THE TOWN OF GLASTONBURY, CONNECTICUT

# New Town Facilities and Maintenance Barn 2109 MAIN STREET, GLASTONBURY, CT.





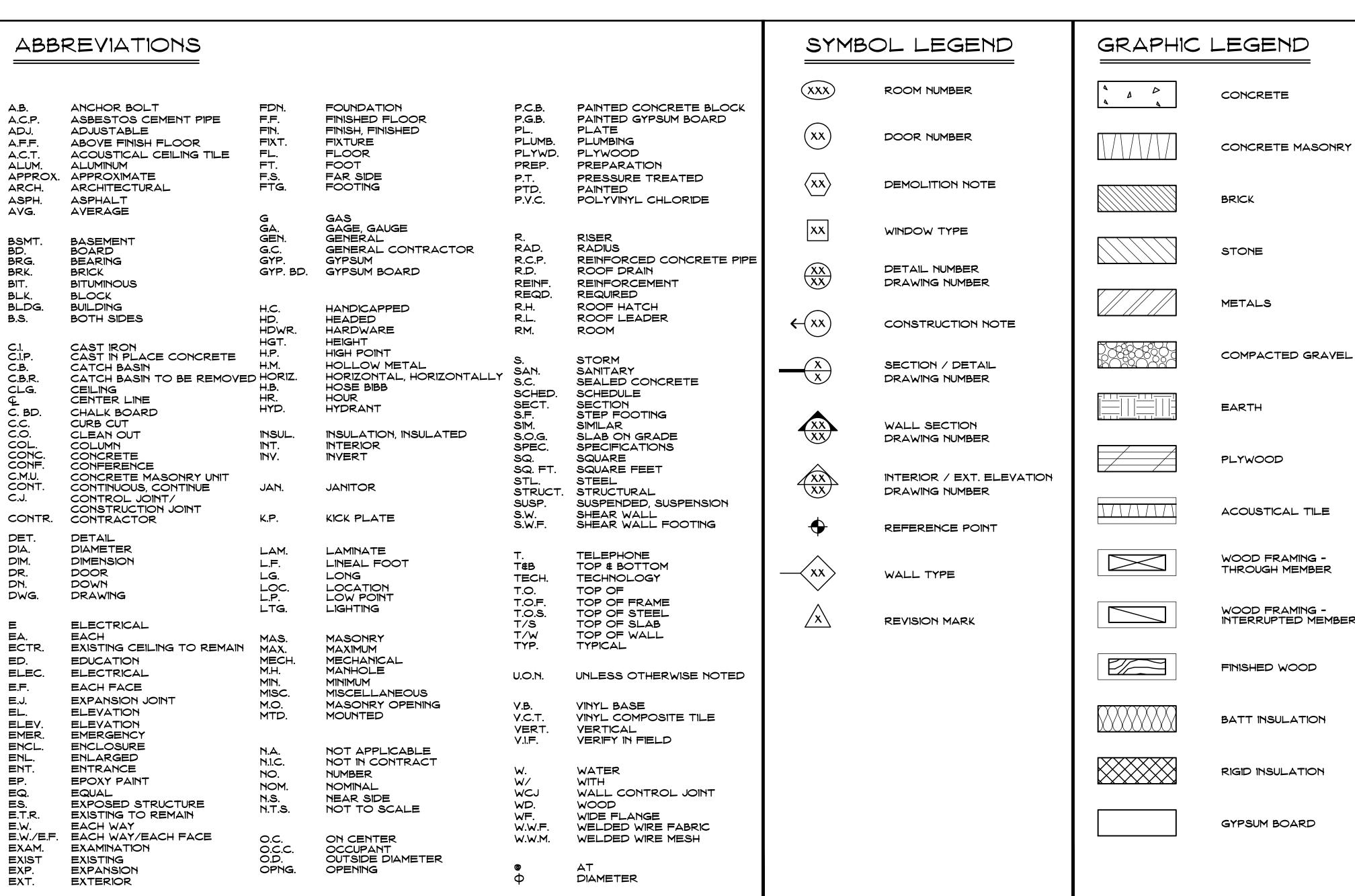
# SILVER / PETRUCELLI + ASSOCIATES

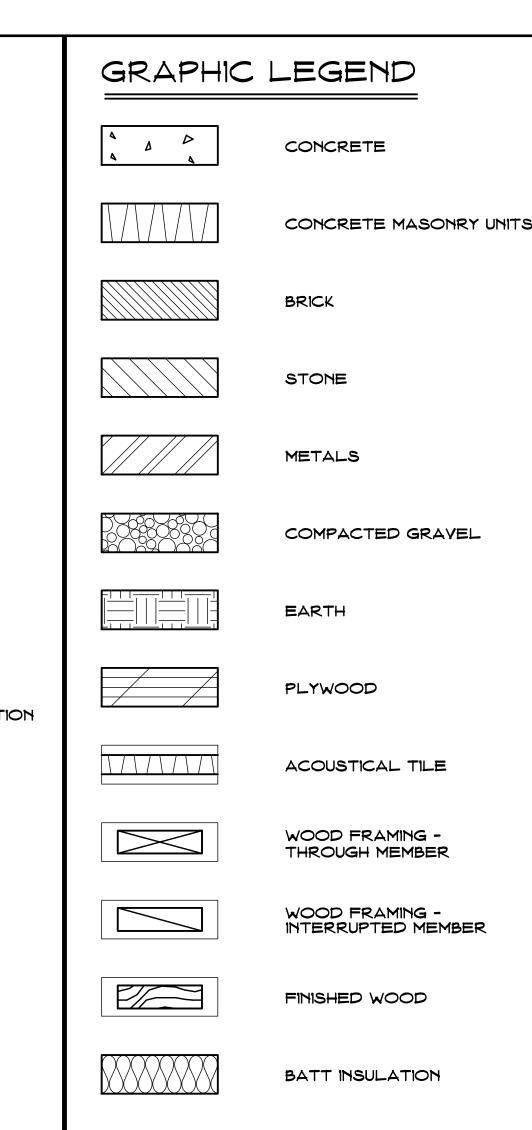
Architects/Engineers/Interior Designers

3190 Whitney Avenue, Hamden, CT 06518-2340
Tel. 203 230 9007 Fax. 203 230 8247

silverpetrucelli.com

100% Construction Documents October 3, 2014





# GENERAL NOTES

- 1. FOR SPECIFIC WALL DESIGNATIONS AND RATED DESIGNS, SEE THIS DWG A1.
- 2. GENERAL NOTES FOUND ANYWHERE IN THE CONTRACT DOCUMENTS RELATE TO ALL DRAWINGS AND SPECIFICATIONS.
- 3. ALL MATERIALS & EQUIPMENT ARE NEW UNLESS OTHERWISE NOTED AS "EXISTING".
- 4. ALL EXISTING UTILITIES & EQUIPMENT LOCATIONS ARE APPROXIMATE -CONTRACTOR TO FIELD VERIFY.
- 5. ASSUME THAT ALL OF THE EXISTING STEEL IS PAINTED WITH LEAD BASED PAINT. CONTRACTOR IS RESPONSIBLE FOR THE PROPER SAFETY PRECAUTIONS WHEN DISTURBING THE PAINT. THIS INCLUDES THE STATE OF CONNECTICUT AND OSHA.
- 6. ALL MATERIALS USED IN THE SCOPE OF WORK MUST NOT CONTAIN ANY ASBESTOS AND THE CONTRACTOR MUST CERTIFY THAT TO THE BEST OF HIS/HER KNOWLEDGE THAT MATERIALS USED IN THE SCOPE OF WORK ARE ASBESTOS FREE.
- 7. PROVIDE ALL TEMPORARY PARTITIONS AND PROTECTION METHODS TO INSURE THAT THE OWNERS MATERIALS, EQUIPMENT AND OPERATIONS ARE
- PROTECTED AND REMAIN OPERATIONAL DURING CONSTRUCTION. 8. THE DRAWINGS AND THE SPECIFICATIONS ARE COMPLEMENTARY - WHAT IS REQUIRED BY ONE IS REQUIRED BY BOTH.

# LIST OF DRAWINGS

-COVER SHEET

A1 - GENERAL INFORMATION

<u>CIVIL DRAWINGS:</u> C1 - CIVIL PLAN

C2 - CIVIL DETAILS

ARCHITECTURAL DRAWNGS: A2 - CODE PLAN & CODE INFORMATION

A4 - EXTERIOR ELEVATIONS, SECTIONS & DETAILS STRUCTURAL DRAWINGS: S1 - FLOOR AND ROOF PLANS S2 - SECTIONS AND TYPICAL DETAILS

A3 - FLOOR PLAN, ROOF PLAN & SCHEDULES

MECHANICAL DRAWINGS: MI - MECHANICAL FLOOR PLAN, NOTES, DETAILS AND SCHEDULE

# ELECTRICAL DRAWINGS:

S3 - GENERAL NOTES

E1 - NOTES, SYMBOLS, DETAILS & SCHEDULES - ELECTRICAL E2 - SITE PLAN & FLOOR PLANS - ELECTRICAL

E3 - ONE LINE DIAGRAM & PANEL SCHEDULE - ELECTRICAL

- DECK ABOVE -DBL TOP PLATE, SOUND BATT INSULATION - 3-5/8" METAL STUDS @ 16"O.C. -1 LAYER 1/2" CDX SHEATHING ----1 LAYER 58" GWB, PAINTED - BASE SEE SCHEDULE TOILET ROOM SIDE - FINISHED FLOOR SEE ROOM FIN. SCHED. FIN. FLR. 3-1/2" WOOD STUDS @ 16" O.C. 🖁 GWB, TOILET RM SIDE, PNTD. 1/2" CDX SHEATHING, SOUND ATTENUATION BATTS. SCALE: 112" = 1'-0"

SILVER / PETRUCELLI + ASSOCIATES Architects / Engineers / Interior Designers

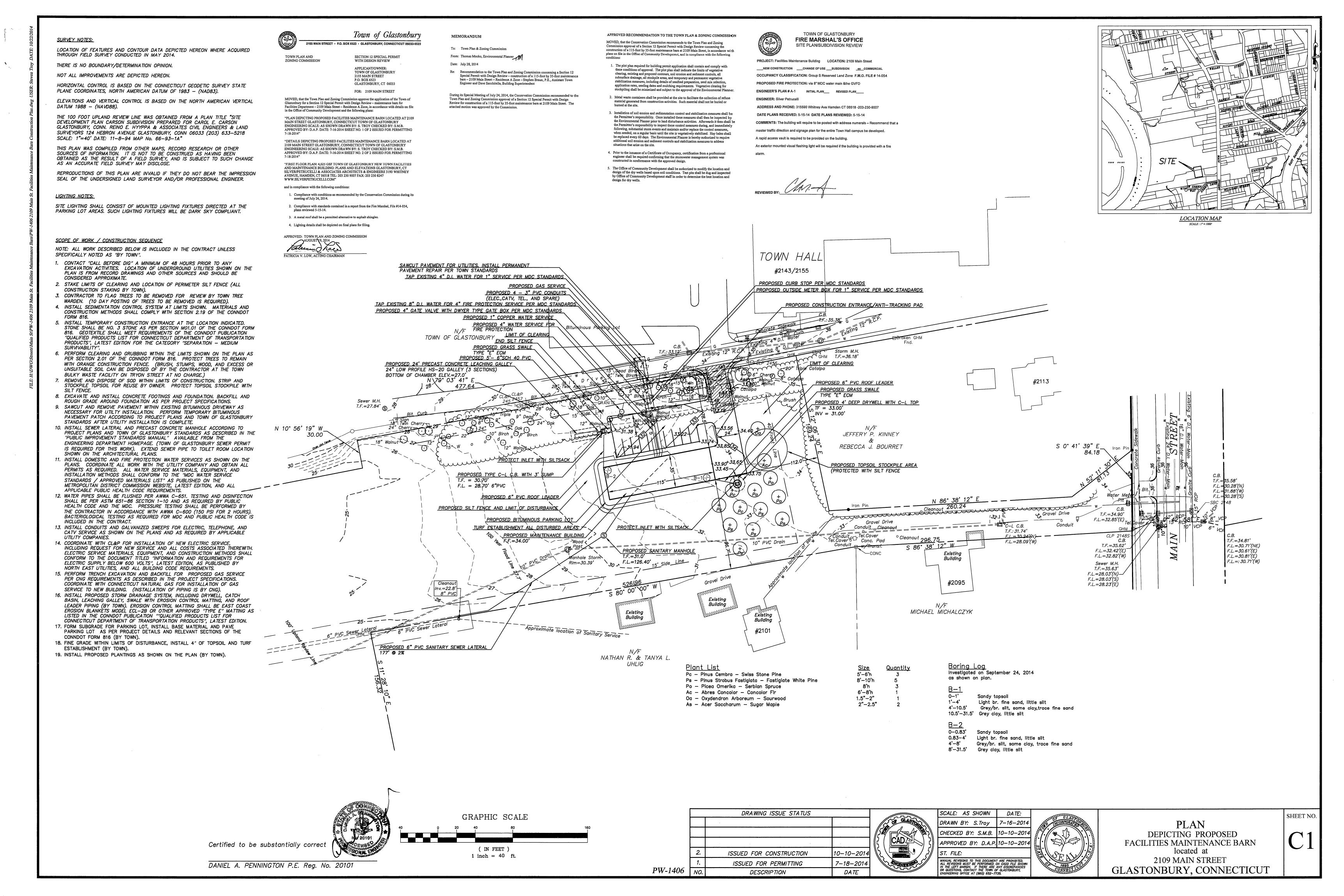
> 3190 Whitney Avenue, Hamden, CT 06518-2340 Tel. 203 230 9007 Fax. 203 230 8247 silverpetrucelli.com

GENERAL INFORMATION

Drawing Number:

13.235

New Town Facilities and Maintenance Barn Project # GL-2015-14 Glastonbury, CT. 2109 Main Street, Glastonbury, CT.



#### GENERAL SEDIMENTATION AND EROSION CONTROL REQUIREMENTS:

THESE GUIDELINES SHALL APPLY TO ALL WORK CONSISTING OF ANY AND ALL TEMPORARY AND/OR PERMANENT MEASURES TO CONTROL WATER POLLUTION AND SOIL EROSION AS MAY BE REQUIRED, DURING THE CONSTRUCTION OF THE PROJECT.

IN GENERAL, ALL ACTIVITIES SHALL PROCEED IN SUCH A MANNER SO AS NOT TO POLLUTE ANY WETLANDS, WATERCOURSE, WATERBODY, AND CONDUIT CARRYING WATER, ETC. THE DEPARTMENT OF PHYSICAL SERVICES SHALL LIMIT, INSOFAR AS POSSIBLE, THE SURFACE AREA OF EARTH MATERIALS EXPOSED BY CONSTRUCTION METHODS, AND IMMEDIATELY PROVIDE PERMANENT AND TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT WETLANDS, WATERCOURSES AND WATERBODIES, AND TO PREVENT, INSOFAR AS POSSIBLE, EROSION ON THE SITE.

CONSTRUCTION METHODS, IN GENERAL, SHALL BE IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN THE "GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" (2002) BY THE STATE OF CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION.

- ALL CONTROL MEASURES SHALL BE INSTALLED AS NOTED ABOVE AND AS SHOWN ON THE PLANS.
- ALL CONTROL MEASURES SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORK, INCLUDING PRE-CONSTRUCTION CLEARING
- ALL CONTROL MEASURES SHALL BE MAINTAINED AND UPGRADED AS REQUIRED TO ACHIEVE PROPER SEDIMENT CONTROL THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL DISTURBED AREAS HAVE BEEN THOROUGHLY STABILIZED.
- NO CONTROL MEASURES SHALL BE REMOVED WITHOUT APPROVAL FROM THE
- ADDITIONAL CONTROL MEASURES SHALL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF DEEMED NECESSARY BY THE ENGINEER.
- THE LIMITS OF CLEARING, GRADING AND DISTURBANCE, AS SHOWN ON THE PLAN(S), SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE THE LIMITS OF CLEARING SHALL REMAIN TOTALLY INDISTURBED.
- ANY CONTROL MEASURES RETAINING SEDIMENT OVER 1/2 THEIR HEIGHT SHALL HAVE THE SEDIMENT IMMEDIATELY REMOVED, AND ALL DAMAGED CONTROL MEASURES SHALL BE REMOVED AND REPLACED.
- ALL NEW AND EXISTING CATCH BASINS LOCATED WITHIN THE PROJECT LIMITS SHALL BE PROTECTED WITH A SEDIMENTATION CONTROL SYSTEM IN GRASSED AREAS OR WITH A SEDIMENTATION CONTROL SACK IN PAVED AREAS UNTIL ALL DISTURBED AREAS HAVE BEEN THOROUGHLY STABILIZED.
- SEDIMENT REMOVED FROM CONTROL MEASURES AND DRAINAGE FACILITIES SHALL BE DISPOSED OF IN A MANNER THAT IS CONSISTENT WITH STATE AND LOCAL
- 10. THE PLANTING SEASONS FOR THE SPECIFIED SEED MIXTURE SHALL BE AS DEFINED IN THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL UNLESS DIRECTED OTHERWISE BY THE TOWN ENVIRONMENTAL PLANNER. OUTSIDE OF THESE SPECIFIED DATES, AREAS WILL BE STABILIZED WITH HAYBALE CHECK DAMS, FILTER FABRIC, OR WOODCHIP MULCH AS REQUIRED TO CONTROL EROSION.

#### PROJECT NARRATIVE:

THIS PROJECT INCLUDES THE CONSTRUCTION OF A NEW PAVED PARKING LOT TO SUPPORT 10 VEHICLES AND A 4025 S.F. FACILITIES MAINTENANCE BUILDING. THE AREA OF DISTURBANCE INCLUDES APPROXIMATELY 0.40 ACRES. STORMWATER WILL SHEET FLOW OFF THE PARKING LOT INTO TWO INFILTRATION DRYWELLS.

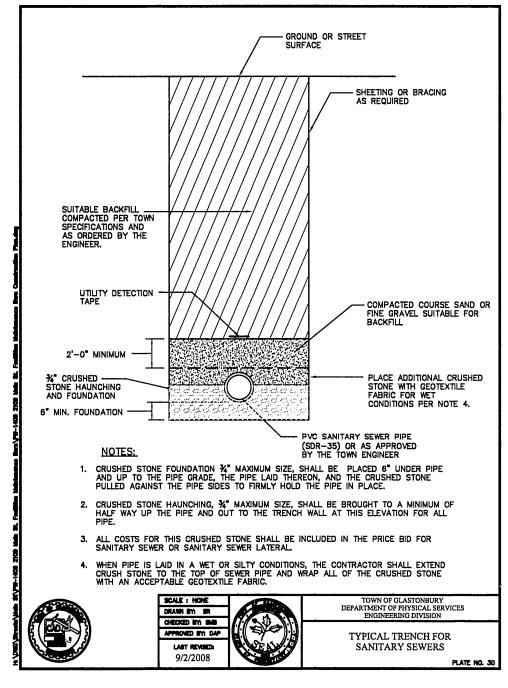
## PROJECT SPECIFIC SEDENTATION AND EROSION CONTROL PLAN

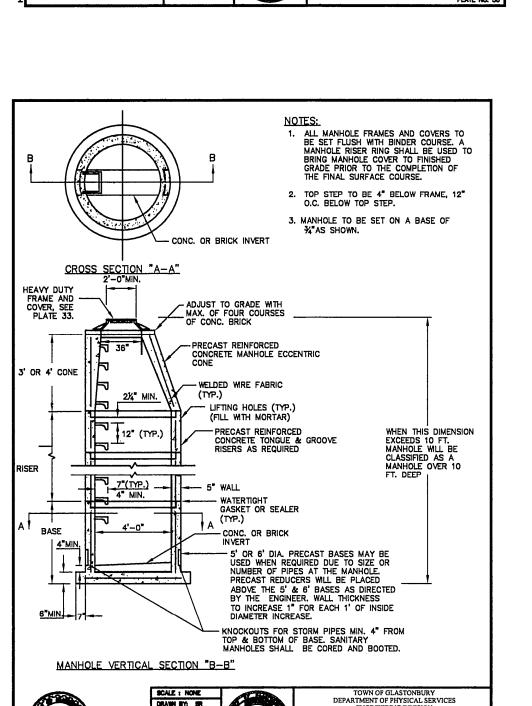
CONSTRUCTION ACTIVITIES OF CONCERN RELATIVE TO THE PROTECTION OF ADJACENT WETLANDS AND WATERCOURSES FROM SEDIMENTATION ARE AS FOLLOWS:

- 1. DEWATERING: OPEN TRENCH EXCAVATIONS WILL NEED TO BE DEWATERED AS NECESSARY FOR PROPER INSTALLATION OF THE PROPOSED PIPES. IN THESE AREAS, ALL WATER REMOVED FROM THE TRENCH SHALL BE ADEQUATELY TREATED PRIOR TO DISCHARGE USING MEASURES DESCRIBED IN SECTION 5-13 OF THE 2002 CT GUIDELINES FOR EROSION AND SEDIMENT CONTROL. THIS MAY INCLUDE A STONE SUMP AND STANDPIPE FOR PUMP INTAKE PROTECTION, AND A DIRT BAG OR PUMPING SETTLING BASIN FOR TREATMENT OF THE PUMPED WATER PRIOR TO DISCHARGE.
- 2. STOCKPILING: EXCAVATED MATERIAL SHALL NOT BE STOCKPILED ADJACENT TO STORM DRAIN INLETS. WETLAND, AND WATERCOURSES. WHEN IT IS NECESSARY BASED ON THE PROPOSED METHODS OF CONSTRUCTION TO STAGE EXCAVATED MATERIAL FOR SHORT DURATIONS IN THE VICINITY OF STORM DRAIN INLETS, THESE INLETS SHALL BE PROPERLY PROTECTED AS DESCRIBED ON THE PLANS. LONGER DURATION STOCKPILING OF MATERIAL, WHEN NECESSARY, SHALL BE ONLY IN LOCATIONS APPROVED IN ADVANCE BY THE ENGINEER, AND SUCH STOCKPILES SHALL BE RINGED WITH SEDIMENTATION CONTROL SYSTEM.
- 3. DISTURBED AREAS: LIMITS OF DISTURBANCE SHALL BE IN STRICT ACCORDANCE WITH THE APPROVED PLAN. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH THE FINAL SURFACE TREATMENT AS SOON AS POSSIBLE AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED. DISTURBED AREAS WITH STEEP OR LONG SLOPES AND OTHER AREAS WITH SIGNIFICANT POTENTIAL FOR CAUSING SEDIMENTATION SHALL BE PROTECTED WITH TEMPORARY STRAW MULCH, WOOD CHIPS, EROSION CONTROL MATTING, OR OTHER SUITABLE MATERIALS PRIOR TO SIGNIFICANT FORECASTED RAIN STORM EVENTS TO REDUCE EROSION POTENTIAL.
- 4. TRAVEL AREAS: A STONE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SHOWN ON THE PLANS AS REQUIRED TO PREVENT SOIL FROM BEING TRACKED OUT OF THE CONSTRUCTION SITE AND INTO THE ROAD. THIS CONSTRUCTION ENTRANCE SHALL BE MAINTAINED UNTIL ALL DISTURBED AREAS OF THE PROJECT HAVE BEEN RESTORED.
- 5. SEVERE WEATHER CONTINGENCY PLAN: IN ADVANCE OF A SEVERE WEATHER EVENT, ALL EROSION CONTROLS DESCRIBED ABOVE AND ELSEWHERE ON THE PLANS SHALL BE INSPECTED AND ADJUSTED AS NECESSARY.

# RESPONSIBLE PARTIES:

THE DEPARTMENT OF PHYSICAL SERVICES SHALL PROVIDE A REPRESENTATIVE WHO IS RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENTATION CONTROL PLAN. THIS INCLUDES THE INSTALLATION AND MAINTENANCE OF ALL CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN.



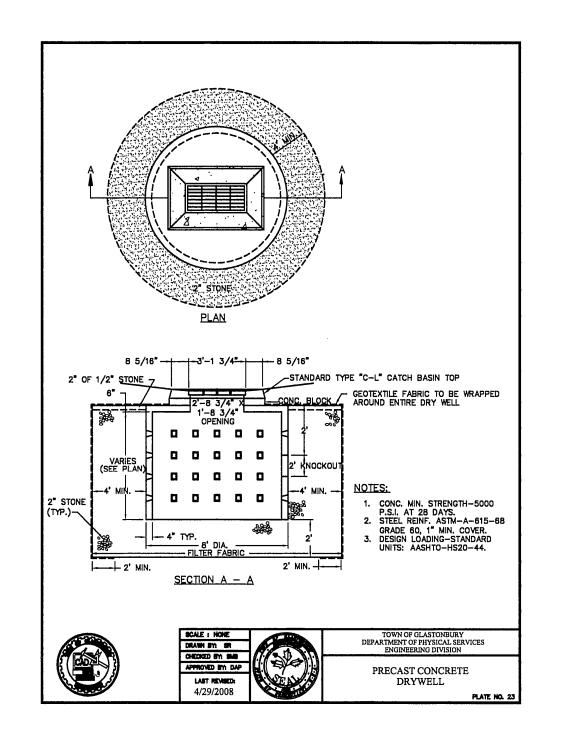


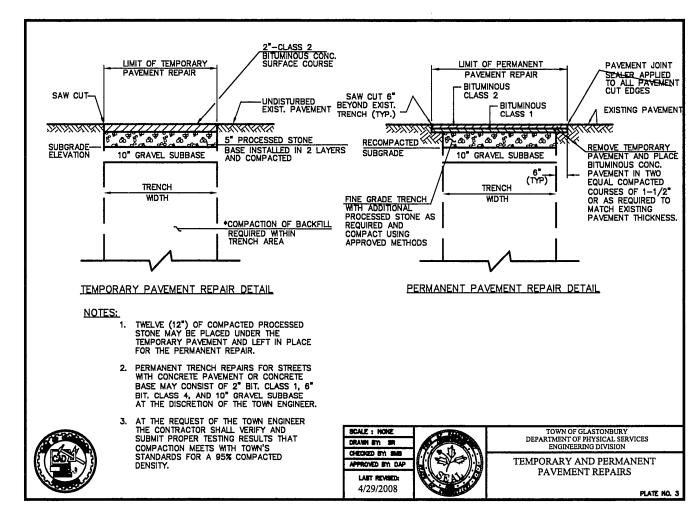
9/2/2008

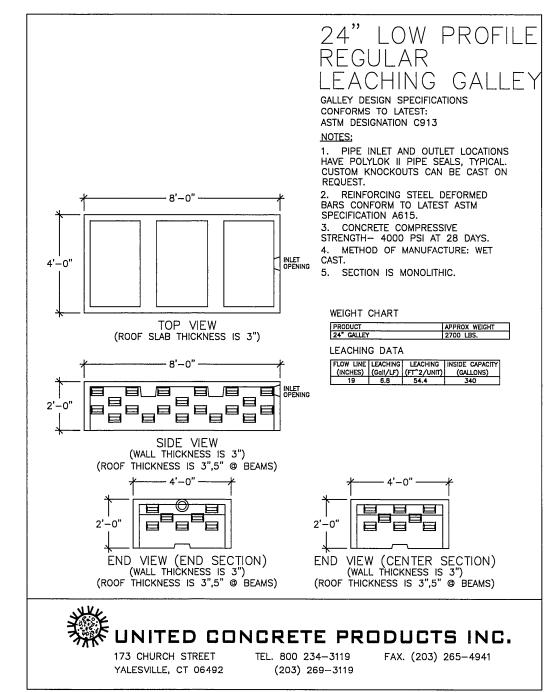
PRECAST

CONCRETE MANHOLE

(STORM & SANITARY)







CT. D.O.T. No. 3

ROAD STABILIZATION

STRIPPED GROUND LINE ---

(REMOVE TOPSOIL & ORGANICS PRIOR

ANTI-TRACKING PAD

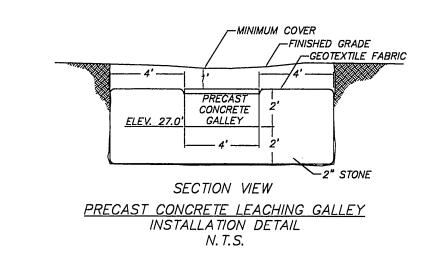
CONSTRUCTION ENTRANCE

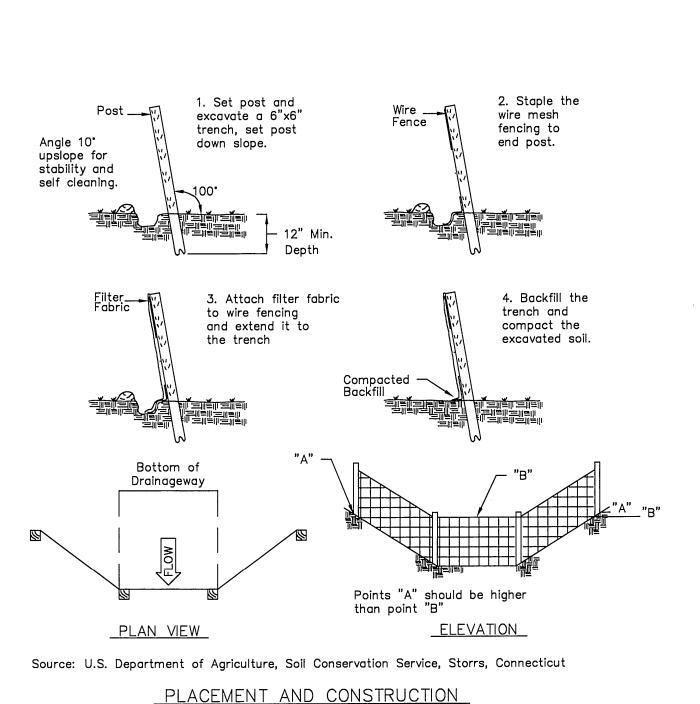
TOWN OF GLASTONBURY

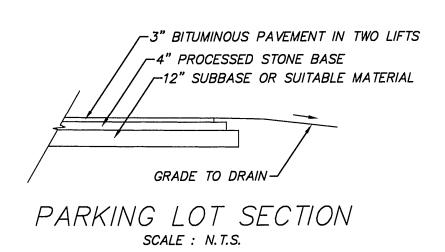
ANTI-TRACKING PAD

NOT TO SCALE

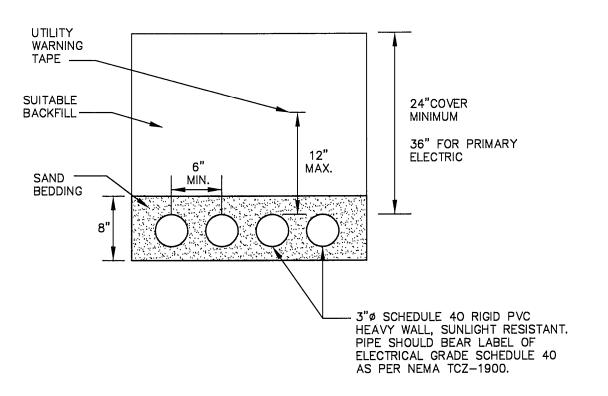
TO CRUSHED STONE PLACEMENT)

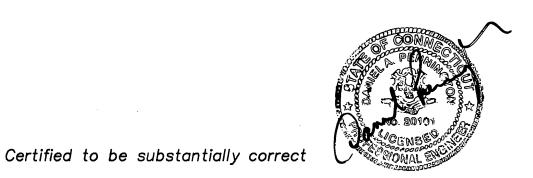




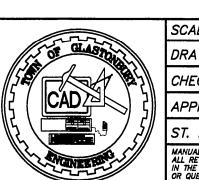


OF A SYNTHETIC FILTER BARRIER





	<u> </u>	DRAWING ISSUE STATUS		
				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
				((5 (
	2.	ISSUED FOR CONSTRUCTION	10-10-2014	1/2
	1.	ISSUED FOR PERMITTING	7-18-2014	
06	NO.	DESCRIPTION	DATE	



	SCALE: AS SHOWN	DATE:	
	DRAWN BY: S.Troy	7-16-2014	
$\mathbb{I}$	CHECKED BY: S.M.B.	10-10-2014	
	APPROVED BY: D.A.P.	10-10-2014	
	ST. FILE:		Ä.
	MANUAL REVISIONS TO THIS DOCUMEN	T ARE PROHIBITED.	•



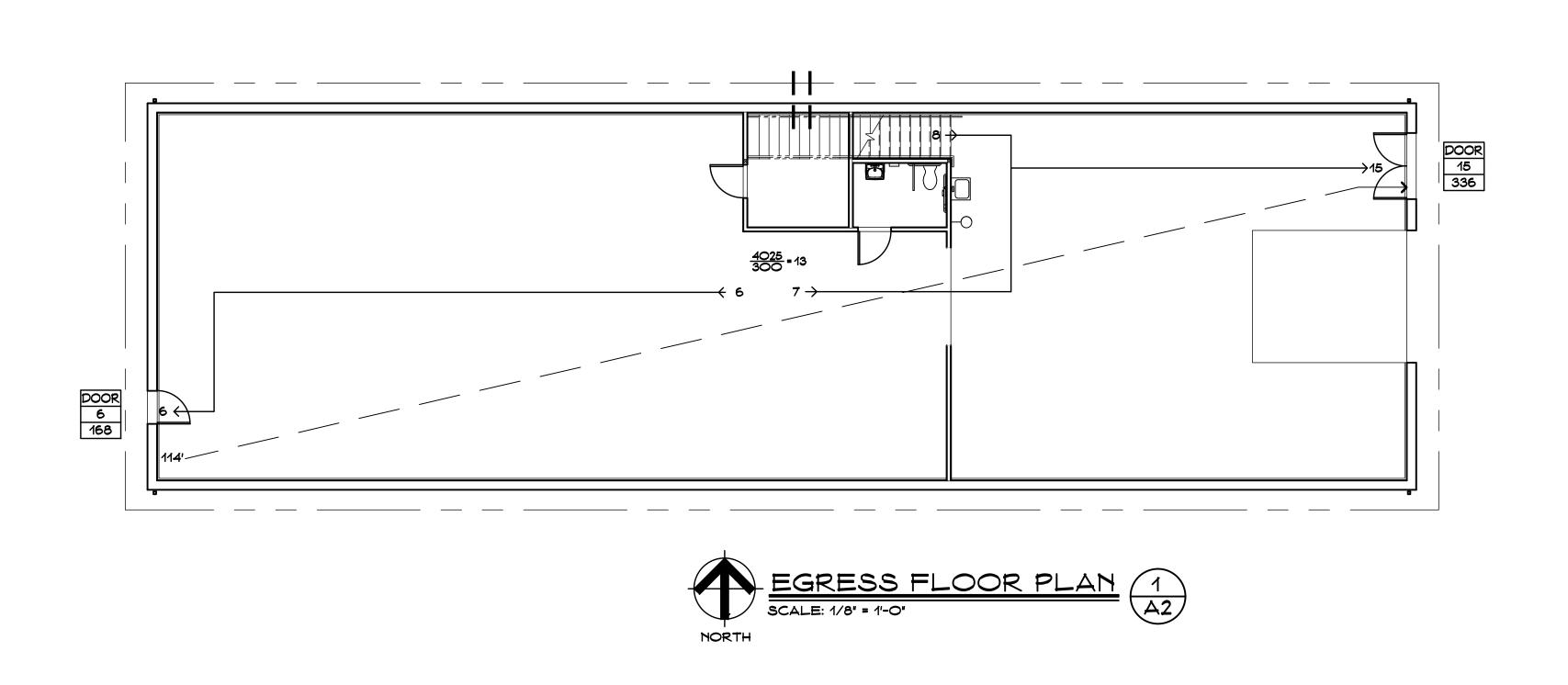


SHEET NO.

DANIEL A. PENNINGTON P.E. Reg. No. 20101

PW-140

2109 MAIN STREET GLASTONBURY, CONNECTICUT



	BUILDING CODE INFO	RMATI	ON	
	DATE OF ORIGINAL CONST		1966	
1.	USE GROUP CLASSIFICATION		)	
	(Primary		´ <u></u>	
	(Incidental)			
2.	CONSTRUCTION TYPE (Cho	opter 6)		
	Minimum Type Required _			
	Actual Type Provided (ex	isting) (new)	\ \ \	
_		, ,		
3.	BUILDING HEIGHT (Chapte Allowable Height (story/f	•	2 ST	
	Actual Height (story/fee	•	2 ST / 4	Ö
	(Stories Above Grade	e)	2	
4.	BUILDING AREA (Chapter	5)		
	a) Building Area (first flo	oor)		
	New construction _		4,025	sq.1
	Total floor		4,025	sq.1
<u>5.</u>	AREA MODIFICATIONS TO	TABLE 503		
	tal Perimeter = <u>115</u> en Perimeter = <u>115</u>			35 ft. 35 ft.
Op	en Perimeter = <u>115</u> N	.ft. <u>35</u> ft E	. <u>115</u> ft	<u>55</u> ft. S
1	tal Frontage (F) <u>300</u>		meter (P) <b>30</b> 0	
	illding perimeter which fronts on a y or open space having 20 feet op		meter of the entire bui	lding)
Wi	dth of open space (W) =	30		
lf=	- =100[F/P-0.25]W/30		_	
10	0[ <b>300</b> / <b>300</b> -0.25	5] <u>30</u> /30= <u>75</u>	<u>)                                    </u>	
%	Frontage increase (If) = _	75 %	_	
	of Allowable Tabular Area,		-	100
	of Increase for frontage,	· · · · ·		75
	of Increase for automatic	sprinklers, Is	(506.3)	100
	tal percentage factor nversion factor			1.75
(To	otal percentage factor + 100)			
6.	ALLOWABLE AREAS - ASSE	MBLY USES,		
	USE GROUP A-3 (FIRE ARE a) ALLOWABLE AREA per fl		able Area 506.4)	
	175 850	•	14,875	41
	(conversion x (tabular	r area,	. ,,	sq. ft.
	factor) Table 5	•	4,025	
	b) ACTUAL TOTAL FLOOR A	KLA (Proposed	i)	sq. ft.
	c) ALLOWABLE FLOOR AREA	(all stories)		[
	$\frac{14,875}{\text{Allowable area}} \times \frac{1}{\text{numb}}$	er of stories	29,750	sq. ft.
	<b>TABLE 302.1.1 - requires a 2</b> 1) Structural frame	nour separation	0	Hr(s
	2) Bearing Walls Exterior_		0	Hr(s
	Interior_ 3) Non-Bearing Walls/Par			 Hr(s
	4) Non-Bearing Walls/Par			Hr(s
	5) Floor Construction Incl		0	Hr(s
	6) Roof Construction Incl	uding Beams	0	Hr(s
8. (	OCCUPANCY LOAD  Design Total for Building		21	
	Total Exit Capacity for Bu	ilding	504	
	• •	X		
9. #	ACCESSIBLE BUILDING		DesignateNon Designate	
			Non Desig	jiiatea
10.	SPRINKLER PROTECTION	NO	Entire Bu	ilding
11	CODES TO WHICH THIS DR	L WAS DE	Limited A	rea
11.	CODES TO WHICH THIS PRO		2003 1BC	
	State Building Code w/Su State Fire Code w/Supple	• •	2009 CFS	
	State Fire Code w/Supple State Health Code		MOST CURRE	≣NT
	OSHA		MOST CURRE	≣NT
	Section 504		N.A.	=N+
	ADA			
12	THRESHOLD BUILDING CON	DITIONS		No <b>X</b>
. <b>•</b>	23.25.10 0011	- · · · <del>-</del>		
	MBOL LEGE OR CODE INF		10N	
	P			
	G.	- ACCE	essible area c	R EXIT
	840 _ 12 AREA IN S.F.	<del>-</del> -	M OCCUPATION	<b>C</b> : -
	20 = 42 OCC. LOAD FACTOR	- ROO	M OCCUPANCY L	OAD.
_	ACTUAL EGRESS			
	42 OCC. OF DOOR 68 MAX. ALLOWABLE		CAPACITY	
	EGRESS OCC. OF DO	JOR		
-			UR FIRE RATED \	
			ING/WALLS RES PASSAGE OF SN	
-			ING/WALLS RES PASSAGE OF SN	
		175	Junge of or	^ -
_	<b></b>	- MAXII	MUM TRAVEL DIS	TANCE
	400			
_	120	- DIRE	CTION OF TRAVE	=L
	Date:		Drawing Number:	
/ Tı	ON 10.3.14			
۱T۶	ON \(\frac{10.3.14}{Scale:}\)			

New Town Facilities and Maintenance Barn Project # GL-2015-14
Glastonbury, CT.
2109 Main Street, Glastonbury, CT.



SILVER / PETRUCELLI + ASSOCIATES Architects / Engineers / Interior Designers

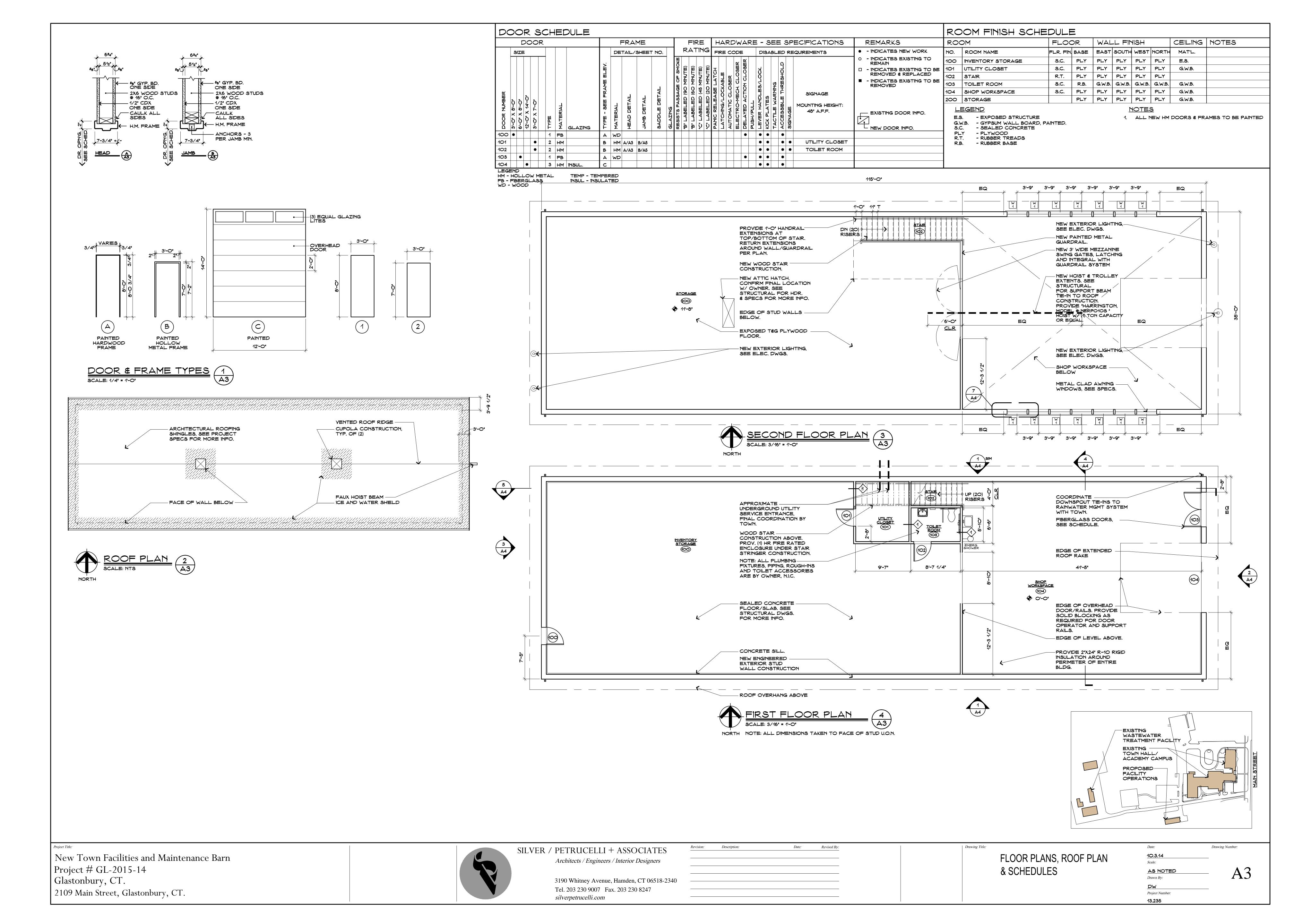
> 3190 Whitney Avenue, Hamden, CT 06518-2340 Tel. 203 230 9007 Fax. 203 230 8247 silverpetrucelli.com

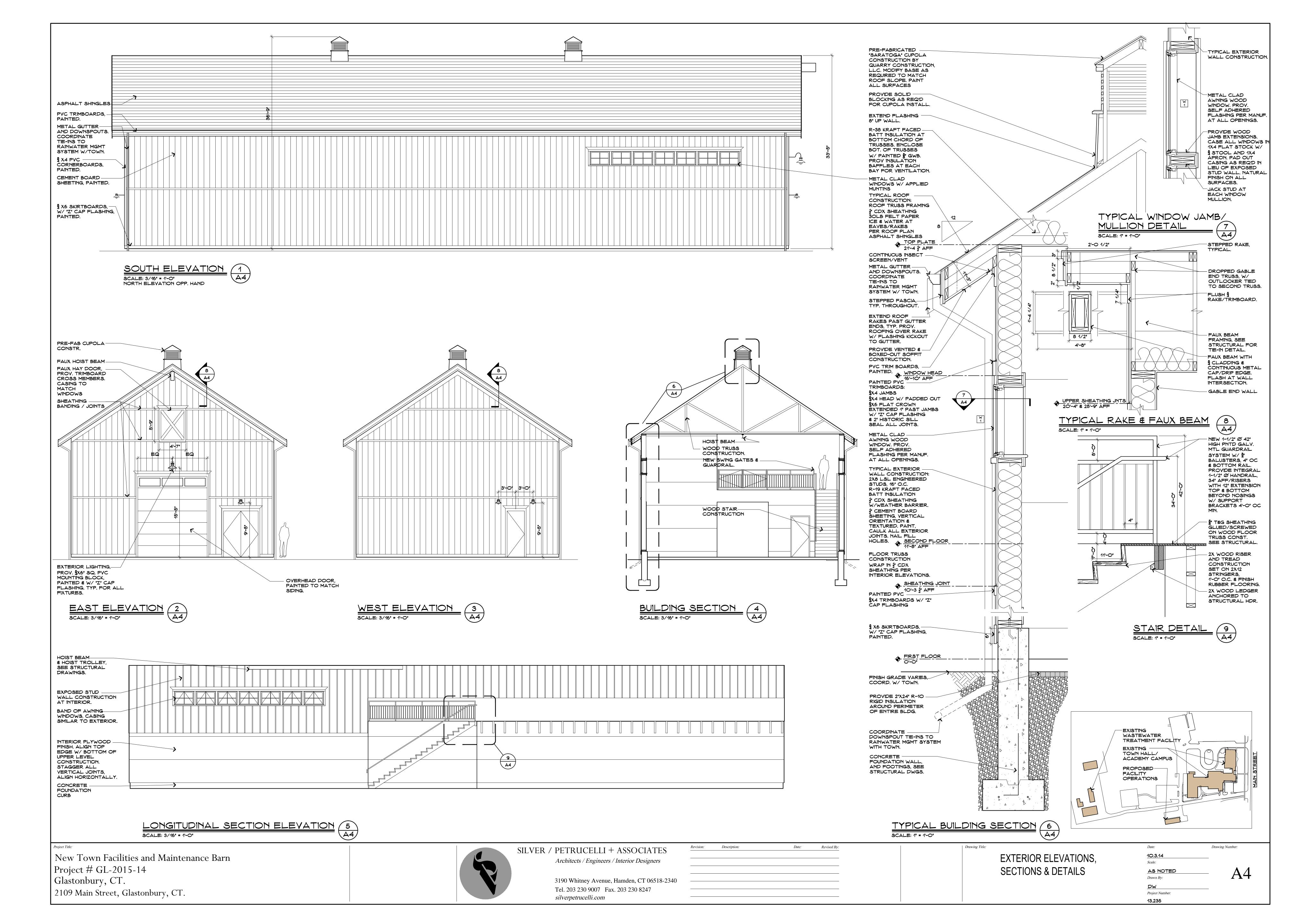
Description:	Date:	Revised By:
	Description:	Description: Date:

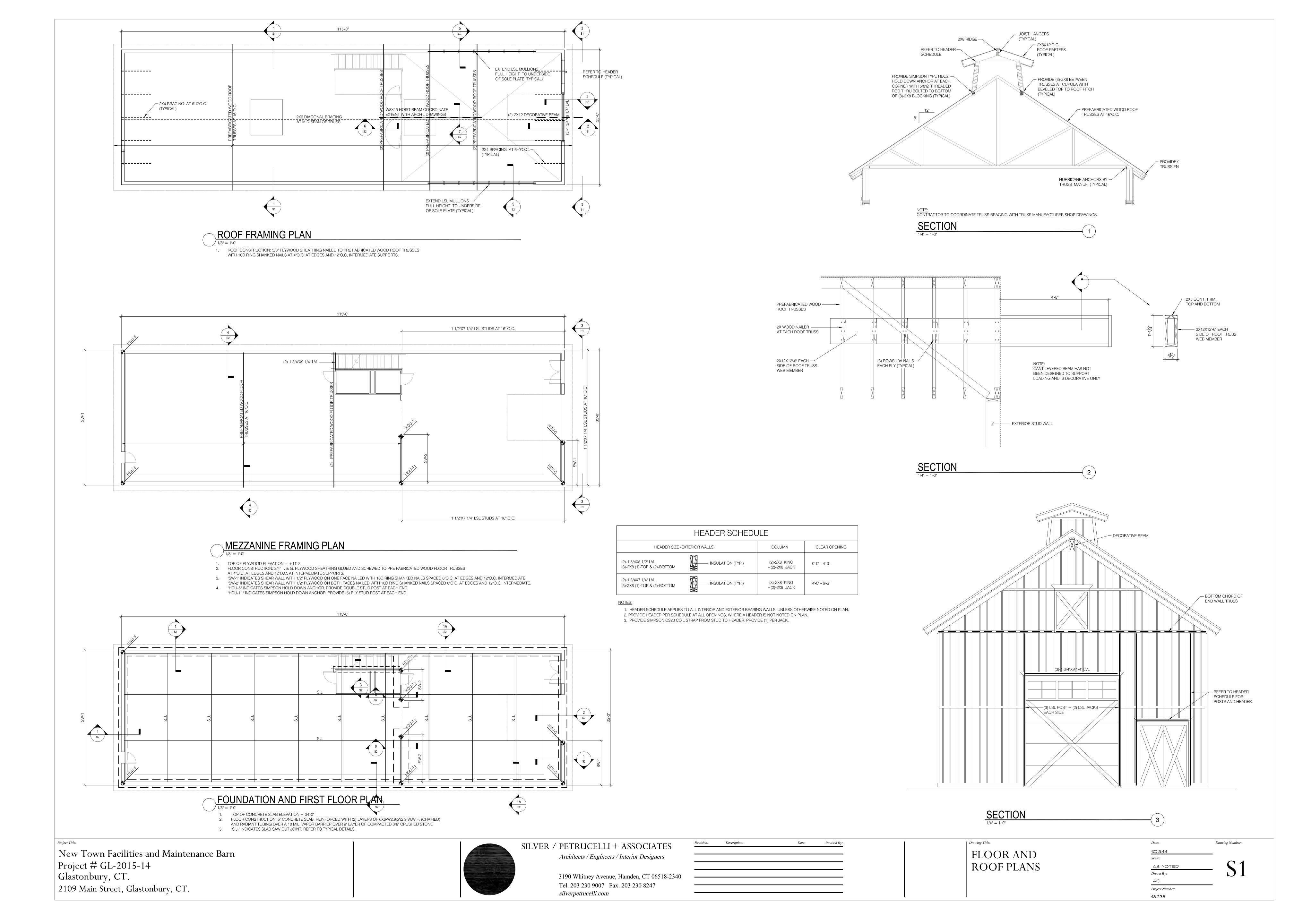
CODE PLAN AND CODE INFORI

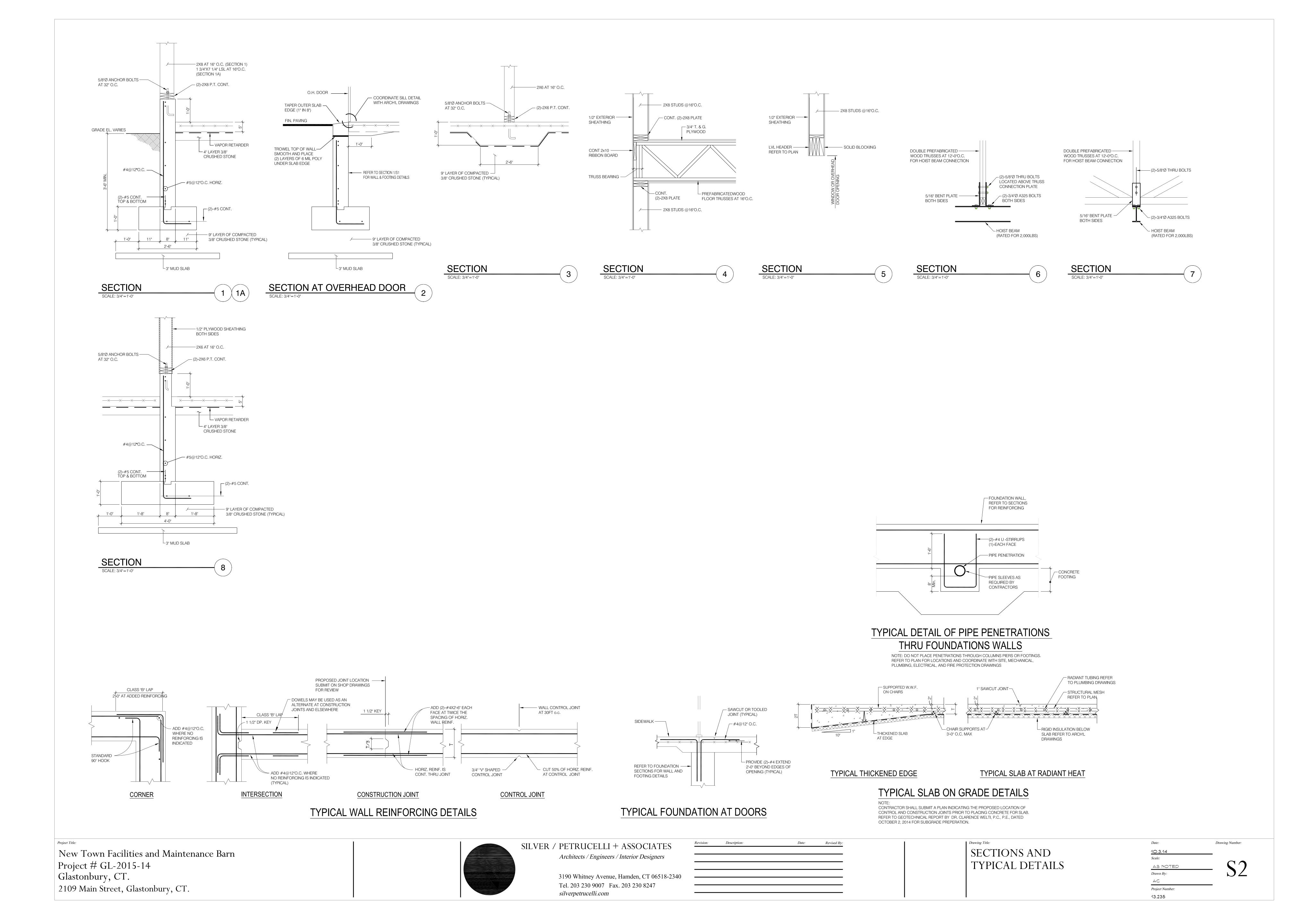
A2Project Number:

13.235









# GENERAL NOTES

GOVERNING CODE: STATE BUILDING CODE, 2005 CONNECTICUT SUPPLEMENT WITH THE 2013 AMENDMENTS (2003 INTERNATIONAL BUILDING CODE).

DESIGN LOADS: TOWN OF GLASTONBURY

MINIMUM LIVE LOADS: SLAB ON GRADE: 100 PSF LIGHT STORAGE: 125 PSF

ROOF SNOW LOAD CRITERIA: PG = 30 PSF, CE = 0.9 AND IS = 1.0, CT= 1.0 WITH INCREASES FOR SNOW DRIFTING, UNBALANCES AND SLIDING PER SECTION 1608 (2003

MINIMUM ROOF LIVE LOAD = 30 PSF

ROOF DEAD LOAD = 20 PSF

WIND LOAD CRITERIA: SECTION 1609 (2003 IBC) WITH BASIC WIND SPEED = 100 MPH, BUILDING CATEGORY II, IW = 1.0, EXPOSURE CLASSIFICATION "B".

MINIMUM WIND LOAD ON PRIMARY STRUCTURE = 15 PSF

WIND LOADS ON SECONDARY ELEMENTS SHALL CONFORM WITH ASCE 7-02.

TYPICAL WIND LOAD ON EXTERIOR WALLS = PER ASCE 7-02 MAXIMUM WIND LOAD AT CORNERS = PER ASCE 7-02 NET WIND UPLIFT ON STEEL JOIST ROOFS = PER ASCE 7-02 NET WIND UPLIFT AT OVERHANGS = PER ASCE 7-02

SEISMIC LOAD CRITERIA: AS PER SECTION 1616 (2003 IBC) WITH: SEISMIC IMPORTANCE FACTOR, IE = 1.0SEISMIC USE GROUP = II

SS = 0.238G, S1 = 0.063GSOIL SITE CLASS = DSPECTRAL RESPONSE COEFFICIENTS, SDS = 0.254, SD1 = 0.101 SEISMIC DESIGN CATEGORY, TBD

BASIC SEISMIC-FORCE-RESISTING SYSTEM: BEARING WALL, LIGHT FRAME WALLS WITH SHEAR PANELS DESIGN BASE SHEAR, V = 0.054W

#### RESPONSE MODIFICATION FACTOR, R = 6.5ANALYSIS PROCEDURE USED: SIMPLIFIED ANALYSIS

ASSUMED BEARING PRESSURE: 2000 PSF

1. SHOULD ANY OF THE DETAILED INSTRUCTIONS SHOWN ON THE PLANS CONFLICT WITH THE GENERAL STRUCTURAL NOTES, THE SPECIFICATIONS, OR WITH EACH OTHER, THE STRICTEST PROVISION SHALL GOVERN.

2. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS WHICH MIGHT BE NECESSARY. SUCH MATERIAL SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER COMPLETION OF THE PROJECT.

3. THE STRUCTURE UTILIZES SHEAR WALLS TO PROVIDE LATERAL STABILITY. THEREFORE, TEMPORARY BRACING, GUYS, ETC. MUST BE MAINTAINED UNTIL ALL MASONRY SHEAR WALLS HAVE BEEN ERECTED AND ATTACHED TO STEEL FRAMING.

4. LOADS, OPENINGS AND STRUCTURE IN ANY WAY RELATED TO REQUIREMENTS OF OTHER (NON-STRUCTURAL) DISCIPLINES ARE SHOWN FOR BIDDING PURPOSES ONLY. THE CONTRACTOR SHALL OBTAIN FROM THE HEATING AND VENTILATING, ELECTRICAL, PLUMBING AND OTHER SUBCONTRACTORS THE FINAL APPROVED SIZE AND LOCATION OF ALL OPENINGS AND WORK TO BE PROVIDED FOR THEIR TRADE IN ROOFS. FLOORS ANI WALLS, WHETHER SHOWN OR NOT SHOWN ON STRUCTURAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR TRANSMISSION OF REQUIREMENTS, LOCATIONS AND DETAILS TO STRUCTURAL SUBCONTRACTORS. EXCESS COST RELATED TO VARIATION IN MECHANICAL REQUIREMENTS ARE NOT TO BE BORNE BY THE OWNER.

5. MECHANICAL EQUIPMENT WEIGHTS USED IN DESIGN OF SUPPORTING ELEMENTS HAVE BEEN INDICATED ON THE DRAWINGS. CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO INSTALLATION IF ACTUAL WEIGHT EXCEEDS WEIGHT SHOWN ON DRAWINGS.

6. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.

7. SHOP DRAWINGS ARE TO BE CHECKED BY THE CONTRACTOR AND SUBCONTRACTOR AND BEAR CHECKER'S INITIALS BEFORE BEING SUBMITTED TO THE ARCHITECT FOR APPROVAL.

8. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS BEFORE PROCEEDING WITH ANY WORK.

9. ALL SECTIONS AND DETAILS SHALL BE CONSIDERED TYPICAL AND APPLY FOR THE SAME AND SIMILAR SITUATIONS THROUGHOUT THE BUILDING, UNLESS OTHERWISE SPECIFICALLY NOTED.

10. CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO SUBMITTING THEIR BID FOR REFERENCE TO ALL NOTES ON ARCHITECTURAL DRAWINGS REFERRING TO ASEE STRUCTURAL DRAWINGS@. IF THE SIZE OF ELEMENTS AND DETAILING OF MEMBERS IS NOT INDICATED, THE CONTRACTOR SHALL CONTACT THE ARCHITECT TO REQUEST THE MISSING INFORMATION IN PREPARATION OF THEIR BID. THESE REFERENCED ITEMS SHALL BE PART OF THE BASE BID.

11. IN CASES OF DISCREPANCIES BETWEEN CONTRACT DOCUMENTS AND SUBMITTED SHOP DRAWINGS, THE CONTRACT DOCUMENTS SHALL GOVERN INSTALLATION OF MATERIALS.

# **FOUNDATIONS**

1. BACKFILLING SHALL BE ACCOMPLISHED TO EQUAL HEIGHTS ON BOTH SIDES OF FOUNDATION WALLS TO PREVENT MOVEMENTS DUE TO UNBALANCED EARTH PRESSURE. WHERE EARTH IS ON ONE SIDE ONLY, BACKFILLING AND COMPACTION SHALL NOT START UNTIL FLOOR SLAB OR ADEQUATE BRACING IS PROVIDED FOR WALL SUPPORT (EXCEPT AT RETAINING WALLS).

2. ALL FOOTINGS ARE TO REST ON 9" OF 3/8" COMPACTED CRUSHED STONE, AS DEFINED ON THE DRAWINGS OVER A 3" MUD SLAB REGARDLESS OF ELEVATIONS SHOWN ON DRAWINGS. FOOTING BOTTOM ELEVATIONS SHALL NOT BE HIGHER THAN INDICATED ON THE FOUNDATION PLAN, NOR LESS THAN 3'-6" BELOW FINISH GRADES.

3. IF FILL MATERIALS ARE ENCOUNTERED AT FOOTING BEARING ELEVATIONS, ALL FILL MATERIAL SHALL BE EXCAVATED AND DISPOSED OF LEGALLY OFF-SITE. THE OVER EXCAVATION SHALL BE BACKFILLED WITH CONTROLLED COMPACTED FILL TO THE BOTTOM OF FOOTING ELEVATION AS REQUIRED.

4. ALL CONTROLLED COMPACTED BACKFILL UNDER FOOTINGS AND WITHIN THE FOOTPRINT OF THE STRUCTURE SHALL BE COMPACTED TO 95% OF THE MODIFIED OPTIMUM DENSITY.

5. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE AT LEAST 3'-6" BELOW FINISHED GRADE. PRIOR TO PROCEEDING WITH FOOTING EXCAVATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF FINISH GRADES AND BOTTOM OF EXTERIOR

6. ALL SOIL SURROUNDING AND UNDER ALL FOOTINGS SHALL BE PROTECTED FROM FREEZING AND FROST ACTION DURING THE COURSE OF CONSTRUCTION.

FOOTING ELEVATIONS TO MAINTAIN THE 3'-6" FROST PROTECTION.

7. FOOTING BOTTOMS SHALL STEP AT THE RATE OF 1 UNIT VERTICAL TO 2 UNITS HORIZONTAL WITH A MAXIMUM VERTICAL STEP OF 1'-4".

8. WHERE SUBSURFACE PIPING PASSES THROUGH FOUNDATION WALLS, THE TOP OF THE FOOTINGS SHALL BE AT LEAST 8" BELOW THE INVERT ELEVATION OF THE PIPING AND CONDUITS. COORDINATE ALL INVERTS WITH MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, SITE AND SITE UTILITY DRAWINGS.

9. WHERE FOOTINGS ARE IN CLOSE PROXIMITY OF SUBSURFACE PIPING OR CONDUIT, BOTTOM OF FOOTINGS SHALL BE AT LEAST 8" BELOW INVERT ELEVATION OF PIPING OR

10. KEEP FOUNDATION EXCAVATIONS FREE OF WATER AT ALL TIMES.

11. USE LEAN CONCRETE (F'C=1500) OR CONTROLLED COMPACTED FILL FOR OVER-EXCAVATION OF FOOTINGS.

12. PLACEMENT OF ALL COMPACTED FILL MATERIALS MUST BE UNDER SUPERVISION OF AN APPROVED TESTING LABORATORY (SEE SPECIFICATIONS). CONCRETE FOUNDATIONS SHALL NOT BE PLACED UNTIL SUBGRADE HAS BEEN CHECKED IN PLACE AND APPROVED BY TESTING LABORATORY.

13. EXISTING ON-SITE EXCAVATED MATERIALS SHALL NOT BE ACCEPTABLE BACKFILL MATERIAL BELOW BUILDING FOUNDATIONS, SLABS ON GRADE, OR FOR BACKFILLING OF FOUNDATION WALLS, OR WITHIN 2 FEET OF PAVEMENT GRADES.

14. CONTROL JOINT SPACING IN FOUNDATION WALLS SHALL NOT EXCEED 30 FEET. 50% OF HORIZONTAL REINFORCEMENT SHALL EXTEND THROUGH JOINT AND HAVE A CLASS "B" SPLICE (PER ACI 318-95).

15. THE FOUNDATION DESIGN OF THE STRUCTURE HAS BEEN PREPARED BASED ON THE SOIL BORINGS, SOILS REPORT AND RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER, DR. CLARENCE WELTI, P.E., P.C., DATED OCTOBER 2, 2014. IT IS THE CONTRACTOR=S RESPONSIBILITY TO REVIEW THE MATERIAL PRIOR TO PREPARING HIS BID TO ASSURE HE UNDERSTANDS THE SOIL CONDITIONS AND THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.

16. FOUNDATION DESIGN SITE PREPARATION: THE FOUNDATION DESIGN AS INDICATED ON THE STRUCTURAL DRAWINGS HAS BEEN BASED ON THE FOLLOWING SITE PREPARATION. THE SITE HAS BEEN PREPARED BY THE EXCAVATION AND REMOVAL FROM THE SITE OF ALL EXISTING FILL AND CONTAMINATED SOILS. THE FOUNDATION DESIGN IS BASED ON THE CONTROLLED BACKFILLING OF THE SITE EXCAVATION WITH CONTROLLED FILL COMPACTED TO AT LEAST 95% OF THE MODIFIED OPTIMUM DENSITY IN ACCORDANCE WITH ASTM D1557.

## SLAB ON GRADE

1. ALL SLABS ON GRADE SHALL BEAR ON A VAPOR RETARDER OVER A MINIMUM OF 9 INCHES OF 3/8" CRUSHED STONE FILL. ALL JOINTS OF THE VAPOR RETARDER SHALL BE SEALED

2. IF FILL MATERIALS ARE ENCOUNTERED SLAB SUBGRADE ELEVATIONS, ALL FILL MATERIAL SHALL BE EXCAVATED AND DISPOSED OF LEGALLY OFF-SITE. THE OVER EXCAVATION SHALL BE BACKFILLED WITH CONTROLLED COMPACTED FILL TO THE BOTTOM OF THE SLAB SUBGRADE AS REQUIRED. ALL CONTROLLED COMPACTED BACKFILL UNDER SLABS WITHIN THE FOOTPRINT OF THE STRUCTURE SHALL BE COMPACTED TO 95% OF THE MODIFIED OPTIMUM DENSITY.

3. EXISTING ON-SITE EXCAVATED MATERIALS SHALL NOT BE ACCEPTABLE BACKFILL MATERIAL BELOW BUILDING SLABS ON GRADE.

4. CONTROL JOINTS ARE TO BE CREATED IN SLABS ON GRADE. JOINTS SHALL BE SAW CUT 1/8" WIDE AND TO A DEPTH EQUAL TO 1/4 OF THE SLAB THICKNESS. LOCATE JOINTS A MAXIMUM OF 15'-0" ON CENTER IN EACH DIRECTION, IN ADDITION TO THOSE LOCATIONS INDICATED ON PLAN.

5. CONSTRUCTION JOINTS AS REQUIRED SHALL BE KEYED AND DOWELED AND LOCATED AT INTERVALS OF A MAXIMUM OF 75 FEET ON CENTER.

6. SEE ARCHITECTURAL DRAWINGS FOR LOCATION AND SIZE OF DEPRESSED AREAS IN CONCRETE SLABS AND FOR CONCRETE PADS. MAINTAIN FULL SLAB THICKNESS IN DEPRESSED AREAS, UNLESS OTHERWISE SHOWN.

7. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF ALL MASONRY WALLS FOR WHICH NO FOOTING IS SHOWN. SEE DETAILS FOR SLAB REINFORCING REQUIREMENTS AT ALL WALL

8. CONTRACTOR SHALL CONSOLIDATE ALL SLAB CONCRETE USING VIBRATIONAL METHODS IN CONFORMANCE WITH ACI 309, AGUIDE FOR CONSOLIDATION OF CONCRETE.

## CONCRETE

MATERIALS:

SLABS ON GRADE

CONCRETE SHALL DEVELOP STRENGTH IN 28 DAYS AS FOLLOWS:

LOCATION STRENGTH (PSI)

FOUNDATIONS 3000 3000

1. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS MUST FOLLOW THE LATEST ACI CODE AND THE LATEST ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".

3500 (NOT TO EXCEED 4500 PSI)

2. REINFORCING STEEL SHALL BE 60,000 PSI YIELD.

3. NO TACK WELDING OF REINFORCING WILL BE PERMITTED.

4. UNLESS NOTED OTHERWISE, ALL LAP SPLICES SHALL BE CLASS B, IN ACCORDANCE WITH ACI 318-02.

5. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.

6. WIRE MESH REINFORCEMENT MUST LAP ONE MESH SIZE AT SIDES AND ENDS AND BE WIRED TOGETHER.

7. WELDED WIRE FABRIC SIDE LAPS SHALL BE STAGGERED TO AVOID FOUR MESH THICKNESS AT COINCIDING END LAP AND SIDE LAP LOCATION. 8. NO CALCIUM CHLORIDE OR ADMIXTURES CONTAINING MORE THAN 0.1% CHLORIDE BY

WEIGHT OF ADMIXTURE SHALL BE USED IN THE CONCRETE.

9. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE AT LEAST 3'-6" BELOW FINISHED GRADE. PRIOR TO PROCEEDING WITH FOOTING FORMWORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF BOTTOM OF EXTERIOR FOOTING ELEVATIONS WITH THE FINISH GRADES AND MAINTAINING THE 3'-6" FROST PROTECTION. WHERE SUBSURFACE PIPING PASSES THROUGH FOUNDATION WALLS, THE TOP OF FOOTINGS SHALL BE AT LEAST 8" BELOW THE INVERT ELEVATION OF THE PIPING AND CONDUITS. COORDINATE ALL INVERTS WITH MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, SITE AND SITE UTILITY DRAWINGS. PIPING OR CONDUITS SHALL NOT PASS THROUGH COLUMNS OR PIERS.

10. CONTRACTOR SHALL ANTICIPATE DEFLECTION OF STEEL AT SUPPORTED ELEVATED SLABS, AND PROVIDE ADDITIONAL CONCRETE AS REQUIRED.

11. ALL HORIZONTAL STEEL SHOWN IN SECTIONS AND DETAILS SHALL BE CONTINUOUS, UNLESS OTHERWISE NOTED. ALL LAPS SHALL BE CLASS AB@ SPLICES IN ACCORDANCE WITH ACI 318.

12. AT INTERSECTIONS OF REINFORCED CONCRETE WALLS, PROVIDE CORNER DOWELS OF SAME SIZE AND AT THE SAME SPACING AS THE SMALLER HORIZONTAL REINFORCING. DOWELS SHALL HAVE A CLASS B LAP WITH HORIZONTAL REINFORCING IN EACH

13. PROVIDE DRILLED AND EPOXIED DOWELS OF SAME SIZE TO MATCH NEW REINFORCING WHERE NEW CONSTRUCTION ABUTS EXISTING CONCRETE CONSTRUCTION. LENGTH SHALL BE THE REQUIRED EMBEDMENT DEPTH PER THE ANCHOR BOLT/EPOXY MANUFACTURER PLUS A CLASS AB@ LAP SPLICE FOR THE SIZE OF BAR.

14. PROVIDE CORROSION RESISTANT ACCESSORIES IN ALL EXPOSED CONSTRUCTION.

15. ALL KEYS IN CONCRETE WALLS SHALL BE 2 X 4 UNLESS NOTED OTHERWISE.

16. SEE ARCHITECTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, SITE, SITE UTILITY AND EQUIPMENT DRAWINGS FOR CONCRETE PADS, SLEEVES, OPENINGS, RECESSES, AND BUILT-IN WORK IN CONCRETE ELEMENTS.

17. THE CONTRACTOR SHALL FURNISH, LOCATE AND INSTALL ALL ACCESSORIES FOR PROPER ANCHORAGE OF WOOD AND METAL FRAMING, WOOD BLOCKING, BRICK WORK AND MASONRY UNITS. HE SHALL BE SOLELY RESPONSIBLE FOR FURNISHING, LOCATING AND ENSURING PROPER QUANTITY OF ALL FASTENING DEVICES.

18. ALL CONCRETE TO REMAIN EXPOSED TO VIEW SHALL RECEIVE A SMOOTH RUBBED FINISH.

19. ALL CONCRETE CORNERS WITH BOTH SIDES EXPOSED TO VIEW SHALL BE SQUARE UNLESS OTHERWISE SHOWN OR NOTED. THE EDGE SHALL BE RUBBED, PRODUCING A SMOOTH, DENSE SURFACE WITHOUT PITS OR IRREGULARITIES.

20. PROVIDE CLEARANCE FROM EDGE OF REINFORCING TO EDGE OF CONCRETE AS FOLLOWS:

FOOTINGS (AGAINST EARTH) WALLS, INTERIOR FACE WALLS, EXTERIOR FACE (#5 AND SMALLER) 1 1/2" WALLS, EXTERIOR FACE (#6 AND LARGER) SLABS (INTERIOR) SLABS (EXTERIOR) SLABS ON GRADE (W.W.F.) 1/3 X THK. FROM TOP SURFACE

21. PROVIDE THE FOLLOWING AT OPENINGS IN ALL CONCRETE WALLS AND FRAMED SLABS, UNLESS OTHERWISE INDICATED:

1-#5 AT EACH FACE ON EACH SIDE OF OPENING, EXTENDING 2'-0" BEYOND OPENING. 1-#5 X 4'-0" LONG AT EACH FACE DIAGONALLY AT EACH CORNER.

1. LUMBER FOR WOOD JOISTS, RAFTERS AND BEAMS SHALL BE DOUG-FIR, NUMBER 2 GRADE, WITH 19% MAXIMUM MOISTURE CONTENT AND MINIMUM SAFE STRENGTH CAPACITY OF:

FB = 875 PSI FOR BENDING FC (PERP.) = 625 PSI FOR COMPRESSION PERP. TO GRAIN FC (PAR.) = 1300 PSI FOR COMPRESSION PARALLEL TO GRAIN FV = 95 PSI FOR HORIZONTAL SHEAR

E = 1,600,000 PSI MODULUS OF ELASTICITY

2. LUMBER FOR WOOD STUDS SHALL BE DOUG-FIR, NUMBER 2 GRADE, WITH 19% MAXIMUM MOISTURE CONTENT AND MINIMUM SAFE CAPACITY OF:

FB = 875 PSI FOR BENDING FC (PERP.) = 625 PSI FOR COMPRESSION PERP. TO GRAIN FC (PAR.) = 1300 PSI FOR COMPRESSION PARALLEL TO GRAIN FV = 95 PSI FOR HORIZONTAL SHEAR E = 1,600,000 PSI MODULUS OF ELASTICITY

ALL LUMBER IN CONTACT WITH MASONRY, CONCRETE, OR WITHIN 8" OF GRADE SHALL BE PRESSURE TREATED LUMBER.

4. ROUGH PLYWOOD: CONFORM TO THE REQUIREMENTS OF U.S. PRODUCT STANDARD PS 1 AND THE AMERICAN PLYWOOD ASSOCIATION. PRODUCTS CONFORMING TO EQUIVALENT GRADING BY TECO OR PITTSBURGH TESTING LABORATORY IS ALSO APPROVED. DO NOT USE PARTICLE PANEL PRODUCTS OR OTHER FABRICATED WOOD PRODUCTS.

FLOOR SHEATHING SHALL BE 3/4" STURD-I-FLOOR TONGUE AND GROOVE PLYWOOD.

5. CORNER POSTS SHALL BE THE EQUIVALENT OF NOT LESS THAN THREE PIECES OF 2" X 6" STUDS AT 6" STUD WALLS AND 2" X 4" STUDS AT 4" STUD WALLS, BRACED BY APPROVED SHEATHING APPLIED VERTICALLY IN PANELS NOT LESS THAN 4'-0" X 8'-0".

6. PROVIDE WOOD POSTS BELOW BEAMS. MULTIPLE WIDTH WOOD MEMBERS. AND GIRDER TRUSSES THAT SHALL MATCH THE WIDTH OF THE MEMBER TO BE SUPPORTED.

7. FLOOR JOIST BRIDGING:

PROVIDE 1" X 3" DIAGONAL BRIDGING (OR EQUIVALENT) AT 8'-0" MAXIMUM ON CENTER. USE ONE LINE OF SOLID BLOCKING NEXT TO EXTERIOR WALLS AND AT CENTERLINE OF INTERIOR STUD WALLS.

8. CUTTING AND NOTCHING: IN BEAMS, JOISTS AND RAFTERS, CUTS SHALL NOT BE DEEPER THAN SHOWN ON DRAWINGS, AND IN NO CASE DEEPER THAN 1/6 THE DEPTH OF THE BEAM, JOIST OR RAFTER.

9. CONNECTIONS AND FASTENINGS: ALL MEMBERS SHALL BE FASTENED AT THEIR JUNCTIONS WITH APPROVED CONNECTORS, SPIKES, NAILS, STRAPS, OR OTHER DEVICES. ALL CONNECTORS AND FASTENERS FOR USE WITH PRESSURE TREATED WOOD SHALL BE STAINLESS STEEL. ALL BOLTS IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.

10. NAILING SHALL BE IN ACCORDANCE WITH THE "FASTENING SCHEDULE", IN CHAPTER 23 OF

THE 2003 IBC CODE PER THE STATE OF CONNECTICUT BUILDING CODE. 11. DOUBLE UP JOISTS AND RAFTER UNDER ALL HVAC UNITS, UNDER ALL PARTITIONS, AND

12. ALL OPENINGS SHALL BE FRAMED WITH DOUBLE POSTS, DOUBLE JOISTS OR DOUBLE RAFTERS AND HEADERS ON END (UPRIGHT), UNLESS OTHERWISE INDICATED.

ELSEWHERE AS INDICATED ON THE DRAWINGS.

13. CONNECT ALL WOOD SILL PLATES TO CONCRETE OR MASONRY WITH A MINIMUM OF (1)-5/8" DIAMETER ANCHOR BOLT WITH WASHERS AT 4'-0" ON CENTER MAXIMUM AND A MINIMUM OF 8" EMBEDMENT INTO CONCRETE OR MASONRY, AND BOLTS A MAXIMUM OF 6" FROM EACH END OF INDIVIDUAL WOOD PLATES AND ADJACENT TO PLATE LAPS, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

14. CONNECT RAFTERS, JOISTS AND HEADERS FRAMING INTO THE SIDES OF OTHER WOOD MEMBERS WITH FORMED "SADDLE" TYPE JOIST HANGERS, MADE FROM 18 GA. GALVANIZED STEEL PER ASTM A93. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

15. ALL PREFABRICATED STEEL CONNECTORS INDICATED ON THE DRAWINGS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE OR APPROVED EQUAL. ALL SUBSTITUTIONS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO PLACEMENT ON THE PROJECT. CONTRACTOR SHALL ANTICIPATE THE LEAD TIMES REQUIRED FOR OBTAINING THE CONNECTORS INDICATED ON THE DRAWINGS AND ALLOW SUFFICIENT TIME TO ORDER AND OBTAIN IN ORDER AS TO NOT DELAY THE WORK.

16. SIZE, SPACING AND DETAIL OF WOOD STUDS SHALL BE AS INDICATED ON THE ARCHITECTURAL DRAWINGS.

17. MEMBERS INDICATED THUS: "LVL" SHALL BE LAMINATED VENEER LUMBER, OR EQUIVALENT APSL@ PARALLEL STRAND LUMBER "PARALLAM" SECTIONS WITH THE FOLLOWING MINIMUM MATERIAL PROPERTIES:

FB = 2600 PSIFC (PERP.) = 750 PSI

FC (PAR.) = 2510 PSIFV = 285 PSIE = 1,900,000 PSI

18. STUD MEMBERS INDICATED THUS: "LSL" SHALL BE LAMINATED STRAND LUMBER "TIMBERSTRAND" SECTIONS WITH THE FOLLOWING MINIMUM MATERIAL PROPERTIES:

FC (PAR.) = 1400 PSI

E = 1,300,000 PSI

19. PRE-ENGINEERED I-JOISTS SHALL BE I-LEVEL TJI SERIES COMPOSITE JOISTS AS MANUFACTURED BY WEYERHAEUSER OR EQUIVALENT. FLOOR JOISTS SHALL BE DESIGNED BY THE SUPPLIER TO SUPPORT THE LOADS ABOVE WITH DEFLECTIONS NOT TO EXCEED L/360 UNDER COMBINED DEAD LOAD + LIVE LOAD NOR L/480 UNDER LIVE LOAD ALONE. FLANGES FOR THE I-JOISTS SHALL BE LAMINATED VENEER LUMBER. FLANGES COMPRISED OF SAWN LUMBER SHALL NOT BE ACCEPTED.

1. DESIGN FLOOR TRUSSES FOR THE FOLLOWING LOAD:

LIVE LOAD 125 PSF DEAD LOAD 10 PSF

2. DESIGN ROOF TRUSSES FOR THE FOLLOWING LOAD:

DEAD LOAD - TOP CHORD 15 PSF

DEAD LOAD - BOTTOM CHORD 5 PSF PLUS WEIGHTS OF ALL MECHANICAL UNITS HUNG FROM TRUSSES, COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO DESIGNING TRUSSES.

3. FLOOR TRUSSES SHALL BE DESIGNED BY THE TRUSS FABRICATOR TO SUPPORT THE LOADS ABOVE WITH DEFLECTIONS NOT TO EXCEED L/360 UNDER COMBINED DEAD LOAD + LIVE LOAD NOR L/480 UNDER LIVE LOAD ALONE. TRUSS DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CONNECTICUT.

4. ROOF TRUSSES SHALL BE DESIGNED BY THE TRUSS FABRICATOR TO SUPPORT THE LOADS ABOVE WITH DEFLECTIONS NOT TO EXCEED L/360 UNDER COMBINED DEAD LOAD + LIVE LOAD NOR L/360 UNDER LIVE LOAD ALONE. TRUSS DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CONNECTICUT.

5. TRUSS LUMBER SHALL BE ANY SOFTWOOD SPECIES OF SPECIFIED GRADE, CONFORMING TO STRENGTH AND MODULUS REQUIREMENTS OF PS 20 "AMERICAN SOFTWOOD LUMBER

MOISTURE CONTENT: SEASONED, WITH 19% MAXIMUM MOISTURE CONTENT AT TIME OF INSTALLATION. GRADE FOR CHORD MEMBERS: NO. 2 MINIMUM

6. TRUSS JOINT CONNECTIONS SHALL BE MADE USING LIGHT GAGE METAL PLATES WITH EXTENDED TEETH PRESSED INTO WOOD OVER BOTH SIDES OF THE JOINT TO TRANSFER

GRADE FOR WEB MEMBERS: NO. 3 MINIMUM

7. TRUSS BRACING: VERTICAL TRUSS BRACING SHALL CONSIST OF 1"X4" MEMBER SLOPING AT ABOUT 45 DEGREES, EXTENDING FROM THE TOP CHORD TO BOTTOM CHORD ELEVATION AND NAILED TO EACH TRUSS WEB MEMBER THAT IT PASSES. ANCHOR ENDS OF CONTINUOUS 1"X4" DIAGONAL BRACE TO FRAMING PERPENDICULAR TO TRUSSES.

8. STRUTS SHALL BE INSTALLED BETWEEN BOTTOM CHORDS AT THE SAME TRUSS PANELS AS THE VERTICAL SWAY BRACING, AND SHALL EXTEND CONTINUOUSLY FROM END WALL TO

9. FABRICATOR SHALL SUBMIT SHOP DRAWINGS INDICATING ALL ELEMENT CONNECTIONS, SPLICES AND DETAILS, WITH CRITERIA SHOWN FOR CONNECTION DESIGN. FABRICATOR SHALL CERTIFY THAT CONNECTIONS ARE DESIGNED FOR TRUSS FORCES SHOWN ON THE SHOP DRAWINGS.

10. CUT ALL MEMBERS TO FIT AND BUTT TIGHT.

11. FLOOR TRUSS SPACING SHALL NOT EXCEED 1'-4" CENTER TO CENTER.

12. ROOF TRUSS SPACING SHALL NOT EXCEED 1'-4" CENTER TO CENTER.

13. FABRICATOR SHALL PROVIDE ALL STEEL CONNECTORS TO CONNECT TRUSSES TO THE SUPPORTING STRUCTURE ADEQUATE FOR ALL GRAVITY AND UPLIFT LOADS AS INDICATED ON THE SIGNED AND SEALED TRUSS SHOP DRAWINGS. FABRICATOR SHALL CERTIFY THAT CONNECTORS ARE DESIGNED FOR TRUSS FORCES SHOWN ON THE SHOP DRAWINGS.

CONNECTORS SHALL BE BY SIMPSON STRONG-TIE OR ACCEPTED EQUAL.

New Town Facilities and Maintenance Barn Project # GL-2015-14 Glastonbury, CT.

2109 Main Street, Glastonbury, CT.



SILVER / PETRUCELLI + ASSOCIATES Architects / Engineers / Interior Designers

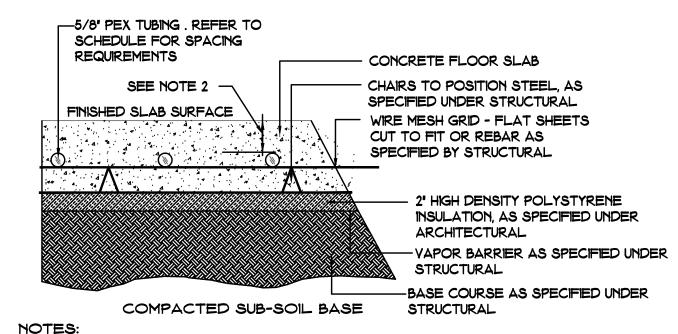
3190 Whitney Avenue, Hamden, CT 06518-2340

Tel. 203 230 9007 Fax. 203 230 8247 silverpetrucelli.com

GENERAL NOTES

Drawing Number:

13.235



1. WIRE MESH SHOULD BE POSITIONED ON CHAIR CARRIERS DURING POUR.

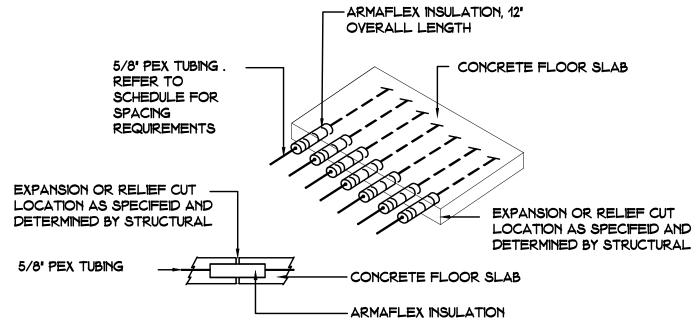
2. TUBING SHOULD BE 1 3/8" MINIMUM FROM FINISHED SURFACE.

3. TIE-WRAP TUBING TO GRID EVERY 36" MINIMUM, NO WIRE TIES EXPANSION JOINTS EVERY 12" MINIMUM

4. NO WIRE TIES EXPANSION JOINTS AT EXPASSION JOINT LOCATIONS, AS SPECIFIED UNDER STRUCTURAL.

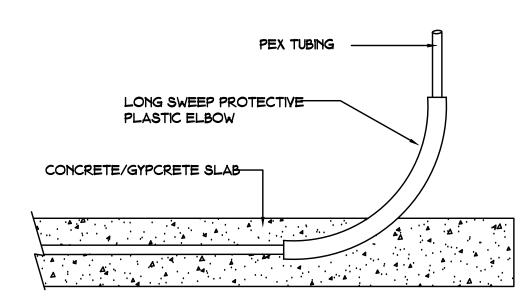
TYPICAL RADIANT CROSS SECTION- SLAB ON GRADE

NOT TO SCALE



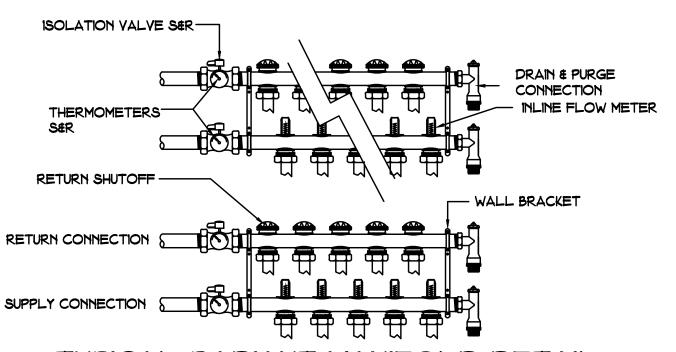
# RADIANT SLAB EXPANSION JOINT DETAIL

NOT TO SCALE



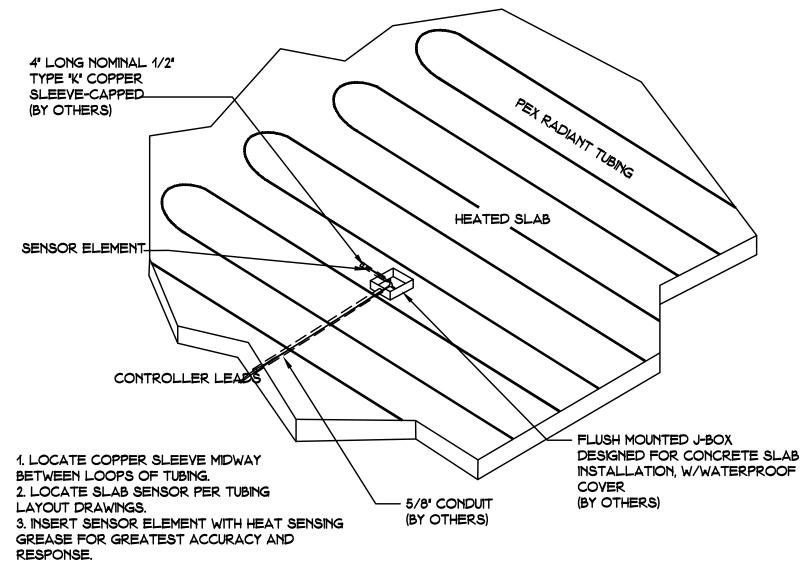
# INDIVIDUAL LOOP PROTECTIVE ELBOW

NOT TO SCALE



# TYPICAL RADIANT MANIFOLD DETAIL

NOT TO SCALE



# SLAB SENSOR INSTALLATION

NOT TO SCALE

RADIANT HEAT SCHEDULE (BASED ON COMFORTPRO AQUA HEAT)

MANIFOLD	AREA SQ. FT.	BTUH/SQ. FT.	NO. LOOPS	TUBE SPACING	AVERAGE TUBE LENGTH	MANIFOLD FLOW	LOOP FLOW	90 ITOUI	SUPPLY TEMP (F)	RETURN TEMP ( F)	RADIANT TYPE	NOTES
AREA-1	1865	27.3	6	12'	315′	5.09 GPM	.85 GPM	5.11'	120	100	SLAB EMBEDDED	1 TO 5
AREA-2	1865	27.3	6	12'	315′	5.09 GPM	.85 GPM	5.11'	120	100	SLAB EMBEDDED	1 TO 5

## NOTES-

1. ALL RADIANT HEAT BASED ON 5/8" PEX-C TUBING

- 2. DESIGN INFO BASED ON BASE DESIGN MANUFACTURER. ALL ALTERNATES MUST SUBMIT DESIGN CALCULATIONS AND SPECIFICS FOR ENGINEER'S APPROVAL.
- 3. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. PROVIDE INSULATION BELOW SLAB IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
- 4. TO BE SUPPLIED WITH MANUFACTURER PROVIDED SLAB SENSOR WITH ENCLOSURE.
  COORDINATE EXACT LOCATION IN FIELD. RUN CONTROL WIRING IN A CONDUIT FOR EASY
- 5. 30% PROPYLENE GLYCOL SOLUTION

## GENERAL

- THE INTENT OF THESE CONTRACT DOCUMENTS IS FOR THE CONTRACTOR TO FURNISH AND INSTALL RADIANT IN-SLAB PIPING AND ALL ASSOCIATED SPECIAL SYSTEMS. PIPING TERMINATE IN THE UTILITY CLOSET AND SHALL BE PRESSURE TESTED AND CAPPED, READYF RO FINAL PIPING CONNECTIONS BY OWNER.
- 2. THE CONTRACTOR SHALL OBTAIN AND REVIEW ALL CONTRACT DOCUMENTS, INCLUDING PROJECT MANUAL, PLANS AND SPECIFICATIONS OF ALL TRADES BEFORE SUBMITTING BID. REFER TO SPECIFICATIONS, PROJECT MANUAL AND PLANS, INCLUDING ALL EQUIPMENT SCHEDULES FOR MECHANICAL AND ELECTRICAL INFORMATION. CONTRACTOR SHALL WALK THROUGH BUILDING PRIOR TO SUBMITTING BID.

DESIGN PACKAGE. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER TO

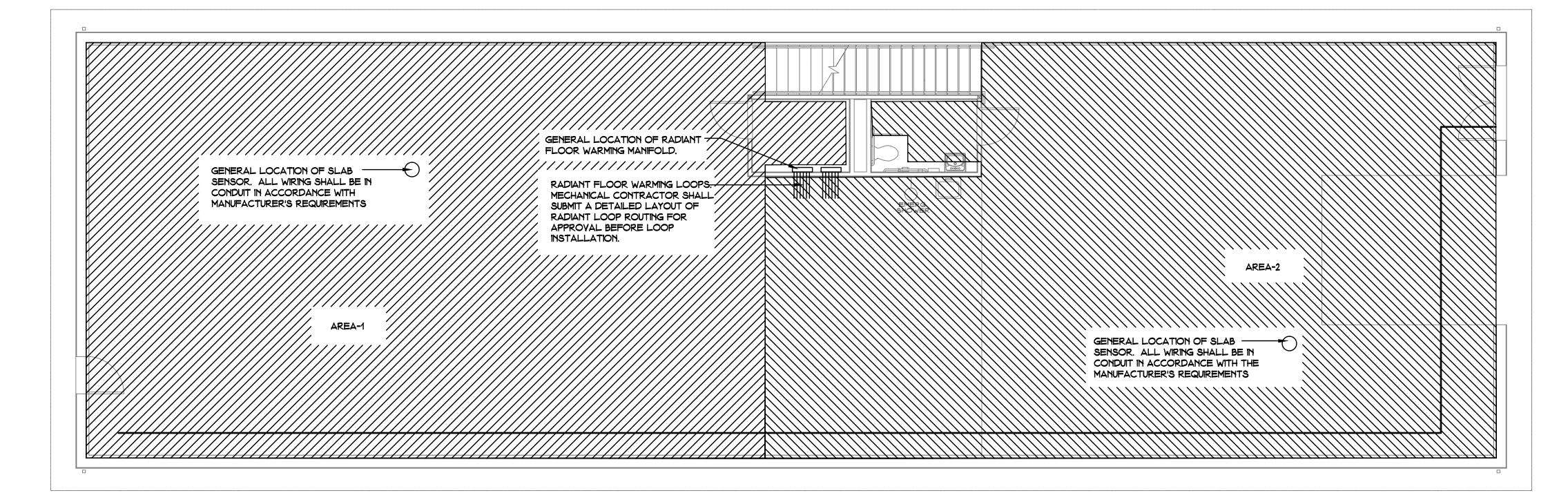
- DETERMINE WHICH TRADE CONTRACTOR IS RESPONSIBLE FOR VARIOUS PORTIONS OF THE WORK.
- 4. ALL WORK AND ACTION DEPICTED AND DESCRIBED SHALL BE PERFORMED BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.

3. ALL OF THE CONTRACT DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY TO FORM A TOTAL

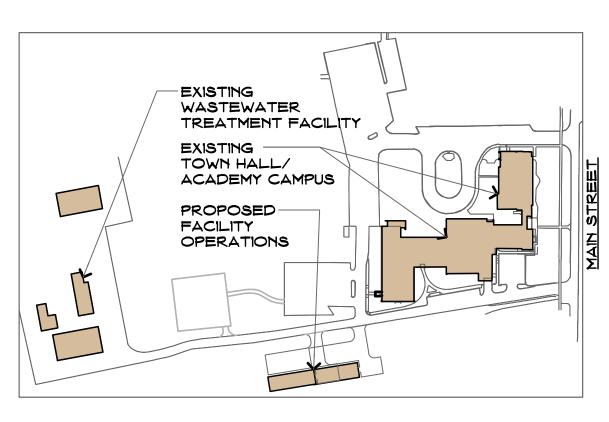
- 5. OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS.
- 6. ALL EQUIPMENT, MATERIALS AND RELATED SYSTEMS COMPONENTS SHALL BE NEW UNLESS SPECIFICALLY NOTED OTHERWISE.
- 7. REPAIR AND/OR REPLACE AT NO COST TO OWNER ALL EQUIPMENT AND MATERIALS DAMAGED DURING CONSTRUCTION.
- 8. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE APPLICABLE CODES IN THE ORDINANCES AND THE REGULATORY AGENCIES HAVING JURISDICTION.
- 9. CONTRACTORS SHALL PROVIDE ALL REQUIRED SLEEVES AND SEALS FOR PIPES OR CONDUIT PENETRATING WALLS OR FLOOR SLABS WITH FIRE STOPPING SEALANT WHERE REQUIRED.
- 10. ALL EQUIPMENT, PIPING, DUCT WORK SHALL BE SUPPORTED AS DETAILED, SPECIFIED AND REQUIRED TO PROVIDE A VIBRATION FREE INSTALLATION.
- 11. LOCATION AND SIZES OF ALL FLOOR PENETRATIONS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.

## HVAC

- 1. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT PIPING LOOPS. THE CONTRACTOR SHALL SUBMIT A DETAILED LAYOUT OF RADIANT LOOP ROUTING FOR APPROVAL BEFORE INSTAL ATION.
- 2. ALL PIPING WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- 3. ALL PIPING PASSING THROUGH EXPANSION JOINTS SHALL BE PROVIDED WITH ARMAFLEX INSULATION







13.235

Project Title:

New Town Facilities and Maintenance Barn Project # GL-2015-14

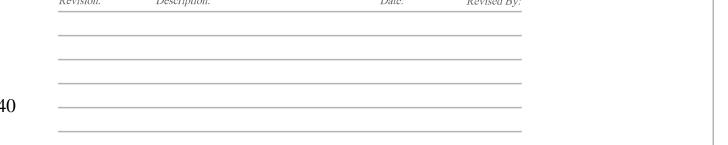
Glastonbury, CT.
2109 Main Street, Glastonbury, CT.



SILVER / PETRUCELLI + ASSOCIATES

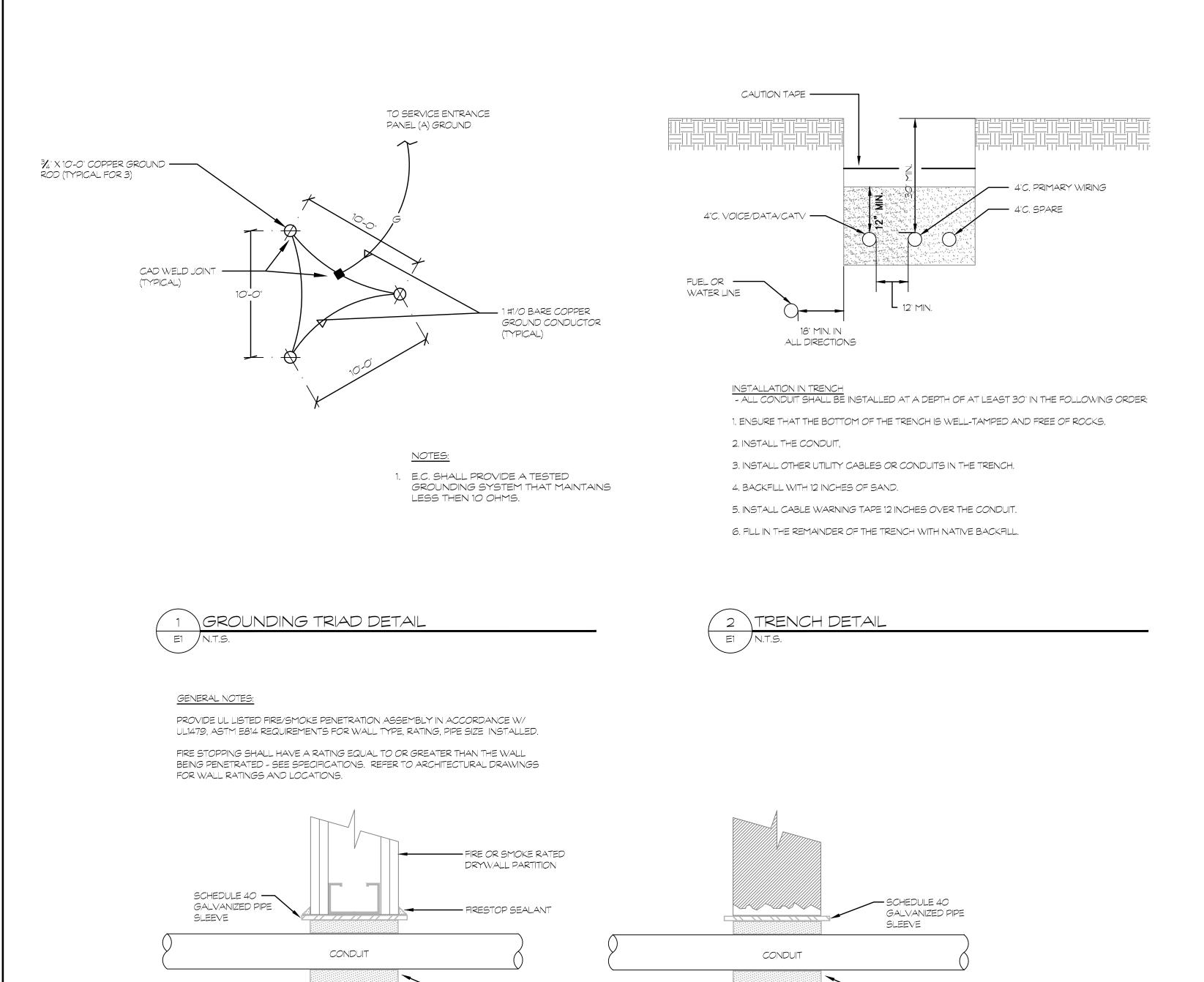
Architects / Engineers / Interior Designers

3190 Whitney Avenue, Hamden, CT 06518-2340 Tel. 203 230 9007 Fax. 203 230 8247 *silverpetrucelli.com* 



MECHANICAL FLOOR PLAN, NOTES, DETAILS AND SCHEDULE Date:

10.3.14
Scale:
AS NOTED
Drawn By:
AMG
Project Number:



GROUT SLEEVE IN

MASONRY WALL

1775/77/77/77/77/77/77

UL LISTED FIRE

WALL PENETRATION W/ FIRE/SMOKE SEAL DETAIL

SEALANT REFER TO

SPECIFICATIONS

# BUILDING MOUNTED PHOTOCELL (9'-0" AFG) ABBREVIATIONS **AMPERES** ABOVE FINISHED FLOOR ABOVE FINISHED GRADE CIRCUIT BREAKER DIAMETER ELECTRICAL CONTRACTOR ELECTRIC WATER COOLER ELECTRIC WATER HEATER EXISTING TO REMAIN EXISTING TO BE REMOVED HEAT TRACE JUNCTION BOX M/B MAIN BREAKER MAIN LUG ONLY MTD MOUNTED PANELBOARD RELOCATE/RELOCATED AT THE SAME HEIGHT (PER NEC REQUIREMENTS)

ELECTRICAL SYMBOLS

(NOT ALL SYMBOLS ARE USED)

TYPICAL PENDANT/CHAIN HUNG FLUORESCENT FIXTURE; LETTER INDICATES FIXTURE TYPE

TWIN HEAD EMERGENCY LIGHT WITH INTEGRAL BATTERY FOR 90 MINUTE EMERGENCY LIGHTING

GROUND FAULT INTERRUPTING DUPLEX RECEPTACLE; MOUNT AT 18" AFF UNLESS OTHERWISE SPECIFIED

WALL MOUNTED JUNCTION BOX, ACCORDING TO NEC REQUIREMENTS

CEILING MOUNTED JUNCTION BOX, ACCORDING TO NEC REQUIREMENTS

WALL MOUNTED EXIT SIGN, INSTALL AT 7-6" AFF OR ON EXISTING LOCATION

DUPLEX RECEPTACLE; MOUNT AT 18" AFF UNLESS OTHERWISE SPECIFIED

RECEPTACLE WITH OUTDOOR RATED COVER PLATE, PROVIDE FLUSH MOUNTED BOX

CALL-FOR-AID SWITCH. MOUNT AT 36" AFF WITH PULL CORD HANGING DOWN TO 6" AFF

CONNECTION TO ELECTRICAL CHAIN HOIST, FURNISHED AND INSTALLED BY OTHERS, WIRED BY E.C.

PUSH BUTTON DOOR CONTROLLER, FURNISHED WITH OVERHEAD DOOR, INSTALLED & WIRED BY E.C.

ELECTRICAL CONNECTION TO OVERHEAD DOOR, FURNISHED AND INSTALLED BY OTHERS, WIRED BY E.C.

UTILITY COMPANY COMBINATION METER/SERVICE SWITCH (CL&P APPROVED)

WALL MOUNTED FIXTURE; LETTER INDICATES FIXTURE TYPE

SPECIAL OUTLET CONFIGURATION, SEE NEMA #

7-DAY ASTRONOMICAL TIME CLOCK

UNLESS OTHERWISE NOTED

WEATHERPROOF

CALL-FOR-AID CORRIDOR LIGHT/BUZZER, MOUNT AT 7'-6" AFF

ELECTRICAL PANEL, 120/208 VOLT

PANELBOARD SURFACE MOUNTED

NON-FUSED DISCONNECT SWITCH

FUSED DISCONNECT SWITCH

WALL MOUNTED INVERTER

#### LIGHTING FIXTURE SCHEDULE LAMP ELECTRICAL MANUFACTURER/ DESIGNATION DESCRIPTION MODEL NUMBER TYPE VOLTAGE BALLAST WALL MTD 12" DIA. ARCHITECTURAL LANTERN W/ | BASELITE "ROADHOUSE" ELECTRONIC STRAIGHT STEM AND OIL RUBBED BRONZE FINISH $\mid \mid$ MC12-21-B13/21-10W-BAX-UGR/21-SQ 3**/**4"/21 WALL MTD 20" DIA. ARCHITECTURAL LANTERN W/ $\mid$ BASELITE "ROADHOUSE" ELECTRONIC 120 300SENECK STEM \$ OIL RUBBED BRONZE FINISH $\mid$ MC20-21-E3A/21-21W-BAX-UGR/21-SQ $rac{3}{4}$ \*/21 ANDICAP ACCESSIBLE EXIT SIGN - LED, SINGLE ISOLITE FACE, UNIVERSAL MOUNTED W/HANDICAP LOGO | STX-HE SA LR 1 W MERGENCY LIGHTING UNIT, SELF-CONTAINED, 120 O MINUTE BATTERY PACK, DUAL HEADS TUNGSTEN ET6L18WPSWA 25W WALL MTD CENTRAL INVERTER W/ 120V | ISOLITE IPUT-120V OUTPUT & SELF-DIAGNOSTIC

UL LISTED FIRE SEALANT

REFER TO SPECIFICATIONS

CONCRETE/MASONRY

FIRE OR SMOKE RATED

- 1 FURNISH W/ FACTORY EMERGENCY BATTERY PACK WITH INTEGRAL TEST SWITCH AND INDICATOR LIGHT (1100 1400 LUMEN OUTPUT). 2 PROVIDE W/ FEATURES AND ACCESSORIES NECESSARY FOR UNIVERSAL MOUNTING AND DIRECTIONAL ARROW KNOCKOUTS. ARROWS
- ON PLANS INDICATE DIRECTION OF CHEVRONS. SHADING INDICATES QUANTITY AND LOCATION OF FIXTURE FACE.
- 3. ALL EXTERIOR FIXTURES AND INTERIOR FIXTURES IN UNHEATED SPACES SHALL BE CAPABLE OF OPERATING IN COLD TEMP (0° F). 4. ELECTRONIC BALLAST SHALL BE PROGRAMMED START TYPE AND HAVE A MAXIMUM TOTAL HARMONIC DISTORTION OF TEN PERCENT (10%).
- 5. FURNISH ALL LIGHT FIXTURES WITH REQUIRED LAMPS. FLUORESCENT LAMPS SHALL PASS THE FEDERAL TCLP TEST FOR MERCURY TOXICITY AND SHALL BE CLASSIFIED AS NON-HAZARDOUS WASTE. COLOR OF ALL FLUORESCENT LAMPS SHALL BE 4100K.
- 6. FURNISH ALL ADDITIONAL MATERIALS AND ACCESSORIES REQUIRED FOR COMPLETE INSTALLATION TO BE FULLY OPERATIONAL.
- 7) FURNISH WITH NICKEL CADMIUM BATTERY FOR MINIMUM 90 MINUTE EMERGENCY LIGHTING OPERATION.
- (8) FIXTURE SHALL BE FURNISHED WITH TWO LED BOARDS, EACH WITH INDEPENDENT DRIVERS. SO THAT THE LOSS OF EITHER DRIVER OR LED BOARD WILL NOT LEAVE THE FIXTURE WITHOUT LIGHT.

SILVER / PETRUCELLI + ASSOCIATES

3190 Whitney Avenue, Hamden, CT 06518-2340 Tel. 203 230 9007 Fax. 203 230 8247 silverpetrucelli.com

# PROUNDING INSTALLATION:

GENERAL NOTES

# 1. EQUIPMENT GROUNDING

- THE MORE STRINGENT, AND/OR LARGER QUANTITY AND/OR MORE EXPENSIVE SHALL A. INSTALL AN INSULATED GROUND CONDUCTOR, RUN IN THE RACEWAY WITH THE PHASE CONDUCTORS, FOR EACH FEEDER SERVING: PANELBOARDS, LIGHTING DIMMER BOARDS, MOTOR CONTROL CENTERS, MOTORS, EQUIPMENT AND APPLIANCES UNLESS OTHERWISE NOTED.
  - B. INCLUDE AN INSULATED GROUND CONDUCTOR IN ALL CONDUIT RUNS CONTAINING
  - C. INCLUDE AN INSULATED GROUND CONDUCTOR IN ALL BRANCH CIRCUIT RACEWAYS OR

# RACEWAYS FOR TELECOMMUNICATION SYSTEMS:

TELECOMMUNICATIONS RACEWAYS.

CABLES UNLESS OTHERWISE NOTED.

PROVIDE EMPTY CONDUIT SYSTEMS FOR TELECOMMUNICATION WORK, COMPLETE

SECTIONS OF FLEXIBLE CONDUIT UNLESS OTHERWISE NOTED.

WITH PULL BOXES, OUTLET BOXES, AND CONDUIT AS INDICATED ON THE DRAWINGS.

2. PROVIDE MINIMUM INSIDE BENDING RADIUS OF 10 TIMES CONDUIT INSIDE DIAMETER FOR

3. WHEN COMPLETED THE CONDUIT SYSTEMS SHALL BE READY FOR THE INSTALLATION

## OF WIRING AND EQUIPMENT.

IN ALL ARCHITECTURALLY FINISHED SPACES, CONDUITS AND CABLES SHALL BE RUN CONCEALED IN HUNG OR FURRED CEILINGS, SLABS, MASONRY, AND PARTITIONS UNLESS OTHERWISE INDICATED. SAW CUTTING AND FINISHED PATCHING SHALL BE REQUIRED IN EXISTING SLABS AND MASONRY WALLS. IN UNFINISHED SPACES, RACEWAYS MAY BE RUN EXPOSED.

WHEN A CONFLICT BETWEEN THE DRAWINGS, NOTES AND/OR SPECIFICATIONS OCCUR,

APPLY. THE REQUIREMENTS LISTED WITHIN NOTES OR SPECIFICATIONS SHALL BE

THE DRAWINGS SHOW THE GENERAL LAYOUT AND TYPICAL DETAILS. PROVIDE

ENSURE THAT ITEMS TO BE FURNISHED FIT THE SPACE AVAILABLE, MAKE NECESSARY

CONNECTIONS, AND PROVIDE SUCH SIZES AND SHAPES OF EQUIPMENT THAT FINAL

INSTALLATION SHALL SATISFY THE INTENT OF THE DRAWINGS AND SPECIFICATIONS.

LOCATIONS OF OUTLETS, SWITCHES, APPLIANCES, ETC. AS SHOWN ON ELECTRICAL

PLANS ARE APPROXIMATE; COORDINATE WITH ARCHITECTURAL AND MECHANICAL

PLANS AND DETAILS, AND WITH JOB CONDITIONS. INSTALL SWITCHES WITH "OFF"

FOR VERTICAL MOUNTING AND AT RIGHT FOR HORIZONTAL MOUNTING.

LOCATE AND INSTALL ELECTRICAL EQUIPMENT, JUNCTION AND PULL BOXES,

PANELBOARDS, SWITCHES, CONTROLS, AND OTHER APPARATUS REQUIRING

MAINTENANCE, INSPECTION, AND OPERATION SO AS TO BE READILY ACCESSIBLE.

POSITION DOWN. INSTALL RECEPTACLES WITH GROUNDING POLE IN THE UP POSITION

FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR

COMPLETE SYSTEMS. DRAWINGS ARE BASED ON THE SPECIFIED EQUIPMENT. RACEWAY LAYOUTS, BOXES, AND WIRING OF THE SYSTEMS ARE SUBJECT TO

REQUIRED, PROVIDED AND INSTALLED WHETHER SPECIFICALLY INDICATED ON THE

- UNLESS OTHERWISE INDICATED, EXACT ROUTING OF RACEWAYS SHALL BE DETERMINED BY THE CONTRACTOR TO SUIT PROJECT REQUIREMENTS AND FIELD CONDITIONS.
- PROVIDE SEPARATE RACEWAYS, JUNCTION BOXES, PULL BOXES AND WIREWAYS FOR ALL EMERGENCY SYSTEM WIRING.

RACEWAY INSTALLATION

DRAWINGS OR NOT.

APPROVED SHOP DRAWINGS.

<u> WIRING & RACEWAY:</u>

DO NOT USE WIRE SMALLER THAN NO. 12 AWG FOR ANY POWER OR LIGHTING CIRCUIT. USE LARGER SIZES WHERE INDICATED, AS REQUIRED BY CODES, AND AS FOLLOWS:

> 30 AMPERE CIRCUIT: NO. 10 40 AMPERE CIRCUIT: NO. 8 50 AMPERE CIRCUIT: NO. 6 60 AMPERE CIRCUIT: NO. 6

MINIMUM HOMERUN AND BRANCH CIRCUIT WIRING SIZES AND MAXIMUM HOMERUN CONDUIT FILL FOR 120 VOLT, 20 AMPERE CIRCUITS SHALL BE AS FOLLOWS:

LENGTH	<u>CIRCUIT</u>	HOME RUN	CONDUIT SIZE
	WIRE SIZE	WIRE SIZE	(8 WIRES/CON
0' TO 50'	#12	#12	3/4"
51' TO 100'	#12	#10	3/4"
101' TO 200'	#10	#8	1"

GREATER THAN 200' - REQUEST DIRECTION FROM ARCHITECT. NOTE: PROVIDE DERATING PER CODE WHEN INSTALLING MORE THAN 3 CURRENT CARRYING CONDUCTORS IN CONDUIT.

HOME RUNS AND BRANCH CIRCUIT WIRING FOR 277 VOLT, 20 AMPERE CIRCUITS SHALL BE AS FOLLOWS:

LENGTH	<u>CIRCUIT</u>	HOME RUN	CONDUIT SIZE
	WIRE SIZE	WIRE SIZE	(8 WIRES/CONDUIT)
0' TO 100'	#12	#12	3/4"
100' TO 200'	#12	#10	3/4"

GREATER THAN 200' - REQUEST DIRECTION FROM ARCHITECT. NOTE: PROVIDE DERATING PER CODE WHEN INSTALLING MORE THAN 3 CURRENT CARRYING CONDUCTORS IN CONDUIT.

- DO NOT USE WIRE SMALLER THAN NO. 14 AWG FOR CONTROL CIRCUITS UNLESS OTHERWISE RECOMMENDED BY THE EQUIPMENT OR SYSTEM MANUFACTURER ON
- WIRING SHOP DRAWINGS, AND SO APPROVED BY THE ARCHITECT. WHERE GREATER THAN THREE (3) CURRENT-CARRYING CONDUCTORS ARE INSTALLED IN ANY ONE CONDUIT OR CABLE, CONDUCTORS MUST BE DERATED AND SIZES INCREASED, IF NEEDED, TO ACCOMMODATE CONDUCTOR DERATING AS REQUIRED BY
- NEC ARTICLE 310. CONDUCTORS SHALL BE COMPLETELY INSTALLED AND CONNECTED. PROVIDE ALL TERMINALS, LUGS, AND CONNECTORS TO SUIT THE APPLICATION, AND IN COMPLIANCE WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS.
- UNDER NO CIRCUMSTANCES SHALL ANY SWITCH OR CIRCUIT BREAKER BREAK A
- NEUTRAL CONDUCTOR. THE CIRCUIT NUMBERS INDICATED ON THE DRAWINGS ARE INTENDED AS A GUIDE FOR PROPER CONNECTION OF CIRCUITS AT PANELS. HOWEVER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE FINAL CIRCUITING WORK

FULFILLS THE FOLLOWING CONDITIONS:

LOADS ON PANEL BUSSES SHALL BE PHASE-BALANCED AS EVENLY AS POSSIBLE.

## MECHANICAL EQUIPMENT WIRING

- UNLESS OTHERWISE INDICATED OR SPECIFIED HEREIN, ALL MOTORS, MOTOR STARTERS, MOTOR CONTROLLERS, VARIABLE SPEED/FREQUENCY DRIVES, AND ASSOCIATED CONTROL DEVICES ARE FURNISHED AND INSTALLED UNDER THIS DIVISION. COORDINATE INSTALLATION AND LOCATIONS WITH OTHER DIVISION CONTRACTORS.
- 2. POWER WIRING FROM THE INDICATED SOURCE TO THE STARTER/CONTROLLER/DRIVE UNIT, AND FROM THE STARTER/CONTROLLER/DRIVE UNIT TO THE MOTOR, INCLUDING ANY LOCAL DISCONNECT SWITCHES PROVIDED AND INSTALLED BY THIS DIVISION, AND ALL ASSOCIATED LUGS, TERMINALS, AND CONNECTIONS, IS THE WORK OF THIS
- 3. CONTROL CIRCUIT WIRING IS GENERALLY FURNISHED AND INSTALLED UNDER OTHER DIVISIONS, EXCEPT THAT ANY SUCH WIRING SHOWN ON ELECTRICAL DRAWINGS IS WORK OF THIS DIVISION.
- 4. PROVIDE 120 VOLT POWER TO ALL TEMPERATURE CONTROL PANELS (TCP'S) SUPPLIED AND INSTALLED BY DIVISION 23. USE EMERGENCY POWER SOURCES WHEN AVAILABLE, COORDINATE ALL POWER REQUIREMENTS AND PANEL LOCATIONS WITH DIVISION 23 TEMPERATURE CONTROLS CONTRACTOR.
- 5. COOPERATE AND COORDINATE WITH THE OTHER TRADES IN THE INSTALLATION, CONNECTION, AND TESTING OF MECHANICAL EQUIPMENT. PERFORM WORK OF THIS SECTION IN ACCORDANCE WITH EQUIPMENT MANUFACTURERS' INSTRUCTIONS.

## <u>AS BUILT DRAWINGS</u>

- PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS REFLECTING AS INSTALLED CONDITIONS. AS-BUILT DRAWINGS SHALL INDICATE ALL INSTALLED CONDITIONS OF SYSTEMS WITHIN THIS DISCIPLINE. DRAWINGS SHALL BE OF SIMILAR SCALE AS THE CONSTRUCTION DOCUMENTS AND INCLUDE DETAILS AS NECESSARY TO CLEARLY REFLECT THE INSTALLED CONDITION. DRAWINGS SHALL BE BOUND IN A COMPLETE AND CONSECUTIVE SET. SUPPLEMENTAL SKETCHES AND LOOSE PAPERWORK WILL NOT BE ACCEPTABLE AND WILL BE RETURNED FOR REVISION. THE CONTRACTOR SHALL COMPLY WITH THE ENGINEERS COMMENTS TO PRODUCE A CLEAR AND CONCISE SET OF DRAWINGS. DRAWINGS SHALL BE SUBMITTED IN BOTH HARD COPY AND ELECTRONIC (AUTO-CAD VERSION AS REQUIRED BY THE OWNER) VERSION. NUMBER OF COPIES OF EACH AS REQUESTED BY THE OWNER.
- 2. PROVIDE "AS-BUILT DRAWINGS" INDICATING IN A NEAT AND ACCURATE MANNER A COMPLETE RECORD OF ALL REVISIONS OF THE ORIGINAL DESIGN OF THE WORK. INDICATE THE FOLLOWING INSTALLED CONDITIONS:
- A. INCLUDE ALL CHANGES AND AN ACCURATE RECORD, ON REPRODUCTIONS OF THE CONTRACT DRAWINGS OR APPROPRIATE SHOP
- B. DRAWINGS, OF ALL DEVIATIONS, BETWEEN THE WORK SHOWN AND WORK INSTALLED.
- C. EQUIPMENT LOCATIONS (EXPOSED AND CONCEALED), DIMENSIONED FROM PROMINENT BUILDING LINES.
- D. APPROVED SUBSTITUTIONS, CONTRACT MODIFICATIONS, AND ACTUAL EQUIPMENT AND MATERIALS INSTALLED.
- E. CONTRACT MODIFICATIONS, ACTUAL EQUIPMENT AND MATERIALS INSTALLED.
- F. SUBMIT FOR REVIEW BOUND SETS OF THE REQUIRED DRAWINGS, MANUALS AND OPERATING INSTRUCTIONS.
- G. SUBMIT A COMPLETE MAINTENANCE MANUAL OF ALL EQUIPMENT INSTALLED UNDER

	ELECTRICAL DRAWING LIST
DRAWING NUMBER	DRAWING DESCRIPTION
Eī	NOTES, SYMBOLS, DETAILS & SCHEDULES - ELECTRICAL
E2	SITE PLAN & FLOOR PLANS - ELECTRICAL
E3	ONE LINE DIAGRAM & PANEL SCHEDULE - ELECTRICAL

10.3.14

Drawn By:

SEC

13.235

Project Number:

AS NOTED

Scale:

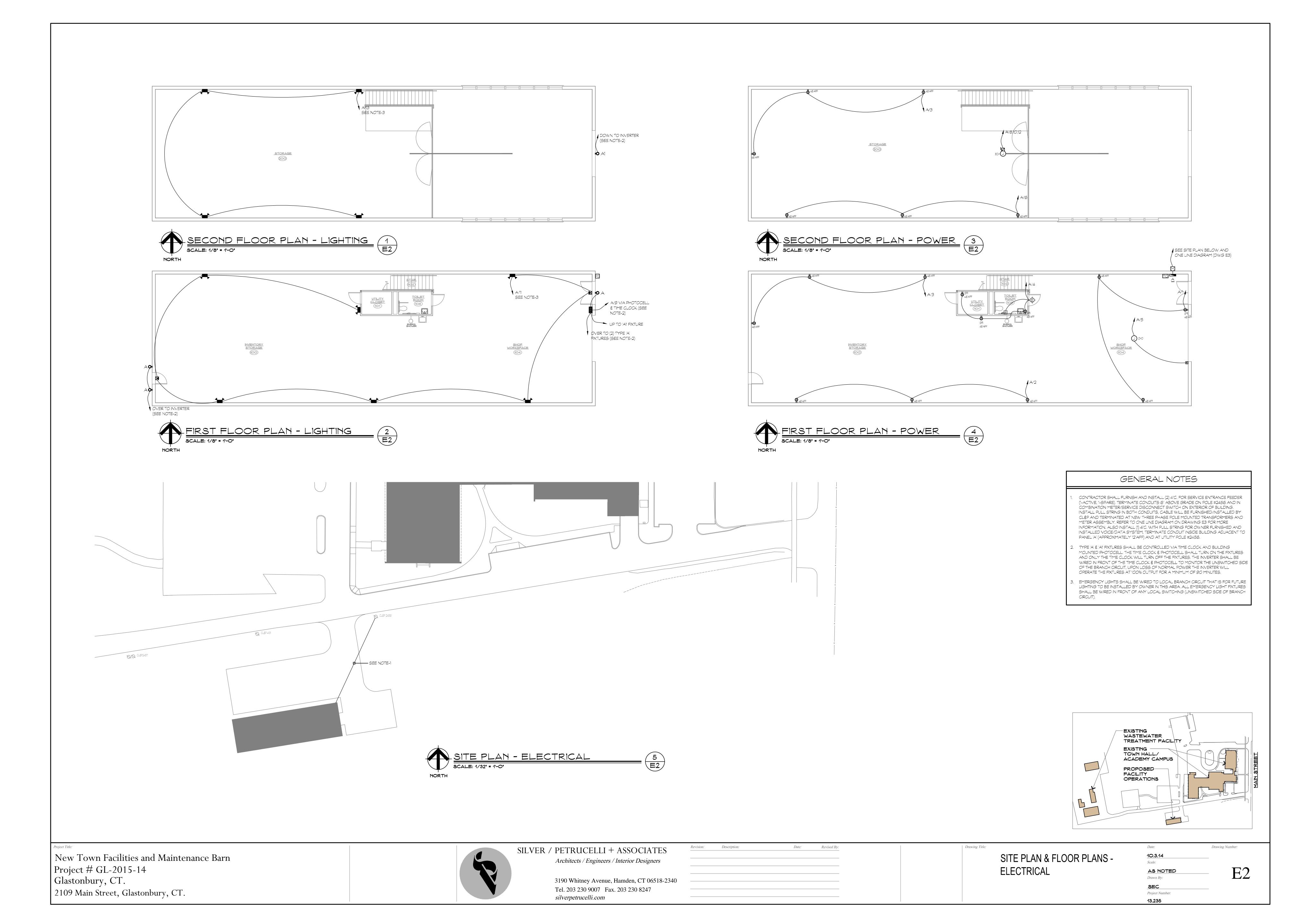
Drawing Number:

Drawing Title: NOTES, SYMBOLS, DETAILS & SCHEDULES - ELECTRICAL

New Town Facilities and Maintenance Barn Project # GL-2015-14 Glastonbury, CT.

2109 Main Street, Glastonbury, CT.

Architects / Engineers / Interior Designers



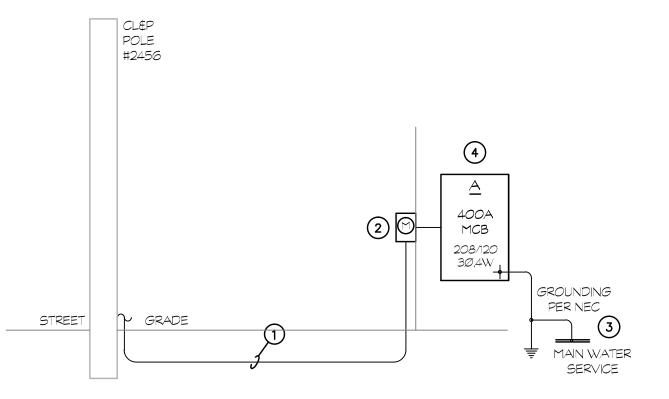
(	CONDUCTOR AND CONDUIT SIZING TABLE	_
CIRCUIT BREAKER	CONDUCTOR (THWN/THHN)	CONDUIT SIZE
20 AMP	#12 + #12 GND	3/4"
30 AMP	#10 + #10 GND	3/4"
40,45,50 AMP	#8 + #10 GND	1"
60,70,80 AMP	#6 + #10 GND	1 1/4"
90,100 AMP	#3 + #8 GND	11/2"
125 AMP	#1 + #6 GND	11/2"
150 AMP	#1/0 + #6 GND	1 1/2"
200 AMP	#3/0 + #6 GND	2"
225 AMP	#4/0 + #4 GND	2 1/2"
250 AMP	#250 + #4 GND	2 1/2"
400 AMP	#600 + #3 GND	4"
600 AMP	(2 SETS) #350 + #1 GND	(2) 3"
800 AMP	(2 SETS) #600 + #1/0 GND	(2) 4"
1000 AMP	(3 SETS) #400 + #2/0 GND	(3) 3-1/2"

NOTE: 1. ALL VALUES BASED ON COPPER CONDUCTORS.

2. <u>FEEDERS</u> <u>UPGRADE</u> WIRE TO MAINTAIN MAXIMUM OF 2% VOLTAGE DROP.

BRANCH CIRCUITS UPGRADE WIRE TO MAINTAIN MAXIMUM OF 3% VOLTAGE DROP.

- 3. NUMBER OF WIRES SHALL BE DETERMINED WITH EQUIPMENT ELECTRICAL NAMEPLATE CHARACTERISTICS.
- 4. WHERE NEUTRALS ARE REQUIRED, IT SHALL MATCH FEEDER CONDUCTOR SIZE.



- CONTRACTOR SHALL PROVIDE AND INSTALL (2) 4°C. (1-ACTIVE, 1-SPARE) FROM CL&P APPROVED COMBINATION METER/SERVICE SWITCH TO UTILITY POLE #2456. TERMINATE CONDUIT 6" ABOVE GRADE AT POLE AND INTO COMBINATION METER/SERVICE SWITCH. INSTALL PULL STRING IN BOTH CONDUITS, CL&P WILL INSTALL FEEDER CABLE AND TERMINATE AT NEW POLE MOUNTED TRANSFORMERS AND METER ASSEMBLY.
- CONTRACTOR SHALL PROVIDE AND INSTALL A 400 AMP CLEP APPROVED COMBINATION METER/SERVICE SWITCH (320 AMP, 208/120V, 3Ø-4W) ON OUTSIDE
- WALL OF NEW BUILDING. PROVIDE SERVICE GROUND TO WATER MAIN AND GROUND ROD PER NEW NEC ARTICLE 250 AND UTILITY REQUIREMENTS.
- PROVIDE PANEL: 400A MCB, 208/120V, 3Ø, 4 WIRE, 42 CIRCUIT. RATED FOR SERVICE ENTRANCE, WITH CIRCUIT BREAKERS AS INDICATED ON SCHEDULE.
- 5. REFER TO CONDUCTOR AND CONDUIT SIZING TABLE FOR FEEDER REQUIREMENTS. ALL WIRING BY ELECTRICAL CONTRACTOR.
- 6. SEAL ALL CONDUITS AS REQUIRED BY CODE.
- 7. PROVIDE PULL STRINGS AND CONDUIT END COVERS FOR ALL SPARE OR EMPTY
- 8. PROVIDE BLACK PAINTED PLYWOOD BACKBOARD. ANCHOR AS REQUIRED FOR SEISMIC LOAD.

ELECTRICAL ONE LINE DIAGRAM

RATINGS: 240V/4 42,00C SERVICE: 208 Y/1	AIC	15/4-WI	RE		,	<i>,</i> , ,	\_		" <u> </u>					CATION DUNTING	I: SHOP WORKSPACE #104 5: SURFACE
DESCRIPTION	NOTE	AMPS	TRIP AMP	POLE	CKT. TYP	CKT. NO.	A	в с	CKT.	CKT. TYP	POLE	TRIP AMP	AMPS	NOTE	DESCRIPTION
RECEPTACLES		4.5	20	1	A1	1	+	+	- 2	A1	1	20	4.5		RECEPTACLES
RECEPTACLES		4.5	20	1	A1	3	$\vdash$	+	- 4	A1	1	20	4.5		RECEPTACLES & CALL FOR AID
JUNCTION BOX (OHD)		9.8	20	1	A1	5	$\vdash$	+	- 6	A1	1	20	4.5		RECEPTACLES
RECEPTACLES		4.5	20	1	A1	7	+		- 8						
EXTERIOR LIGHTS		1	20	1	A1	9		+	- 10	C	3	20	8.6		JUNCTION BOX (ECH)
FUTURE INTERIOR LIGHTS			20	1	A1	11	$\Box$	+	- 12	]					
FUTURE INTERIOR LIGHTS			20	1	A1	13	+	+	- 14		1	20			SPARE
SPARE			20	1		15	14	+	- 16		1	20			SPARE
SPARE			20	1		17	14	+	- 18		1	20			SPARE
SPARE			20	1		19	+	+	- 20						
						21	14	•	- 22						
						23	14	+	- 24						
						25	-		- 26						
						27	14	+	- 28						
						29	14	+	- 30						
						31	-	#	- 32						
						33	Ħ	*	- 34						
						35	$\dagger$	+	- 36						
						37	-	#	- 38						
						39		+	- 40						
							H	$\downarrow \downarrow$	- 42						
NOTES:  1. PANELBOARD SHA  2) PROVIDE CB LOC  3) PROVIDE HACR E  4. UPGRADE WIRE SI  5. TOTAL CONNECTE  6. CIRCUIT TYPE A: 12  7. CIRCUIT TYPE A1: 12	CK. BREAKER. ZE AS REC ID LOAD: OV, 2 WIR	QUIRED PHASE PHASE PHASE E IN CC	TO MA A - 26 B - 22 C - 27 DNDUIT	NNTAIN 577 VA 32 VA 88 VA OR MO	1 3% M/ () C CABL	XIMUM ) > 7.7 KY ) E.	1 VO	LTAGE	H MAIN E		·		NTRANC	CE RATE	ED).

Project Title:
New Town Facilities and Maintenance Barn
Project # GL-2015-14
Glastonbury, CT.
2109 Main Street, Glastonbury, CT.



SILVER / PETRUCELLI + ASSOCIATES Architects / Engineers / Interior Designers

> 3190 Whitney Avenue, Hamden, CT 06518-2340 Tel. 203 230 9007 Fax. 203 230 8247 silverpetrucelli.com

evision: Description:	Date:	Revised By:

ONE LINE DIAGRAM & PANEL SCHEDULE - ELECTRICAL

Drawing Number: 10.3.14 Scale: AS NOTED SEC

Project Number:

13.235

E3