIS/HER REPRESENTATIVE SHALL ABIDE BY THE BEST MANAGEMENT PRACTICES INDICATED IN THIS PLAN AND CONDITIONS IN "THE VERMONT DEC LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL (2006)".
12. IF SOILS WILL BE EXPOSED AFTER NOVEMBER 1ST AND WINTER CONSTRUCTION HAS NOT BEEN PERMITTED, THE PROJECT WILL NOTIFY THE BURLINGTON DPW PRIOR TO OCTOBER 15TH. IF THE PROJECT IS COMPLETED DURING THE WINTER MONTHS, AN ADDITIONAL INSPECTION WILL BE REQUIRED TO ENSURE THAT THE SITE IS STABILIZED FOR THE WINTER.
13. WITHIN 48 HOURS OF REACHING FINAL GRADING, THE EXPOSED SOIL SHALL BE SEEDED AND MULCHED OR COVERED WITH EROSION CONTROL MATTING (FOR SLOPES STEEPER THAN 3:1 OR HIGH WIND PRONE AREAS).
14. THE OWNER SHALL CONTACT THE BURLINGTON DPW TO SCHEDULE A STABILIZATION INSPECTION WHEN SITE WORK AND STABILIZATION MEASURES (SEEDING AND MULCHING OR MATTING) HAVE BEEN INSTALLED.

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Client: NATHANIEL HAYWARD
302 Mountain View Drive
Colchester, VT 05446
(802) 578-3078

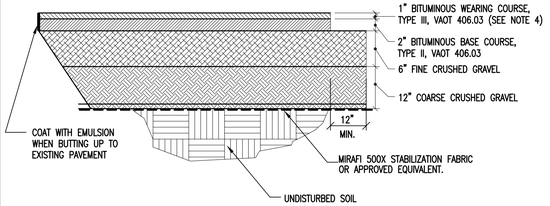
Sheet Title: Grading, Utility, and Erosion Prevention & Sedimentation Control Plan (EPSC Plan)

Project Title: 380 Colchester Avenue
Burlington, VT

Designed By:	MD/KW
Checked By:	KW
Drawn By:	MD
Scale:	1" = 20'
Date:	02/27/15

C1.2

EV#14062

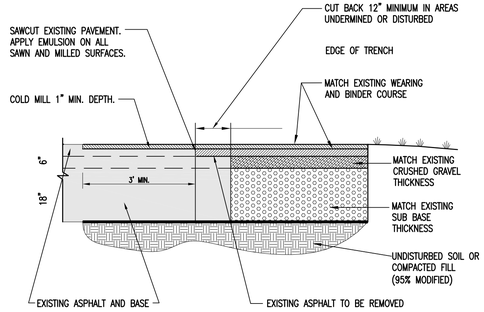


PAVEMENT PATCHING NOTES:

1. IN ALL PAVEMENT AREAS TO BE PATCHED, SAW CUT AND REMOVE EXISTING PAVEMENT.
2. EXCAVATE BASE MATERIAL AND SUB-BASE MATERIAL IF INADEQUATE.
3. COMPACT ALL FILL MATERIAL TO 95% OPTIMUM DENSITY.
4. TOP COURSE TO BE TYPE IV FOR BASKETBALL AREA.
5. ADD. ALTERNATE #2 ENTAILS REPLACEMENT OF LOWER 2" OF GRAVEL IN PAVEMENT SECTION WITH 2" EXTRUDED POLYSTYRENE BOARD INSULATION.

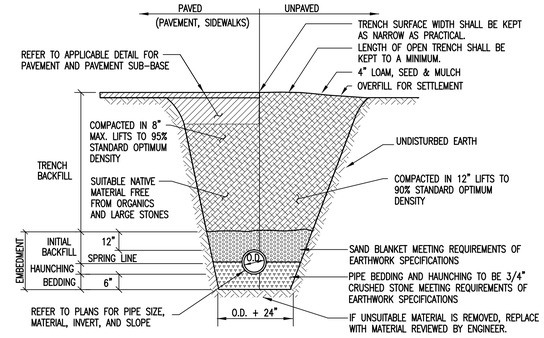
TYPICAL PAVEMENT DETAIL

SCALE: NONE (1)



ASPHALT PAVEMENT TRENCH PATCH DETAIL

SCALE: NONE (4)

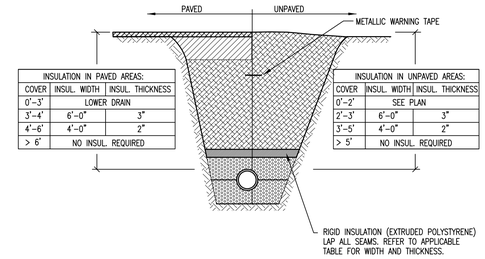


STORM DRAIN TRENCH NOTES

1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
3. WHEN APPLICABLE, INSTALL PIPE WITH BELL ENDS DOWN SLOPE. PREVENT SEDIMENT FROM ENTERING NEW STORM DRAIN SYSTEM DURING CONSTRUCTION.
4. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
5. PROVIDE 6' OF COVER OVER PIPE IN PAVED AREAS AND 5' OF COVER OVER PIPE IN UNPAVED AREAS. REFER TO INSULATION DETAIL FOR AREAS WHERE PROPER COVER CAN NOT BE ACHIEVED.

TYPICAL STORM DRAIN TRENCH DETAIL

SCALE: NONE (6)



INSULATION IN PAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'-3'	LOWER DRAIN	
3'-4'	6'-0"	3"
4'-6'	4'-0"	2"
> 6'	NO INSUL. REQUIRED	

INSULATION IN UNPAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'-2'	SEE PLAN	
2'-3'	6'-0"	3"
3'-5'	4'-0"	2"
> 5'	NO INSUL. REQUIRED	

TRENCH NOTES

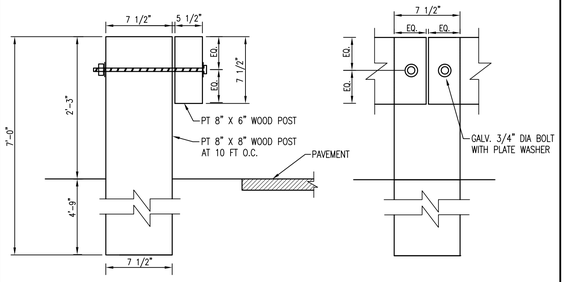
1. REFER TO APPLICABLE TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.

INSULATION OVER SHALLOW DRAIN DETAIL

NOT TO SCALE (9)

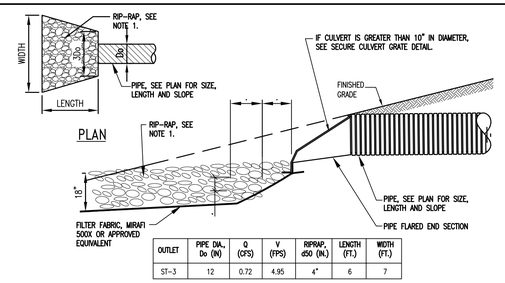
PLANT LIST

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
SHRUBS					
IV	8	Ilex verticillata	Winterberry	30-36" high	B&B, Plant 36" o.c.
SA	5	Splraea alba	Meadowsweet	24-30" high	B&B, Plant 36" o.c.
SD	6	Salix discolor	Pussy Willow	24-30" high	B&B, Plant 36" o.c.
PERENNIALS					
HS	21	Hemerocallis 'Stella Doro'	Stella Dora Daylily	1 Gal.	C.G. Plant 18" o.c.
SN	36	Sysyrinchium angustifolium	Pointed Blue-Eyed Grass	1 Gal.	C.G. Plant 12" o.c.
TC	55	Tiarella Cordifolia	Foamflower	4" Pot	C.G. Plant 8" o.c.



TIMBER GUARD RAIL

SCALE: NONE (2)



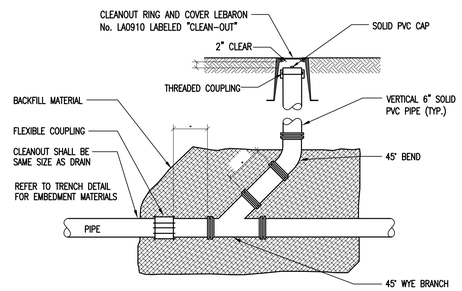
OUTLET	PIPE DIA., Do (IN)	Q (CFS)	V (FPS)	RIPRAP, d50 (IN.)	LENGTH (FT.)	WIDTH (FT.)
ST-3	12	0.72	4.95	4"	6	7

FLARED END SECTION AND STONE OUTFALL NOTES

1. RIP-RAP SHALL BE TYPE II STONE FILL (V.A.O.T.) REFER TO PLAN FOR LIMITS. THE PLAN WILL LIST THE DEPTH OF STONE FILL AND THE FOLLOWING DIMENSIONS

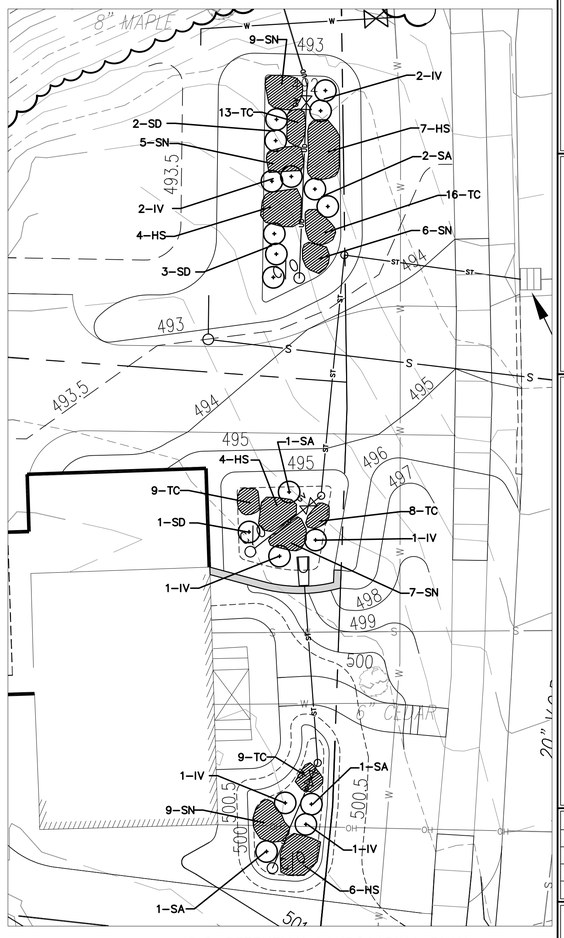
FLARED END SECTION DETAIL

SCALE: NONE (5)



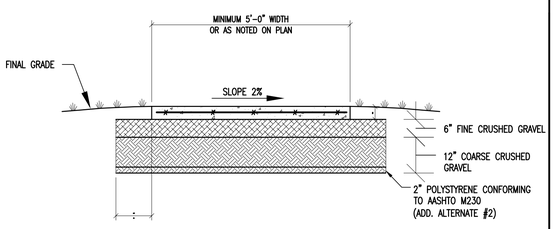
STORM SEWER CLEANOUT DETAIL

SCALE: NONE (7)



BIO-RETENTION LANDSCAPING PLAN

SCALE: 1"= 10' (7)

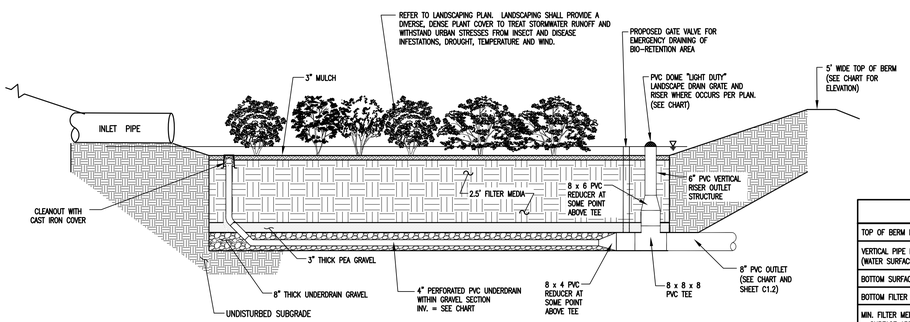


CONCRETE SIDEWALK NOTES:

1. CONCRETE WORK TO COMPLY WITH ACI 302.IR04 AND PROJECT SPECIFICATIONS.
2. PLACE A TOOLED JOINT 1/8" WIDE AND AT LEAST 1/3 OF THE DEPTH, TYPICALLY AT INTERVALS MATCHING THE SIDEWALK WIDTH, OR AS NOTED ON PLANS (NOT TO EXCEED 10'-0").
3. PLACE EXPANSION JOINT AS INDICATED ON PLANS, NOT TO EXCEED 20'-0" MAX
4. REFER TO SHEET L100 AND LANDSCAPE SPECIFICATIONS FOR AREAS OF EXPOSED AGGREGATE OR COLORING.
5. BROOM FINISH WITH SMOOTH TROWELED EDGES. TREAT WITH SILANE-SILOXANE OR EQUAL.
6. DECORATIVE SURFACE TREATMENT TO COMPLY WITH SECTION 8.13 OF AC1 302.
7. WHERE SIDEWALK IS ADJACENT TO ENTRY/EXIT DOOR PADS WITH FROST WALL FOUNDATIONS, SIDEWALK SHALL BE DOWELED TO PAD WITH 24" LONG #4 DOWELS (CENTERED) AT 1'-6" oc (PORTION OF DOWEL IN SIDEWALK TO BE GREASED).
8. WHERE SIDEWALK IS ADJACENT TO CURB, BOLLARD OR OTHER HARD FEATURE, INSTALL 1/2" EXPANSION MATERIAL (FULL DEPTH OF SIDEWALK), BETWEEN FEATURE AND SIDEWALK.
9. ADD. ALTERNATE #2 ENTAILS REPLACEMENT OF LOWER 2" OF GRAVEL IN PAVEMENT SECTION WITH 2" EXTRUDED POLYSTYRENE BOARD INSULATION.

CONCRETE SIDEWALK DETAIL FOR TRAFFICKED AREAS

SCALE: NONE (3)



	BIO-RET AREA #1	BIO-RET AREA #2	BIO-RET AREA #3
TOP OF BERM ELEV	500.5	495.0	493.0
VERTICAL PIPE RISER ELEV / (WATER SURFACE ELEV)	500.25	494.75	492.5
BOTTOM SURFACE ELEV	499.75	494.25	492.0
BOTTOM FILTER MEDIA ELEV	497.25	491.75	489.5
MIN. FILTER MEDIA SURFACE AREA (SF)	128	135	307
BOTTOM OF PEA GRAVEL LAYER	497.0	491.5	489.25
BOTTOM OF UNDERDRAIN GRAVEL	496.33	490.83	488.58
4" UNDERDRAIN INV.	496.67	491.17	488.92
8" PVC INV. OUT	496.5	491.0	490.3

RAIN GARDEN NOTES:

1. UPGRADIENT AREAS DRAINING TO RAIN GARDEN SHALL BE FINAL STABILIZED PRIOR TO DIRECTING RUNOFF INTO THE PROPOSED RAIN GARDEN.
2. A DENSE AND VIGOROUS VEGETATIVE COVER MUST BE ESTABLISHED PRIOR TO USE.
3. PRE-TREATMENT CHAMBERS SHOULD ALWAYS BE INSPECTED FOR SAND BUILD UP IN THE CHAMBER FOLLOWING THE SPRING MELT IN ADDITION TO REGULAR MAINTENANCE.

BIO-RETENTION AREA #3 NOTE:
THE UNDERDRAIN FOR BIO-RETENTION AREA #3 DOES NOT CONNECT TO THE PROPOSED OUTLET STRUCTURE. THE UNDERDRAIN WILL HAVE A SEPARATE OUTLET TO THE NORTH OF THE AREA DUE TO ELEVATION RESTRICTIONS. SEE SHEET C1.2 FOR LAYOUT OF UNDERDRAIN.

MATERIALS SPECIFICATIONS:

PARAMETER	SPECIFICATION		SIZE		NOTES
FILTER MEDIA [2.5' TO 4' DEEP]			GRADATION OF MATERIAL		
	COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	SIEVE NO.	% PASSING	
	BARK MULCH	20% TO 30%	200	<5	BARK MULCH SHALL BE MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED.
	LOAMY COARSE SAND	70% TO 80%	10	85 to 100	USDA SOIL TYPE FOR LOAMY COARSE SAND
			20	70 to 100	
			60	15 to 40	
			200	8 to 15	
MULCH	SHREDDED HARDWOOD				AGED 6 MONTHS, MINIMUM
PEA GRAVEL	ASTM D-448		NO. 6 (1/8" - 3/8")		
UNDERDRAIN GRAVEL	AASHTO M-43		0.375" TO 0.75"		

FILTER MEDIA:
THE SOIL SHOULD BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHOULD BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE FILTER MEDIA SHOULD BE FREE OF NOXIOUS WEEDS.
THE FILTER MEDIA SHOULD BE TESTED AND SHOULD MEET THE FOLLOWING CRITERIA:
PH RANGE 5.2 – 7.0
ORGANIC MATTER 1.5 – 4%
MAGNESIUM 35 LB./AC
PHOSPHORUS P205 75 LB./AC
POTASSIUM K20 85 LB./AC
SOLUBLE SALTS NOT TO EXCEED 500 PPM

BIO-RETENTION DETAIL

SCALE: NONE (8)

ISSUED FOR PERMIT REVIEW 2/27/2015

Stamp

Rev. No.	Description	Chkd.

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Sheet Title: Site Details and Stormwater Management Details

Project Title: 380 Colchester Avenue
Burlington, VT

Designed By:	MD/KW
Checked By:	KW
Drawn By:	MD
Scale:	N.T.S.
Date:	02/27/15

C2.0

EV#14062

SANITARY SEWER NOTES

CONTRACTOR SHALL CONFORM TO GUIDELINES DETAILED IN THE VERMONT STATE SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR READING AND FOLLOWING THE FULL COMPLETE EDITION PROVIDED BY THE STATE.

A. THE BUILDING SEWER SHALL BE CONSTRUCTED IN A MANNER WHICH WILL PREVENT LEAKING, BREAKING OR CLOGGING.

B. SIZING AND SLOPE: MINIMUM BUILDING SEWER SIZE IS 4 INCHES (UNLESS SHOWN ON THE PLAN) AND A MINIMUM SLOPE IS 1/8" PER FOOT.

C. CLEANOUTS: CLEANOUTS SHALL BE PROVIDED AT EACH HORIZONTAL CHANGE IN DIRECTION OF THE BUILDING SEWER GREATER THAN 45 DEGREES AND WHERE INDICATED ON THE DESIGN DRAWINGS. BUILDING SEWER CHANGES IN DIRECTION WHICH EXCEED 45 DEGREES SHOULD BE MADE WITH TWO 45 DEGREE ELLS OR LONG SWEEP FITTINGS. MANHOLES ARE ACCEPTABLE IN LIEU OF CLEANOUTS. WHERE BUILDING SEWERS ARE TO BE INSTALLED AT A DEPTH OF LESS THAN 3 FEET UNDER DRIVEWAYS ARE ANTICIPATED, EXTRA HEAVY CAST IRON PIPE SHALL BE USED.

D. LEAKAGE: BUILDING SEWERS SHALL MEET THE LEAKAGE STANDARDS PRESCRIBED IN THE STATE OF VERMONT SPECIFICATIONS (EPR– CHAPTER 1). SEE BELOW FOR MORE DETAIL.

E. SLOPE, VELOCITY: ALL GRAVITY SEWER LINES SHALL BE INSTALLED WITH NOT LESS THAN THE SLOPES SHOWN BELOW:

PIPE SIZE (INCHES)	SLOPE (FEET/100 FEET)
4"	2%
6"	1%
8"	0.4%

F. CHANGES IN PIPE SIZE: WHEN A SMALLER SEWER JOINS A LARGE ONE, THE INVERT OF THE LARGER SEWER SHALL BE LOWERED SUFFICIENTLY TO MAINTAIN THE SAME ENERGY GRADIENT.

G. MATERIAL: PVC SDR 35, ASTM D3034, WITH PUSH–ON GASKETED JOINTS. GASKETS SHALL CONFORM TO ASTM D3212. SEWER JOINTS SHALL BE CONSTRUCTED TO MINIMIZE INFILTRATION AND TO PREVENT THE ENTRANCE OF ROOTS INTO THE SYSTEM.

H. TRENCHING: LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF FOUR INCHES BELOW AND ON EACH SIDE OF ALL PIPES.

I. BEDDING: SEE TRENCH DETAIL DRAWING FOR MATERIALS. TRENCH BACKFILL SHALL BE OF A SUITABLE NATIVE MATERIAL FREE FROM DEBRIS, FROZEN MATERIAL, LARGE CLODS OR STONES, ORGANIC MATTER, OR OTHER UNSTABLE MATERIALS.

J. LEAKAGE TESTS: UPON COMPLETION OF SEWER LINE CONSTRUCTION, THE SEWER LINE SHALL BE TESTED IN ACCORDANCE WITH THE STATE OF VERMONT SPECIFICATIONS (EPR – CHAPTER 1, APPENDIX "A").

LEAKAGE TESTS FOR GRAVITY SEWERS

PERFORM A PRESSURIZED AIR TEST ON THE GRAVITY LINE IN ACCORDANCE WITH THE VERMONT ENVIRONMENTAL PROTECTION RULES ON EACH SECTION OF THE GRAVITY SEWER. THE ENGINEER SHALL BE GIVEN 72 HOURS NOTICE BEFORE THE TEST IS CONDUCTED. TEST MUST BE WITNESSED BY THE ENGINEER.

PLUG ALL OPENINGS IN THE TEST SECTION. ADD AIR UNTIL THE INTERNAL PRESSURE OF THE LINE IS RAISED TO APPROXIMATELY 4.0 POUNDS/SQUARE INCH (PSI) GREATER THAN THE AVERAGE PRESSURE OF ANY GROUND WATER. AFTER THIS PRESSURE IS REACHED, ALLOW THE PRESSURE TO STABILIZE. THE PRESSURE WILL NORMALLY DROP AS THE AIR TEMPERATURE STABILIZES. THIS USUALLY TAKES 2 TO 5 MINUTES DEPENDING ON THE PIPE SIZE. THE PRESSURE MAY BE REDUCED TO 3.5 PSI BEFORE STARTING THE TEST.

WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE THE STARTING TEST PRESSURE OF 3.5 PSI ABOVE THE PIPE, START THE TEST. IF THE PRESSURE DROPS MORE THAN 1.0 PSI DURING THE TEST TIME, THE LINE IS PRESUMED TO HAVE FAILED THE TEST. IF A 1.0 PSI DROP DOES NOT OCCUR WITHIN THE TEST TIME, THE LINE HAS PASSED THE TEST. THE TEST TIME SHALL BE DERIVED FROM THE FOLLOWING TABLE. IF THE SECTION OF LINE TO BE TESTED INCLUDES MORE THAN ONE PIPE SIZE, CALCULATE THE TEST TIME FOR EACH SIZE AND ADD THE TEST TIMES TO ARRIVE AT THE TOTAL TEST TIME FOR THE SECTION.

PIPE SIZE (IN)	T (TIME) (MIN./100FT)
3	0.2
4	0.3
6	0.7
8	1.2

K. INSTALLATION: PIPE SHALL BE LAID WITH BELL ENDS FACING UPGRADE AND LAYING SHALL START AT THE DOWNGRADE END.

L. WATER LINE SEPARATION

a. HORIZONTAL SEPARATION: SEWERS SHALL BE LAID FLAT AT LEAST TEN FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.

WHERE IMPOSSIBLE OR IMPRACTICABLE TO MAINTAIN THE TEN FOOT SEWER/WATER PIPE HORIZONTAL SEPARATION, (DUE TO LEDGE, BOULDERS OR OTHER UNUSUAL CONDITIONS) THE WATER LINE MAY BE IN A SEPARATE TRENCH OR ON AN EARTH SHELF IN THE SEWER TRENCH PROVIDED THAT THE BOTTOM OF THE WATER LINE IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. WHEREVER IMPOSSIBLE OR IMPRACTICAL TO MAINTAIN THE 18 INCH VERTICAL SEPARATION, THE SEWER LINE SHALL BE CONSTRUCTED USING PRESSURE PIPE TO NORMAL WATER LINE STANDARDS AND PRESSURE TESTED TO 50 PSI FOR 15 MINUTE PRIOR TO BACKFILLING.

b. CROSSINGS: SEWERS CROSSING WATER MAINS SHALL BE LAID BENEATH THE WATER MAIN WITH AT LEAST 18 INCHES VERTICAL CLEARANCE BETWEEN THE OUTSIDE OF THE SEWER AND THE OUTSIDE OF THE WATER MAIN. WHEN IT IS IMPOSSIBLE TO MAINTAIN THE 18 INCH VERTICAL SEPARATION;

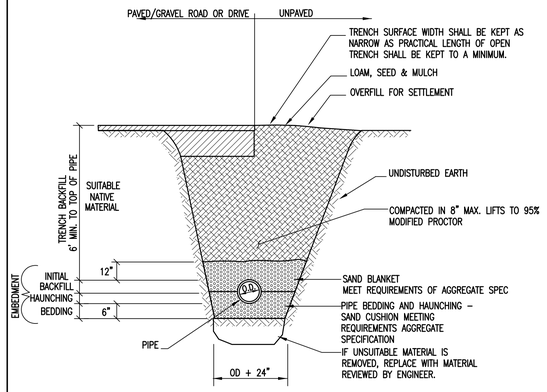
1.) THE CROSSING SHALL BE ARRANGED SO THAT ONE FULL LENGTH OF SEWER IS CENTERED ABOVE OR BELOW THE WATER LINE WITH SEWER JOINTS AS FAR AWAY AS POSSIBLE FROM WATER JOINTS;
2.) THE SEWER PIPE MUST BE CONSTRUCTED TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 20 FEET EITHER SIDE OF THE CROSSING OR A TOTAL OF THREE PIPE LENGTHS, WHICHEVER IS GREATER;
3.) THE SECTION CONSTRUCTED TO WATER MAIN STANDARDS MUST BE PRESSURE TESTED TO MAINTAIN 50 PSI FOR 15 MINUTES WITHOUT LEAKAGE PRIOR TO BACKFILLING BEYOND ONE FOOT ABOVE THE PIPE TO ASSURE WATER TIGHTNESS;
4.) WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN.

M. MANHOLES

a. DIAMETER: THE MINIMUM DIAMETER OF MANHOLES SHALL BE 48 INCHES; LARGE DIAMETERS ARE PREFERRED FOR CONNECTION TO LARGE DIAMETER SEWERS. A MINIMUM ACCESS DIAMETER OF 24 INCHES SHALL BE PROVIDED.
b. FLOW CHANNEL: FLOW CHANNELS SHALL BE PROVIDED IN THE BASE OF ALL MANHOLES AND THE FLOW CHANNEL THROUGH MANHOLES SHOULD BE MADE TO CONFORM IN SHAPE AND SLOPE TO THAT OF THE SEWERS.
c. MANHOLES SHALL BE OF THE PRE–CAST CONCRETE OR POUR–IN PLACE CONCRETE TYPE. MANHOLES SHALL BE WATERPROOFED ON THE EXTERIOR.
d. INLET AND OUTLET PIPES SHALL BE JOINED TO THE MANHOLE WITH A RUBBER–GASKETED FLEXIBLE WATERTIGHT CONNECTION THAT ALLOWS DIFFERENTIAL SETTLEMENT OF THE PIPE AND MANHOLE WALL TO TAKE PLACE.
e. ALL MANHOLES SHALL BE TESTED FOR LEAKAGE. LEAKAGE TESTING OF GRAVITY SEWERS UTILIZING THE WATER TESTING PROCEDURES TAKES INTO ACCOUNT THE LEAKAGE FROM ONE MANHOLE IN THE TEST SECTION. OTHERWISE, MANHOLES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE FOLLOWING PROCEDURE:

AFTER THE MANHOLE HAS BEEN ASSEMBLED IN PLACE, ALL LIFTING HOLES AND EXTERIOR JOINTS SHALL BE FILLED WITH AND POINTED WITH AN APPROVED NON–SHRINKING MORTAR. ALL PIPES AND OTHER OPENINGS INTO THE MANHOLE SHALL BE SUITABLY PLUGGED AND THE PLUGS PLACED TO PREVENT BLOWOUT.

EACH MANHOLE SHALL BE CHECKED FOR INFILTRATION BY FILLING WITH WATER TO THE TOP OF THE CONE SECTION. A STABILIZATION PERIOD OF ONE HOUR SHALL BE PROVIDED TO ALLOW FOR ABSORPTION. AT THE END OF THIS PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE, IF NECESSARY, AND THE MEASURING TIME OF AT LEAST SIX HOURS BEGUN. AT THE END OF THE TEST PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE MEASURING THE VOLUME OF WATER ADDED. THIS AMOUNT SHALL BE CONVERTED TO A 24 HOUR RATE AND THE LEAKAGE DETERMINED ON THE BASIS OF DEPTH. THE LEAKAGE FOR EACH MANHOLE SHALL NOT EXCEED ONE GALLON PER VERTICAL FOOT FOR A 24 HOUR PERIOD FOR EXFILTRATION AND THERE SHALL BE NO VISIBLE INFILTRATION. IF AN AIR TEST IF PERFORMED ON THE MANHOLE, INSTEAD OF THE WATER TEST, THE MANHOLE SHALL REMAIN UN–BACKFILLED DOWN TO THE SEWER LINE INVERTS DURING THE AIR TEST.

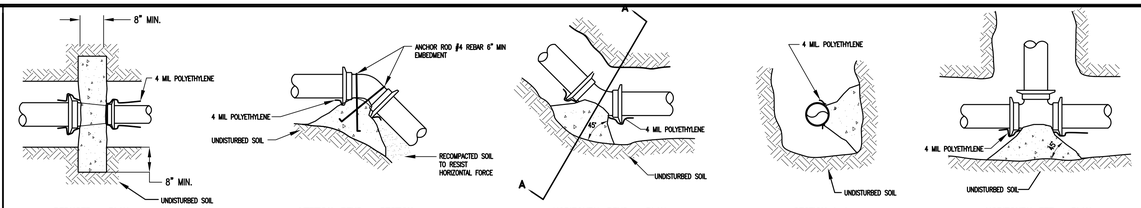


WATER TRENCH NOTES:

1. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
2. PROVIDE 6' MINIMUM COVER OVER WATER PIPE.
3. INSTALL WATER PIPE IN ACCORDANCE WITH AWWA STANDARD C600.

TYPICAL WATER TRENCH DETAIL

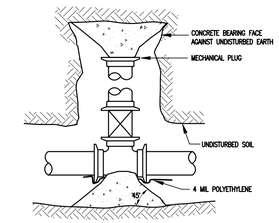
SCALE: NONE (1)



MINIMUM BEARING SURFACE (SF) 150 PSI WORKING PRESSURE							
	PIPE DIA.	TEE	HYD.	90° BEND	45° BEND	22.5° BEND	11.25° BEND	END CAP
1,000 PSF SOIL BEARING CAPACITY	10"	16	–	16	6	3	2	16
	8"	10	–	10	4	2	1	10
	6"	7	7	7	2	1	0.5	7
	4"	3	–	3	1	0.5	0.5	3
	2"	1	–	1	0.5	0.5	0.5	1
3,000 PSF SOIL BEARING CAPACITY	10"	6	–	6	2	1	2	6
	8"	4	–	4	1.25	1	1	4
	6"	2	2	2	1	1	1	2
	4"	1	–	1	1	1	1	1
	2"	1	–	1	1	1	1	1
5,000 PSF SOIL BEARING CAPACITY	10"	4	–	4	1.25	1	1	4
	8"	2	–	2	1	1	1	2
	6"	1.25	1.25	1.25	1	1	1	1.25
	4"	1	–	1	1	1	1	1
	2"	1	–	1	1	1	1	1

THRUST BLOCK NOTES:

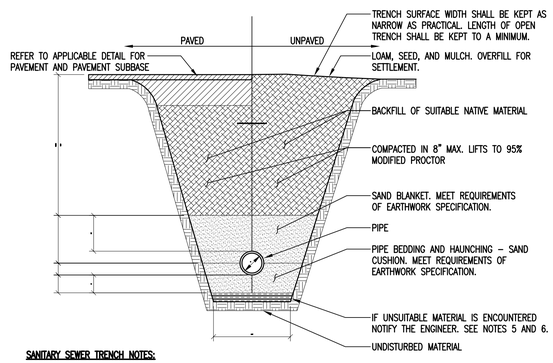
1. THRUST BLOCKS SHALL BE PROVIDED AT ALL WATER LINE TEES, HYDRANTS, BENDS, REDUCERS, AND END CAPS.
2. HYDROSTATIC AND LEAKAGE TEST PRESSURE PER SPECIFICATIONS.
3. PLACE 4 MIL POLYETHYLENE BETWEEN FITTINGS AND THRUST BLOCKS.
4. CONCRETE SHALL HAVE 4000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AND AIR ENTRAINMENT OF 4 TO 6% BY VOLUME.
5. UTILIZE MEGALUG MECHANICAL JOINT RESTRAINTS ON ALL FITTINGS IN ADDITION TO CONCRETE THRUST BLOCKS.



CAPPED STUB WITH VALVE – PLAN

TYPICAL BEARING THRUST BLOCK

SCALE: NONE (3)

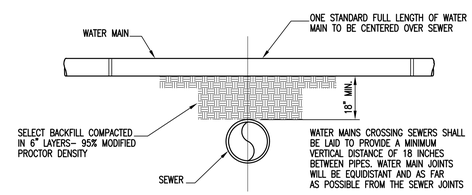


SANITARY SEWER TRENCH NOTES:

1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR FULL LENGTH OF PIPE.
3. FOR BUILDING SEWERS THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 4'–0". WHERE BUILDING SEWERS ARE TO BE INSTALLED AT A DEPTH LESS THAN 3'–0" UNDER DRIVEWAYS, EXTRA HEAVY CAST IRON OR OTHER HIGH STRENGTH PIPE SHALL BE USED. OTHERWISE, REFER TO INSULATION OVER SHALLOW SEWER LINE DETAIL.
4. FOR SEWER COLLECTION SYSTEMS THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 5'–0". THIS DEPTH SHALL BE INCREASED TO 6'–0" IN AREAS TO BE PLOWED DURING THE WINTER MONTHS. OTHERWISE, REFER TO INSULATION OVER SHALLOW SEWER LINE DETAIL.
5. BACKFILL SHALL BE OF A SUITABLE MATERIAL REMOVED FROM EXCAVATION EXCEPT WHERE OTHER MATERIAL IS SPECIFIED. DEBRIS, FROZEN MATERIAL, LARGE CLODS OR STONES, ORGANIC MATTER, OR OTHER UNSTABLE MATERIALS SHALL NOT BE USED FOR BACKFILL WITHIN TWO FEET OF THE TOP OF THE PIPE.
6. LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF FOUR INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
7. SEWERS ON 20 PERCENT SLOPES OR GREATER SHALL BE ANCHORED SECURELY WITH CONCRETE ANCHORS OR EQUIVALENT, SPACED AS FOLLOWS:
   A. NOT OVER 36 FEET CENTER TO CENTER ON GRADES 20 PERCENT AND UP TO 35 PERCENT
   B. NOT OVER 24 FEET CENTER TO CENTER ON GRADES 35 PERCENT AND UP TO 50 PERCENT
   C. NOT OVER 16 FEET CENTER TO CENTER ON GRADES 50 PERCENT AND OVER

SANITARY SEWER TRENCH DETAIL

SCALE: NONE (2)



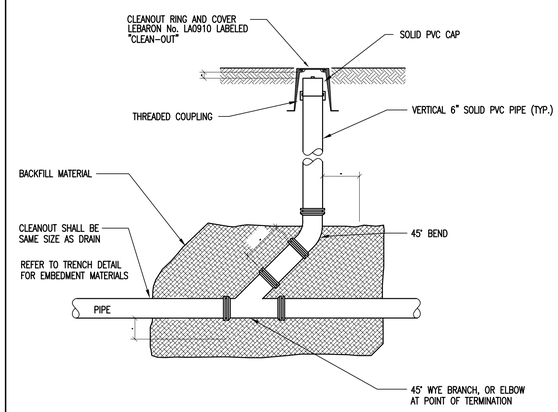
WATER MAIN ABOVE SEWER

SEPARATION NOTES:

1. WATER MAIN RELATIONS TO SEWER SHALL BE IN ACCORDANCE WITH THE "RECOMMENDED STANDARDS FOR WATER WORKS" SO–CALLED TEN STATE STANDARDS,
2. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWERS. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IF THIS DISTANCE CANNOT BE OBTAINED, THEN THE PIPES SHALL BE INSTALLED IN A SEPARATE TRENCH AT AN ELEVATION SO THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.
3. WHEN IT IS IMPOSSIBLE TO MAINTAIN 18" VERTICAL SEPARATION OR WHERE THE SEWER MUST BE LAID ABOVE THE WATER MAIN; 1) THE CROSSING SHALL BE ARRANGED SO THAT ONE FULL LENGTH OF SEWER IS CENTERED ABOVE OR BELOW THE WATER LINE WITH SEWER JOINTS AS FAR AS POSSIBLE FROM WATER JOINTS; 2) THE SEWER PIPE MUST BE CONSTRUCTED TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 20 FEET EITHER SIDE OF THE CROSSING OR A TOTAL OF THREE PIPE LENGTHS, WHICH EVER IS GREATER; 3) THE SECTION CONSTRUCTED TO WATER MAIN STANDARDS MUST BE PRESSURE TESTED TO MAINTAIN 50 psi FOR 15 MINUTES WITHOUT LEAKAGE PRIOR TO BACKFILLING BEYOND ONE FOOT ABOVE THE PIPE TO ASSURE WATER TIGHTNESS.

TYPICAL SEWER/WATER SEPARATION DETAIL

SCALE: NONE (4)



SEWER CLEANOUT DETAIL

SCALE: NONE (5)

ISSUED FOR PERMIT REVIEW 2/27/2015

WATER NOTES

GENERAL
1. METERS FOR SERVICE CONNECTIONS 3/4" OR SMALLER WILL BE PROVIDED BY THE WATER UTILITY, BUT INSTALLED BY THE CONTRACTOR.
2. WATER SYSTEM COMPONENTS ARE TO BE LEAD FREE.
3. A REPRESENTATIVE FOR THE WATER UTILITY MUST BE PRESENT, UNLESS OTHERWISE NOTIFIED IN WRITING, FOR ALL WATER MAIN TAPS.
4. WATER INFRASTRUCTURE IS TO INCLUDE SWING TIES. "AS BUILT" DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR WHICH REFLECT ACTUAL UTILITY LOCATIONS AND RESULTING EASEMENTS AT THE TIME OF COMPLETION OF THE SYSTEM.
5. THE WATER UTILITY SHALL INSPECT ALL ITEMS TO BE TAKEN OVER BY THE TOWN PRIOR TO ACCEPTANCE.
6. THE CONTRACTOR SHALL PROVIDE A 2 YEAR WARRANTY ON ALL WATER RELATED ITEMS FROM THE TIME OF COMPLETION OF THE PROJECT.

EXISTING UTILITIES
1. LOCATION OF UTILITIES AND UNDERGROUND STRUCTURES ARE SHOWN AS APPROXIMATE ON THE CONTRACT DOCUMENTS.
2. ALL UTILITIES SHALL BE LOCATED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION.
3. EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED DURING CONSTRUCTION.
4. ALL WATER, GAS, CABLE, TELEPHONE, ELECTRIC, SEWER, AND OTHER UTILITIES FOUND TO INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED IN A MANNER ACCEPTABLE TO THE ENGINEER.

PIPE BEDDING
1. SAND BEDDING MEETING REQUIREMENTS OF EARTHWORK SPECIFICATIONS
2. SAND BLANKET MEETING REQUIREMENTS OF EARTHWORK SPECIFICATIONS
3. TRENCH FINAL BACKFILL MATERIAL – MATERIAL WILL EXCLUDE PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT, CLAY, LARGE ROCKS (12" DIMENSION), OR ANY MATERIAL DETERMINED BY THE ENGINEER THAT WILL NOT BE SUITABLE.

WATER MAINS
1. ONCE INSTALLED PERFORM A HYDROSTATIC AND LEAKAGE TEST ACCORDING TO AWWA C600(LATEST REVISION) ON EACH PIPE LINE.
2. THE ENGINEER AND THE WATER UTILITY SHALL BE GIVEN AT LEAST 72 HOURS NOTICE BEFORE THE TEST IS CONDUCTED. TEST MUST BE WITNESSED BY THE ENGINEER.
3. SPECIFIED TEST PRESSURE IS 200 PSI, AND PRESSURE DURING TEST SHALL NOT VARY BY MORE THAN 5 PSI.

DUCTILE IRON PIPE: AWWA C151
1. FITTINGS: DUCTILE IRON, STANDARD THICKNESS, 350 psi PRESSURE RATING. (AWWA C110, C153, C105, ANSI A21.10).
2. FITTINGS: CAST IRON, 250 psi PRESSURE RATING (ANSI A21.10).
3. JOINTS: MECHANICAL, PUSH–ON AND FLANGED (AWWA C111, C115).
4. GASKETS:
   A. MECHANICAL AND PUSH–ON JOINTS, ANSI A21.11.
   F. FLANGED JOINTS: 1/8" THICK RING OR FULL FACED RUBBER, ANSI A21.15.
5. BOLTS/NUTS:
   A. MECHANICAL JOINT: ANSI A21.11.
   F. FLANGED JOINT: ANSI A21.15.
6. MECHANICAL JOINT GLANDS SHALL BE "MEGA–LUG" RETAINER GLANDS.
7. LININGS AND LINING REPAIR TO AWWA/ANSI C104.
   A. INTERIOR – CEMENT LINED, DOUBLE THICKNESS BITUMINOUS SEAL.
   F. EXTERIOR – BITUMINOUS COATING APPROXIMATELY 2 MILS THICK, ANSI A21.15, ANSI A21.15, AND ANSI A21.10.
   C. FLANGE MACHINED FACE COATING: ANSI A21.15.

COPPER TUBING
1. TYPE–K, ANNEALED, ASTM B88
2. FITTINGS: ASME B16.18, CAST COPPER, OR ASME B16.22, WROUGHT COPPER.
3. JOINTS: COMPRESSION CONNECTION OR AWS A5.8, BCuP SILVER BRAZE.

CHLORINATION OF DOMESTIC WATER LINES
1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE WATER UTILITY AT LEAST 72 HOURS IN ADVANCE OF BEGINNING ANY DISINFECTION OF WATER MAINS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR BACTERIOLOGICAL TESTING AS REQUIRED BY THIS SPECIFICATION AND REFERENCE STANDARDS MENTIONED.
3. DISINFECT ALL NEW PIPELINE SYSTEMS IN ACCORDANCE WITH AWWA C651, INCLUDING:
   A. METHOD OF CHLORINE APPLICATION. USE CONTINUOUS FEED METHOD OR SLUG METHOD. (TABLET METHOD IS NOT ACCEPTABLE.)
   B. FORM OF CHLORINE UTILIZED.
   C. FINAL FLUSHING.
   D. BACTERIOLOGICAL TESTING
   E. REPETITION OF PROCEDURE

GATE VALVES
1. RESILIENT SEAT GATE VALVES BY KENNEDY "KEN–SEAL" OR EQUAL.
2. IRON BODY GATE VALVES TO MEET AWWA C–509–87.
3. STEM CONSTRUCTION: NON–RISING.
4. STEM SEALS: DOUBLE O–RING.
5. GATE: CAST IRON RESILIENT WEDGE WITH SYNTHETIC ELASTOMER COATING, AND SHALL BE EPOXY COATED (FUSION BONDED)INSIDE AND OUT.
6. BONNET HARDWARE SHALL MEET ASTM A307, CADMIUM PLATED.
7. OUTLET CONNECTION: STANDARD MECHANICAL JOINT
8. OPERATION: OPEN TO THE RIGHT.

TAPPING VALVES
1. TAPPING VALVES TO MEET ANSI/AWWA C509–87, STANDARD FOR RESILIENT SEATED GATE VALVES.
2. VALVES SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI.
3. VALVES SHALL OPEN RIGHT
4. INLET FLANGES SHALL BE CLASS 125, ANSI B16.1, OR ANSI/AWWA C110/A21.10.
5. OUTLET CONNECTION: STANDARDIZED MECHANICAL JOINT.
6. STEM SEALS: O RING.
7. STEM CONSTRUCTION: NON–RISING.
8. SEATING: PARALLEL SEAT
9. END CONNECTIONS: MECHANICAL ON RUN, FLANGED ON BRANCH.
10. BURIED TAPPING VALVES SHALL BE PROVIDED WITH A 2 INCH SQUARE WRENCH NUT AND CAST IRON VALVE BOX. IF DEPTH FROM GRADE TO TOP OF VALVE OPERATING NUT IS GREATER THAN 6'–0,A VALVE STEM RISER MADE OF HIGH STRENGTH STEEL SHALL BE PROVIDED. DEPTH FROM VALVE STEM RISER NUT TO GRADE WILL BE 4 TO 6 FEET.

TAPPING SLEEVES
1. AWWA C509, LATEST REVISION.
2. AWWA C207, CLASS D, MAX. WORKING PRESSURE OF 150 PSI.
3. SLEEVES: SPLIT SLEEVES OF CAST IRON OR DUCTILE IRON.
4. MECHANICAL JOINT ENDS WITH END AND GASKET SEALS.
5. PROVIDE A 3/4" NPT TEST PLUG OR OTHER PROVISION FOR AIR TESTING THE VALVE AND SLEEVE AT MAXIMUM WORKING PRESSURE.
   6. BOLTS AND NUTS, MECHANICAL JOINTS: HIGH STRENGTH CAST IRON OR HIGH STRENGTH LOW ALLOY STEEL, ANSI/AWWA C111/A21.11–90.
7. BOLTS AND NUTS, FLANGED JOINTS: HIGH STRENGTH, LOW CARBON STEEL CONFORMING TO ANSI/AWWA C110/A21.10–87, APPENDIX A.
8. COAT ALL NUTS AND BOLTS WITH A RUST RESISTANT LUBRICANT.
9. ALL BOLTS AND NUTS USED WITH PIPE SLEEVES SHALL BE BRUSH COATED HEAVILY AFTER FINAL TIGHTENING WITH BITUMASTIC COLD–APPLIED MATERIAL TO THOROUGHLY COVER ALL EXPOSED SURFACES OF BOLTS AND NUTS.

VALVE BOXES
1. ACCEPTABLE MANUFACTURER'S: MUELLER, CLOW, OR EQUAL.
2. CLOW F–2452 SLIDING TYPE, TWO PIECE, OR EQUAL.
3. 5 1/4 INCH SHAFT.
4. SIZE 664–A (40–60 INCH OVERALL LENGTH).
5. CAST IRON.
6. CLOW F–2490 LIDS OR EQUAL.
7. THE WORD "WATER" TO BE CAST INTO TOP OF COVERS, AND ARROW SHOWING DIRECTION OF OPENING.

Stamp

Rev. No.	Description	Chkd.

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Sheet Title: Water and Wastewater Details

Project Title: 380 Colchester Avenue, Burlington, VT

Designed By:	MD/KW
Checked By:	KW
Drawn By:	MD
Scale:	N.T.S.
Date:	02/27/15

C2.1

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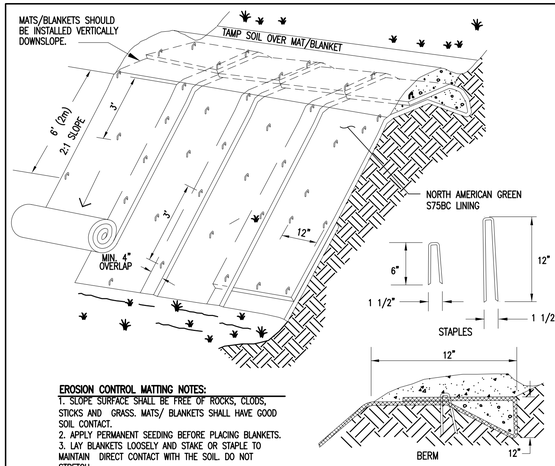
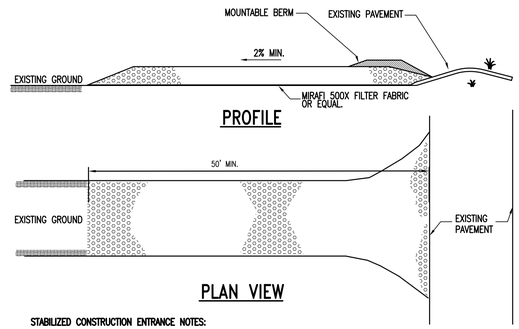


EROSION CONTROL MATTING NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/ BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
4. MATTING SHALL BE BIODEGRADABLE

EROSION CONTROL MATTING

SCALE: NONE (1)



STABILIZED CONSTRUCTION ENTRANCE NOTES:

1. STONE SIZE: USE 1-1/2" CRUSHED STONE.
2. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED ACROSS THE ENTRANCE.
3. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. REPAIR AND/OR CLEANOUT ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
4. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
5. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

CONSTRUCTION ENTRANCE DETAIL

SCALE: NONE (4)

EROSION CONTROL NOTES

GENERAL NOTES

1. THE "ON-SITE EROSION CONTROL PLAN COORDINATOR" SHALL BE PRESENT ON-SITE FROM DAY-TO-DAY, AND SHALL BE RESPONSIBLE FOR ENSURING THAT THE EROSION CONTROL MEASURES REQUIRED BY THE EROSION CONTROL PLAN, DETAILS AND NOTES, ARE PROPERLY INSTALLED AND MAINTAINED. THE ONSITE EROSION CONTROL PLAN COORDINATOR SHALL KEEP A WRITTEN RECORD OF INSPECTIONS AND MAINTENANCE OF EROSION CONTROL FEATURES. A COPY OF THESE PLANS AND INSPECTION/MAINTENANCE RECORDS SHALL BE KEPT ONSITE AT ALL TIMES.
2. EROSION CONTROL MEASURES SHALL BE CONDUCTED IN ACCORDANCE WITH THE "VERMONT STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION AND SEDIMENT CONTROL", DATED 2006.

TEMPORARY/CONSTRUCTION EROSION CONTROL MEASURES

1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE DISTURBED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS DISTURBED, THE DISTURBANCE SHALL BE KEPT TO THE SHORTEST PRACTICAL DURATION AS APPROVED BY THE ENGINEER.
2. DUST SHALL BE CONTROLLED WITH WATER DISTRIBUTED BY A TRUCK-MOUNTED SPRAY BAR. CALCIUM CHLORIDE (AASHTO M 144) OR SODIUM CHLORIDE (AASHTO M 143) SHALL BE USED AS DIRECTED BY THE ENGINEER.
3. SILT FENCES SHALL BE INSTALLED GENERALLY 10 FEET FROM THE BASE OF THE FILL SLOPES, OR AS SHOWN ON THE PLANS. THESE SHALL REMAIN IN PLACE UNTIL THE PROJECT SITE HAS BEEN STABILIZED. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES 6 INCHES DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A PROPER SEDIMENT BARRIER.
4. EXCAVATED MATERIAL FROM EARTH EXCAVATION AND DITCH DIGGING SHALL BE PLACED ONSITE IN A LOCATION TO BE APPROVED OF BY THE OWNER AND/OR THE ENGINEER OR USED FOR PROJECT FILL MATERIAL IF DETERMINED SUITABLE BY THE OWNER'S REPRESENTATIVE.
5. STOCKPILED MATERIAL (TOPSOIL, BORROW, ETC.) SHALL HAVE SILT FENCE CONSTRUCTED AROUND THE PERIMETER. THE STOCKPILED MATERIAL SHALL BE SEEDED AND MULCHED AS SOON AS POSSIBLE TO PREVENT SOIL EROSION AND SEDIMENTATION OFF SITE. LOCATE STOCKPILES ON THE UPHILL SIDE OF DISTURBED AREAS, IF POSSIBLE. DURING WINDY CONDITIONS, STOCKPILED MATERIAL SHALL BE COVERED OR WATERED APPROPRIATELY TO PREVENT WIND EROSION.
6. SLOPES GREATER THAN 3:1 SHALL HAVE EROSION CONTROL NETTING INSTALLED TO STABILIZE THE SLOPE AND REDUCE THE EROSION POTENTIAL. NETTING SHALL BE BIODEGRADABLE WITH A 12 MONTH LONGEVITY, S150BN AS MANUFACTURED OR APPROVED EQUIVALENT. INSTALL NETTING OVER MULCHED SLOPES SO THAT ALL PARTS ARE IN CONTACT WITH THE SOIL AND MULCH. PIN NETTING WITH WIRE STAPLES 3 FEET O.C. TO ENSURE FULL BONDING WITH SOIL SURFACE. THE SLOPE SURFACES SHOULD BE LEFT SLIGHTLY ROUGHENED AND NOT SMOOTH. IF LARGE AMOUNTS OF OFFSITE WATER WILL DRAIN OVER THESE SLOPES, TEMPORARY DIVERSION SWALES SHALL BE INSTALLED UP SLOPE UNTIL THE SLOPE VEGETATION STABILIZES.

PERMANENT EROSION CONTROL MEASURES

1. WHEN FINAL GRADES ARE REACHED IN AN AREA, IT SHALL BE SEEDED AND MULCHED WITHIN 48 HOURS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUED MAINTENANCE OF ALL DISTURBED AREAS, INCLUDING WATERING UNTIL THE AREA IS INSPECTED AND ACCEPTED BY THE OWNER OR ENGINEER.
3. AFTER THE SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES AND INSTALL PERMANENT VEGETATION ON THE DISTURBED AREAS.
4. RE-SEEDING SHALL BE DONE UNTIL ALL AREAS ARE COMPLETELY COVERED WITH A MATURE STRAND OF GRASS. AN AREA SHALL BE CONSIDERED COVERED WHEN THE ENTIRE SURFACE CONTAINS A VERDUROUS STAND OF GRASS. AREAS THAT, IN THE OPINION OF THE ENGINEER, ARE PREDOMINATELY WEEDS SHALL BE PLOWED UP, FINE GRADED, FERTILIZED AND RE-SEEDED IN THE MANNER SPECIFIED PREVIOUSLY, EXERCISING CAUTION NOT TO CAUSE DAMAGE TO NEW OR EXISTING PLANT MATERIAL.

WINTER EROSION CONTROL NOTES

WINTER CONSTRUCTION PROCEDURES

1. DURING WINTER CONSTRUCTION, INSPECTIONS BY THE ON-SITE PLAN COORDINATOR SHALL OCCUR DAILY WHEN AREAS ARE UN-STABLE, AND WEEKLY PRIOR TO ANY FORECASTED RAIN, THAW OR SPRING MELT WHEN TEMPORARY STABILIZATION IS IN PLACE.

2. IN AREAS TO BE STABILIZED BY VEGETATION, ALL SEEDING MUST BE COMPLETED BY SEPTEMBER 15 TO ALLOW GROWTH TO OCCUR PRIOR TO THE GROUND FREEZING. STABILIZATION OF ALL OTHER DISTURBED AREAS SHALL BE COMPLETED BY OCTOBER 15.

3. ENLARGED ACCESS POINTS, STABILIZED TO PROVIDE FOR SNOW STOCKPILING SHALL BE INSTALLED.

4. LIMITS OF DISTURBANCE SHALL BE MOVED OR REPLACED TO REFLECT BOUNDARY OF WINTER WORK.

5. SNOW WILL NOT BE PILED WITHIN 25 FEET OF PERIMETER CONTROLS (SUCH AS SILT FENCE) TO ALLOW FOR CLEARING AND MAINTENANCE. SNOW IS TO BE REMOVED FROM ALL STRUCTURAL EROSION PREVENTION AND SEDIMENTATION CONTROL MEASURES FOLLOWING EACH SIGNIFICANT SNOWFALL. NO SNOW STORAGE UP-GRADIENT OF DISTURBANCE. NO SNOW DISPOSAL IN SEDIMENT PONDS/BASINS. IF NECESSARY, SNOW/ICE MUST BE REMOVED PRIOR TO STABILIZATION OF DISTURBED AREAS. ACCESS POINTS SHALL BE ENLARGED AND STABILIZED TO ALLOW FOR SNOW STOCKPILING.

6. IN AREAS OF DISTURBANCE WITHIN 100 FT OF A RECEIVING WATER, SILT FENCE SHALL BE REINFORCED OR ELSE REPLACED WITH PERIMETER DIKES, SWALES OR OTHER PRACTICES RESISTANT TO THE FORCES OF SNOW LOADS.

7. DRAINAGE STRUCTURES SHALL BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.

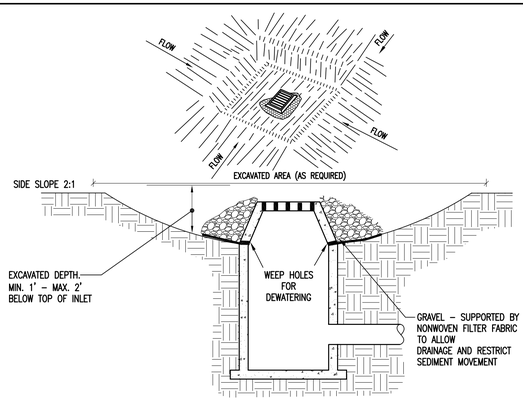
8. ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE TO BE IN PLACE BY OCTOBER 15, OR IF NOT POSSIBLE, THEN PRIOR TO GROUND FREEZE.

9. MULCH IS TO BE APPLIED AT THE END OF EACH WORKDAY TO ALL EXPOSED AREAS THAT HAVE NOT YET REACHED FINAL GRADE AT TWICE THE RATE INDICATED IN THE SEEDING AND MULCHING DETAIL FOR THE REGULAR CONSTRUCTION SEASON. MULCH SHALL BE TRACKED IN OR STABILIZED WITH NETTING.

10. TO ENSURE COVER OF DISTURBED SOIL IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
    A) IF NO PRECIPITATION WITHIN 24 HOURS IS FORECAST AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY.
    B) DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS HOUSE FOUNDATIONS OR OPEN UTILITY TRENCHES.

11. SNOW AND ICE SHALL BE REMOVED TO LESS THAN 1" THICKNESS PRIOR TO STABILIZATION.

12. STONE STABILIZATION, 10 TO 20 FT WIDE IN AREAS SUCH AS THE PERIMETER OF BUILDINGS UNDER CONSTRUCTION WHERE CONSTRUCTION VEHICLE TRAFFIC IS ANTICIPATED SHALL BE INSTALLED.

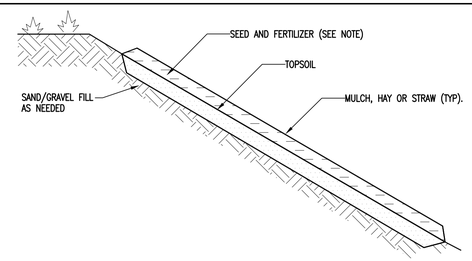


CONSTRUCTION SPECIFICATIONS

1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL.
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL BASIN WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.
5. GRAVEL BAGS, GRATE GUARDS, FILTREXX OR SEDIGUARD INLET PROTECTION DEVICES MAY BE USED. SUBMIT PRODUCT INFORMATION TO ENGINEER FOR REVIEW PRIOR TO USE. INSTALL PRODUCTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE LATEST EDITION OF THE VT EPSC STANDARDS AND SPECIFICATIONS.

EXCAVATED STORM DRAIN INLET PROTECTION DETAIL

NOT TO SCALE (2)



NOTES FOR SEEDED AND MULCHED AREAS

1. LANDSCAPE PLANS AND SPECIFICATIONS TAKE PRECEDENCE WHERE APPLICABLE TO FINAL LAWN AND PLANTING AREAS. FOR TEMPORARY STABILIZATION AND AREAS NOT COVERED BY LANDSCAPE PLANS, THE FOLLOWING APPLY.
2. SEEDING AND MULCHING OF DISTURBED AREAS SHALL TAKE PLACE WITHIN 48 HOURS OF FINAL GRADING.
3. MULCH: TYPICALLY HAY OR STRAW MAY BE UTILIZED AND SHALL BE APPLIED AT A RATE OF 90–1,000 LBS/1,000 SF. MULCH SHALL NOT BE PLACED ON SLOPES OF GREATER THAN 3:1. SEED IMPREGNATED EROSION CONTROL NETTING SHALL BE USED IN ITS PLACE.
4. SEED: SEEDING SHALL OCCUR AFTER APRIL 15 AND PRIOR TO SEPTEMBER 15TH IN ORDER TO ESTABLISH A STAND OF GRASS PRIOR TO GROUND FREEZING. SEED SHALL BE IN ACCORDANCE WITH SEED SPECIFICATION ON THIS SHEET.
5. COVER SEED WITH $\frac{1}{4}$ INCH SOIL UNLESS A HYDROSEEDER IS USED.
6. MULCH ANCHORING: SHALL BE ACCOMPLISHED BY DEGRADABLE MULCH NETTING. USE WHEN SLOPES ARE GREATER THAN 10%.
7. TOPSOIL AND MULCHING NOT TO BE APPLIED IN AREAS OF TRAVEL WAYS.

SEEDED AND MULCHED AREAS DETAIL

SCALE: NONE (5)

SITE/EARTHWORK SPECIFICATIONS

1. PRIOR TO THE START OF THE WORK, A PRE-CONSTRUCTION MEETING WILL BE HELD WITH THE CONTRACTOR, OWNER, PROJECT ENGINEER AND A REPRESENTATIVE FOR THE TOWN OF HINESBURG TO REVIEW PROCEDURES AND IDENTIFY RESPONSIBILITIES. THE TOWN SHALL BE GIVEN NOTICE AT LEAST 24 HOURS PRIOR TO THE MEETING. UNLESS STATED OTHERWISE, ALL MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE STATE OF VERMONT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

2. CLEARING AND GRUBBING– ALL TOPSOIL AND UNSUITABLE MATERIALS SHALL BE REMOVED FROM IMPACTED AREAS.

3. COMPACTION SHALL BE PERFORMED USING VIBRATORY ROLLERS AND WATER IN LIFTS OF NO GREATER THAN SIX INCHES. COMPACTION SHALL BE PERFORMED UNTIL THE REQUIRED DENSITY IS ACHIEVED. DENSITY SHALL BE DETERMINED BY AASHTO T238 METHOD AND SHALL NOT BE LESS THAN 95 PERCENT OF THE MAXIMUM DENSITY FOR PAVED AREAS AND 90 PERCENT OF THE MAXIMUM DENSITY FOR NON PAVED AREAS DETERMINED IN ACCORDANCE WITH AASHTO T99.

4. COMPACTION TESTING SHALL BE PERFORMED FOR EVERY LAYER OF MATERIAL PLACED AND FOR EVERY 1000 SQUARE FEET OF AREA.

5. ALL REMAINING DISTURBED AREAS WITHIN THE RIGHT OF WAY SHALL BE FERTILIZED AND SEEDED IN ACCORDANCE WITH THE VERMONT STATE SPECIFICATIONS.

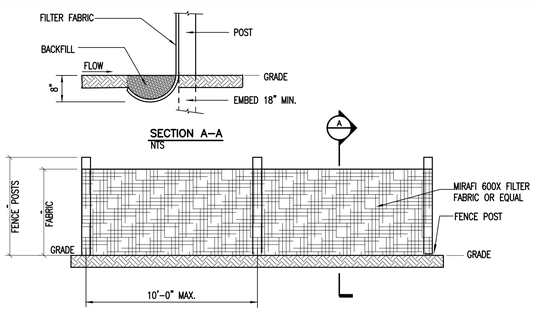
6. THE SEEDING OF SLOPES AND DITCHES SHALL REQUIRE THE USE OF EROSION CONTROL MATTING.

7. COST OF INITIAL INSPECTION AND TESTING SHALL BE PAID BY THE OWNER. SUBSEQUENT TESTING OF MATERIALS NOT PASSING INITIAL INSPECTION, SHALL BE PAID BY THE CONTRACTOR. 8. ALL EARTHWORK MATERIALS SHALL BE OBTAINED FROM APPROVED SOURCES. THEY SHALL CONSIST OF SATISFACTORILY GRADED, FREE DRAINING MATERIAL, REASONABLY FREE FROM LOAM, SILT, CLAY AND ORGANIC MATERIAL. EARTHWORK MATERIALS SHALL MEET THE REQUIREMENTS OF THE FOLLOWING TABLES:

	SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
A. SAND BLANKET/BEDDING:		
2 INCHES		100
$1\frac{1}{2}$ INCHES		90 – 100
$\frac{1}{2}$ INCH		70 – 100
NO. 4		60 – 100
NO. 100		0 – 20
NO. 200		0 – 8
B. $\frac{3}{4}$" CRUSHED STONE:	SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
1 INCH		100
$\frac{3}{4}$ INCHES		90 – 100
$\frac{3}{8}$ INCHES		20 – 55
No. 4		0 – 10
No. 8		0 – 5
C. GRAVEL SUB-BASE:	SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
NO. 4		20 – 60
NO. 100		0 – 12
NO. 200		0 – 6
D. COARSE CRUSHED GRAVEL:	SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
4 INCHES		95 – 100
NO. 4		25 – 50
NO. 100		0 – 12
NO. 200		0 – 6
E. FINE CRUSHED GRAVEL:	SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
2 INCHES		100
$1\frac{1}{2}$ INCHES		90 – 100
NO. 4		30 – 60
NO. 100		0 – 12
NO. 200		0 – 6
F. GRANULAR BACKFILL:	SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
3 INCHES		100
NO. 4		45 – 75
NO. 100		0 – 12
NO. 200		0 – 6

G. TYPE I STONE FOR STONE FILL THE LONGEST DIMENSION OF THE STONE SHALL VARY FROM 1 INCH TO 12 INCHES, AND AT LEAST 50 PERCENT OF THE VOLUME OF THE STONE IN PLACE SHALL HAVE A LEAST DIMENSION OF FOUR INCHES.

H. TYPE II STONE FOR STONE FILL THE LONGEST DIMENSION OF THE STONE SHALL VARY FROM TWO INCHES TO 36 INCHES, AND AT LEAST 50 PERCENT OF THE VOLUME OF THE STONE IN PLACE SHALL HAVE A LEAST DIMENSION OF 12 INCHES.

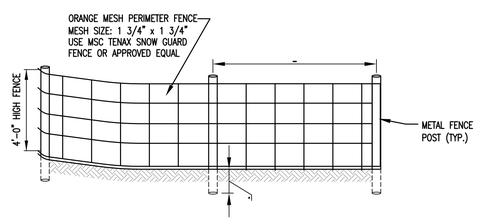


SILT FENCE NOTES:

1.) SILT FENCE SHALL BE PREFABRICATED EROSION CONTROL FENCE BY MIRAFI OR EQUAL, OR CONSTRUCTED IN PLACE AS SPECIFIED HEREIN.
2.) WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.
3.) INSPECTION SHALL BE FREQUENT (MINIMUM ONCE A WEEK AND AFTER EVERY RAINFALL). MAINTENANCE SHALL BE PERFORMED AS NEEDED, AND SEDIMENT REMOVED WHEN "BULGES" DEVELOP IN SILT FENCE.

SILT FENCE DETAIL

SCALE: NONE (3)



ORANGE CONSTRUCTION FENCE DETAIL

SCALE: NONE (6)

ISSUED FOR PERMIT REVIEW 2/27/2015

Stamp

Rev. No.	Description	Chkd.

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A Burlington, VT 05401
tel: 802.863.6225 • fax 802.863.6306
85 Mechanic Street, Suite 330A, Lebanon, NH 03766
tel: 603.442.9333 • fax 603.442.9331
www.engineeringventures.com

Client: NATHANIEL HAYWARD
302 Mountain View Drive
Apt. 100
Colchester, VT 05446
(802) 578-3078

Sheet Title: Erosion Control Details

Project Title: 380 Colchester Avenue
Burlington, VT

Designed By:	MD/KW
Checked By:	KW
Drawn By:	MD
Scale:	N.T.S.
Date:	02/27/15

C2.2

EV#14062

ENGINEERING VENTURES PC

208 Flynn Avenue, Suite 2A, Burlington, VT 05401 · Tel: 802-863-6225 · Fax: 802-863-6306
85 Mechanic Street, Suite B2-2, Lebanon, NH 03766 · Tel: 603-442-9333 · Fax: 603-442-9331

April 1, 2015

Scott Gustin, AICP, Senior Planner
Department of Planning and Zoning
149 Church Street
Burlington, VT. 05401

Re: Nathaniel Hayward, 380 Colchester Ave.
Parcel 046-3-058-000; Zone: RL Ward: 1
Preliminary & Final Subdivision

Dear Scott,

I am writing on behalf of Nathaniel Hayward, landowner of the referenced parcel and request review and approval of a combined Preliminary/Final Plat at this time. Since the subdivision will result in only 3 lots, it is eligible for combined preliminary/final plat review, per Sec. 10.1.7.of the Comprehensive Development Ordinance.

The landowner proposes to create three (3) new lots on Parcel 046-3-058-000, a 1.43+/- acre parcel with an existing duplex. The following lots will be created: Lot 1 - 1.12 ac., Lot 2 - 0.14 ac., Lot 3 - 0.17 ac. In addition, One (1) unit will be added to the existing duplex on Lot 1, converting the building to a triplex. Along with the proposed building addition, two shared driveways, sidewalks, and stormwater management infrastructure are proposed as part of this application.

As represented in the Sketch Plan Application, #14-1206SP, two new vacant building lots would result from the subdivision and the existing duplex will be retained and converted to a triplex. The property, in its' existing configuration, includes a duplex and an outbuilding. The property is relatively large at 1.43 acres, but much of it is wooded slope down to Riverside Avenue to the west. Previous zoning actions for this property include: 2/8/85, Approval to convert single family home to a duplex; 6/18/75, Approval to construct carport; 4/23/75, Approval to relocate house from 128 Riverside Ave to subject property.

The enclosed application addresses the review criteria in conjunction with the completed Check Lists for Preliminary and Final Subdivision. Please find enclosed the following items for this submission:

- A completed application form, signed by the property owner (1 copy)
- A check for $1,446.00 for the proposed application fee
- COA III Final Plat Checklist (1 copy)
- Photographs of the subject property (1 copy)
- Plan entitled "Plat of Lands of Ghislaine L. Leveille, 380 Colchester Avenue, Burlington, VT", prepared by Richard W. Bell Land Surveying, and dated January 2014 (10 copies)
- Plan entitled "Subdivision of Lands of Ghislaine L. Leveille, 380 Colchester Avenue, Burlington, VT", prepared by Richard W. Bell Land Surveying, and dated October 2014 (10 copies)
- Sheets C1.0. C1.1, C1.2, C2.0, C2.1, and C2.2 for 380 Colchester Avenue, prepared by Engineering Ventures, P.C., and dated February 27, 2015 (10 copies)
- Half-size (11x17) set of plans prepared by Engineering Ventures, P.C. (1 copy)

- A set of colored rendered building elevations, architectural cross sections, and perspective view for the proposed building (6 copies)
- Detailed Landscaping Plan (See Sheet C 2.0 of drawings by Engineering Ventures)
- A letter for Sketch Plan review dated July 15, 2014 (1 copy)
- Burlington Department of Public Works Residential (R1 & R2) Stormwater Management Plan information sheet (1 copy)
- Burlington Department of Public Works Stormwater Management Plan Screening (1 copy)
- Burlington Department of Public Works Small Project Erosion Prevention & Sediment Control Plan (1 copy)
- A report entitled "Stormwater Management Narrative for 380 Colchester Avenue", prepared by Engineering Ventures, P.C., and dated March 31, 2015 (1 copy)
- A CD containing an electronic version of all items listed above.

As required to meet Section 10.1.9 Final Plat Approval Process, please find enclosed the following information:

1. ***A letter requesting review and approval*** *of the final plat and giving the name and addresses of person(s) to whom notice of the hearing by the DRB thereon shall be sent.* The following letter makes request for review and approval of the Final Plat, as noted above.

Adjoiners and Others to whom Notice of Hearing is requested:
046-3-057-001: Stephanie Taylor & Edward Schoen 352 Colchester Ave, Unit 1 Burlington, VT. 05401
046-3-057-002: Hillary Read Bidwell 352B Colchester Ave, Burlington, VT. 05401
046-3-081-000: Sisters & Brothers Investment Group LLP 75 S. Winooski Ave, Burlington, VT. 05401
046-3-062-000: J&S, LLC c/o Bissonette Properties, 100 North St., Burlington VT. 05401
046-3-063-000: James Goldsmith 10723 Route 116, Hinesburg, VT 05461

Landowner: Nathaniel Hayward, 302 Mountain View Dr., Suite 300, Colchester, VT. 05446
Land Surveyor: Richard W. Bell Land Surveying, 297 South Main Street, Barre, VT 05641
Civil Engineer: Engineering Ventures P.C., Kevin Worden 208 Flynn Ave., Suite 2A, Burlington, VT. 05401

2. ***A narrative describing the proposed project's conformance*** *with each of the applicable review criteria in (d) below, and a timetable or phasing plan for the construction of all site improvements.*
(*d) Review Criteria:*
The review of a preliminary plat by the DRB shall address all issues pertaining to:

- *conformance with city plans*
  The proposed addition to the existing duplex, resulting in a triplex on the property, meets the city plan guidelines for the RL Zoning District. The adjacent properties are comprised of either single or multi-family residences. Therefore, this project conforms with city plans.

- *the capacity of municipal infrastructure and overall site development and configuration including but not limited to the preservation of open spaces and natural resources*
  The municipal infrastructure as far as existing roadways and pedestrian paths will not be affected by the development. The project will generate a negligible increase in traffic to Colchester Avenue. In addition, the proposed development has been designed to minimize the impacts to the existing natural resource areas. The amount of woodland

and steep slope disturbance is limited to only a small area that is necessary in order to make the proposed project grades and layout work. The majority of the steep slopes and woodlands on the site will not be disturbed.

- *the layout of blocks and lots; streets, sidewalks pathways, and other access ways*
  Lots 2 and 3 will be regularly shaped rectangular lots. The built area of Lot 1 will be regularly shaped as well; however, it will have a large rear appendage consisting of the unbuildable slope. Lot sizes vary widely along Colchester Avenue. The proposed lots would be within the established size range. The existing sidewalk along Colchester Avenue will remain intact, except across the driveway cuts, where it will be re-constructed.

- *stormwater management systems, water, sanitary sewage and other utility systems*
  Most of the proposed impervious surfaces, as well as the existing building roof, will drain to one of three bio-retention/rain garden areas which will allow runoff to infiltrate and be treated prior to discharging to downstream areas. The proposed bio-retention areas will treat the runoff, then convey it to the existing catch basin located on the western side of Colchester Ave, where it will be conveyed to the existing system as it currently does today.

  Water and sewer connections to the existing building and proposed building addition will not change from their existing connection layout. Connections for water and sewer are shown for future development on Lots 2 and 3.

- *buffering of uses.*
  Not applicable

3. ***Ten (10) copies of the final plat****, as specified in subsection (6) below*. Find attached (10) copies of the Final Plat, as noted below in item (6).

4. ***Ten (10) copies of the final site plan****, as specified in subsection (7) below*. Find attached (10) copies of the Final Site Plan, as noted below in item (7).

5. ***Ten (10) copies of construction detail drawings*** *of the sewer, water and drainage systems, other underground utilities, surface improvements, street profiles and street cross-sections as specified in subsection (8) below.* Find attached (10) copies of the Construction Detail Plans, as noted below in item (8).

6. ***Final plat specifications*****:** See attached COA Level III Preliminary and Final Checklists indicating the required and provided information per this Section. Items A-F of referenced Checklist are provided on the attached Plat entitled, "Subdivision of Lands of Ghislaine L. Leveille – 380 Colchester Avenue, Burlington, Vermont," prepared by Richard W. Bell Land Surveying Inc., and dated October, 2014.

7. ***Final Site Plan detail drawings****: All submitted applications for final plat approval must likewise include a final site plan*. See attached and outlined COA Level III Preliminary and Final Checklists indicating the required and provided information per this Section. Items A-C of referenced Checklist are provided on the attached Site Plans entitled:

- "Sheet C1.0 – Existing Conditions Plan"
- "Sheet C1.1- Demolition Plan/Site Layout Plan"
- "Sheet C1.2- Grading, Utility, and Erosion Prevention & Sedimentation Control Plan (EPSC Plan)"
- "Sheet C2.0 – Site Details and Stormwater Management Details"
- "Sheet C2.1 – Water and Wastewater Details"
- "Sheet C2.2- Erosion Control Details"

A. All information required for the preliminary site plan pursuant to Sec. 10.1.8 (a)5 above, updated and accurate;

(a) Preliminary Plat Submission Requirements
Eight (8) copies of a preliminary plat meeting the following specifications: A. Sheet size and scale: The preliminary plat shall be twenty-four (24) inches by thirty-six (36) inches outside dimension. The plat shall be clearly and legibly drawn to a scale of no larger than one-inch equals forty (40) feet. Larger sheet sizes will be allowed with approval of the administrative officer. A reduced, 11" X 17" copy as well as digital version in a format acceptable to the Administrative officer shall also be submitted.
As required for Final Plat submission, (10) copies of the Final Plat are included.

B. The preliminary plat must show all of the following as applicable: i) Subdivision name or title, address, scales, north arrow indicating magnetic and true north, date, and legend;
ii) Names and addresses of the applicant, designer, and other parties to the subdivision;
iii) Vicinity map, drawn at a scale of one inch equals six hundred (600) feet, showing boundary lines of adjoining developed and undeveloped land within an area bounded by nearest arterial streets or other natural boundaries; identifying type of use and ownership of surrounding land and showing alignments of existing streets;
iv) Total acreage of subdivision and number of lots proposed;
v) Exact boundary lines of the tract by bearings and distances with such measurements tied into an existing reference point and the boundaries of contiguous properties;
vi) Location, widths, and names of all existing or previously platted streets, or other rights-of-way, parks, and other public open spaces, permanent buildings and structures, easements, and section and corporate lines within the tract and to a distance of one hundred (100) feet beyond the tract.
As required for Final Plat submission, (10) copies of the Final Plat are included with the above required information provided.

vii) Location and size of existing sewers, water mains, culverts, or other underground facilities within the tract and to a distance of one hundred (100) feet beyond the tract; also indicate such data as grade invert elevations, and locations of catch basins, manholes, and hydrants;

B. Minimum front, side, and rear setback lines shall be shown and dimensioned in accordance with the applicable zoning ordinance requirements of Article 4. A detailed Zoning Table has been provided on Sheet C1.0 – Existing Conditions Plan outlining the required front, side and rear setbacks per Section 4, Table 4.4.4.1. In addition the Zoning Setback areas are provided on all lots. Minimum setbacks will be provided as required.

C. Subsurface conditions of the tract, location, and results of tests made to ascertain subsurface soil rock and ground water conditions and depth to ground water, as may be reasonably required to carry out the purposes and intent of these regulations. Soils for the site have been shown on Sheet C1.0- Existintg Conditions Plan. At this time there have been no test pits on site. Test pits will be conducted prior to the start of construction to verify subsurface conditions.

8. *Construction detail drawings*: *All submitted applications for final plat approval must likewise have construction detail drawings consisting of the following as applicable:*

A. Plans and profiles showing existing and proposed elevations along centerlines of all streets within the subdivision. There are no streets proposed with this application. The Site Plans provides the site grading and location of the two driveways.

B. Plans and profiles showing location of street pavements, curbs, gutters, sidewalks, manholes, catch basins, culverts and existing intersecting walks and driveways. See response to 8A above.

C. Typical cross-sections of improved streets indicating the material used for construction of the roadbed and surface sidewalk, curbing and tree belt, tree pit showing centerline right-of-way width, width of pavement and travel lanes, height of crown, curb reveal, and any other pertinent information.
See response to 8A above.

D. Plans and profiles of the storm drainage system showing the location, pipe size and invert elevations of existing and proposed storm drains together with invert and rim elevations of all catch basins and manholes. Surface elevations and approximate depth of water shall be shown at each point where drainage pipe ends at a waterway. Drainage calculations prepared by the applicant's engineer, including design criteria used, drainage area and other information shall be sufficient for the city engineer to determine the size of any proposed drain, culvert, or bridge. Due to the minimal amount of drainage pipe for the site, the drainage system information including all inverts, rims, pipe slopes, materials, and sizes are shown on Sheet C1.2. There are also details for the proposed bio-retention areas on Sheet 2.0.

E. Plans and profiles of the sanitary sewer system showing the location, pipe size and invert elevations of existing and proposed sewage system together with invert and rim elevations of all manholes. All lots within the proposed subdivision shall be serviced by the municipal sewerage system. Where a gravity flow of sewage cannot be attained, the applicant shall install a pumping or lift station of a make and type specified by the sewage disposal superintendent to provide for the proper disposal of all waste into the existing sanitary systems. The applicant shall covenant that one year after the pumping station has been installed and found to function to the satisfaction of the city engineer said pumping station shall be deeded to the city and thereafter shall be maintained and operated by the waste water division of the public works department. There are no sanitary sewer or water mains proposed for this development. Connections will be made to the existing system located within Colchester Avenue.

F. Plans and profiles of the water supply system showing the location, pipe size and invert elevations of the subdivision water system. All lots within the proposed subdivision shall be supplied by the municipal water system. See response to 8E above.

G. All profiles shall be drawn with:

i. *A horizontal scale of one inch to forty (40) feet and a vertical scale of one inch to four (4) feet.*
ii. *Existing centerline in fine black line with elevation shown every fifty (50) feet.*
iii. *Proposed centerline grades in heavier black line with elevations shown every fifty (50) foot station except that in vertical curves elevations shall be shown at twenty-five (25) foot station. All changes in street grade shall be shown by a tangent to the vertical curve with the grade of the tangent indicated at the point of tangency.*
iv. *Cross-sections at every fifty (50) foot station or any unusual section, as is common practice in the design of roadways by the Vermont Agency of Transportation.*
v. *Existing right-of-way line in fine black dash line.*
vi. *Proposed right-of-way line in fine black dash line.*
vii. *All elevations based on the U.S. Coast and Geodetic Survey benchmarks.*
viii. *Requirements (i), (ii), (iii) and (iv) of such construction detail drawings must be approved by the city engineer prior to approval of the final plat by the DRB.*

There are no profiles/road cross sections for this project – See response to 8 A-F above.

In accordance with the Sketch Plan Review, dated July 15, 2014, the following information has been provided:

Article 3: Applications and Reviews Part 5, Conditional Use & Major Impact Review:
Sec. 3.5.6, Review Criteria:

(a) Conditional Use Review Standards
1. The capacity of existing or planned community facilities;
As part of this project, one (1) additional unit will be added to the existing duplex, which will convert the building to a triplex. The two new lots created will be served by public sewer and water. Water service and sanitary service lines are shown on the plans to be constructed and stubbed at the end so that future connections can be made. Sufficient reserve capacity is available. A state wastewater permit will be required.

2*. The character of the area affected;*
The property is located within the Residential Low Density zone running in a strip along Colchester Avenue. Single and multi-family homes are the norm; however, institutional and commercial uses and a cemetery are all located close by. The RL zone is intended primarily for single family homes and duplexes. Insofar as the two newly created lots could be developed with single family homes, the proposed subdivision can be found in character with the area.

3. Traffic on roads and highways in the vicinity;
The subdivision itself will not create any additional traffic, and the addition of one unit to the existing property will create a negligible increase in traffic when compared to the existing traffic.

4. Bylaws then in effect;
The Subdivision plan is generally compliant with applicable bylaws.

5. Utilization of renewable energy resources; Not applicable.

6. Cumulative impacts of the proposed use; Not applicable.

7. Functional family; Not applicable.

8. Vehicular access points;
The Site Plan depicts two shared driveways. This configuration will maintain the existing number of access points along Colchester Avenue. The proposed curb cuts will need review and approval by the Department of Public Works. Sight lines are similar to existing conditions; however, sightlines will be improved by removal of obstructive vegetation.

9. Signs; Not applicable.

10. Mitigation measures; Not applicable.

11. Time limits for construction; Not applicable.

12. Hours of operation and construction; Per City Ordinance

13. Future enlargement or alterations; Not applicable.

14. Performance standards; Not applicable.

15. Conditions and safeguards; Not applicable.

Article 4: Maps & Districts Sec. 4.4.5, Residential Districts:

(a)Purpose

1. *Residential Low Density (RL)*
   The subject property is located in the RL zone, which is intended primarily for single family homes and duplexes. One unit will be added to the existing duplex, which is permitted in this zone. In addition, the purpose of the application is to obtain Subdivision Approval for all (3) lots, so that in the future, Single Family Dwellings can be constructed on Lots 2 and 3. The proposed lots 2 and 3 are created to meet or exceed minimum lot size of 6,000 SF in the RL Zone.

(b) Dimensional Standards & Density
The minimum lot size in the RL zone is 6,000 SF for single family homes and 10,000 SF for duplexes. The existing lot would be subdivided into lots 1, 2, and 3. The lot areas are as follows:

Lot 1 - 48,961 SF
Lot 2 - 6,065 SF
Lot 3 - 7,465 SF

Lots 2 and 3 are adequately sized for single unit density (7 units/acre in the RL zone). Lot 1 is sufficiently sized for the existing duplex to be retained and an additional unit added to convert the building to a triplex. All three lots will have more than the minimum required 60' road frontage. Building envelopes are depicted on the two new vacant lots, lots 2 and 3. Compliant front, side, and rear yard setbacks are depicted in the Zoning Table. The shared driveways are depicted along the shared lot lines and are

allowed per 5.2.5, Setbacks, (b) Exceptions to Yard Setback Requirements, 6. Compliant Lot coverages and Building Heights are also shown in the Zoning Table.

(c) Permitted & Conditional Uses
Detached single family homes may be allowed, one on each Lot #2 and #3. The existing duplex on Lot#1 will remain, but an addition is proposed to provide use as a Triplex dwelling, as shown on the plans.

(d) District Specific Regulations

1. *Setbacks*
   A. Encroachment for Residential Driveways: The driveways shown are shared driveways centered on the proposed property lines. The purpose of this was to limit access points onto Colchester Avenue. Access Driveway Easements are shown for the proposed driveways.

   B. Encroachment into the Waterfront Setback ; Not applicable.

2. *Height*
   A. Exceptions in the Waterfront RM District; Not applicable.

3. *Lot Coverage*
   A. Exceptions for Accessory Residential Features; Not applicable.

4. *Accessory Residential Structures and Uses;* Not applicable.

5. *Residential Density;*
   A: Additional Unit to Multi Family:
   The Duplex on Lot 1 will be modified to provide for a Triplex dwelling. This is allowed per this section. Lots 2 and 3 will be single family dwellings as allowed.

   B: *Additions to Existing Residential Structure:*
   The landowner intends to modify and add 1,139 SF +/- of addition (footprint) to the existing duplex, as shown on C1.1. The gross floor area for the new building will be 2,687-SF +/-.

   C: *Residential Occupancy Limits:*
   The property will conform with the residential occupancy limits set forth in this section.

6. *Uses*
   Not applicable. The property will be residential use.

7. *Residential Development Bonuses:* Not applicable.

Article 5: Citywide General Regulations

Sec 5.2.1, Existing Small Lots
Not applicable.

Sec 5.2.2 Required frontage or access
The proposed properties will all have frontage on Colchester Avenue.

Sec. 5.2.3, Lot Coverage Requirements
The proposed Lot Coverages for the project are as follows: Lot 1 (9.98%), Lot 2 (12.35%), and Lot 3 (5.92%), which all meet the maximum requirement. Lot coverages for Lots 2 and 3 will be updated during the development of these two lots.

Sec. 5.2.4, Buildable Area Calculation
Not applicable.

Sec. 5.2.5, Setbacks
See Sec. 4.4.5 (b) above.

Sec. 5.2.6, Building Height Limits
Building heights for Lots 2 & 3 will meet the minimum requirement and Building Permit applications will be filed for each lot prior to construction. The proposed building height for the triplex on Lot 1 will be 27.3', which matches the existing height.

Sec. 5.2.7, Density and Intensity of Development Calculations
See Sec. 4.4.5 (b) above.

Sec. 5.5.1, Nuisance Regulations
Nothing in the proposal appears to constitute a nuisance under this criterion, as the subdivision and uses for all (3) lots is residential, as allowed.

Sec. 5.5.2, Outdoor Lighting: Not applicable.

Sec. 5.5.3, Stormwater and Erosion Control
Although there are steep slopes along much of the property, the building development areas indicate slopes much more gradual and conducive for building. Most of the proposed impervious surfaces, as well as the existing building roof, will drain to one of three bio-retention/rain garden areas which will allow runoff to infiltrate and be treated prior to discharging to downstream areas. The proposed bio-retention areas will treat the runoff, then convey it to the existing catch basin located on the western side of Colchester Ave, where it will be conveyed to the existing system as it currently does today. Erosion prevention and sediment control will be provided by the placement of silt fencing downslope of all work areas, inlet protection, erosion control matting, and a stabilized construction entrance.

Sec. 5.5.4, Tree Removal:
Removal of existing wooded areas is necessary for the development of the project; however, the plan has been designed to limit disturbance to existing woodlands as much as possible.

Article 6: Development Review Standards:

Part 1, Land Division Design Standards

Sec. 6.1.2, Review Standards:

(a) Protection of important natural features

The subdivision itself will have a very limited impact on natural features. The site has been designed so that the steep slopes located on the site will be impacted as little as possible. Much of the property, including all of the slope, is wooded. Specimen trees (i.e. > 30" caliper) within the development area are noted. Given the size of the property and the limited potential development, identification of specimen trees is limited to the newly created lots 2 and 3. Very limited potential clearing is depicted on lot 1. Specimen trees have been retained insofar as possible, and a tree protection plan will be submitted as part of any construction plan for development of either new lot.

(b) Block size and arrangement; Not applicable.

(c) Arrangement of Lots
Lots 2 and 3 will be regularly shaped rectangular lots. The built area of lot 1 will be regularly shaped as well; however, it will have a large rear appendage consisting of the unbuildable slope. Lot sizes vary widely along Colchester Avenue. The proposed lots would be within the established size range.

(d) Connectivity of streets within the city street grid
While no new streets are proposed, the new lots will access Colchester Avenue with shared Driveways in the same locations as existing conditions. The proposed driveway locations will be subject to review and approval by the Department of Public Works. Driveways and parking are designed to allow cars to pull out forward onto Colchester Avenue.

(e) Connectivity of sidewalks, trails, and natural systems; All residential units will have access to the city sidewalk.

Part 2, Site Plan Design Standards

Sec. 6.2.2, Review Standards:
(a) Protection of important natural features
See response to 6.1.2(a) above.

(b) Topographical Alterations
The project has been designed to minimize the disturbance to the existing steep slopes as well as keep the same general topography as what currently exists on the site; however, due to the shared driveway and existing grades, the project will result in an overall cut of roughly 1,600 CY, which will be removed from the site. Erosion control measures such as silt fence and erosion control matting will control erosion for the site and prevent silt or dirt from flowing off-site due to proposed topographical alterations.

(c) Protection of Important Public Views
Not applicable.

(d) Protection of Important Cultural Resources
Not applicable.

(e) Supporting the Use of Renewable Energy Resources
The rear addition to the existing house will have a south facing roof suitable to support future installation of solar panels.

(f) Brownfield Sites

Not applicable

(g) Provide for nature's events
The project has been designed to minimize impacts on downstream areas with regards to stormwater runoff and erosion control. Bio-Retention areas have been designed to capture and infiltrate runoff for the low intensity storms. Higher intensity storms will only result in a slight increase in flows, which should not affect the downstream areas. Due to the site constraints, the most appropriate possible stormwater management has been provided.

(h) Building Location and Orientation:
Existing Building and proposed addition will be orientated as all of the other homes in the neighborhood.

(i) Vehicular Access:
The two shared driveways are designed to generally be centered on the proposed lot lines, since they are shared access drives. The purpose of these is to maintain the existing access locations onto Colchester Ave.

(j) Pedestrian Access:
A pedestrian access is provided in the front of the building, thus separating it from the parking areas in the back of the building.

(k) Accessibility for the Handicapped:
The site layout grades are less than 5% and suitable handicap access to the residential units is feasible.

(l) Parking and Circulation:
Parking for the site is either provided in 3 spots at grade in the back of the building, or in 3 spots within the garage. Turning movements have been provided to demonstrate adequate turnaround space and circulation in and out of spots. See Sheet C1.1.

(m) Landscaping and Fences:
Clear site Triangles are provided on the site plan (See Sheet C1.1), which shows that there are no trees or fences within the required site distances.

(n) Public Plazas and Open Space:
Not applicable

(o) Outdoor Lighting:
Not applicable

(p) Integrate infrastructure into the design:
Not applicable

***Part 3, Architectural Design Standards Sec. 6.3.2, Review Standards**:*

(a) Relate Development to its environment

1. *Massing, Height, Scale*
   The building height for the proposed addition will match the existing building height.

2. *Roofs and Rooflines*

The building roof of the proposed addition will have roof forms and pitches similar to the existing roof.

3. *Building Openings*
   The existing building entrance will be maintained, however due to the proposed site grades, there will be steps in the front of the building. Because the existing porch already has steps to the front door, this area was previously not handicapped accessible. The driveways have been designed with slopes of less than 5%, so handicapped accessibility is feasible to the rear of the building. Window sizes and doors in the front of the building will not change, except for the proposed addition. Garage doors are around the back of the building and are generally not visible from the street.

(b) *Protection of Important Architectural Resources*
Not applicable

(c) *Protection of Important Public Views*
Not applicable

(d) *Provide an active and inviting street edge*
The existing building façade along the street edge will be maintained.

(e) *Quality of Materials*
The proposed building addition will be constructed with durable building materials meeting the requirements of this section.

(f) *Reduce Energy Utilization*
The proposed addition will contain insulation and will meet energy code requirements.

(g) *Make advertising features complementary to the site*
Not applicable.

(h) *Integrate infrastructure into the building design*
Not applicable.

(i) *Make spaces secure and safe*
The building will meet all the safety requirements in the ordinance.

We trust this submission is complete and meets the guidelines for Preliminary/Final Plan Approval, Subdivision Approval, and Planned Unit Development Approval set forth in the Burlington Comprehensive Development Ordinance. If you need any other information or have any questions about this submission, please do not hesitate to contact me.

Sincerely,

Kevin Worden, P.E., Vice President

-380 COLCHESTER AVE.-

PERSPECTIVE

FRONT / EAST COLOR ELEVATION

SCALE 3/16" = 1'

FRONT / EAST ELEVATION

SCALE 3/16" = 1'

BACK / WEST COLOR ELEVATION

SCALE 3/16" = 1'

BACK/WEST ELEVATION

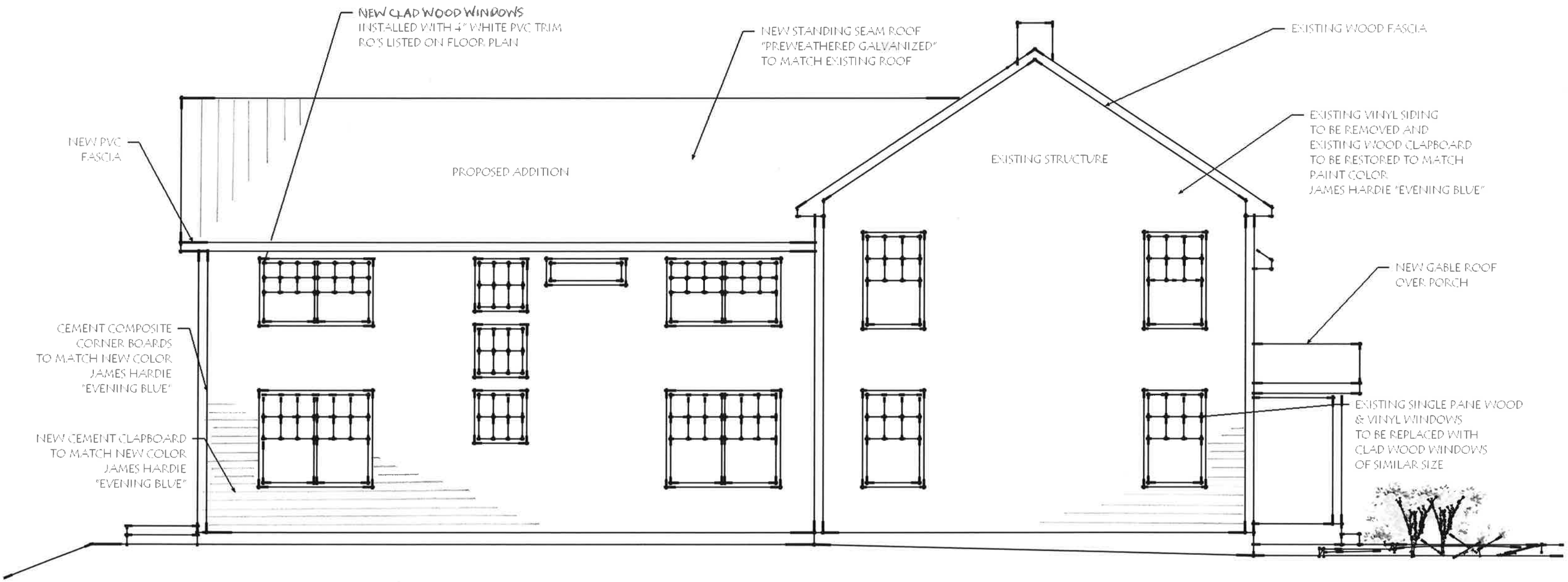
SCALE 3/16" = 1'

SIDE/ SOUTH COLOR ELEVATION

SCALE 3/16 = 1'

SIDE / SOUTH ELEVATION

SCALE 3/16" = 1'



SIDE / NORTH ELEVATION

SCALE 3/16" = 1'

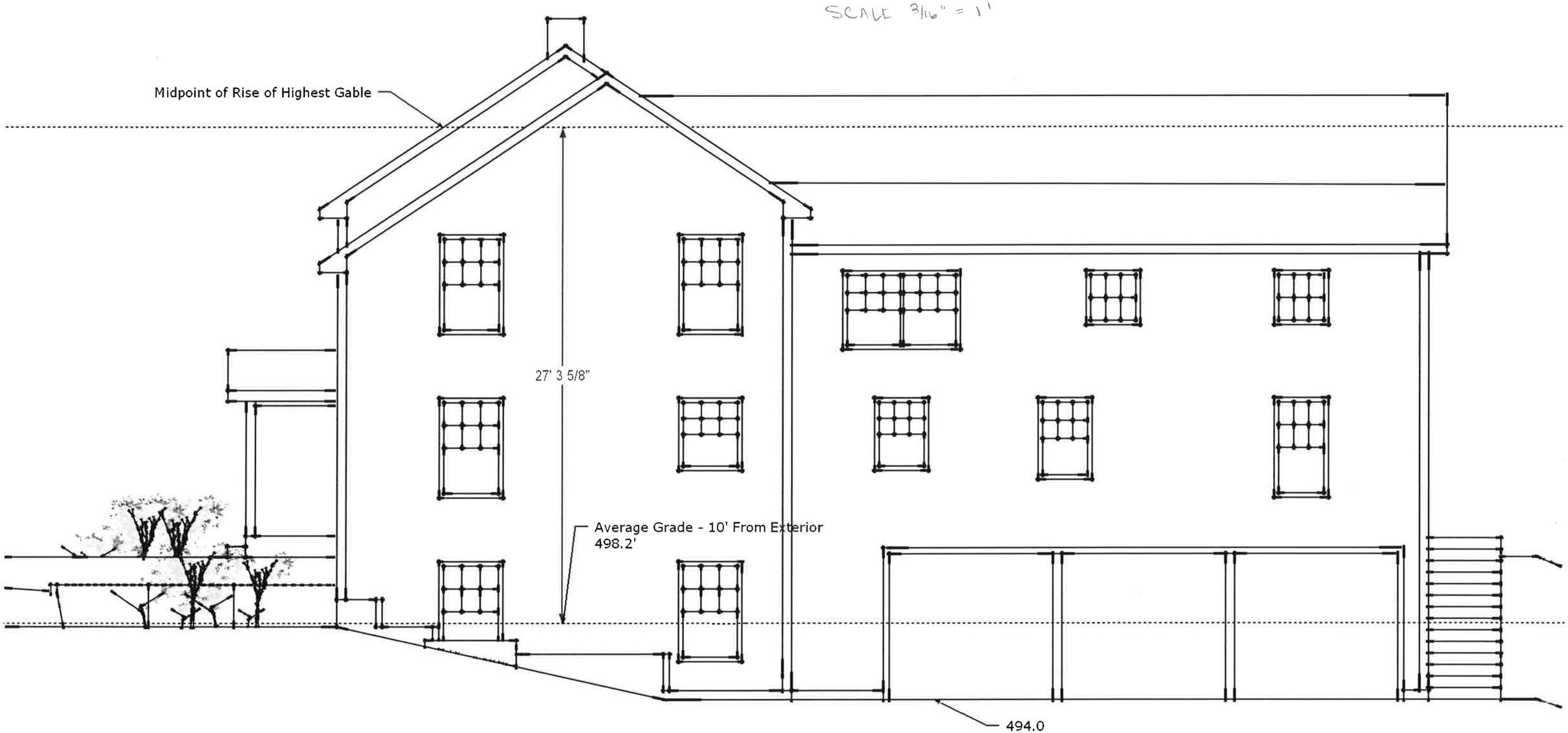
SIDE / NORTH ELEVATION

SCALE 3/16" = 1'

3/25/2015

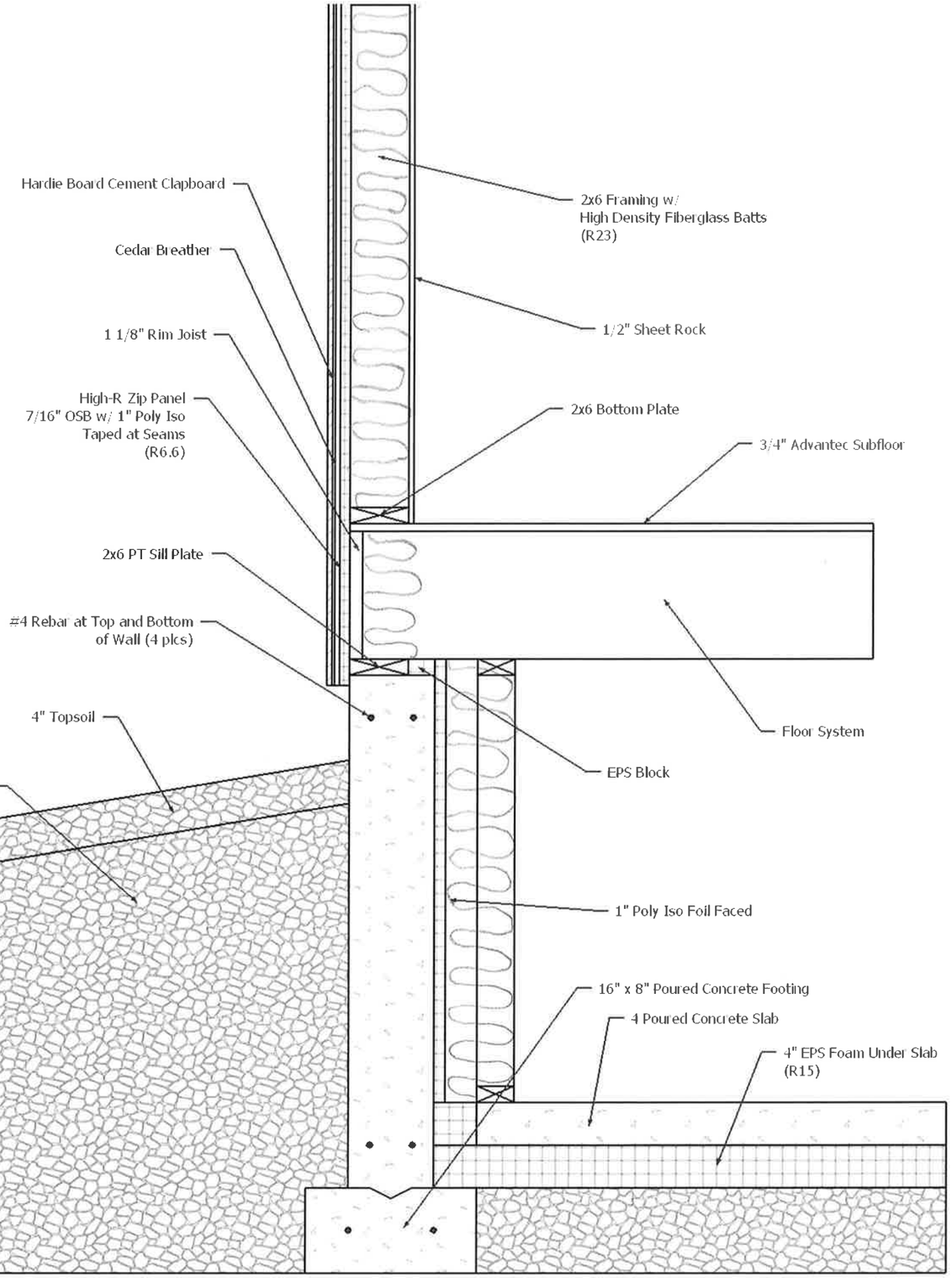
EXISTING AND NEW BUILDING HEIGHT

SCALE 3/16" = 1'



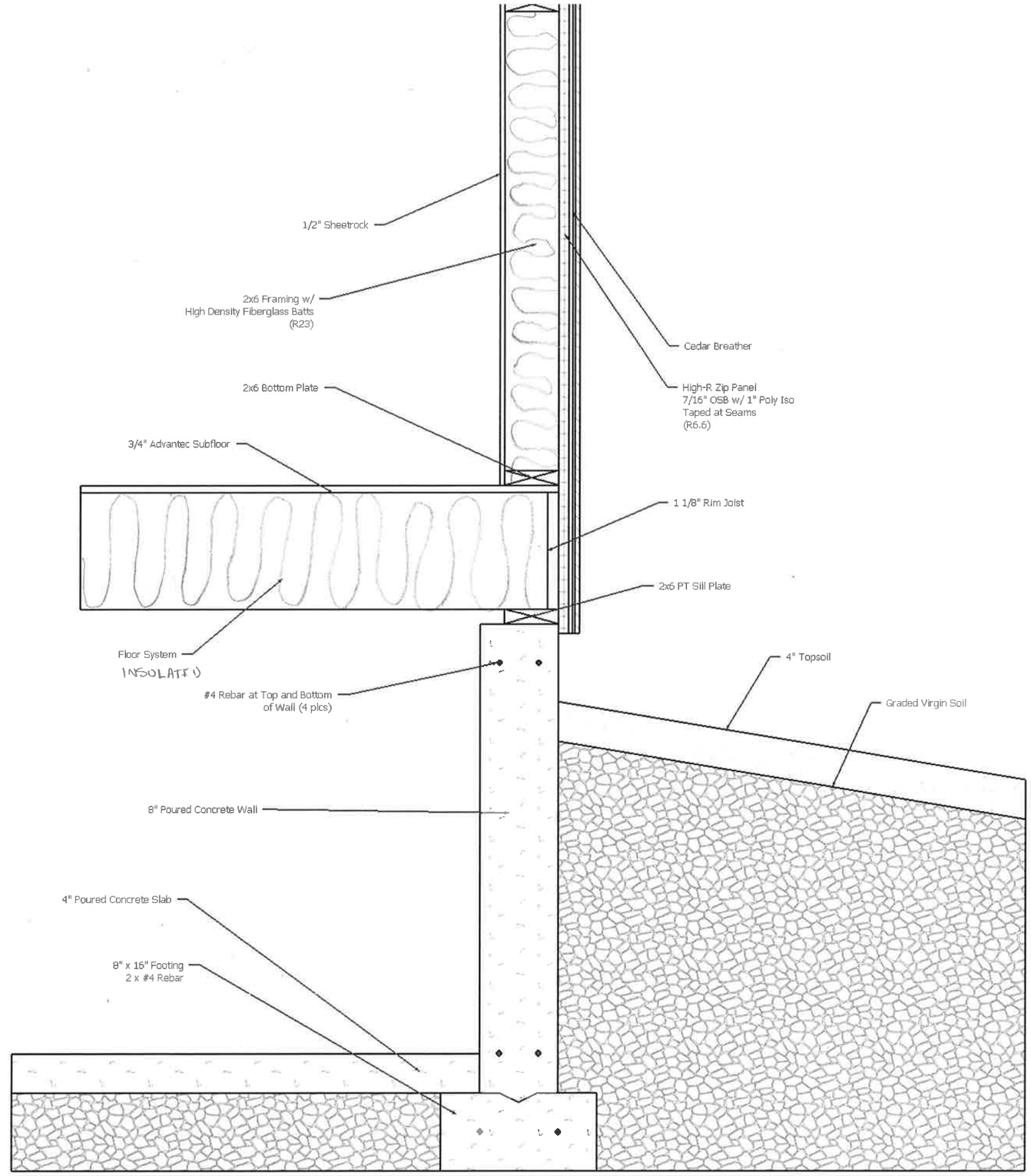
CONDITIONED BASEMENT

SCALE 1" = 1'



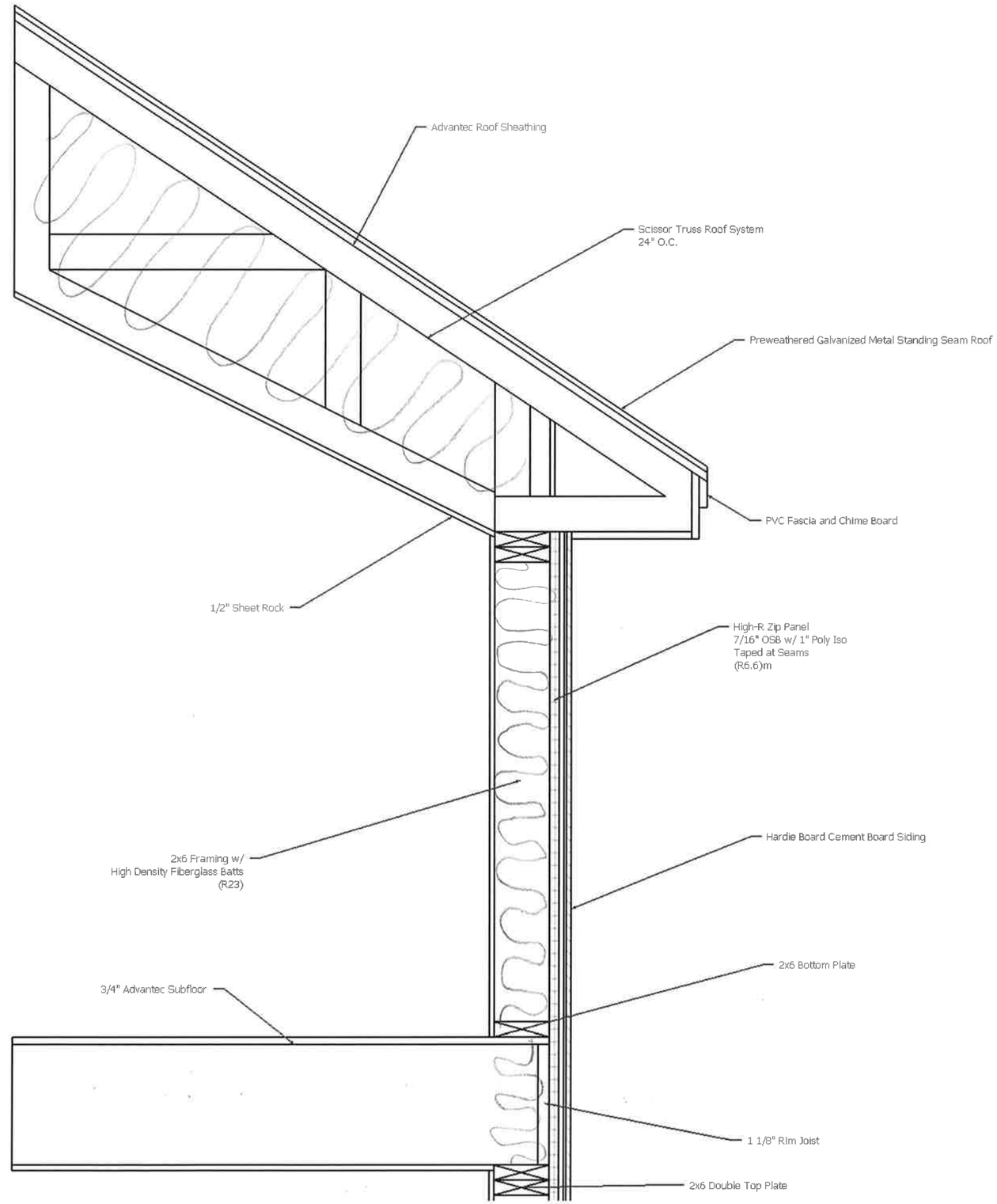
UNCONDITIONED BASEMENT/
GARAGE

SCALE 1" = 1'



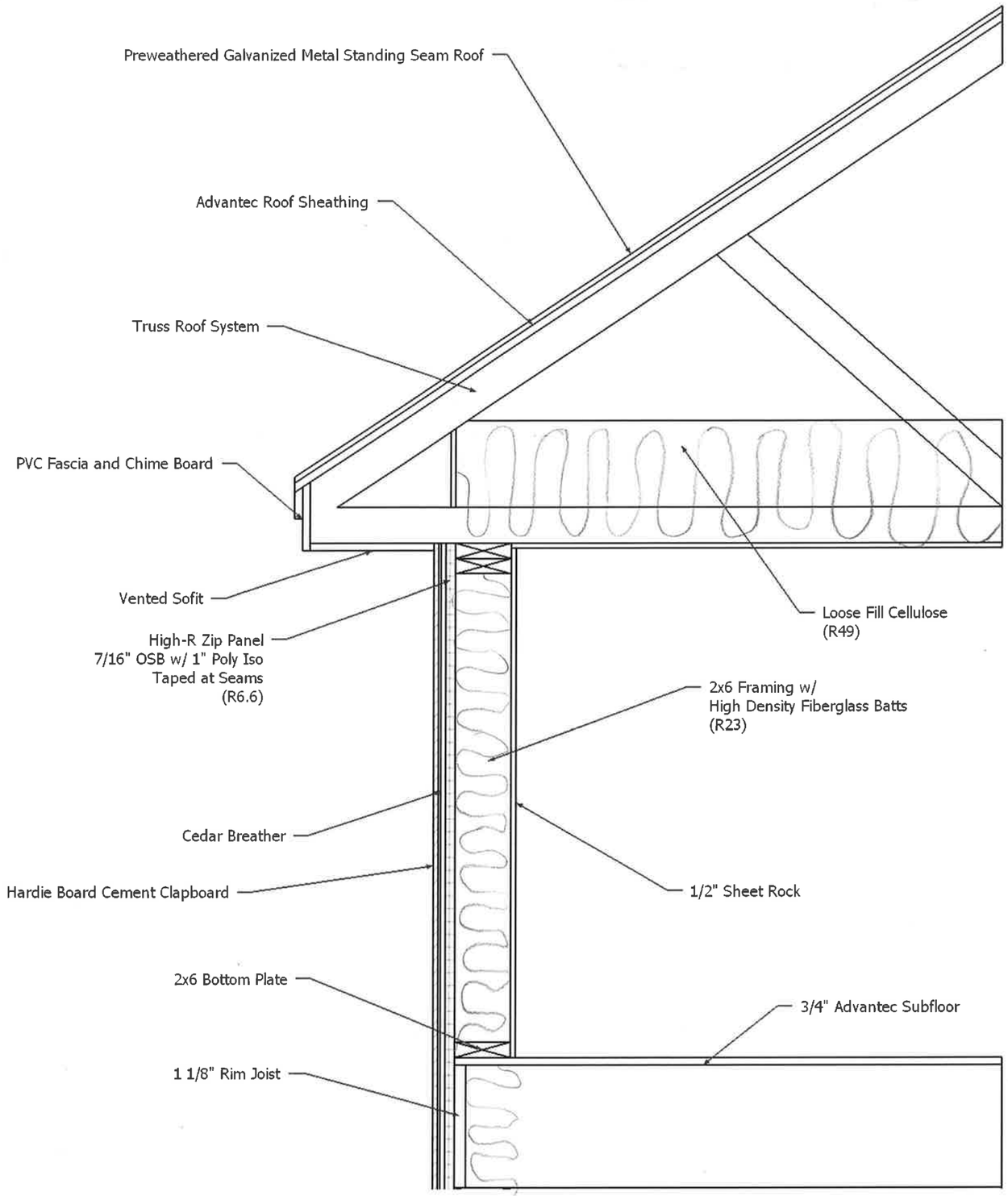
SCISSOR TRUSS

SCALE 1" = 1'



TRADITIONAL TRUSS

SCALE 1" = 1'



REFERENCES:

1) A PLAT ENTITLED "PLAT OF LANDS OF GHISLAINE L. LEVEILLE, 380 COLCHESTER AVENUE, BURLINGTON, VERMONT", PREPARED BY RICHARD W. BELL LAND SURVEYING, INC., DATED JANUARY, 2014 AND PROVIDED BY RICHARD W. BELL LAND SURVEYING, INC.

2) A PLAN ENTITLED "SKETCH PLAN, 380 COLCHESTER AVENUE, BURLINGTON, VERMONT", PREPARED BY ENGINEERING VENTURES, SHEET SK-1, DATED 6/04/14 AND PROVIDED BY ENGINEERING VENTURES.

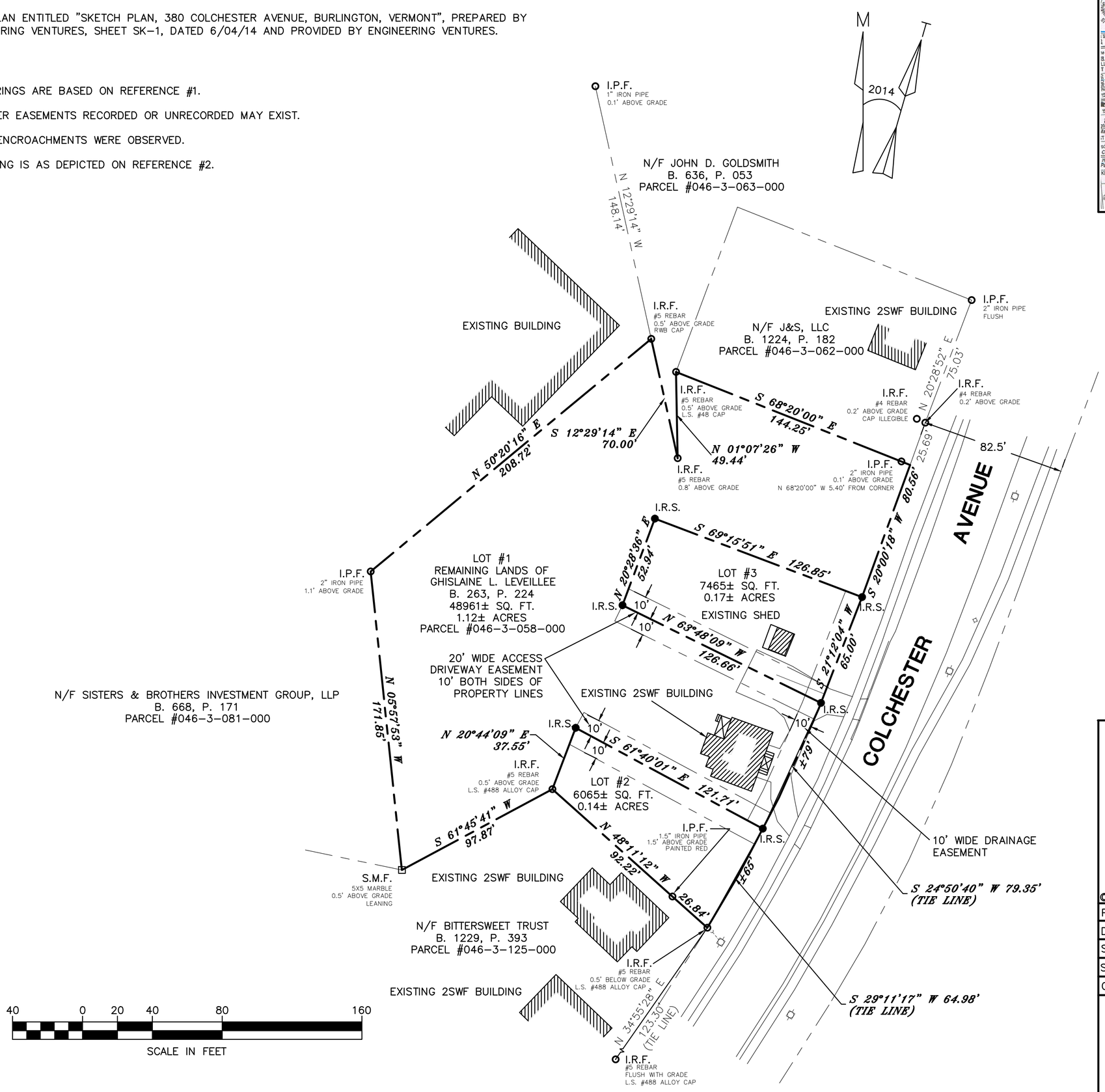
NOTES:

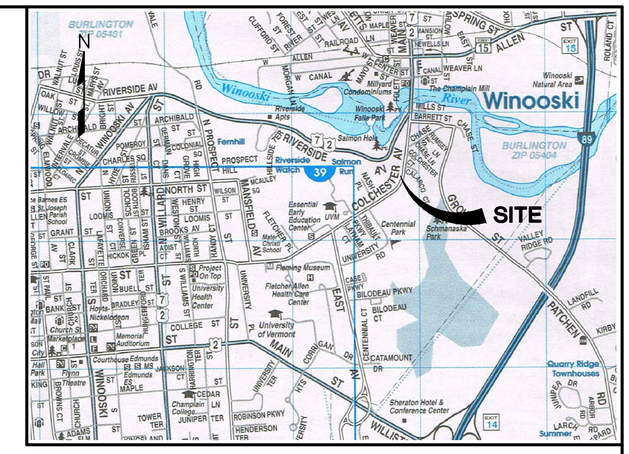
1) BEARINGS ARE BASED ON REFERENCE #1.

2) OTHER EASEMENTS RECORDED OR UNRECORDED MAY EXIST.

3) NO ENCROACHMENTS WERE OBSERVED.

4) ZONING IS AS DEPICTED ON REFERENCE #2.





LOCUS
NOT TO SCALE

LEGEND

	PROPERTY LINE
	RIGHT OF WAY OR PARCEL LINE
	POLE
	GUY WIRE
I.R.F.	IRON ROD FOUND
I.R.S.	IRON ROD SET
I.P.F.	IRON PIPE FOUND
S.M.F.	STONE MONUMENT FOUND

CERTIFICATION

I HEREBY CERTIFY THAT THE SURVEY SHOWN HEREON IS A TRUE AND CORRECT REPRESENTATION OF THE PARCEL BOUNDARIES DETERMINED AS NOTED HEREON AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS SURVEY WAS PERFORMED WITH ELECTRONIC TOTAL STATION SURVEY EQUIPMENT, WITH A POSITIONAL TOLERANCE CONFIDENCE LEVEL ABOVE 95%. I FURTHER CERTIFY THAT THIS PLAT MEETS ALL THE REQUIREMENTS OF TITLE 27 V.S.A. SECTION 1403.

DATED _____

_____
RICHARD W. BELL L.S. #638 VT.

© COPYRIGHT 2014

PROJ. #14849	**SUBDIVISION OF LANDS OF GHISLAINE L. LEVEILLE 380 COLCHESTER AVENUE BURLINGTON, VERMONT**
DATE: OCTOBER, 2014	
SCALE: 1"=40'	
SURVEYED BY: RWB/TWW	
CHECKED BY: RWB	SHEET 1 OF 1 DWG. # S-849

STATE OF VERMONT
RICHARD W. BELL
NO. 638
LICENSED LAND SURVEYOR

EMAIL RBELLLS@RBELL-LANDSURVEYOR.COM
RICHARD W. BELL
LAND SURVEYING, INC.
297 SOUTH MAIN ST.
BARRE, VERMONT 05641
802-479-9262 C 802-793-5037

I CERTIFY THAT THIS PLAT IS AN ORIGINAL INK ON MYLAR DRAWING. RICHARD W. BELL L.S.

From Existing duplex looking southwest towards 352 Colchester Avenue

From 352 Colchester Avenue looking northeast towards the existing duplex

Rear of existing duplex

From northeastern corner of property looking northeast towards 406 Colchester Avenue

From the existing accessory building looking northwest towards the rear portion of the property

From southeast corner of the property looking north towards the existing duplex

From center of Colchester Avenue looking west towards existing duplex on 380 Colchester Avenue

From eastern side of Colchester Avenue looking southwest towards southeastern property corner of 380 Colchester Avenue

From center of Colchester Avenue looking west towards 352 Colchester Avenue (right) and 338 Colchester Avenue (left) – south of 380 Colchester Avenue

From Colchester Avenue looking northwest towards 338 Colchester Avenue and 352 Colchester Avenue

From Colchester Avenue looking west towards 406 Colchester Avenue (left) and 408 Colchester Avenue (right) – north of 380 Colchester Avenue

From western side of Colchester Avenue looking south towards 408 Colchester Avenue and 406 Colchester Avenue

REFERENCES:

1) A PLAT ENTITLED "PLAN OF PROPERTY OF CHARLES CURTIS LORD, COLCHESTER AVENUE, BURLINGTON, VERMONT" DATED SEPT. 29, 1947 AND RECORDED IN B. 127, P. 350 OF THE CITY OF BURLINGTON LAND RECORDS.

2) A PLAT ENTITLED "PROPERTY PLAN, MRS. FRANCIS LEVEILLEE, BURLINGTON, VT." PREPARED BY WILLIAM & WARREN ROBENSTIEN, DATED JUNE, 1967 AND RECORDED IN B. 183, P. 240 OF THE CITY OF BURLINGTON LAND RECORDS.

3) A PLAT ENTITLED "PLAT OF SURVEY PATRICK J., ROBERT P & JO ANN ALBERRY, N.O.S 408–410 COLCHESTER AVENUE, BURLINGTON, VERMONT" PREPARED BY WARREN A. ROBENSTIEN, DATED DEC. 1998 AND RECORDED IN SLIDE #332D OF THE CITY OF BURLINGTON LAND RECORDS.

4) A PLAT ENTITLED "SUBDIVISION PLAT, DEIRDRE DONOVAN AND HORACE MITCHELL, 352 COLCHESTER AVENUE, BURLINGTON, VT." PREPARED BY TRUDELL CONSULTING ENGINEERS, DATED 1/15/07 AND RECORDED IN SLIDE #419D OF THE CITY OF BURLINGTON LAND RECORDS.

5) WARRANTY DEED OF LAWRENCE A. AND GHISLAINE LEVEILLEE TO JAMES W. JARVIS, ET AL, DATED 10/16/1978 AND RECORDED IN B. 256, P. 272 OF THE CITY OF BURLINGTON LAND RECORDS.

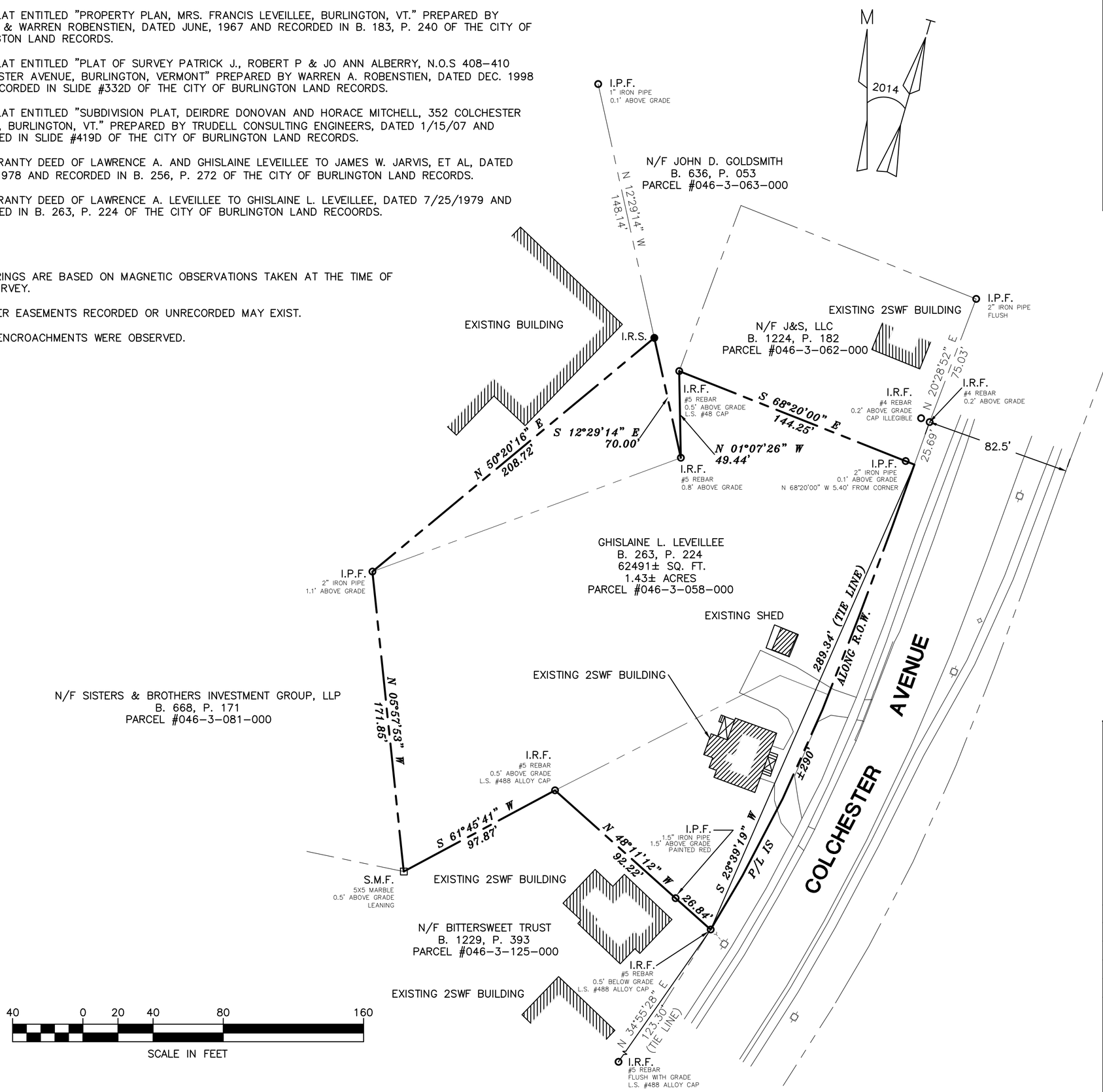
6) WARRANTY DEED OF LAWRENCE A. LEVEILLEE TO GHISLAINE L. LEVEILLEE, DATED 7/25/1979 AND RECORDED IN B. 263, P. 224 OF THE CITY OF BURLINGTON LAND RECOORDS.

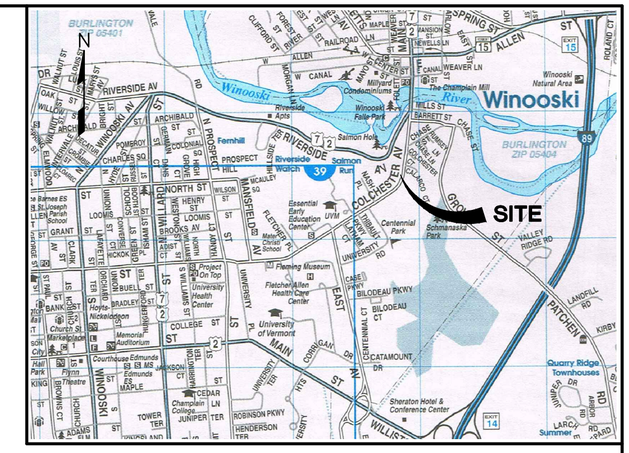
NOTES:

1) BEARINGS ARE BASED ON MAGNETIC OBSERVATIONS TAKEN AT THE TIME OF THIS SURVEY.

2) OTHER EASEMENTS RECORDED OR UNRECORDED MAY EXIST.

3) NO ENCROACHMENTS WERE OBSERVED.





LOCUS
NOT TO SCALE

LEGEND

— — —	PROPERTY LINE
— — —	RIGHT OF WAY OR PARCEL LINE
	POLE
	GUY WIRE
⊙ I.R.F.	IRON ROD FOUND
● I.R.S.	IRON ROD SET
⊙ I.P.F.	IRON PIPE FOUND
⊡ S.M.F.	STONE MONUMENT FOUND

CERTIFICATION

I HEREBY CERTIFY THAT THE SURVEY SHOWN HEREON IS A TRUE AND CORRECT REPRESENTATION OF THE PARCEL BOUNDARIES DETERMINED AS NOTED HEREON AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS SURVEY WAS PERFORMED WITH ELECTRONIC TOTAL STATION SURVEY EQUIPMENT, WITH A POSITIONAL TOLERANCE CONFIDENCE LEVEL ABOVE 95%. I FURTHER CERTIFY THAT THIS PLAT MEETS ALL THE REQUIREMENTS OF TITLE 27 V.S.A. SECTION 1403.

DATED _____

_____
RICHARD W. BELL L.S. #638 VT.

© COPYRIGHT 2014

PROJ. #14792	**PLAT OF LANDS OF GHISLAINE L. LEVEILLE 380 COLCHESTER AVENUE BURLINGTON, VERMONT**
DATE: JANUARY, 2014	
SCALE: 1"=50'	
SURVEYED BY: RWB/TWW	
CHECKED BY: RWB	SHEET 1 OF 1 DWG. # S–792

STATE OF VERMONT
RICHARD W. BELL
NO. 638
LICENSED LAND SURVEYOR

EMAIL RBELLLS@RBELL–LANDSURVEYOR.COM
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LAND SURVEYING, INC.
297 SOUTH MAIN ST.
BARRE, VERMONT 05641
802–479–9262 C 802–793–5037

I CERTIFY THAT THIS PLAT IS AN ORIGINAL INK ON MYLAR DRAWING. RICHARD W. BELL L.S.

Department of Planning and Zoning
149 Church Street
Burlington, VT 05401
Telephone:(802) 865-7188
(802) 865-7195 (FAX)
(802) 865-7142 (TTY)

David White, AICP, Director
Ken Lerner, Assistant Director
Sandrine Thibault, AICP, Comprehensive Planner
Jay Appleton, GIS Manager
Scott Gustin, AICP, Senior Planner
Mary O'Neil, AICP, Senior Planner
Anita Wade, Zoning Clerk
Elsie Tillotson, Department Secretary

TO: Design Advisory Board
FROM: Scott Gustin
DATE: April 28, 2015
RE: 15-0938SD, 380 Colchester Ave

==========

Zone: RL Ward: 1E
Owner/Representative: Nathaniel Hayward

Request: Change of use of primary dwelling from 2 residential units to 3 residential units. Subdivision of property into 3 separate lots.

OVERVIEW:
The applicant is requesting approval for a minor 3-lot subdivision. Two new vacant building lots would result from the subdivision. The existing duplex would be retained and expanded for conversion to a triplex. The existing dual curb cut driveway would be reconfigured into two separate shared driveways. The property is relatively large at 1.43 acres, but much of it is wooded slope down to Riverside Avenue to the west. A similar subdivision was approved at 366 Colchester Avenue in 2012. As this subdivision would result in just 3 lots, it is eligible for combined preliminary/final plat review per Sec. 10.1.7 of the CDO. Note that conversion to a triplex will require conditional use review as part of the subdivision application.

This proposal underwent sketch plan review with the Development Review Board on July 15, 2014. Comments from the DRB centered on traffic safety (especially sight lines along Colchester Avenue) and reduction of pavement around the would-be triplex.

ARTICLE 6: DEVELOPMENT REVIEW STANDARDS
Part 1, Land Division Design Standards
Sec. 6.1.2, Review Standards
(a) Protection of important natural features
The subdivision itself will have no impact on important natural features. The two new lots (2 & 3) extend into the wooded portions of the site and, particularly on lot 3, down the slope. Proposed building envelopes reflect only the minimum required setbacks. More definitive building envelopes reflecting site sensitivities such as the steep slopes should be defined to better guide eventual development on these two lots.

Much of the property, including all of the slope, is wooded. As required the project plans depict clearing limitations and specimen trees (i.e. > 30" caliper). While specimen trees are noted, it appears that they will all be removed within the overall clearing area. Doing so is discouraged. Some of the specimen trees need to be removed to clear the building site. It appears, however, that some of the identified specimen trees could be retained. Specimen trees should be retained insofar

as possible, and a tree protection plan must be submitted as part of any construction plan for development of either new lot.

(b) Block size and arrangement
Not applicable.

(c) Arrangement of Lots
Lots 2 and 3 will be regularly shaped rectangular lots. The built area of lot 1 will be regularly shaped as well; however, it will have a large rear appendage consisting of the unbuildable slope. Lot sizes vary widely along Colchester Avenue. The proposed lots would be within the established size range.

(d) Connectivity of streets within the city street grid
While no new streets are proposed, the new lots will access Colchester Avenue with shared driveways. Given the grades onsite and the curvature of Colchester Avenue along the properties' frontage, adequacy and safety of vehicular access onto the street is a concern. The proposed driveway locations will be subject to review and approval by the Department of Public Works. Comments from DPW have not yet been received but are anticipated prior to review by the Development Review Board.

(e) Connectivity of sidewalks, trails, and natural systems
Not applicable.

Part 2, Site Plan Design Standards
Sec. 6.2.2, Review Standards
(a) Protection of important natural features
See Sec. 6.1.2 (a) above.

(b) Topographical alterations
Much of the property slopes. Immediately along Colchester Avenue, the grade slopes downward from south to north. Further back, the property slopes to the west, down to Riverside Avenue. The existing duplex and proposed addition sit on a comparatively level portion of the site and will require only modest grading. More significant cut-and-fill is associated with the reworked driveways. The general topography of the site, however, will remain as it presently is.

(c) Protection of important public views
There are no important public views from or through the property.

(d) Protection of important cultural resources
The property is not included in the city's map of archeologically sensitive areas, nor does it contain any specific archaeologically significant site points.

(e) Supporting the use of alternative energy
No alternative energy is incorporated into the project design. The proposed addition and subdivision; however, do not preclude such utilization in the future.

(f) Brownfield sites
The property is not included on the Vermont DEC Hazardous Site List.

(g) Provide for nature's events
A progressive stormwater management system is proposed. A series of bio-retention areas (i.e. rain gardens) will be created. These areas will capture stormwater runoff and infiltrate a portion of it into the ground. Runoff that does not infiltrate will at least receive treatment in the rain gardens prior to discharging into the city stormwater system. Review and approval by the Conservation Board and the Stormwater Administrator will be required.

An erosion prevention and sediment control plan has been provided. Retention of sediment onsite is particularly important on this sloped site adjacent to a sloping roadway. As with the stormwater management plan, the erosion prevention and sediment control plan is subject to review and approval by the Conservation Board and the Stormwater Administrator.

Sufficient room remains available onsite for seasonal snow storage.

(h) Building location and orientation
Building location and orientation remains unchanged. The duplex presently faces Colchester Avenue. Upon addition and conversion to a triplex, it will continue to face Colchester Avenue with its well-defined front entry. The conversion to a triplex involves an addition to the side and rear of the building. The proposed construction will not affect the present building location and orientation.

(i) Vehicular access
The duplex is presently served by a half-circle driveway with two curb cuts on Colchester Avenue. As proposed, the two curb cuts would be retained, but the driveway would be replaced with two separate driveways. Although no buildings are to be constructed on lots 2 and 3 as part of this application, the two new driveways are intended to provide access to them. They will also provide access to the triplex. The shared driveway between lot 3 and lot 1 (the triplex) is necessary and provides sufficient access to both. The shared driveway between lot 1 and lot 2 may not need to be shared or be as large as presently proposed. Moving this driveway entirely onto lot 2 would provide the necessary access to lot 2 while also enabling the deletion of substantial asphalt from the plan. This arrangement would; however, require a parking waiver for the triplex. As proposed, 3 parking spaces will be provided in the attached garage with room for 3 more in the driveway up to the garage. The parking standards under Article 8 prohibit counting the parking spaces in a tandem arrangement such as this and would result in needing a 3-space parking waiver. In practice; however, 6 spaces would be provided (3 in the garage and 3 in the driveway). If this option is pursued, construction of the driveway on lot 2 need not occur until a home is constructed on the lot. In any event, the proposed sight lines (demonstrated with clear sight triangles on the plans) will be reviewed by the Department of Public Works.

(j) Pedestrian access
A new front walkway will be installed to connect the existing front entry to the public sidewalk.

(k) Accessibility for the handicapped
Handicap access to the residence is feasible. Accessibility will be as required by the ADA as administered through the city's building code.

(l) Parking and circulation

Surface and structured parking will be provided. The driveway configuration as presently proposed demonstrates sufficient room for vehicles to turn around and avoid backing out onto Colchester Avenue. The proposed triplex will require 6 parking spaces (2 per unit). As proposed, 3 of these spaces will be provided for in the garage and another three will be provided for in surface parking spaces on the shared driveway between lots 1 and 2. As noted in criterion (i) above, removal of these 3 surface spaces is recommended. As a matter of practice, 3 surface spaces are available in the other driveway leading up to the garage.

(m) Landscaping and fences
Proposed landscaping is centered on the proposed rain gardens. A mix of water-tolerant shrubs and perennials will be planted within the gardens. The proposed landscaping is a relatively rare example of functional green space. It will serve to beautify the site while also contributing to improved water quality.

(n) Public plazas and open space
No public spaces or open space are included in this proposal.

(o) Outdoor lighting
No outdoor lighting details have been provided. Presumably, the garage doors and new rear entry will be illuminated. Proposed outdoor lighting fixtures must be depicted on the project plans, and specification sheets must be provided.

(p) Integrate infrastructure into the design
No new utilities are evident in the project plans. Existing utility lines will continue to serve the proposed triplex. No provision for trash and recycling is evident. A development of this relatively small size will likely utilize totes, but confirmation is needed.

Part 3, Architectural Design Standards
Sec. 6.3.2, Review Standards
(a) Relate development to its environment

1. *Massing, Height, and Scale*
   The proposed addition is set to the side and rear of the existing building. Along Colchester Avenue, the proposed addition is fairly narrow and steps down the slope. Stepping down provides a distinct separation between the original and new construction and serves to break up the overall massing of the residence. The bulk of the addition is located behind the existing home and will be minimally visible from the street. Even so, the mass and scale of this rear addition is consistent with that of the existing home. Height of the addition is appropriately lower than that of the existing home.

2. *Roofs and Rooflines*
   The addition will have a gable roof, consistent with that of the existing home. Orientation remains consistent along Colchester Avenue and is rotated 90 degrees for the rear addition.

3. *Building Openings*
   Windows in the existing home will be replaced with clad wooden units. These same windows will also be installed in the addition. Fenestration is consistent throughout.

(b) Protection of important architectural resources

The existing duplex is not included on any historic register. The proposed renovation and addition will not adversely impact Burlington's important architectural resources.

(c) Protection of important public views
See 6.2.2 (c) above.

(d) Provide an active and inviting street edge
As noted above, the location and orientation of the residence will remain unchanged. It has a well-defined front entry, and a new front walkway will be constructed to link with the public sidewalk. The circular driveway will be removed, thereby opening up green space to serve as a front lawn and rain gardens. The addition is set to the side and rear of the existing home. It will not adversely impact the street edge of the home.

(e) Quality of materials
The vinyl siding on the existing home will be removed, and the wooden clapboards and trim underneath will be repaired and repainted. As noted previously, the existing windows will be removed and replaced with clad wooden units. The new addition will be clad in fiber cement clapboards and trim. Matching clad wooden windows will be installed, as will matching standing seam metal roofing. PVC fascia will be installed along the eves. The proposed materials are high in quality and durability. Note that materials for the rear steps are not specified and must be.

(f) Reduce energy utilization
The proposed addition and renovations must comply with the current energy efficiency requirements of the city and of the State of Vermont.

(g) Make advertising features complimentary to the site
No advertising features are included in the proposal.

(h) Integrate infrastructure into the building design
No vents or utility meters are evident on the elevation drawings. Such items must be depicted and located on secondary elevations.

(i) Make spaces safe and secure
Building entries should be illuminated. Lighting details are needed as noted above.

RECOMMENDED MOTION:
Review and forward to the Development Review Board subject to the following conditions:

1. Definitive building envelopes, avoiding the steep slopes, should be defined on lots 2 and 3.
2. Specimen trees should be retained insofar as possible, and a tree protection plan should be submitted as part of any construction plan for development of lot 2 or 3.
3. Driveway locations and sight lines should be evaluated by the Department of Public Works.
4. The shared lot 1 & 2 driveway should be shifted entirely onto lot 2, and the accompanying 3 surface spaces for the triplex should be eliminated. Construction of the lot 2 driveway should take place only upon construction of a home on lot 2.
5. Outdoor lighting details are needed. Lighting fixture locations need to be indicated, and fixture specification sheets need to be provided.

6. Provision for trash and recycling should be noted.
7. Materials for the rear steps should be noted.
8. Utility meter and vent locations should be noted on the elevation drawings and placed on secondary elevations.

Burlington Design Advisory Board
149 Church Street, City Hall
Burlington, VT 05401
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Matthew Bushy, Chair
Todd Thomas, Vice Chair
Ron Wanamaker
Sean McKenzie
Steven Offenhartz
Philip Hammerslough, Alt.
Jeremy Gates, Alt.

DESIGN ADVISORY BOARD
Tuesday, April 28, 2015
Conference Room 12, City Hall, Burlington, VT
MINUTES

Board Members present: Matt Bushey, Steve Offenhartz, Sean McKenzie, Ron Wanamaker, Todd Thomas, Phil Hammerslough (alternate)
Board Members Absent: Jeremy Gates (alternate)
Staff: Scott Gustin

Session I - 3:00-3:30 p.m.
15-0938SD; 380 Colchester Ave (RL, Ward 1E) Nathaniel Hayward
Combined preliminary/final plat review of 3-lot subdivision and conversion of duplex to triplex and related site improvements

Present: Project applicants Nathaniel Hayward & Kevin Worden

Motion by Matthew Bushey: Move to approve application and forward to Development Review Board per the project plans submitted today (April 28, 2015) with the following conditions:

1. Add walkway from the southern driveway to the front door.
2. Construct a roof to shelter the rear (western) doorway.
3. Note that a handrail along the rear exterior stairs will be required.

2nd – Phil Hammerslough
Vote 6-0-0.
Motion passes.

The programs and services of the City of Burlington are accessible to people with disabilities.
Individuals who require special arrangements to participate are encouraged to contact the Department of Planning & Zoning at least 72 hours in advance so that proper accommodations can be arranged. For information call 865-7188 (TTY users: 865-7142).