GENERAL NOTES AND SPECIFICATIONS

SECTION 1A

1. GENERAL

A. The requirements of the General Conditions of the agreement and this General Requirements apply to the several trade sections with the same force as though fully repeated in each trade section.

B. Name brands are indicated to establish a standard of quality. Items of equal or better quality may be substituted for the listed brand named products.

C. All work shall comply with the requirements of titles 19, and 24 California Code of Regulations. No changes shall be made from D.S.A. approved drawings or specifications without prior written approval of D.S.A. and the District Architect.

2. SCOPE OF WORK

A. The work consists of manufacturing off-site in a plant, and installing on-site, modular relocatable buildings as defined herein and shown and detailed on drawings.

B. All requirements of Titles 19, and 24 of the State of California Code of Regulations (C.C.R.) relating to inspections and verified reports shall be complied with and shall include:

1. General responsible charge of Field Administration by the Architect of Record.
2. Inspection in-plant during the course of construction by an inspector approved by the Division of the State Architect and the District Architect. The inspector shall be responsible for and approved to inspect the general construction welding, mechanical and electrical work. Cost of these inspections shall be borne by the School District.
3. On site inspection of the building installation electrical and utility of the building installation by an inspector approved by the Division of the State Architect and retained by the School District.
4. Other special tests or inspections as may be required by the Division of the State Architect.

3. WORK NOT INCLUDED

A. All on-site or off-site utilities and the connection of them to the building unless indicated on the drawings.

B. All leveling, grading or other site preparation except concrete or wood leveling strips, where required, unless otherwise indicated on the drawings.

C. Fire alarm system, fire extinguisher, program bell, clock, public address system, intercom system, TV system unless otherwise indicated on the drawings.

4. WHEELS AND HITCH

Shall remain the property of the Contractor.

5. ACCESSIBILITY OF SITE

The School District shall provide access to the site for the installation of buildings. Removal of trees, shrubs, fencing, sprinklers, etc. necessary for the move-in of buildings shall be the responsibility of the School District.

6. GENERAL CONSTRUCTION

A. Structural Frame – Each module shall be designed as a moment frame structure to withstand vertical and horizontal loads and comply with requirements of the Division of the State Architect. The necessary provisions are incorporated in the structure to permit the relocation of the structural frame in sections not exceeding 12 feet in width.

B. Floor – The floor shall be steel framed with a design live load of 50 lbs per square foot unless noted otherwise on drawings.

SECTION 3A CAST IN PLACE CONCRETE

1. SCOPE OF WORK

A. Contractor shall provide all materials, labor and services for concrete work indicated on drawings.

2. MATERIALS

A. Portland Cement – Type 1, standard brand, ASTM C-150

B. Aggregate – Washed sand, gravel, rock ASTM C-33

C. Reinforcing steel – ASTM A615 grade 40, deformed, ASTM-305.

3. WORKMANSHIP

A. Minimum compressive strength at 28 days – 2000 psi; maximum aggregate size 1"; maximum 7.5 gallons of water per sack of cement; minimum of 5.3 sacks of cement per yard; maximum slump 4". Transit mixed concrete shall be used.

SECTION 5A STRUCT. AND MISC. STEEL

1. SCOPE OF WORK

Contractor shall provide all materials, labor and as specified and indicated on the drawings.

services required for structural and miscellaneous steel

2. MATERIALS

A. Structural Steel Shapes – ASTM A-36, open hearth or electric furnace only, all regular shapes as described in AISC Construction Manual, unless otherwise noted.

B. Cold Formed Light Gauge Steel – ASTM A-570 Grade 33, minimum yield 33,000 PSI.

C. Structural Pipe and Tubing – ASTM AK-500 Grade B.

D. Bolt Material – Bolts and nuts, American Standard Regular, as detailed in AISC Construction Manual, fabricated from structural quality steel, ASTM A-307.

E. Arc-welding Electrodes – Class E-70 Series for welding A-36 steel to A-36 and A-60 Series for welding A-570 steel to A-36, conforming to requirements of the "Structural Welding Code" of American Welding Society, latest edition.

3. WORKMANSHIP

A. GENERAL – All work shall conform to the requirements of AISC Standard Specifications, Titles 21 and 24 of the California Code of Regulations and the American Iron and Steel Institute Specifications for Design of Light Gauge Steel Structural Members.

B. WELDING – All welding done by shielded electric-arc or flux cored-arc process complying with requirements of the "Structural Welding Code" of the American Welding Society. Welding done by operators qualified by tests acceptable to the Division of the State Architect.

C. ERECTION – Structural Steel erected true, straight, plumb and to its designated locations. Field connections bolted or welded as indicated on the drawings.

D. NAILS, BOLTS, SCREWS, NUTS, etc. – for exterior work shall be cadmium plated or galvanized.

E. HANDRAILS – Fabricated as detailed, welds ground smooth.

F. SHOP PAINT –

1. Exposed steel coated with one shop coat
2. Non-exposed steel coated with one shop coat
3. All surfaces thoroughly cleaned by effective means prior to application of shop coats.

G. TESTS –

1. Provide mill certificates or test the following members:
[18/23/18x3 1/2" 10ga. [7"x 9.8, Z 6"x 14 Ga., Z 7"x 11 Ga. L 3"x3"x3/8"
[18"x3 1/2x12 Ga., TS 3 1/2"x3 1/2"x3/16" , L 1 1/2"x1 1/2"x3/16"
2. Welds shall be inspected and/or tested per T-24 Section -2727(e)

SECTION 6A CARPENTRY

1. SCOPE OF WORK

Contractor shall provide all labor, materials and services to install carpentry.

2. MATERIALS

Lumber grade marked in accordance with "Standard grading and Dressing Rule No. 16" of West Coast Lumber Inspection Bureau or "Grading Rules for Western Lumber, 3rd Edition" of Western Wood Products Association. Plywood grade marked in accordance with "Product Standard PS 1-83 for Softwood Plywood" of American Plywood Association, complying with UBC Standard 25-9.

A. JOISTS, RAFTERS, HEADERS, – Hem Fir Stud Grade or better.
B. PLATES – Hem Fir Stud Grade or better.
C. BLOCKING – Hem Fir Stud Grade or better.
D. SILLS AND LUMBER IN CONTACT WITH CONCRETE, MASONRY OR EARTH – Hemlock Fir pressure treated with Wolman Salts, Tanalith U or chromated copper arsenic; Standard and Better grade – 2x4(No. 2 grade – 2x6 and larger, cut ends dipped in preservative (Cuponol).
E. PLYWOOD ROOF DECKING – APA C-D grade, Group 1, Exposure 1 with exterior glue. On overhangs, C-D plugged and touch sanded.
F. PLYWOOD FLOOR DECKING – APA STURD-I-FLOOR 48" o.c. 1-1/8" tongue and groove floor sheathing.
G. EXTERIOR SIDING/SHEATHING – APA Type 303, exterior, T-1-11 8" o.c., siding. Sheathing 1/2" CDX.
H. Not used.
I. STUDS AND POSTS – Hem Fir Stud Grade.
J. FASTENERS – All nails shall be corrosion resistant per U.B.C. Standard 25.1717.
K. BUILDING TRIM – 1x Resawn select H.F. or Masonite.
L. DOOR/WINDOW TRIM – 1x4 Resawn H.F.

3. WOKMANSHIP

A. FRAMING – securely nailed, bridged and blocked to form rigid structure. Work cut, fitted and assembled level, plumb and true to line. Trim in as long lengths as possible with all standing trim in one piece. Trim sealed at all edges.

B. NAILING – in accordance with Title 24 C.C.R. – California Building Code, Table 25-Q. Nails shall be corrosion resistant box nails.

C. EXTERIOR WALLS – factory fabricated. Caulking provided between perimeter of wall and structural members providing weatherproof and watertight seal. Necessary closures, seals, and flashings placed at top and base support of panels and around openings.

D. MACHINE APPLIED NAILING – shall have prior demonstration and approval by DSA field representative and the architect. The approval is subject to continued satisfactory performance. Plywood shall have a minimum thickness of 3/8". If nailheads penetrate the outer ply more than would be normal for a hand hammer or if minimum allowable edge distances are not maintained, the performance will be deemed unsatisfactory.

E. Not used

F. Trim sealed at all edges. Sealant painted to match trim or siding.

G. Retighten all bolts before closing in.

H. The design moisture content of lumber is 19% or less before fabrication, other revision thru chance order will be required.

SECTION 7B SHEET METAL

1. SCOPE OF WORK

Contractor shall provide all labor, materials and services to install indicated sheet metal.

2. MATERIALS

A. SHEET METAL – Steel sheets hot dip galvanized with 1.25 Oz. per square foot zinc coating conforming to ASTM A123. Minimum 26 Ga. unless otherwise noted on the drawings.

B. SOLDER – Of standard brand, Grade "A" of equal parts lead and tin ASTM B32.

C. FLUX – Zinc saturated muriatic acid.

3. WORKMANSHIP

Sheet metal accurately formed to dimensions and shapes detailed with true straight lines, corners and angles. Flashings installed in longest lengths possible. Exterior work formed, fabricated and installed so that it adequately provides for expansion and contraction in the completed work and finishes water and weather tight. Aluminum shall be separated from ferrous metal by polyethylene or flood coat of asphalt paint.

SECTION 7C METAL ROOFING

1. GENERAL

Metal roofing to be 22 Ga. interlocking panels with standing seam. Steel deck shall be galvanized and conform to ASTM A-446 grade A. All fasteners to have neoprene washers.

Metal roofing to be 26 Ga. ribbed gal. sheet metal interlocking panels installed over asphalt base sheet over 3/4" plywood roof deck. All fasteners shall not penetrate metal roof panels.

SECTION 7J SEALANT

1. SCOPE OF WORK

Contractor shall provide all labor, materials and services to seal buildings.

2. MATERIALS

"Vulkem" Sealant, polyurethane, manufactured by MAMECO INTERNATIONAL or approved equal.

Sealant applied to dry clean surfaces, wherever indicated on details and as needed to make building watertight, in accordance with manufacturer's specifications.

SECTION 8B HOLLOW METAL DOORS & FRAMES

1. SCOPE OF WORK

Contractor shall provide all labor, materials and services to install hollow metal doors & frames.

2. MATERIALS

A. DOORS – Type L full flush, manufactured by Steelcraft Manufacturing company or approved equal, 18 Ga. 1-3/4" thick.

B. FRAMES – 16 Ga. cold rolled, 2" faces.

2. MATERIALS

Sheet metal accurately formed to dimensions and shapes detailed with true straight lines, corners and angles. Flashings installed in longest lengths possible. Exterior work formed, fabricated and installed so that it adequately provides for expansion and contraction in the completed work and finishes water and weather tight.

SECTION 8D FINISH HARDWARE

1. SCOPE OF WORK

Contractor shall supply and install finish hardware as specified and as required.

2. DOOR SCHEDULES see shts 1 and 9.

3. SPECIAL REQUIREMENTS

A. Exit doors shall be operable from the interior without key or special knowledge or effort.

B. Closures for exterior doors shall be set for a maximum opening pressure of 8.5 lbs; interior doors shall be set for maximum opening pressure of 5 lbs.

C. Deadbolts not permitted unless operable with a single effort using lever handle.

D. Hardware shall be centered between 30" and 44" above finished floor.

SECTION 9E PAINTING

1. SCOPE OF WORK

Contractor shall provide all labor, materials and services to paint building. All exposed surfaces of building and ramp shall be painted except aluminum window frames and thresholds.

2. MATERIALS

A. For Exterior Wood:

Ref. brand –	VISTA
Primer	4100
Finish	6000

B. For Interior Trim:

Ref. brand –	VISTA
Finish	7000

C. For Metal:

Ref. brand –	VISTA
Finish	7000

3. WORKMANSHIP

A. EXTERIOR – Wood siding, trim and skirting – apply two coats of exterior flat acrylic paint sprayed on.

B. INTERIOR TRIM – Trim not precoated shall be painted with two coats of semi-gloss latex over primer.

C. METAL – All metal surfaces shall be painted with two coats of alkyd finish coat over shop primer.

D. RAMP – One coat of non-skid surfacing.

SECTION 13F SITE ASSEMBLY

1. SCOPE OF WORK

Contractor shall provide all labor, materials and services to prepare the building elements, transport them from the plant to the site and to complete the assembly at the site.

The condition of the site, such as drainage and soil bearing capacity, shall be the responsibility of the School District. Unless specifically called for in the contract, steps, ramps, walkways or handrails shall not be the responsibility of the contractor.

2. ASSEMBLY OF ELEMENTS

A. In a location on the site as determined by the School District, the contractor shall place concrete leveling strips or other suitable supports as detailed on the drawings.

B. The elements shall be brought to the site on wheel assembly and transferred to the prepared site. Great care shall be taken to avoid damage to the elements by racking or bumping.

C. Connection of the elements together shall be done according to instruction on the drawings. Flashings, trim and other loose items shall be installed per details on the drawings.

SECTION 15A AIR CONDITIONING

1. SCOPE OF WORK

Contractor shall provide all labor, materials and services to install the air conditioning system as shown on the drawings and specifications, including A/C units and accessories, remote thermostat, grille and power wiring complete to load center. contractor shall instruct owner's operators on operation and maintenance of A/C system.

2. EQUIPMENT –See note below for size and type.

3. WORKMANSHIP

Units shall be installed complete and operating with all accessories in accordance with the manufacturer's instructions.

SECTION 16A ELECTRICAL

1. SCOPE OF WORK

Contractor shall provide all labor, materials and services for electrical installation complete with associated equipment and fixtures in operating conditions ready for use. The work includes: light and power systems, lighting fixtures complete with lamps, connections and disconnects to A/C equipment.

2. MATERIALS

All new complying with requirements of Calif. Electric Code and National Fire Protection Association.

A. ELECTRIC METALLIC TUBING – couplings and flex conduit galvanized or sherardized.

B. PANELBOARDS – flush mounted with hinged doors and indexed card holders.

C. CONDUCTORS – copper, insulated for 600 volts, type THHN for sizes #12 to #6, type THW for larger sizes. Minimum size – #12.

D. RECEPTACLES – General Electric 5242-2 or equal #15".

E. CLOCK RECEPTACLE – Eagle or equal.

F. SWITCHES – General Electric 5901-2 or equal #48"

G. LIGHTING FIXTURES – 2'X 4' fluorescent drop in type fixtures with 35 watt lamps and energy saving ballast.

3. WORKMANSHIP

Materials and equipment installed in a secure, neat, workmanlike manner in accordance with code requirements. Panel board cards filled out. Conduit and cable installed in wall and ceiling spaces. Work piercing waterproofed areas flashed and sealed to a watertight condition.

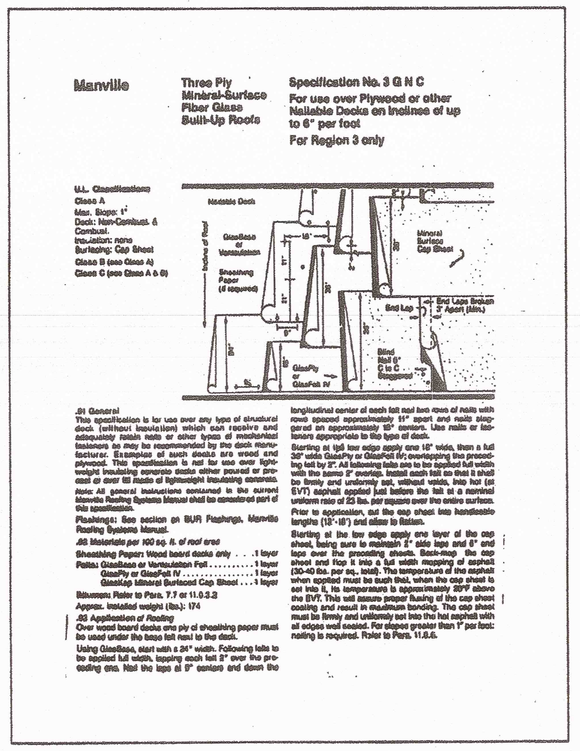
NAILING SCHEDULE

Joists or rafters to sides of studs	
8" joist or less	(3)–16d
for each additional 4" in depth of joist	(1)–16d
Bridging to joist, toenails each end	(2)–8d
a. blocking between joists or rafters toenails each side, each end	(2)–10d [10]
b. blocking between studs, each end	(2)–16d or (2)–10d toenails
Sole plate to joist or blocking face nail	16d @ 16" o.c.
Top plate to stud, end nail	(2)–16d
Stud to sole plate	(4)–8d toenail or (2)–16d endnail
Double studs, face nail	16d @ 24" o.c.
Double top plates, face nail	16d @ 16" o.c.
Continuous header, two pieces along each edge	16d @ 16" o.c.
Ceiling joists to plate, toenail	(3)–8d
continuous header to stud, toenail	(4)–8d
Ceiling joists, laps over partitions, face nail.	(3)–16d
Ceiling joists to parallel rafters, face nail.	(3)–16d
Joists or rafters at all bearings, toenails each side.	(2)–10d
1" brace to ea. stud and plate, face nail	(2)–8d
Built up corner studs	16d @ 24" o.c.

PLYWOOD AND PARTICLE BOARD [5]

Subfloor, roof and wall sheathing to framing:	
1/2" and less	6d [2]
19/32" – 3/4"	8d [3] or 6d [2]
7/8" – 1"	8d [2]
1–1/8" – 1–1/4"	10d [3] or 8d [2]
Combination subfloor/underlayment to framing:	
3/4" or less	6d [2]
7/8" – 1"	8d [2]
1–1/8" – 1–1/4"	10d [3] or 8d [2]
Panel siding to framing:	
1/2" or less	6d [6]
5/8"	8d [6]

1. Common or box nails may be used except where otherwise stated.
2. Deformed shank.
3. Common
4. Not used
5. Nails spaced at 6" o.c. at edges, 12" o.c. at intermediate supports (10" at intermediate supports for floors), except 6" o.c. at all supports where spans are 48" or more. For nailing of plywood and particle board diaphragms and shear walls, refer to Section 2513 (c). Nails for wall sheathing may be common, box, or casing.
6. Corrosion resistant siding or casing nails conforming to the req. of Section 2516 (j) 1.
7. Fasteners spaced 3" o.c. at ext. edges and 6" o.c. at intermediate supports.
8. Corrosion resistant roofing nails with 7/16" dia. head and 1–1/2" length for 1/2" sheathing and 1–3/4" length for 25/32" sheathing conforming to the requirements of Section 2516 (j) 1.
9. Corrosion resistant staples with nominal 7/16" crown and 1–1/8" length for 1/2" sheathing and 1–1/2" length for 25/32" sheathing conforming to the requirements of Section 2516 (j) 1.
10. When possible, nails driven perpendicular to the grain shall be used instead of toenails.



.01 General

This specification is for use over any type of structural deck (without insulation) which can receive and adequately retain nails or other types of mechanical fasteners as may be recommended by the deck manufacturer. Examples of such decks are wood and plywood in minimum thickness of 1/2", poured gypsum (without insulating concrete slabs either poured or precast) or over 22 Gauge of lightweight insulating concrete.

Note: All general instructions contained in the current Manville Roofing Systems Manual shall be considered part of this specification.

Flashings: See section on BUR Flashings, Manville Roofing Systems Manual.

.02 Materials per 100 sq. ft. of roof area

Sheathing Paper: Wood board decks only . . . . 1 layer
Felts: Gas/Base or Vermiculation Felt . . . . . 1 layer
Gas/Ply or Glas/Felt IV . . . . . 1 layer
Glas/Ply Mineral Surfaced Cap Sheet . . . . 1 layer

Bitumen: Refer to Para. 7.7 or 11.0.2.2
Approx. Installed weight (lbs.): 174

.03 Application of Roofing

Over wood board decks one ply of sheathing paper must be used under the base felt next to the deck.

Using Gas/Base, start with a 24" width. Following felts to be applied full width, lapping each felt 2" over the preceding one. Nail the laps at 9" centers and down the longitudinal center of each felt and two rows of nails with rows spaced approximately 11" apart and nails staggered on approximately 30" centers. Use nails or fasteners appropriate to the type of deck.

Starting at left low edge apply one 19" wide, then a full 36" width Gas/Ply or Glas/Felt IV, overlapping the preceding felt by 9". All following felts are to be applied full width with the same 2" overlap. Install each felt so that it will be free of buckles, wrinkles or fishmouths. Each felt of EVT applied applied just before the felt at a standard uniform rate of 25 lbs. per square over the entire surface.

Prior to application, cut the cap sheet into handleable lengths (10'-0") and allow to flatten.

Starting at the low edge apply one layer of the cap sheet, being sure to maintain 3" side laps and 9" end laps over the preceding sheets. Back-mop the cap sheet and then it back. Nail with roofing nails at 6" (30-40 nails per sheet). The nailing row of the asphalt coated sheet must be such that, when the cap sheet is set into it, its nailing row is approximately 22" above the EVT. This will assure proper flushing of the cap sheet coating and result in maximum bonding. The cap sheet must be firmly and uniformly set into the hot asphalt with all edges well sealed. For slopes greater than 1" per foot; nailing is required. Refer to Para. 11.0.6.

DOOR SCHEDULE

1	3'-0" x 6'- 8" x 1 3/4"		HOLLOW METAL	18 Ga. FULL FLUSH IN 16 Ga. METAL FRAME.
2				
2A				
4				

WINDOW SCHEDULE

A	8'-0" x 4'-0"		CLEAR ANODIZED ALUM FRAME	XOX SLIDER WITH PANE 46% TEMPERED GRAYTINT GLAZING ~~ALUMINUM FRAMED SCREENS ON OPERABLE SASH.~~
B				
C				
D				
E				

EXT. FINISH

SIDING	4' x 9' x 5/8"	DURATEMP	APA RATED OR EQUAL, GROUP 1, TYPE 303 EXTERIOR SIDING
ROOFING	BUILT-UP	MANVILLE	3-GNC (SEE SPEC. BELOW)
	26 Ga.	PLACER	
	22 Ga.	CAL. STEEL	
TRIM	WOOD 1"x4"	RESAWN	@ DOORS

INTERIOR FINISH

	ITEM	DESCRIPTION
FLOOR	CARPET	COMPLYING WITH THE STATE OF CALIF. SPEC. T220-21K-01 GROUP I TYPE A, CLASS 24, DENSITY 4600, DIRECT GLUE DOWN. (SEE NOTE BELOW)
CLG	SUSPENDED	ARMSTRONG 2910 TILE (FLAME SPREAD CLASS I) IN DONN CORP 'DX' SERIES HEAVY DUTY GRID.
WALLS	VINYL	1/2" VINYL COVERED TACK BOARD (FLAME SPREAD CLASS I) OVER 1/2" GYP BOARD.
	CHALKBOARD	1/2" PARTICLE BOARD SUBSTRATE, FULL WIDTH MAP RAIL WITH CORK INSERT AND SIX MAP HOOKS, EXTRUDED ALUMINUM MOLDING. WITH FLAG HOLDER.

ROOMS	CLASSROOM						
	*						
	*						
	*						
	*						

SPECIAL NOTE:
ALL FINISHES SHALL COMPLY WITH C.B.C. CHAPTERS 3,7,8, & 10

DOOR HARDWARE

ITEM	DESCRIPTION	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6
LOCK SET LEVER HANDLE	'SCHLAGE' D70PD RHODES 26D FINISH	*					
HINGES	'HAGAR' RC 1279 BB 4.5"x 4.5" NRP PC	*					
CLOSER	'NORTON' 1601, 8 LBS. CLOSING PRESSURE	*					
THRESHOLD	'PEMCO' 271A	*					
DOOR BOTTOM	'PEMCO' 216AV	*					
WEATHER-STRIP	'PEMCO' 249AV	*					
DOOR TOP	'PEMCO' 346A						
DOOR STOP	'QUALITY' 1201 ES	*					

HARDWARE

A/C INFORMATION

SIZE	3.5 TON HEAT PUMP
SUPPLY	DUCTED
RETURN	DIRECT
HEAT STRIP	SEE SHT. 8
ELECTRICAL	SEE SHT. 8

NOTE:
PREPARATION FOR SUB FLOOR TO ACCEPT FINISH FLOORING IS BY FLOORING CONTRACTOR. 1 1/8" PLYWOOD SUB-FLOOR IS PLUGGED AND TOUCH SANDED, ANY DEFORMITIES SHALL BE FILLED AND SANDED BY THE FLOORING CONTRACTOR. THE JOINT AT THE MODULE JOINING SHALL NOT BE LARGER THAN 1/8" AND SHALL BE FILLED AND SANDED BY FLOORING CONTRACTOR.

D.S.A.
REVISED
IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES
PC 253
AC ✓ FLS ✓ SS TB
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APR 65839
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REVISIONS

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LICENSE EXPIRES 6-30-1998

AURORA MODULAR INDUSTRIES
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RELOCATABLE BUILDINGS FOR:
WILLIAMS/SCOTSMAN GROUP

SPECIFICATIONS, INTERIOR AND EXTERIOR FINISH SCHEDULES

BY SB DATE 9-3-96
SHEET 9
JOB 3767 CAD FILE NO. PC253-9.DWG

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