HELEN LEHMANN MONTVERDE LIBRARY

PROPERTY OWNER:

TOWN OF MONTVERDE 17435 5TH STREET MONTVERDE, FLORIDA 34756 PH:(407)469-2681

ARCHITECT:

GATORSKTCH ARCHITECTS, INC 1000 E. HIGHWAY 50, SUITE 201A CLERMONT, FLORIDA 34711 PH: (407) 608-5677

	AE	BREVIATIONS	ARCHITECTURAL NOTES				INDEX DESCRIPTION	
			1. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE CITY, STATE AND FEDERAL CODES AND STANDARDS.	SHEET	ARCHITECTURAL DRAWING	SHEET	STRUCTURAL DRAWING	
	A.B.	ANCHOR BOLT	2. PRIOR TO BIDDING THE PROJECT, THE CONTRACTOR SHALL REVIEW THE DOCUMENTS, VISIT THE SITE, INVESTIGATE EXISTING CONDITIONS AND NOTIFY THE ARCHITECT IN WRITING OF DRAWING DISCREPANCIES OR SITE CONDITIONS		COVER SHEET	S11221	STRUCTURAL NOTES	
	ABV. A/C	ABOVE AIR CONDITIONER	IN CONFLICT WITH THE CONSTRUCTION DOCUMENTS, OR OTHERWISE AFFECTING THE WORK.	CS101	PROJECT AND CODE DATA	S101	STRUCTURAL FOUNDATION/ SLAB PLA	
	ACT	ACOUSTIC CEILING TILE	3. THE CONTRACTOR SHALL MAINTAIN SAFE MEANS OF EGRESS AND FIRE ACCESS AT ALL TIMES.	CS102		S201	STRUCTURAL ROOF FRAMING PLAN	
	ADJ.	ADJUSTABLE	4. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS AND SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORKERS, OCCUPANTS AND ALL OTHER PERSONS DURING	LS100	FIRE BARRIER DATA			
	4.F.F.		CONSTRUCTION. MEASURES MAY INCLUDE BUT SHALL NOT BE LIMITED TO CONSTRUCTION FENCING, STRUCTURAL BRACING, SHORING OF EARTHWORKS AND SCAFFOLDS, SAFETY NETS, BRACING AND SUPPORTS FOR CRANES AND	LS101		S301	STRUCTURAL FOUNDATION DETAILS	
	A.H.U. BM.	AIR HANDLER UNIT BEAM	GIN POLES.	A001	ARCHITECTURAL SITE PLAN	S302	STRUCTURAL FRAMING SECTION	
	BOT.	BOTTOM	5. ALL AREAS OUTSIDE THE PROJECT BOUNDARIES SHALL BE PROTECTED TO INSURE THEY REMAIN INTACT DURING CONSTRUCTION. ITEMS OUTSIDE THE BOUNDARIES WHICH ARE DISTURBED, DAMAGED OR SOILED DUE TO THE	A101	FLOOR PLAN	S303	STRUCTURAL FRAMING SECTION	
	CLG.	CEILING	ACTS OF THE CONTRACTOR OR SUBCONTRACTORS SHALL BE CLEANED, REPAIRED OR REPLACED TO THEIR PREVIOUS CONDITION, AS DETERMINED BY THE OWNER.	A201	EXTERIOR ELEVATIONS	S304	STRUCTURAL FRAMING SECTION	
	CJ CMU	CONTROL JOINT CONCRETE MASONRY UNIT	6. ALL COMPLETED WORK SHALL BE PROTECTED UNTIL FINAL COMPLETION. DAMAGED WORK SHALL BE CORRECTED	A301	FLOOR FINISH PLAN	S305	STRUCTURAL FRAMING SECTIONS	
	COL.	COLUMN	AT NO COST TO THE OWNER.	A302	ROOM FINISH SCHEDULE			
С	OMP.	A/C COMPERSSOR	7. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL COORDINATE WITH ONE ANOTHER TO RESOLVE ALL CONFLICTS IN THE PLACEMENT OF THE COMPONENTS OF THEIR RESPECTIVE TRADES.	A401	REFLECTED CLG. PLAN	SHEET	PLUMBING DRAWING	
		CARPET	8. THE CONTRACTOR SHALL THOROUGHLY READ THE CONSTRUCTION DOCUMENTS AND UNDERSTAND ALL DRAWINGS,	A501	ROOF PLAN	P001	PLUMBING NOTES & SPECIFICATIONS	
	C.T. DIA.	CERAMIC TILE DIAMETER	SPECIFICATIONS, NOTES AND DETAILS BEFORE COMMENCING WORK. IF AT ANY TIME QUESTIONS ARISE ABOUT THE INTENT OF THE DOCUMENTS, DO NOT PROCEED IN THE AREA OF CONCERN UNTIL THE ARCHITECT OF RECORD HAS	A601	ENLARGED TOILET ROOM PLANS / DETAILS	P101	PLUMBING WASTE & VENT PIPING PLA	
	DISP.	DISPOSAL	BEEN NOTIFIED AND HAS ISSUED CLARIFICATION.	A602	INTERIOR ELEVATIONS	P102	PLUMBING WATER PIPING PLAN	
	E.J.	EXPANSION JOINT	9. SPLICING, CUTTING, NOTCHING OR OTHER ALTERATIONS TO STRUCTURAL MEMBERS ARE NOT PERMITTED WITHOUT THE WRITTEN AUTHORIZATION OF THE STRUCTURAL ENGINEER.	A701	BUILDING SECTIONS	P201	PLUMBING ISOMETRIC	
		ELECTRICAL	10. THE CONTRACTOR SHALL PROVIDE WRITTEN REQUEST TO THE ARCHITECT / ENGINEER OF RECORD FOR PRIOR	A701	WALL SECTIONS	P501	PLUMBING DETAILS	
	ELEV.	ELEVATION EACH WAY	APPROVAL OF DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS. ALL UNAUTHORIZED DEVIATIONS FROM THE DOCUMENTS AND THE CORRECTION THEREOF SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.			P601	PLUMBING SCHEDULE	
	EXT.	EXTERIOR		A711	WALL SECTIONS	FOUT		
	FBC	FLORIDA BUILDING CODE	FOR COMPLETE SYSTEMS WHETHER DETAILED OR NOT. PROVIDE ALL ESCUTCHEON PLATES, FINISH PLATES, TRIM PIECES, ETC REQUIRED TO PROVIDE COMPLETE AND FINISHED WORK, AS DETERMINED BY THE ARCHITECT.	A801	DOOR-WINDOW SCHEDULE & DETAILS			
	F.F.	FINISHED FLOOR	— 12. WHERE DETAILED DRAWINGS ARE NOT PROVIDED, UTILIZE THE MANUFACTURER'S RECOMMENDED INSTALLATION	A802	DOOR & WINDOW DETAILS			
	F.G. FLR.	FIXED GLASS FLOOR	DETAILS & SHOP DRAWINGS.					
	FT.	FOOT / FEET	— 13. IN THE CASE OF CONFLICT BETWEEN SPECIFICATIONS, STANDARDS, CODES AND DRAWINGS, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.			٨		
	FX	FIXED	14. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND SHALL REPORT ALL DISCREPANCIES TO THE			A	ERIAL LOCATION PHO	
	GALV.	GALVANIZED	ARCHITECT OF RECORD.	2) H1-30				
	G.C. GFI.	GENERAL CONTRATOR GROUND FAULT INTERRUPTER	15. DRAWING PLANS, ELEVATIONS, SECTIONS AND DETAILS ARE NOT TO BE SCALED.	Co		A TOP OF		
	GYP.	GYPSUM BOARD	16. DIMENSIONS AND DETAILS ON LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.	CR.	455 Strand Land Man		A TO BERGERES DE W	
	HGT	HEIGHT	 17. DIMENSIONS ARE TO FACE OF MASONRY WALLS AND TO FACE OF FINISH ON STUD WALLS, UNLESS NOTED OTHERWISE. 	2			PARK LN	
			— 18. ANGLED CONDITIONS ARE 45 DEGREES UNLESS NOTED OTHERWISE.					
	LVT /IFGR	LUXURY VINYL TILE MANUFACTURER	19. THE HINGE SIDE OF DOOR OPENINGS SHALL BE LOCATED 4" FROM THE FACE OF ADJACENT STUD WALLS AND		And the second s			
	MIN.	MINIMUM	 8" FROM THE FACE OF ADJACENT MASONRY WALLS, UNLESS NOTED OTHERWISE. 20. ALL WOOD USED IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED. FASTENERS FOR 			THUR AN	Zo Z	
	MIR.	MIRROR	TREATED WOOD (NAILS, BOLTS, HARDWARE, ETC) SHALL BE GALVANIZED.					
	N.I.C.	NOT IN CONTRACT	21. CORROSION RESISTANT FLASHING SHALL BE INSTALLED TO PREVENT ENTRY OF WATER INTO THE WALL CAVITY OR ONTO STRUCTURAL COMPONENTS. FLASHING SHALL EXTEND TO THE EXTERIOR SURFACE OF THE WALL FINISH	P At an		* * -		
	N.T.S. DPN'G	OPENING	TO PREVENT WATER FROM ENTERING THE BUILDING ENVELOPE. FLASHING IS REQUIRED AT THE TOPS OF WALL OPENINGS, AT MATERIAL TRANSITIONS, UNDER SILLS AND COPINGS, OVER WOOD TRIM AND LEDGERS AND AT WALL	L ^S		FRANKLIN	AVE	
F	PED.	PEDESTAL	TO ROOF INTERSECTIONS.	I		in in the		
	PSF	POUNDS PER SQUARE FOOT	22. IN ORDER TO BE CONSIDERED WEATHER RESISTANT, EXTERIOR FINISHES MUST ACHIEVE THE MINIMUM APPROVED THICKNESS AS SET FORTH IN THE FLORIDA BUILDING CODE 2017.	rz,			Come of the second	
	PTD RAD	PAINTED RADIUS	23. ALL EXPOSED. UNFINISHED BOXES. PIPES AND CONDUITS SHALL BE FINISHED TO MATCH THE ADJACENT				NORTHER AND A REAL	
	RAD REQ'D	REQUIRED	SURFACES.					
	R.O.	ROUGHT OPENING	24. EXTERIOR WINDOWS, DOORS, CLADDING, ROOF SYSTEM AND FLASHING SYSTEMS SHALL BE INSTALLED IN COMPLIANCE WITH THE STRUCTURAL WIND LOAD REQUIREMENTS OF THE FLORIDA BUILDING CODE 2017.	- Contraction			15	
	R.T.U.	ROOF TOP UNIT	25. EXTERIOR ASSEMBLIES SHALL BE ANCHORED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED			they is	A Real And A	
	RND S.F.	ROUND SQUARE FOOT (FEET)	RECOMMENDATIONS TO WITHSTAND THE CODE REQUIRED WIND LOADS.		TANTAN TANTAN AND TANKA	- STA 177		
	SPM	SINGLE PLY MEMBRANE	 — 26. FOR EXTERIOR ASSEMBLIES, THE CONTRACTOR SHALL PROVIDE FLORIDA STATE WIDE PRODUCT APPROVAL CERTIFICATION TO THE LOCAL AUTHORITY HAVING JURISDICTION. 					
	S.S	STAINLESS STEEL		4	A all a second and a second as	Judgest 1		
	EMP.	TEMPERED	UPON COMPLETION OF THE APPLICATION OF THE TERMITE PROTECTIVE TREATMENT, A CERTIFICATE OF COMPLIANCE SHALL BE ISSUED TO THE BUILDING DEPARTMENT BY THE LICENSED PEST CONTROL COMPANY THAT	3 Cat	7			
	Г.О.В. ⁻ .О.М.	TOP OF BLOCK TOP OF MASONRY	CONTAINS THE FOLLOWING STATEMENT: "THE BUILDING HAS RECEIVED A COMPLETE TREATMENT FOR THE PREVENTION OF SUBTERRANEAN TERMITES. TREATMENT IS IN ACCORDANCE WITH RULES AND LAWS ESTABLISHED	ADA				
	TYP.	TYPICAL	BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES."					
	J.N.O.	UNLESS NOTIFIED OTHERWISE	28. BOXED AREAS IN CONCRETE FLOORS FOR SUBSEQUENT INSTALLATION OF TRAPS, ETC. SHALL BE MADE WITH PERMANENT METAL OR PLASTIC FORMS. PERMANENT FORMS MUST BE OF A SIZE AND DEPTH THAT WILL ELIMINATE			Sector Sector	The second states and a	
	VCT.	VINYL COMPOSITION TILE	THE DISTURBANCE OF SOIL AFTER THE INITIAL TREATMENT.					
	/ERT. VTR	VERTICAL VENT THROUGH ROOF	29. METHOD OF TREATMENT SHALL BE APPROVED BY THE GOVERNING JURISDICTION "LIQUID BORATE OR BOR-A-COR" PRODUCT METHODS MUST BE DETERMINED AT PERMIT STAGE AND PRODUCT APPROVAL DATA MUST BE ON FILE				SYMBOLS LEGEND	
	W/	WITH	WITH THE BUILDING DEPARTMENT.	WIND	OW DESIGNATION			
	W/C	WATER CLOSET	30. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI, A SLUMP OF 6" PLUS OR MINUS 1", AND HAVE 2 TO 5% AIR ENTRAINMENT, AND A MAXIMUM WATER/CEMENT RATIO OF 0.63.	DOOR	R DESIGNATION (XXX) WALL SEC	CTION	1 EXTERIOR ELEVATIO	
	WP	WATER PROOF	31. MINIMUM CONCRETE COVER OVER REINFORCEMENT SHALL BE AS FOLLOWS:	ROOM	1 REFERENCE			
			COVER TO SOIL: 1-1/2" COVER TO AIR, EXTERIOR: 1-1/2"	ROOM	1 NUMBER	FFFRFNCF	1 INTERIOR ELEVATIO	
			COVER TO AIR, INTERIOR: 3/4"	WALL		L. LINEI ICE		

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	1					2	2				3	
	GENERAL PROJ	IECT D	ATA		TABLE CS-7 GENERAL FIRE PROTECTIC REQUIREMENTS	ON				WALL AND PARTITON TYPE NOTES:		
	TVERDE LIBRARY - NEW 7,718 JPANCY. CONSTRUCTION TYF				CONSTRUCTION TYPE: VB					A. REFER TO FLOOR PLANS FOR WAL	L / PARTITION TYPES & FIRE RATING.	
	MPROVEMENTS BY OWNER IN NAGE SYSTEM, LANDSCAPE AN			KS, STORM WATER	SEPARATIONS FIREBLOCKING REQUIRED					B. REFER TO ROOM FINISH SCHEDUL C. All CMU Wall (U.N.O.)	LE FOR WALL / PARTITION FINISHES.	
	G(OVERNINC	CODES:		DRAFTSTOPPING REQUIRED		NO	✓ YES	(FBC: 718)		TO STRUCTURE ABOVE. FIRE SEAL ALL PENETR IEET THE MINIMUM EQUIVALENT THICKNESS I	
	DA BUILDING CODE 7TH EDI DA EXISTING BUILDING CODI				SMOKE CONTROL SYSTEM REQUIRED		NO ✓ NO	✓ YESYES	(FBC: 718) (FBC: 909)	3. ALL EXPOSED CMU WALLS SH	HALL HAVE UNIFORMLY TOOLED JOINTS.	112 2 0
	DA ENERGY CONSERVATION				SMOKE BARRIERS REQUIRED			YES	(FBC: 909)	4. ALL EXPOSED INT. CMU CORI D. ALL STUD / FURRED WALLS (U.N.C	D.)	
	DA PLUMBING CODE 7TH ED DA MECHANICAL CODE 7TH I				SMOKE PARTITION REQUIRED			YES	(FBC: 407)		AND LATERAL BRACING AT 4'-0" O.C. TO STR Om of Finish Ceiling (A.F.C.) U.N.O. Wher	
	DA ACCESSIBILITY CODE 7TH				FIRE PARTITION REQUIRED (CORRIDOR W	VALLS)	NO NO	✓ YES	(FBC: 708,402.7.2,	3. PROVIDE CONT. ACOUSTICA	L SEALANT ON BACKER ROD AT FLOOR LEVEL GING AT 8'-0" O.C. VERTICALLY.	
	DA FIRE PREVENTION CODE				FIRE BARRIER REQUIRED (EXISTING BUILD	.DING			408.7, & 420.2) (FBC: 707, 713,		WIDE TYPE 'X' $\frac{5}{8}$ " GYPSUM WALLBOARD. EXTE	end p.
NEC 2017 NATIO	CODE INFORMATION				CONNECTORS)		NO	✓ YES	T508.4, 1022)	6. EXTEND ACOUSTICAL WALLS PENETRATIONS,TOP,BOTTO	TO DECK / UNDERSIDE OF STRUCTURE ABOV M AND SIDES.	VE: PF
MONTVERDE LIBRARY - 7,71				1 STORY	FIRE ALARM SYSTEM REQUIRED	1	✓ NO	YES	(FBC: 907)	7. PLUMBING CHASE WALL AT F	restrooms shall have one wall extend) to s
CONSTRUCTION CLASSIFICATIO		TYPE:	VB	(FBC: 602) (FBC: 302)	EMERGENCY ALARM SYSTEM REQUIRED	N	✓ NO	YES	(FBC: 908)	E. WALL TAGS REFERRING TO NAME	HAVE ACOUSTICAL BATT. INSULATION.	(U.N.
					SUPPRESSION					F. CMU TO 12' A.F.F. THEN STUD W. G. RATED WALLS IN CONCEALED CEI	'ALL FOR FULL HEIGHT OF WALL. ILING SPACES SHALL BE PROVIDED WITH SIGN	NAGE
Does building require incidental Use		✓ NO	YES	(FBC: 509)	STANDPIPES REQUIRED	Y	✓ NO	YES	(FBC: 905)	WITH 4" HIGH , $\frac{1}{2}$ " Stroke Letter	ING @ 15' O.C.	
Building Accessory Occupancies? What percentage of story is accesso	Business & Storage pry occupancy? 10%		VES	(FBC: 508.2)	SPRINKLERS REQUIRED	Y	✓ NO	YES	(FBC: 903)			
MIXED OCCUPANCY?		✓ NO	YES	(FBC: 508)	SPRINKLERS PROVIDED	· `	✓ NO	YES		Design No. U905 March 11, 2016	XHEZ - Through-penetration Firestop Systems	
NON-SEPARATED?		✓ NO	YES	(FBC: 508.3)	OTHER SUPPRESSION SYSTEMS REQUIRE		NO	✓ YES	(FBC: 906)	Bearing Wall Rating – 2 HR.	System No. W-L-2098 January 26, 2015	
SEPARATED? 2 Hour fire walls at c buildings.			VES	(FBC: 508.4)			✓ NO	YES	(FBC: 904)	Nonbearing Wall Rating - 2 HR	F Ratings 1 and 2 Hr (See Item 1) T Ratings – 1 and 2 Hr (See Item 1)	
OTHER FIRE PROTECTION DEVI	CES OR FEATURE: 1 HOUR CO	ORRIDOR FI	RE PARTITIONS		OTHER: N/A		✓ NO	YES	(FBC: 910)	This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdistions	L Rating At Ambient – Less Than 1 CFM/Sq Ft	
TABLE CS-4 BUILDING AREA			CONST.							Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as	L Rating At 400 F 4 CFM/Sq Ft	
MONTVERDE LIBRARY OCCUPANCY A-3 - AREA LIMIT B	Y FBC TABLE	6000	TYPE: area line 0 S.F. area line	imitation per story	INTERIOR WALL & CEILING FINISH REQUIR OCCUPANTS (TABLE 803.11)	REMENTS BY				Canada, a load restriction factor shall be used – See Guide <u>BXUV</u> or <u>BXUV7</u>		
506.5-NS AREA MODIFICATION FROM EQU		P- 0.25] W/30			SPRINKLERS PROVIDED	1	✓ NO	YES	(SEE ABOVE)	* Indicates such products shall bear the UL or cUL	→A 3 IB	
I = [371'/401' - 0.25] 30/30' =.877 Fr	ontage Increase	4262	2 S.F.	I	Group		Exit enclosure & exit passage- ways	Corridors	Rooms and enclosed spaces	Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.		
TOTAL ALLOWABLE BUILDING AF	REA:	10462 # STORIES	2 S.F.		Assembly A-3		ways A	Α	C		A .	
TOTAL ALLOWED STORIES (Table	2 504.4) X BLD. AREA	# STORIES			Business B		A	В	С			
Total Designed Area of Building		7718	1 X 10,462 8 S.F. ONE S	= 10,4 STORY	62 Storage S		В	В	С	(2) 1. Concrete Blocks* – Various designs. Classification	SECTION A-A 1. Wall Assembly – The fire-rated gypsum wallboard/stud wall assembly shall be	
TABLE CS-5 BUILDING					INTERIOR FLOOR FINISH REQUIREMENTS OCCUPANTS (FBC 804.4.2)	BY				D-2 (2 hr).	constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:	
HEIGHTS	AS DESIGNED:		ALLOWED BY FBC: 0	CONST. TYPE VB	The minimum Critical Flux shall be Class II, 0.2 (CPSC 16 CFR Part 1630 or ASTM D 2859)	.22 watts/cm2 or grea	ater and/or ma	terial complying with	DOC FF-1 "pill test"	See Concrete Blocks category for list of eligible manufacturers.	A. Studs – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in.	
ASSEMBLY A-3 - Occupancy	Feet Stor	ries F	Feet	Stories	TABLE CS-8 FIRE RESISTANCE RATING	G OF BUILDING E	ELEMENTS			2. Mortar – Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than	(406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. B. Gypsum Board* – 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or	
Without any Allowable Increase (per FBC Tables 504.3 & .4)		1	40	1		s Required (in hour	As Designed	Glazing Requireme	nts	3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than	tappered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall	
Allowable Height Increase (FBC 504.3 & .4 - Sprinkler)	N/A N	N/A	60	2	Structural Frame (per FBC Table	s) (III Hour				50 percent hydrated lime (by cement volume). Vertical joints staggered.	and Partition Design. Max diam of opening is 4-3/8 in. (111 mm). The hourly F and T Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.	
TABLE CS-6 BUILDING OCCU	PANT LOAD - MONTVERD	DE LIBRARY	- 124		601) Bearing Walls Exterior (per FBC	0	U			3. Portland Cement Stucco or Gypsum Plaster – Add 1/2 hr to classification if used. Where combustible	 2. Through Penetrants – One nonmetallic pipe installed within the firestop system. Pipe to be rigidly supported on both sides of floor or wall assembly. The space 	
	A Floor Area2	Ma	B Pers	C D	Table 601) Bearing Walls Interior (per FBC	0	0			members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max.	between pipe and periphery of opening shall be min 3/4 in. (19 mm) to max 1-1/4 in. (32 mm). Pipe to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of nonmetallic pipes may be used:	
Stories & Levels Functions of Space	(specify NSF or GSF)		owed per floo	or for this Occupa	Table 601)	0	0			Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).	 A. Polyvinyl Chloride (PVC) Pipe – Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVC pipe for use in closed (process or supply) piping system. 	
First Floor A3 - Assembly (Tables Lobby, Multi-purpose &		NSF	15 NSF	74	Non-Bearing Walls Exterior (per FBC Table 601 & 602)	0	0			4. Loose Masonry Fill – If all core spaces are filled	B. Chlorinated Polyvinyl Chloride (CPVC) Pipe – Nom 2 in. (51 mm) diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) piping systems.	
A3 - Library Stacks Adult, Children, Teen,	2965	GSF	100 GSF	30	Non-Bearing Walls Interior (per FBC Table 601 & 602)	0	0			with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellant vermiculite	 Fill, Void or Cavity Materials* – Sealant – Installed to completely fill the annular space between the pipes and gypsum wallboard on both sides of wall. 	
A3 - Reading Rooms	g				Floor Construction including supporting beams & Joists (per	0	0			masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.	HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC – FS-One Sealant or FS-ONE MAX Intumescent Sealant.	
Story Time & Tutorial R	ooms 727	NSF	50 NSF	15	FBC Table 601) Roof Construction including					5. Foamed Plastic* – (Optional-Not Shown) – 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete	* Indicates such products shall bear the UL or cUL Certification Mark for	
B - Business Areas Clerk & Permit Offices	291	GSF	150 GSF	2	supporting beams & Joists (per FBC Table 601)	0	0			blocks (Item 1). ATLAS ROOFING CORP – "EnergyShield Pro Wall	jurisdictions employing the UL or cUL Certification (such as Canada), respectively.	
S - Accessory Storage Mechanical & IT	770	GSF	300 GSF	3	, , ,, , ,, , ,, , , , , , , , , , , , , , , , , , , ,	2	2			Insulation" and "EnergyShield Pro 2 Wall Insulation"		
Total Design Occupant	Load: 5863	NSF		124	Fire Barriers (per FBC Table 508.4, 707.3.10) w/Sprinkler	1	N/A			CARLISLE COATINGS & WATERPROOFING INC – Type R2 + Sheath		
					Shaft Enclosurers / Fire Barrier (per FBC Table 713) < 4 Story	1	N/A			FIRESTONE BUILDING PRODUCTS CO L L C – "Enverge™ CI Foil Exterior Wall Insulation" and		
					Fire Partitons 2 Hour Fire Wall Opening	1	1			"Enverge™ CI Glass Exterior Wall Insulation"		
					1 5	1/2	1 1/2	Door Vision Panel Fire D-H-90	e Rated Glazing < 100 sq.in. =	HUNTER PANELS – Types Xci-Class A, Xci 286 RMAX OPERATING L L C – "TSX-8500", "TSX-8510",		
					2 Hour Exit Enclosure Doors 1	1/2	N/A	< 100 sq.in. = D-H-		"Thermasheath-XP", "ECOMAXci", "Thermasheath-3", "Durasheath-3"		
					1 Hour Exit Enclosure DoorsOther 1 Hour Fire Barrier Doors20	1 MIN. 2	N/A 20 MIN.	< 100 sq.in. = D-H- D-H-20	60	THE DOW CHEMICAL CO – Types Thermax		
					Other Fridar free Darner Doors201Maximum Area of Exterior WallFire SepaOpenings (per FBC Table 705.8)Distance	aration Degree	e of Opening	Allowable Area		Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building		
						. ,	ROTECTED	NO LIMIT		Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax XARMOR ci Exterior		
										Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP) and		
					Projecting South Wall at Fire 5-10) (8'-4"-	ROTECTED	NO LIMIT		TUFF-R™ ci Insulation 5A. Building Units – As an alternate to Items 5, min.		
					West Wall at 5-10) (7'-6"-	PROTECTED	10% (7.8% Actual)		1-in thick polyisocyanurate composite foamed plastic insulation boards, nom. 48 by 48 or 96 in.		
	02.1 - 12.1 0.000 - 10 - 10				Town Hall Assu	umed) UNPF	ROTECTED	10% (9.6% Actual)		RMAX OPERATING L L C – "Thermasheath-SI", "ECOBASEci", "ThermaBase-CI"		
ABLE CS-9 PLUMBING FBC T4					ASSEMBLY A-3					* Indicates such products shall bear the UL or cUL		
FIXTURE TYPE	STORAGE 3	Occupants	BUSINESS	2 Occupants	ASSEMBLY A-3 119 Occupants	REQUIRED FI	IXTURES	PROVI	DED FIXTURES	Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.		
WATER CLOSET	1 / 100 O.C. Req =	.03	1 / 25 O.C. 1S 1 / 50 O.C. R		1 / 125 Male O.C. Req = .48 1 /65 Female O.C. Req = .92	.54 Male .98 Female			Male WC* ⁻ emale WC	Last Updated on 2016-03-11		
LAVATORY	1 / 100 O.C. Req =	.03	1 / 40 O.C. 1ST 1 / 80 O.C. R		1 / 200 O.C. Req = .6	.34 Male .34 Female			Male LAV emale LAV]	
DRINKING FOUNTAIN	1 / 1000 O.C. Req =	.003	1 / 100 O.C. R	Req = .02	1 / 500 O.C. Req = .24	.26 Drinking F		2 Drinking Fo				
SERVICE SINK	1 Required		1 Requir	red	1 Required	1 Requir	ired	1 0	ervice Sink			
1 Urinals substituted for Male Water	· · ·	419.2)										
		/										

QUIRED FIXTURES	PROVIDED FIXTURES
.54 Male WC .98 Female WC	2 Male WC* 2 Female WC
.34 Male LAV .34 Female LAV	2 Male LAV 2 Female LAV
S Drinking Fountains	2 Drinking Fountains (Hi/Low)
1 Required	1 Service Sink



When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in. 4. Batts and Blankets* -- (Required as indicated under Item 5) – Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5.

See Batts and Blankets (BKNV or BZJZ) Categories for

names of classified companies. A. Batts and Blankets* – (Optional) -- Placed in stud cavities, any glass

fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See Batts and Blankets (BKNV or BZJZ) Categories for

names of classified companies. 4B. Batts and Blankets* – For use with Item 5K. Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire

Resistance

See Batts and Blankets (BKNV or BZJZ) Categories for

names of classified companies.

4. Batts and Blankets* -- (Required as indicated under Item 5) – Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5. See Batts and Blankets (BKNV or BZJZ) Categories for

names of classified companies.

4A. Batts and Blankets* – (Optional) -- Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking a to Surface Burning Characteristics and/or Fire Resistance. See Batts and Blankets (BKNV or BZJZ) Categories for

names of classified companies.

4B. Batts and Blankets* – For use with Item 5K. Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

See Batts and Blankets (BKNV or BZJZ) Categories for names of classified companies.

4C. Fiber, Sprayed* – (Optional) and as an alternate to Batts and Blankets (Item 4B) where insulation is required - Spray applied granulated mineral fiber material. The fiber is applied with water/adhesive at a minimum density of 4.0 pcf to completely fill the wall cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).

AMERICAN ROCKWOOL MANUFACTURING, LLC -- Type Rockwool 5. Gypsum Board* – Gypsum panels with beveled, square or tapered

edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Min Thkns of Insulation (Item 4)	No. of Layers & Thkns of Panel	Min Stud Depth, in. Items 2, 2C, 2D, 2F and 2G	Rating, Hr
Optiona	1 layer, 5/8 in. thick	3-1/2	1
1-1/2 in	1 layer, 1/2 in. thick	2-1/2	1
Optiona	1 layer, 3/4 in. thick	1-5/8	1
Optiona	2 layers, 1/2 in. thick	1-5/8	2
Optiona	2 layers, 5/8 in. thick	1-5/8	2
3 in	1 layer, 3/4 in. thick	3-1/2	2
Optiona	3 layers, 1/2 in. thick	1-5/8	3
Optiona	2 layers, 3/4 in. thick	1-5/8	3
Optiona	3 layers, 5/8 in. thick	1-5/8	3
Optiona	4 layers, 5/8 in. thick	1-5/8	4
Optiona	4 layers, 1/2 in. thick	1-5/8	4
2 in	2 layers, 3/4 in. thick	2-1/2	4

CGC INC – 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO -- 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR ; 3/4 in. thick Types IP-X3 or ULTRACODE USG BORAL ZAWAWI DRYWALL L L C SFZ – 1/2 in. Type C; 5/8 in. Types C, SCX, ULTRACODE

USG MEXICO S A DE C V -- 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When Item 7B, Steel Framing Members*, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described ir Item 6.

5A. Gypsum Board* – (As an alternate to Item 5) – 5/8 in. thick, 24 to 5 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.

CGC INC – Type SHX. UNITED STATES GYPSUM CO -- Type FRX-G, SHX.

USG MEXICO S A DE C V -- Type SHX.

5B. Gypsum Board* – (Not Shown) – As an alternate to Item 5 when used as the base layer on one or both sides of usely when 5/6 is x = 2/3

used as the base layer on one or both sides of wall when 5/8 in or 3/4 ir thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) – Nom 5/8 in. or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to 20 MSG steel studs Item 2A with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12). RAY-BAR ENGINEERING CORP – Type RB-LBG

5C. Gypsum Board* – (For Use With Item 2B) – Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square o tapered edges, applied vertically or horizontally. (Vertical Application) -The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board.

Design No. U419 April 19, 2017 Nonbearing Wall Ratings – 1, 2, 3 or 4 Hr (See Items 4 & 5 through 5k Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively I. Floor and Ceiling Runners – (Not Shown) – For use with Item 2 – Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max. 1A. Framing Members* – Floor and Ceiling Runner – Not Shown – In lieu of Item 1 -- For use with Item 2B, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max. CALIFORNIA EXPANDED METAL PRODUCTS CO – Viper25[™] Track CRACO MFG INC – SmartTrack25[™] MARINO/WARE, DIV OF WARE INDUSTRIES INC – Viper25™ Track 1B. Framing Members* -- Floor and Ceiling Runner -- Not Shown -- In lieu of Item 1 -- For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CALIFORNIA EXPANDED METAL PRODUCTS CO – Viper20[™] Track MARINO/WARE, DIV OF WARE INDUSTRIES INC – Viper20[™] Track 1C. Framing Members* – Floor and Ceiling Runners -- (Not Shown) -- In lieu of Item 1 -- Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.

ALLSTEEL & GYPSUM PRODUCTS INC – Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC – Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO – Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC – Type SUPREME Framing System

UNITED METAL PRODUCTS INC – Type SUPREME Framing System 1D. Floor and Ceiling Runners – (Not Shown) – For use with Item 2A – Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC. 1E. Framing Members* – Floor and Ceiling Runners – (Not Shown, As an alternate to Item 1) – For use with Items 2E, 5F or 5G or 5I only,

channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.

CLARKDIETRICH BUILDING SYSTEMS – CD ProTRAK

DMFCWBS L L C – ProTRAK

MBA METAL FRAMING – ProTRAK

RAM SALES L L C – Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C – Tri-S ProTRAK

1F. Framing Members* – Floor and Ceiling Runner – Not Shown -- In lieu of Item 1 -- For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1- 1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max. SUPER STUD BUILDING PRODUCTS – The Edge

1G. Framing Members* – Floor and Ceiling Runner – For use with Item 2G, proprietary channel shaped runners, minimum width to

accommodate stud size attached to floor and ceiling with fasteners 24 in. OC max. STUDCO BUILDING SYSTEMS – CROCSTUD Track

1H. Floor and Ceiling Runners – (Not Shown) – Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.02 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.

MARINO/WARE, DIV OF WARE INDUSTRIES INC – Viper20[™] Track VT100

11. Framing Members* – Floor and Ceiling Runners – (Not Shown, As an alternate to Item 1) – For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.

TELLING INDUSTRIES L L C – TRUE-TRACK™

1J. Framing Members* – Floor and Ceiling Runner – Not Shown – In lieu of Item 1 – For use with Item 2I, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.

TELLING INDUSTRIES L L C – Viper25™ Track

1K. Framing Members* – Floor and Ceiling Runner – Not Showr – In lieu of Item 1 – For use with Item 2J, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C – Viper20[™] Track

1L. Framing Members* – Floor and Ceiling Runner – Not Shown – In lieu of Item 1 – For use with Item 2N, proprietary channel shaped runners, 1-1/4 in. wide by min. 3-1/2 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

STEEL INVESTMENT GROUP L L C – AlphaTRAK

1M. Framing Members* – Floor and Ceiling Runners – Not Shown – As an alternate to Item 1 – For use with Item 2O, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

RONDO BUILDING SERVICES PTY LTD – Rondo Wall Track 1N. **Framing Members*** – **Floor and Ceiling Runners** – Not Shown – As an alternate to Item 1 – For use with Item 2P, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

OEG BUILDING MATERIALS – OEG Track

2. **Steel Studs –** Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

2A. **Steel Studs** – (As an alternate to Item 2, For use with Items 5B, 5E, 5H, 5J and 5K) – Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height. 2B. **Framing Members* - Steel Studs** – (As an alternate to Item 2, For use with Items 5C, 5I or 5K) – Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in.

gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only. **CALIFORNIA EXPANDED METAL PRODUCTS CO** – Viper25[™] **CRACO MFG INC** – SmartStud25[™]

MARINO/WARE, DIV OF WARE INDUSTRIES INC – Viper25[™] 2C. Framing Members* – Steel Studs – Not Shown – In lieu of Item 2 – proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.020 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. les in lengths than assembly heights.

CALIFORNIA EXPANDED METAL PRODUCTS CO – Viper20[™] MARINO/WARE, DIV OF WARE INDUSTRIES INC – Viper20[™] 2D. Framing Members* – Steel Studs – In lieu of Item 2 – Channel shaped studs, min depth as indicated under Item 5,

spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height. ALLSTEEL & GYPSUM PRODUCTS INC – Type SUPREME

Framing System CONSOLIDATED FABRICATORS CORP. BUILDING

PRODUCTS DIV – Type SUPREME Framing System **QUAIL RUN BUILDING MATERIALS INC** – Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO – Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC – Type SUPREME Framing System

UNITED METAL PRODUCTS INC – Type SUPREME Framing System

2E. **Framing Members* – Steel Studs –** (Not Shown, As an alternate to Item 2) – For use with Items 5F or 5G or 5I or 5K only, channel shaped studs, min depth as indicated under Item 5F, 5G or 5I, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

CLARKDIETRICH BUILDING SYSTEMS – CD ProSTUD

DMFCWBS L L C – ProSTUD

MBA METAL FRAMING - ProSTUD

RAM SALES L L C – Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C – Tri-S ProSTUD 2F. **Framing Members* – Steel Studs –** Not Shown – In lieu of

Item 2 – proprietary channel shaped steel studs, minimum width indicated under Item 5, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights. **SUPER STUD BUILDING PRODUCTS** – The Edge

2G. **Framing Members* – Steel Studs –** Not Shown – In lieu of Item 2 – proprietary channel shaped studs, minimum width indicated under Item 5, Studs to be cut 3/8 to 3/4 in less than the assembly height.

STUDCO BUILDING SYSTEMS – CROCSTUD

2H. Framing Members* – Steel Studs -- (Not Shown, As an alternate to Item 2) – Fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

TELLING INDUSTRIES L L C – TRUE-STUD™

21. Framing Members* – Steel Studs – (As an alternate to Item 2, For use with Items 5C or 5L or 5K) -- Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.

TELLING INDUSTRIES L L C – Viper25™

2J. Framing Members* – Metal Studs – Not Shown – In lieu of Item 2 – proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.020 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights

TELLING INDUSTRIES L L C – Viper20™

2K. Framing Members* – Steel Studs – As an alternate to Item 2 – For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

EB MéTAL INC -- EB Stud

2L. Framing Members* – Steel Studs – As an alternate to Item 2 – For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

OLMAR SUPPLY INC – PRIMESTUD

2M. Framing Members* – Steel Studs – As an alternate to Item 2 -- For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

MARINO/WARE, DIV OF WARE INDUSTRIES INC – StudRite™

2N. Framing Members*– Steel Studs – As an alternate to Item 2 – proprietary channel shaped steel studs, min depth 3-1/2 in. and as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in length than assembly height.

STEEL INVESTMENT GROUP L L C -- AlphaSTUD

2O. Framing Members* – Steel Studs – As an alternate to Item 2 – proprietary channel shaped steel studs, min width as indicated under Item 5, galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.

RONDO BUILDING SERVICES PTY LTD -- Rondo Lipped Wall Stud 2P. Framing Members* – Steel Studs -- As an alternate to Item 2 – proprietary channel shaped steel studs, min width as indicated under Item 5, min 25 MSG galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max. OEG BUILDING MATERIALS – OEG Stud

3. Wood Structural Panel Sheathing – (Optional, For use with Item 5 Only) – (Not Shown) – 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field.

5C. Gypsum Board* -CONTINUED

Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory.
CGC INC – Type SCX.

UNITED STATES GYPSUM CO -- Type SCX, SGX.

USG BORAL ZAWAWI DRYWALL L L C SFZ – Type SCX USG MEXICO S A DE C V -- Type SCX

5D. Gypsum Board* -- (As an alternate to Item 5) -- 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6 For use with Items 1 and 2 only.

CGC INC – Type USGX UNITED STATES GYPSUM CO – Type USGX

USG MEXICO S A DE C V -- Type USGX

5E. Gypsum Board* – (Not Shown) – (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

NEW ENGLAND LEAD BURNING CO INC, DBA NELCO – Nelco 5F. Gypsum Board* – (As an alternate to Item 5) – For use with Items 1E and 2E and limited to 1 Hour Rating only, Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in.

UNITED STATES GYPSUM CO -- 5/8 in. thick Type SCX, SGX

USG BORAL ZAWAWI DRYWALL L L C SFZ – 5/8 in. thick Type SCX 5G. Gypsum Board* -- (As an alternate to Item 5) -- For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as

Gypsum Board Protection on Each Side of Wall

CGC INC – 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO -- 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR ; 3/4 in. thick Types IP-X3 or ULTRACODE USG BORAL ZAWAWI DRYWALL L L C SFZ – 1/2 in. Type C; 5/8 in. Types C, SCX, ULTRACODE

USG MEXICO S A DE C V -- 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When Item 7B, Steel Framing Members*, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.

5A. Gypsum Board* – (As an alternate to Item 5) – 5/8 in. thick, 24 to 5 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.

CGC INC – Type SHX. UNITED STATES GYPSUM CO – Type FRX-G, SHX.

USG MEXICO S A DE C V -- Type SHX.

5B. Gypsum Board* – (Not Shown) – As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 in or 3/4 in thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) – Nom 5/8 in. or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to 20 MSG steel studs Item 2A with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead

Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12). RAY-BAR ENGINEERING CORP – Type RB-LBG

5C. Gypsum Board* – (For Use With Item 2B) – Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) he gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. asteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory. CGC INC – Type SCX.

UNITED STATES GYPSUM CO -- Type SCX, SGX.

USG BORAL ZAWAWI DRYWALL L L C SFZ – Type SCX USG MEXICO S A DE C V -- Type SCX

5D. Gypsum Board* -- (As an alternate to Item 5) -- 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only.

CGC INC – Type USGX

UNITED STATES GYPSUM CO -- Type USGX USG MEXICO S A DE C V -- Type USGX

5E. Gypsum Board* – (Not Shown) – (As an alternate to Item 5 when

used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs ltem 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs.

5E. Gypsum Board* -CONTINUED

follows

Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

NEW ENGLAND LEAD BURNING CO INC, DBA NELCO – Nelco 5F. Gypsum Board* -- (As an alternate to Item 5) – For use with Items 1E and 2E and limited to 1 Hour Rating only, Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in.

UNITED STATES GYPSUM CO – 5/8 in. thick Type SCX, SGX

USG BORAL ZAWAWI DRYWALL L L C SFZ -- 5/8 in. thick Type SCX 5G. Gypsum Board* - (As an alternate to Item 5) -- For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Item 2E	No. of Layers & Thickness of Panel	Min Thkns of Insulation (Item 4)	
2	1-5/8	2 layers, 1/2 in. thick	Optional	
2	1-5/8	2 layers, 5/8 in. thick	Optional	
3	1-5/8	3 layers, 1/2 in. thick	Optional	
3	1-5/8	3 layers, 5/8 in. thick	Optional	
4	1-5/8	4 layers, 5/8 in. thick	Optional	
4	1-5/8	4 layers, 1/2 in. thick	Optional	

CGC INC – 1/2 in. thick Type C, IP-X2 or IPC-AR;, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO – 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type SCX, SGX, SHX, IP-X1, AR, C, , FRX-G, IP-AR, IP-X2, IPC-AR ; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL ZAWAWI DRYWALL L L C SFZ – 1/2 in. Type C; 5/8 in. Types C, SCX, ULTRACODE

USG MEXICO S A DE C V – 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

5H. **Gypsum Board*** – (Not Shown) – (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs.

Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).

described in Item 5. Steel stud minimum depth shall be as indicated in

MAYCO INDUSTRIES INC – Type X-Ray Shielded Gypsum

51. Gypsum Board* -- (As an alternate to Item 5) – Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as

Item 5.

CGC INC – Type ULX

UNITED STATES GYPSUM CO – Type ULX

USG MEXICO S A DE C V -- Type ULX

jJ. Gypsum Board* -- (Not Shown) – (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically /ertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type 5-12 pan head steel screws, one at the top of the strip and one at the pottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC – Type RPP - Lead Lined Drywall

5K. Gypsum Board* – (Not Shown) – (As an alternate to Item 5) – Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) need not be staggered. The number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2 through 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4B)
1	3-5/8	1 layer, 5/8 in. thick	3-1/2 in.
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional

UNITED STATES GYPSUM CO – 5/8 in. thick Type ULIX

6. Fasteners – (Not Shown) – For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). Single layer systems: 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Two layer systems: First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer.Three-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels, or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

6. Fasteners -CONTINUED

our-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick anels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth ayer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick banels, spaced 12 in. OC. Screws offset min 6 in. from layer below. 5A. Fasteners – (Not Shown) – For use with Item 5K- Type S or S-12 steel screws used to attach panels to studs or furring channels (Item 7). Single ayer systems: 1 in. long screws, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Two layer systems: First layer-1 in. long screws, spaced 16 in. OC. Second layer--5/8 in. screws, spaced 8 in. OC with screws offset 8 in. from first layer. Three-layer systems: First layer- 1 in. long screws, spaced 24 in. OC. Second layer- 1-5/8 in. long screws, spaced 24 in. OC. Third layer- 2-5/8 n. long screws, spaced 8 in. OC. Screws offset min 6 in. from laver below. Four-layer systems: First layer- 1 in. long screws, spaced 24 in. OC. Second layer- 1-5/8 in. long screws, spaced 24 in. OC. Third layer-2-5/8 in. long screws, spaced 24 in. OC. Fourth layer- 3 in. long screws,

7. Furring Channels – (Optional, Not Shown, for single or double layer systems) -- Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A and 5E.

spaced 8 in. OC. Screws offset min 6 in. from layer below.

7A. Framing Members* -- (Optional on one or both sides, not shown, for single or double layer systems) -- As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. Furring Channels – Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.

b. Steel Framing Members* – Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C – Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

7B. Framing Members* – (Optional, Not Shown) – As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:

a. Furring Channels – Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A and 5E.
b. Steel Framing Members* – Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction

fitted into clips. KINETICS NOISE CONTROL INC – Type Isomax

7C. Framing Members* -- (Not Shown) – (Optional on one or both sides, not shown, for single or double layer systems) – As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. Furring Channels – Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.

b. Steel Framing Members* – Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.

PLITEQ INC – Type GENIECLIP

7D. Steel Framing Members* – (Optional, Not Shown) – Furring channels and Steel Framing Members as described below:

a. Furring Channels – Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured together with four self-tapping No. 8x1/2 Self Drilling screws (2 per side 1 in. and 4 in. from overlap edge). Gypsum board attached to furring channels as described in Item 4. Side joint furring channels shall be attached to studs with RESILMOUNT Sound Isolation Clips - located approximately 2 in. from each end of length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge. Not for use with Item 5A and 5E.
b. Steel Framing Members* – Used to attach furring

channels (Item 7Da) to studs. Clips spaced 24 in. OC., and secured to studs with No. 10 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS – RESILMOUNT Sound Isolation Clips - Type A237 or A237R

8. Joint Tape and Compound – Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.

9. Siding, Brick or Stucco – (Optional, Not Shown) – Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

10. Caulking and Sealants* -- (Optional, Not Shown) – A bead of acoustical sealant applied around the partition perimeter for sound control.

UNITED STATES GYPSUM CO – Type AS

11. Lead Batten Strips – (Not Shown, For Use With Item 5B) – Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5B) and optional at remaining stud locations. Required behind vertical joints.

11A. Lead Batten Strips – (Not Shown, For Use With Item 5H) – Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screws, Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D".

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11A. Lead Batten Strips -CONTINUED Lead batten strips required behind vertical joints of lead backed gypsum

wallboard and optional at remaining stud locations. 12. Lead Discs or Tabs – (Not Shown, For Use With Item 5B) – Used in lieu of or in addition to the lead batten strips (Item 11) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5B) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

12A. Lead Discs – (Not Shown, for use with Item 5H) – Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

13. Lead Batten Strips – (Not Shown, For Use With Item 5E) – Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screws, Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5E) and optional at remaining stud locations.

14. Lead Tabs – (Not Shown, For Use With Item 5E) – 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 5E) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary. * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada),



1. **Wall Assembly --** The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-5/8 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam opening exceeds the width of stud cavity, the opening shal be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides. B. **Gypsum Board* –** 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max

diam of opening is 26 in. (660 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls. The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.

1A. **Metallic Sleeve –** (Optional, Not Shown) - Cylindrical sleeve fabricated from min 0.016 in. (0.41 mm) to max 0.105 in. (2.7 mm) thick sheet steel. Length of steel sleeve to be equal to the thickness of wall. Longitudinal seam of sleeve welded or overlapped min 1 in. (25 mm). The ends of the steel sleeve shall be flush or recessed max 1/4 in. (6 mm) from wall surfaces.

2. **Through Penetrant –** One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. The annular space between pipe, conduit or tubing and periphery of opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). For maximum 16 in. (406 mm) diam (or smaller) pipes, annular space shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. **Steel Pipe –** Nom 36 in. (914 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Iron Pipe –** Nom 36 in. (914 mm) diam (or smaller) cast or ductile iron pipe.

C. **Conduit –** Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing, nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 1 in. (25 mm) diam (or smaller) flexible steel conduit.

D. Copper Tubing – Nom 6 in. (152 mm) diam (or smaller)

Type L (or heavier) copper tubing. E. **Copper Pipe –** Nom 6 in. (152 mm) diam (or smaller)

Regular (or heavier) copper pipe.

3. Fill, Void or Cavity Material* – Sealant – Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall. At the point contact location between through penetrant and gypsum board, a min 3/8 in. (10 mm) diam bead of fill material shall be applied at the gypsum board/through penetrant interface on both surfaces of wall.

SPECIFIED TECHNOLOGIES INC – SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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• Authorities Having Jurisdiction should be consulted before construction.

• Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.

• When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.

• Only products which bear UL's Mark are considered Certified.

NOTES:





LS101/

SCALE: 1/8" = 1'-0"

2

3



UNPROTECTED OPENING (7.8% ACTUAL) 10% ALLOWABLE EXISTING UNPROTECTED OPENING

(9% ACTUAL)