

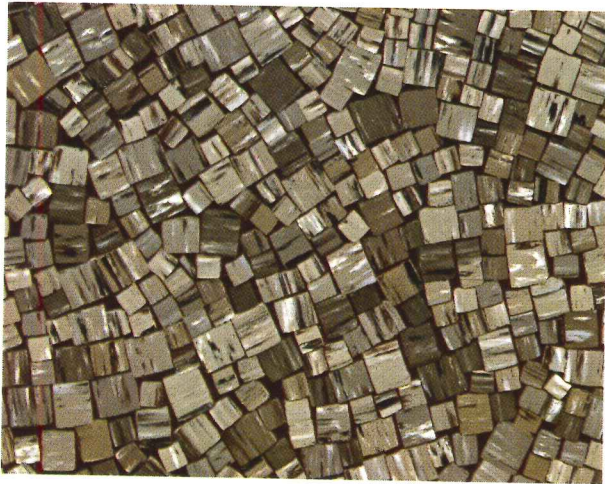


NEIMAN-MARCUS, ST. LOUIS, MISSOURI, BY JOHN CARL WARNECKE FAIA AND ASSOCIATES  
NEW VERSUS FAMILIAR OPTIONS IN HIGH-RISE APARTMENT HOUSE DESIGN  
MOUNTAIN VIEW COLLEGE: TEXAN INNOVATION  
88 PINE STREET: PEI'S FIRM DESIGNS A WHITE CURTAIN WALL FOR MANHATTAN  
BUILDING TYPES STUDY: STORES AND SHOPS  
FULL CONTENTS ON PAGES 10 AND 11

# ARCHITECTURAL RECORD



# The Brigantine® floor from Armstrong. At Lowell General Hospital, they'll tell you it has the heart of a beauty and the hide of a brute.



remind them they're in a hospital.

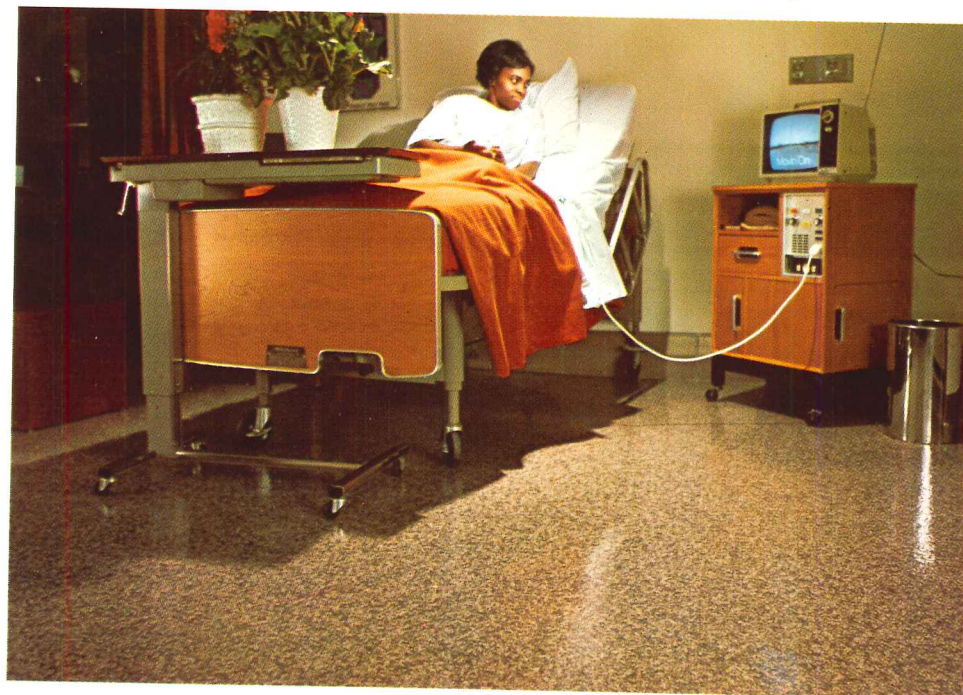
At Lowell General Hospital in Lowell, Mass., everybody's happy. Because the floor they got is Brigantine Vinyl Corlon® from Armstrong.

To the nurses and orderlies, Brigantine's smooth surface means they don't have to struggle to wheel food carts, X-ray machines,

Nurses and orderlies want a floor that doesn't make hard work harder.

The custodial staff wants a floor that doesn't fight back when it's cleaned.

And patients want a floor that doesn't



beds, and other equipment so vital to better patient care.

To the custodial staff, Brigantine's tough, virtually nonporous surface means spills and soaks can't penetrate. That means Brigantine is a floor that's easy to keep sparkling clean. And nowhere is that more important than in a hospital. What's more, this sheet vinyl floor comes in rolls 6 feet wide and up to 90 feet long—a



x 12" (shown here) or 24" x 24" tiles, and then matched the exposed grid to the  
rd finish. Once your Second Look ceiling is suspended, the grid and ceiling  
els blend together to give you the look you want. The look of expensive tile.  
out the tile and without the expense.

The fact is, Second Look is one of the greatest camouflage jobs you've  
seen. As well as one of the handsomest. And in today's cost-conscious world,  
one that really fits. To learn more about this economical lay-in panel, write  
Armstrong, 4204 Rock St., Lancaster, Pa. 17604.



FROM THE  INDOOR WORLD® OF  
**Armstrong**

For more data, circle 2 on inquiry card



## Letters to the editor

Permit me to take issue with Kathleen Kelly's October 1974 office practice article on standard contract forms for professional services.

No standard document produced by AIA or anyone else (including lawyers) can be used without some modification. All AIA documents recognize this in the caveat which appears in the "title block" of every contract form: "This document has important legal consequences; consultation with an attorney is encouraged with respect to its completion or modification." The "tragedy" cited by Ms. Kelly exists not in the document but in the architect's handling thereof. If the architect in his dealings with Ms. Kelly had explained that most everything she was criticizing as not being in the contract was actually there—albeit via Additional Services—perhaps the tenor of their conversation would have changed. The article opts for full detail in the contract yet contradicts itself by pointing out, correctly, that too much detail can create contractual chaos. Ignorance on the part of the user about how to properly use it does not *ipso facto* make the standard form a poor one.

Probably the most difficult part of pre-contract dealings is extracting a clear idea of what the client wants from the architect. The contract form cannot be completed until negotiations are complete; there is no way to arrive at equitable compensation except by full disclosure and a meeting of the minds on required services. Standard forms cannot do those things for the architect.

There is too often a tendency, especially on the part of governmental bodies, to set the top dollar first by picking an arbitrary percentage figure or setting an arbitrary maximum lump sum and then talking services. This usually results in "bliveting" the architect's contract and requiring a lot of extra work without equitable compensation.

Contrary to Ms. Kelly's conclusion, the architect is well-advised to stay with standard documents which have court-tested wording, wording which tracks other AIA contract documents and ties them all together. The following quotation from *Lawyers and their Work* by Johnstone and Hopson (Bobbs-Merrill Co., Inc., 1967) emphasizes this point in a discussion specifically on the AIA documents:

"Standardized instruments also make for certainty which is increased the longer and more widely the forms are used. Judicial and trade interpretations gradually amplify the docu-

ments' express terms, and continued usage increases familiarity with the instruments in a variety of situations. Standard forms are likely to be important enough so that more care and skill go into their preparation and revision than is true of many non-form instruments."

Following is a quotation from "Contract Alerts" issued in conjunction with seminars on liability conducted by the Office for Professional Liability Research (c/o Victor O. Schinnerer & Company, Inc.):

"The use of standard AIA or NSPE contract documents is highly recommended. When they cannot be used or if they are to be modified because of the client's requirements or otherwise, architects and engineers must be alert to the implications of non-standard contract provisions."

It is of more than passing interest to the profession that New York, California and Ohio have developed a method of determining gross compensation based on prior determination of the services to be required. The Institute, too, has its eye on this as a logical means for the individual practitioner to develop an equitable approach to his compensation. This Cost-Base method allows the architect to price the maximum extent of his involvement. With this method there are no surprises, either to the owner or the architect. Additional services asked for after the contract is signed are easily identified because they have not been previously spelled out.

This appears to be the answer to Ms. Kelly's concern that the architect gets trapped in the money game. It is certainly a lot better and far more prudent than trying to write a new, "appropriate" agreement for each job.

*Bernard B. Rothschild, FAIA, FCSI  
Finch Alexander Barnes Rothschild  
and Paschal, Inc.  
Atlanta, Georgia*

Your editorial in the January issue was well done and certainly has a great deal of meat for discussion. Frankly, I wonder if our illustrious Federal government has the wisdom to listen.

*Philip J. Meathe, FAIA  
Smith, Hinchman & Grylls  
Associates Inc.*

We were very pleased that our River Quay project was included in the December issue.

Unfortunately, your article did not give proper credit to the firm of Patty Berkebile Nelson Associates, one of the associated architects noted in the project information.

*Linda Morton  
Don Wudtke and Associates, Inc.*

## Calendar

### APRIL

**14-15** Regional seminar on Section 8 Housing Program, Hyatt Hotel, San Francisco. Sponsored by the National Association of Home Builders, the National Association of Housing and Redevelopment Officials, and the Council of State Housing Agencies. Contact: National Association of Home Builders, Washington, D.C. 20005.

**14-17** Conference on Rural America, Sheraton-Park Hotel, Washington, D.C. Contact: Rural Housing Alliance, 1346 Connecticut Avenue, N.W., Washington, D.C. 20036.

**23-28** Twenty-eighth annual meeting of the Society of Architectural Historians, Copley Plaza Hotel, Boston. Contact: Mrs. Rosann S. Berry, Society of Architectural Historians, 1700 Walnut Street, Philadelphia, Pa. 19103.

**24-25** Forty-first annual meeting of the Forest Products Safety Conference, Washington Plaza Hotel, Seattle, Wash. Contact: Mr. William J. Hays, Weyerhaeuser Company, P.O. Box 188, Longview, Wash. 98632.

**27-May 1** Eighth annual meeting, the National Conference of States on Building Codes and Standards, Santa Fe Hilton Inn, Santa Fe, New Mexico. Contact: Center for Building Technology, National Bureau of Standards, Washington, D.C. 20234.

**28-30** Seventh annual Apartment Builder/Developer Conference and Exposition, Miami Beach. Contact: Mr. Larry Glazier, Lewis & Associates, 68 Post Street, Suite 506, San Francisco, Cal. 94104.

### MAY

**1-2** Seminar on How to Market Professional Design Services, Dallas. Contact: Building Industry Development Services, 1301 20th Street, N.W., Washington, D.C. 20036.

**7-11** Scandinavian Furniture Fair, Bella Centre Mart Building, Copenhagen. Contact: Secretariat, Scandinavian Furniture Fair, 8, Hellerupvej, DK-2900 Hellerup, Denmark.

**18-22** Annual convention, American Institute of Architects, Atlanta. Contact: AIA headquarters, 1735 New York Avenue, N.W., Washington, D.C. 20006.

**24-28** International Association for Housing Science symposium, Atlanta. Sponsored by The Housing Institute, Clemson University. Contact: Dr. Herbert Busching, Department of Civil Engineering, Clemson University, Clemson, S.C. 29631.

ARCHITECTURAL RECORD (CONTINUED)  
with AMERICAN ARCHITECT,  
ARCHITECTURE AND WESTERN ARCHITECTURE  
AND ENGINEER)

April 1975, Vol. 157, No. 4, 71-72, 73-74, 75-76, 77-78, 79-80, 81-82, 83-84, 85-86, 87-88, 89-90, 91-92, 93-94, 95-96, 97-98, 99-100, 101-102, 103-104, 105-106, 107-108, 109-110, 111-112, 113-114, 115-116, 117-118, 119-120, 121-122, 123-124, 125-126, 127-128, 129-130, 131-132, 133-134, 135-136, 137-138, 139-140, 141-142, 143-144, 145-146, 147-148, 149-150, 151-152, 153-154, 155-156, 157-158, 159-160, 161-162, 163-164, 165-166, 167-168, 169-170, 171-172, 173-174, 175-176, 177-178, 179-180, 181-182, 183-184, 185-186, 187-188, 189-190, 191-192, 193-194, 195-196, 197-198, 199-200, 201-202, 203-204, 205-206, 207-208, 209-210, 211-212, 213-214, 215-216, 217-218, 219-220, 221-222, 223-224, 225-226, 227-228, 229-230, 231-232, 233-234, 235-236, 237-238, 239-240, 241-242, 243-244, 245-246, 247-248, 249-250, 251-252, 253-254, 255-256, 257-258, 259-260, 261-262, 263-264, 265-266, 267-268, 269-270, 271-272, 273-274, 275-276, 277-278, 279-280, 281-282, 283-284, 285-286, 287-288, 289-290, 291-292, 293-294, 295-296, 297-298, 299-300, 301-302, 303-304, 305-306, 307-308, 309-310, 311-312, 313-314, 315-316, 317-318, 319-320, 321-322, 323-324, 325-326, 327-328, 329-330, 331-332, 333-334, 335-336, 337-338, 339-340, 341-342, 343-344, 345-346, 347-348, 349-350, 351-352, 353-354, 355-356, 357-358, 359-360, 361-362, 363-364, 365-366, 367-368, 369-370, 371-372, 373-374, 375-376, 377-378, 379-380, 381-382, 383-384, 385-386, 387-388, 389-390, 391-392, 393-394, 395-396, 397-398, 399-400, 401-402, 403-404, 405-406, 407-408, 409-410, 411-412, 413-414, 415-416, 417-418, 419-420, 421-422, 423-424, 425-426, 427-428, 429-430, 431-432, 433-434, 435-436, 437-438, 439-440, 441-442, 443-444, 445-446, 447-448, 449-450, 451-452, 453-454, 455-456, 457-458, 459-460, 461-462, 463-464, 465-466, 467-468, 469-470, 471-472, 473-474, 475-476, 477-478, 479-480, 481-482, 483-484, 485-486, 487-488, 489-490, 491-492, 493-494, 495-496, 497-498, 499-500, 501-502, 503-504, 505-506, 507-508, 509-510, 511-512, 513-514, 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737-738, 739-740, 741-742, 743-744, 745-746, 747-748, 749-750, 751-752, 753-754, 755-756, 757-758, 759-760, 761-762, 763-764, 765-766, 767-768, 769-770, 771-772, 773-774, 775-776, 777-778, 779-780, 781-782, 783-784, 785-786, 787-788, 789-790, 791-792, 793-794, 795-796, 797-798, 799-800, 801-802, 803-804, 805-806, 807-808, 809-810, 811-812, 813-814, 815-816, 817-818, 819-820, 821-822, 823-824, 825-826, 827-828, 829-830, 831-832, 833-834, 835-836, 837-838, 839-840, 841-842, 843-844, 845-846, 847-848, 849-850, 851-852, 853-854, 855-856, 857-858, 859-860, 861-862, 863-864, 865-866, 867-868, 869-870, 871-872, 873-874, 875-876, 877-878, 879-880, 881-882, 883-884, 885-886, 887-888, 889-890, 891-892, 893-894, 895-896, 897-898, 899-900, 901-902, 903-904, 905-906, 907-908, 909-910, 911-912, 913-914, 915-916, 917-918, 919-920, 921-922, 923-924, 925-926, 927-928, 929-930, 931-932, 933-934, 935-936, 937-938, 939-940, 941-942, 943-944, 945-946, 947-948, 949-950, 951-952, 953-954, 955-956, 957-958, 959-960, 961-962, 963-964, 965-966, 967-968, 969-970, 971-972, 973-974, 975-976, 977-978, 979-980, 981-982, 983-984, 985-986, 987-988, 989-990, 991-992, 993-994, 995-996, 997-998, 999-1000, 1001-1002, 1003-1004, 1005-1006, 1007-1008, 1009-1010, 1011-1012, 1013-1014, 1015-1016, 1017-1018, 1019-1020, 1021-1022, 1023-1024, 1025-1026, 1027-1028, 1029-1030, 1031-1032, 1033-1034, 1035-1036, 1037-1038, 1039-1040, 1041-1042, 1043-1044, 1045-1046, 1047-1048, 1049-1050, 1051-1052, 1053-1054, 1055-1056, 1057-1058, 1059-1060, 1061-1062, 1063-1064, 1065-1066, 1067-1068, 1069-1070, 1071-1072, 1073-1074, 1075-1076, 1077-1078, 1079-1080, 1081-1082, 1083-1084, 1085-1086, 1087-1088, 1089-1090, 1091-1092, 1093-1094, 1095-1096, 1097-1098, 1099-1100, 1101-1102, 1103-1104, 1105-1106, 1107-1108, 1109-1110, 1111-1112, 1113-1114, 1115-1116, 1117-1118, 1119-1120, 1121-1122, 1123-1124, 1125-1126, 1127-1128, 1129-1130, 1131-1132, 1133-1134, 1135-1136, 1137-1138, 1139-1140, 1141-1142, 1143-1144, 1145-1146, 1147-1148, 1149-1150, 1151-1152, 1153-1154, 1155-1156, 1157-1158, 1159-1160, 1161-1162, 1163-1164, 1165-1166, 1167-1168, 1169-1170, 1171-1172, 1173-1174, 1175-1176, 1177-1178, 1179-1180, 1181-1182, 1183-1184, 1185-1186, 1187-1188, 1189-1190, 1191-1192, 1193-1194, 1195-1196, 1197-1198, 1199-1200, 1201-1202, 1203-1204, 1205-1206, 1207-1208, 1209-1210, 1211-1212, 1213-1214, 1215-1216, 1217-1218, 1219-1220, 1221-1222, 1223-1224, 1225-1226, 1227-1228, 1229-1230, 1231-1232, 1233-1234, 1235-1236, 1237-1238, 1239-1240, 1241-1242, 1243-1244, 1245-1246, 1247-1248, 1249-1250, 1251-1252, 1253-1254, 1255-1256, 1257-1258, 1259-1260, 1261-1262, 1263-1264, 1265-1266, 1267-1268, 1269-1270, 1271-1272, 1273-1274, 1275-1276, 1277-1278, 1279-1280, 1281-1282, 1283-1284, 1285-1286, 1287-1288, 1289-1290, 1291-1292, 1293-1294, 1295-1296, 1297-1298, 1299-1300, 1301-1302, 1303-1304, 1305-1306, 1307-1308, 1309-1310, 1311-1312, 1313-1314, 1315-1316, 1317-1318, 1319-1320, 1321-1322, 1323-1324, 1325-1326, 1327-1328, 1329-1330, 1331-1332, 1333-1334, 1335-1336, 1337-1338, 1339-1340, 1341-1342, 1343-1344, 1345-1346, 1347-1348, 1349-1350, 1351-1352, 1353-1354, 1355-1356, 1357-1358, 1359-1360, 1361-1362, 1363-1364, 1365-1366, 1367-1368, 1369-1370, 1371-1372, 1373-1374, 1375-1376, 1377-1378, 1379-1380, 1381-1382, 1383-1384, 1385-1386, 1387-1388, 1389-1390, 1391-1392, 1393-1394, 1395-1396, 1397-1398, 1399-1400, 1401-1402, 1403-1404, 1405-1406, 1407-1408, 1409-1410, 1411-1412, 1413-1414, 1415-1416, 1417-1418, 1419-1420, 1421-1422, 1423-1424, 1425-1426, 1427-1428, 1429-1430, 1431-1432, 1433-1434, 1435-1436, 1437-1438, 1439-1440, 1441-1442, 1443-1444, 1445-1446, 1447-1448, 1449-1450, 1451-1452, 1453-1454, 1455-1456, 1457-1458, 1459-1460, 1461-1462, 1463-1464, 1465-1466, 1467-1468, 1469-1470, 1471-1472, 1473-1474, 1475-1476, 1477-1478, 1479-1480, 1481-1482, 1483-1484, 1485-1486, 1487-1488, 1489-1490, 1491-1492, 1493-1494, 1495-1496, 1497-1498, 1499-1500, 1501-1502, 1503-1504, 1505-1506, 1507-1508, 1509-1510, 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1693-1694, 1695-1696, 1697-1698, 1699-1700, 1701-1702, 1703-1704, 1705-1706, 1707-1708, 1709-1710, 1711-1712, 1713-1714, 1715-1716, 1717-1718, 1719-1720, 1721-1722, 1723-1724, 1725-1726, 1727-1728, 1729-1730, 1731-1732, 1733-1734, 1735-1736, 1737-1738, 1739-1740, 1741-1742, 1743-1744, 1745-1746, 1747-1748, 1749-1750, 1751-1752, 1753-1754, 1755-1756, 1757-1758, 1759-1760, 1761-1762, 1763-1764, 1765-1766, 1767-1768, 1769-1770, 1771-1772, 1773-1774, 1775-1776, 1777-1778, 1779-1780, 1781-1782, 1783-1784, 1785-1786, 1787-1788, 1789-1790, 1791-1792, 1793-1794, 1795-1796, 1797-1798, 1799-1800, 1801-1802, 1803-1804, 1805-1806, 1807-1808, 1809-1810, 1811-1812, 1813-1814, 1815-1816, 1817-1818, 1819-1820, 1821-1822, 1823-1824, 1825-1826, 1827-1828, 1829-1830, 1831-1832, 1833-1834, 1835-1836, 1837-1838, 1839-1840, 1841-1842, 1843-1844, 1845-1846, 1847-1848, 1849-1850, 1851-1852, 1853-1854, 1855-1856, 1857-1858, 1859-1860, 1861-1862, 1863-1864, 1865-1866, 1867-1868, 1869-1870, 1871-1872, 1873-1874, 1875-1876, 1877-1878, 1879-1880, 1881-1882, 1883-1884, 1885-1886, 1887-1888, 1889-1890, 1891-1892, 1893-1894, 1895-1896, 1897-1898, 1899-1900, 1901-1902, 1903-1904, 1905-1906, 1907-1908, 1909-1910, 1911-1912, 1913-1914, 1915-1916, 1917-1918, 1919-1920, 1921-1922, 1923-1924, 1925-1926, 1927-1928, 1929-1930, 1931-1932, 1933-1934, 1935-1936, 1937-1938, 1939-1940, 1941-1942, 1943-1944, 1945-1946, 1947-1948, 1949-1950, 1951-1952, 1953-1954, 1955-1956, 1957-1958, 1959-1960, 1961-1962, 1963-1964, 1965-1966, 1967-1968, 1969-1970, 1971-1972, 1973-1974, 1975-1976, 1977-1978, 1979-1980, 1981-1982, 1983-1984, 1985-1986, 1987-1988, 1989-1990, 1991-1992, 1993-1994, 1995-1996, 1997-1998, 1999-2000, 2001-2002, 2003-2004, 2005-2006, 2007-2008, 2009-2010,



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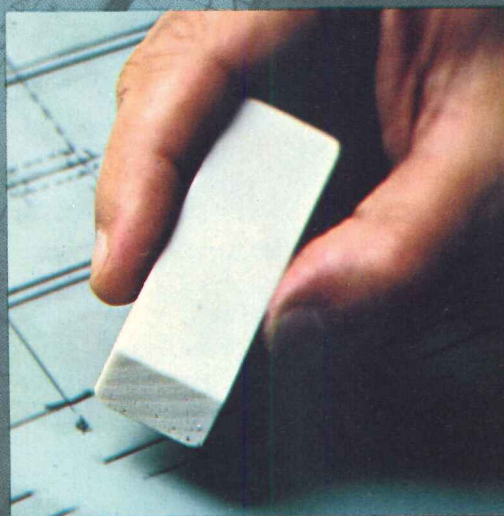
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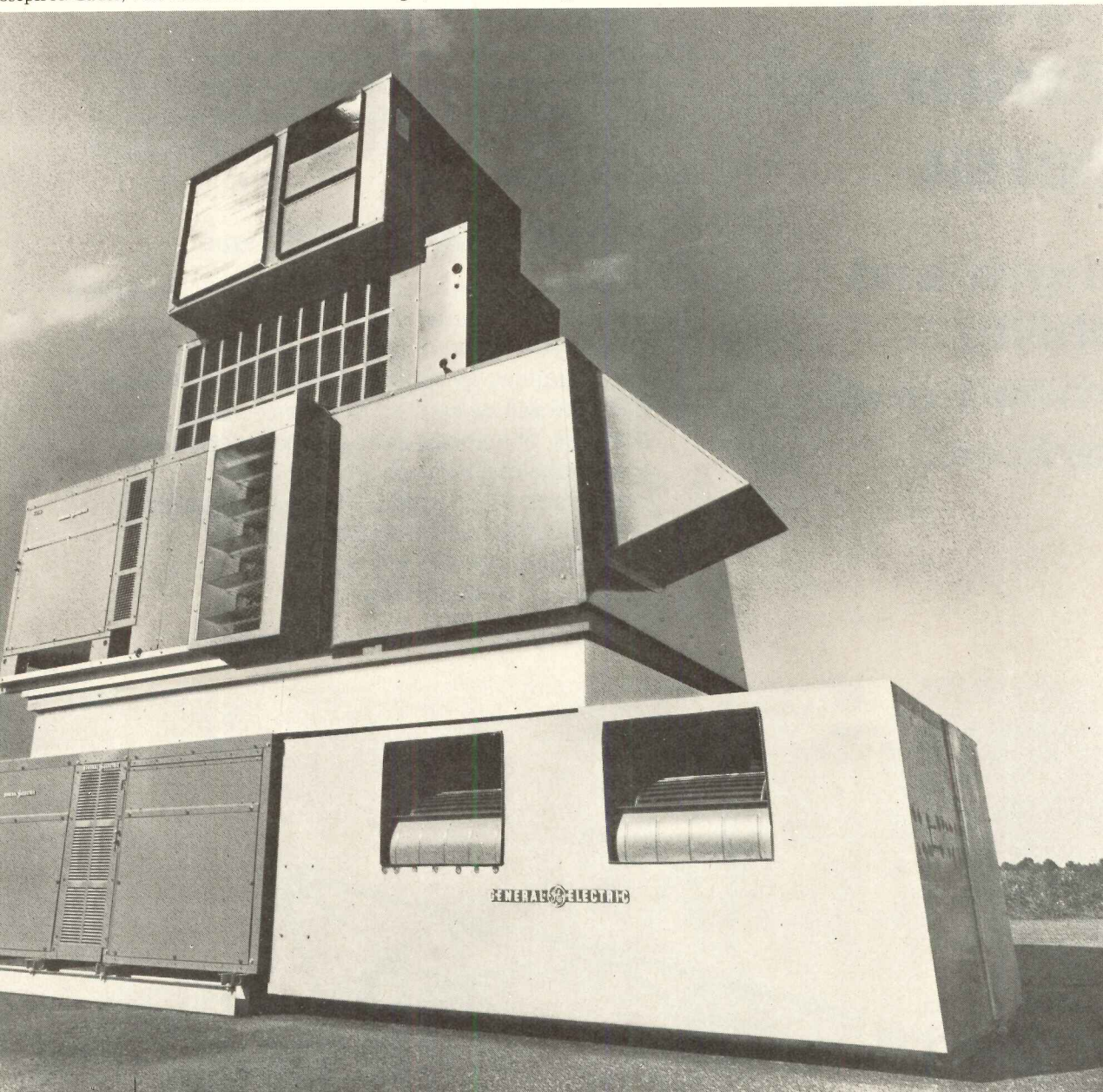
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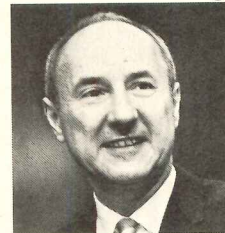
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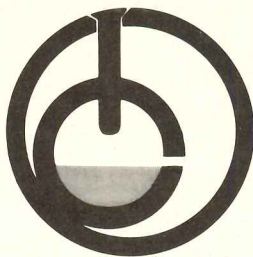
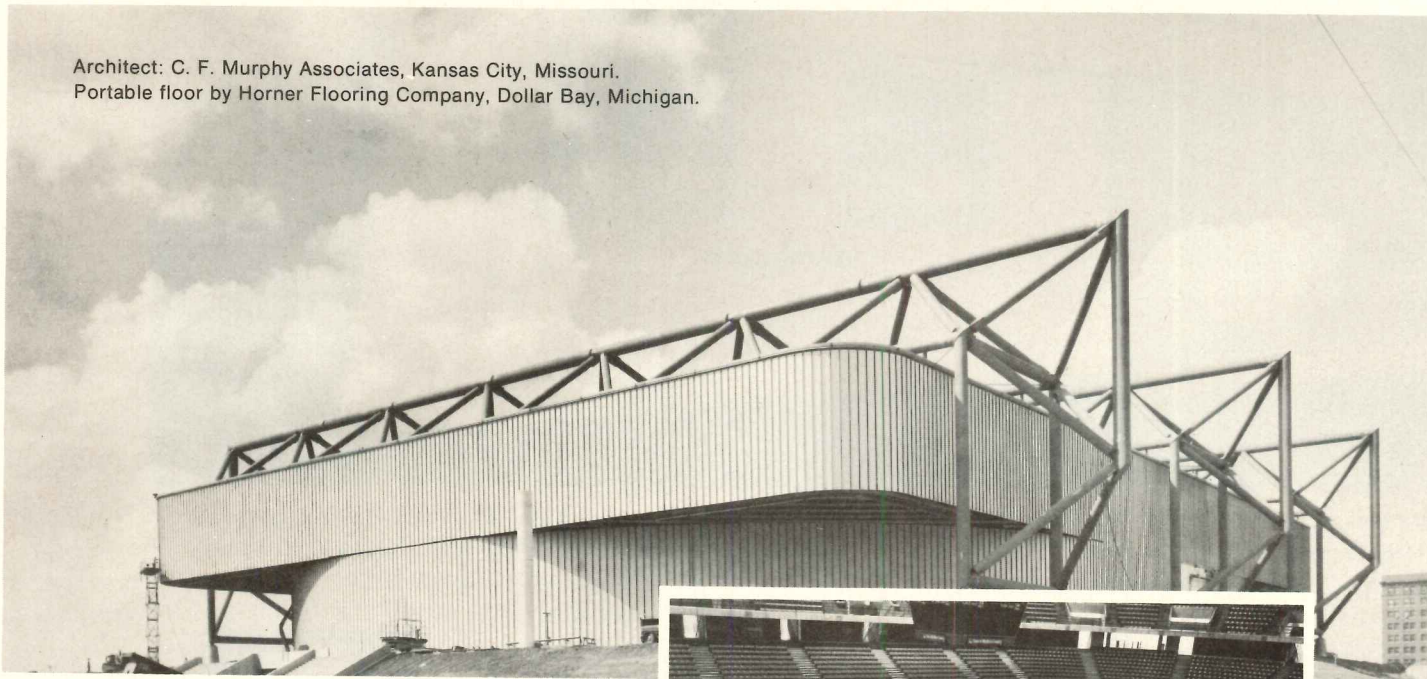
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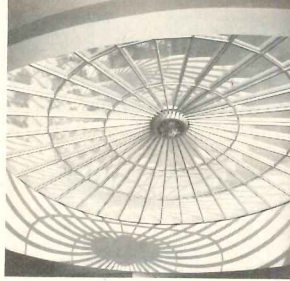
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**THE RECORD REPORTS**

**13 Editorial**

Tweedle-dum; Tweedle-dee:  
Where do they get those priorities?

**14 Perspectives**

Reducing energy used by buildings:  
How—constraints or incentives?

**4 Letters/Calendar**

**33 News in brief**

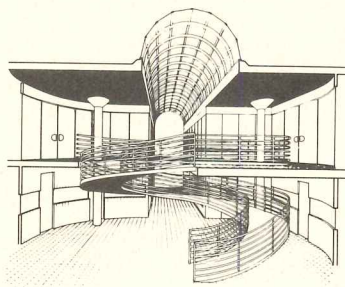
Short items of major  
national interest.

**34 News reports**

Three new Cabinet members profiled:  
Carla Hills, HUD; John T. Dunlop,  
Labor; and William T. Coleman,  
Transportation. Observations on  
House and Senate Banking Committee  
chairmen William Proxmire and  
Henry Reuss, key figures in  
money policy.

**37 Buildings in the news**

Congregation B'nai Israel Synagogue  
Complex, Montgomery County, Maryland.  
Woodruff Medical Center, Atlanta.  
Charlestown Savings Bank, Boston.  
National Airport addition, Washington, D.C.  
Piper's Alley (below), Chicago.



**41 Human settlements: world news**

**42 Required reading**

**149 Office notes**

**ARCHITECTURAL BUSINESS**

**57 A project scheduling system that really works**

The evolution of computer-linked CPM as a tool for building project scheduling has arrived at a system now in use by Turner Construction Company, mainly for construction management contracts, Garrett Thompson describes the system as visually simple, flexibly adaptable and psychologically acceptable by owners, architects, and contractors, all of whom participate.

**61 Building costs**

A semi-annual survey of cost changes by region.

**63 Building activity**

First update of the construction outlook for 1975, by George Christie.





**FEATURES**

**Ben Weese versus Stanley Tigerman:  
a debate**

Architect Tigerman believes that Mies' esthetic still works for apartment towers as well as for office buildings, yet can be improved upon. He proves his point with Boardwalk, an apartment complex, and contrasts it with Lake Village East, a multi-faceted, highly original approach by Harry Weese & Associates. Ben Weese defends his so-called minimum perimeter apartment tower scheme. The argument is lively and the contrasted buildings are shown in detail.

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**Architects' office interiors:  
The "bare brick school"**

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architect, Richmond

**Mountain View College  
Dallas, Texas**

Part of a series of two-year colleges in Dallas, an initial building sets a high standard for the scope of facilities and excellence of design that will be provided under the new educational program.

**BUILDING TYPES STUDY: 473**

**107 Stores and shops**

Design plays an important, if subtle role in attracting customers to stores and shops, especially in a slow economy. For shopkeepers, the name of the game is merchandising. Architects can aid them through design which makes effective display easy and simple to accomplish, and increases efficiency in selling.

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**123 Pei's precise cladding enriches  
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A crisply detailed, brilliantly white curtain wall distinguishes 88 Pine Street in the dark, crowded masses of Lower Manhattan's office towers.

**133 Product reports**

**135 Office Literature**

**170 A/E Update**

**186 Advertising Index**

**188 Classified Advertising**

**189 Reader Service Inquiry Card**

**NEXT MONTH IN RECORD**

**Building Types Study: Schools**


Fewer pupils, surplus space and bare-bones budgets have placed enormous pressures on both private and public schools serving kindergarten through twelfth grade students. The architect's role in maximizing the investment that is made in space in a way that nurtures learning is the subject of this article on rehabilitating schools.



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## Tweedle-dum; Tweedle-dee: Where do they get those priorities?

Nothing inconsistent about me: I went up in smoke again when I read that the President had chosen—now that he had decided to release some impounded funds—to release \$2 billion of impounded Highway Trust Funds. \$2 billion for roads that we're supposed to minimize driving on so we won't waste gasoline? \$2 billion for roads when innovative housing programs (like New York State's Urban Development Corporation) are foundering? \$2 billion for roads when there's no money for slum rehabilitation?

The reason for the release of \$2 billion for roads would seem to be based not on any kind of real need (on a scale of 1 to 10, where would you put roads, compared with, say, low-income housing or nursing homes or slum rehabilitation—or pollution control, or better urban schools, or food stamps?)

It sure looks that this particular \$2 billion got released because it's the easiest \$2 billion to release—the President can simply un-impound it from that blankety-blank, single-purpose, beautifully financed Highway Trust Fund without getting involved with Congress.

The problem is compounded, seems to me, by the rules of the Highway Trust Fund, which require matching funds—sometimes 10 per cent, sometimes 30 per cent—by the states. Thus, the release of \$2 billion by the Federal government will give the state governments a Hobson's choice: If they don't come up with the matching funds, they will be subject to highly organized criticism from political opponents, labor, the highway lobby, et al for "failure to obtain available funds for jobs through sloth and incompetence (or something like that)." If they do elect to try and scramble, on a first-come, first-served basis, for their "share" of the Federal money, they are surely diverting limited state funds to highways that they might (given a free choice) use for an entirely different array of priorities.

Finally, while we're coping with inflation, let us consider that in no other area of construction have costs gone up *over one-third* in the last year—as they have in road-building.

### **There is no doubt that the road-building industry can use the boost. But . . .**

The Acting Secretary of DOT, John Barnum, makes a "good case" for this particular un-impoundment: the money can be committed immediately, with preference being given to projects that can begin immediately; an estimated 107,000 jobs will be created, half on construction sites, half in supplying industries; and

unemployment is drastic in the highway construction industry.

Can't argue with any of that—except to suggest that you could make the same case for releasing housing funds; with the added kicker that what we could get for the \$2 billion if it were housing funds that had been released is about 100,000 housing units that real people could live in instead of more and/or smoother roads. The same and probably more jobs in an industry with equal unemployment. Housing starts might even (one blushes to suggest) employ a few architects.

### **Isn't (for example) housing coming back anyway; and gotten its own Federal funds?**

The answer is yes and no; and mostly no. George Christie, chief economist for McGraw-Hill Information Systems Company and the most accurate crystal ball in the East, points out in his first 1975 Forecast update (page 63): "While the improvement from beginning to end of 1975 is able to be quite strong, the year's total of housing starts is not apt to exceed 1.4 million, mainly because the recovery will be taking off from an extremely low point." *N.B.:* Most of that housing, Mr. Christie figures, will be single-family housing.

At the NAHB conference/Exhibition in January, the homebuilders were cheered by promises of more support from the Feds. For example, under the Home Buyers Emergency Assistance Act of 1974, \$3 billion has already been released for mortgage funding and another \$2 billion is due soon. Sound good? That's about it: It sounds good. But for a whole lot of complicated reasons (including the not-so-complicated reasons that houses now cost more than people are willing to pay for them) the mortgage-easing route hasn't worked.

So why not be \$2 billion direct about it? In August 1974 the President signed the Housing and Community Development Act of 1974, authorizing \$12 billion of spending authority over three years. That money was intended for direct subsidy of housing and the improvement of community infrastructure—like water treatment and pollution control. Almost none of that \$12 billion has been appropriated because HUD just hasn't gone after it—which is just about as useful as impounding it. How about \$2 billion of that money?

In short, while we're making jobs (and there is indeed a great need for that) how about making jobs that make improvements that are needed more than new roads?

—Walter F. Wagner, Jr.



## Reducing building energy use: How—constraints or incentives?

It's no secret that Federal and state governments, and model-code groups as well, are moving toward mandatory standards for energy usage in buildings, and with no little momentum. The Administration's proposed Energy Independence Act of 1975 would require HUD, with the collaboration of the Federal Energy Administration and Department of Commerce, and utilizing the National Bureau of Standards, to propose energy performance standards for both residential and commercial buildings. Buildings that don't comply would not be eligible for Federally-financed loans, or even loans from Federally-insured or regulated banks. State and local codes are viewed as, "an existing means by which to assure with a minimum of Federal interference . . . that newly constructed buildings contain adequate energy conservation features.

Ever since the oil embargo, political pressure has mounted for codified building energy standards. And if these are to be enacted, many building departments and code groups would like to reference a consensus-type standard that is clear and enforceable.

Whether these standards will be of the prescriptive or of the budget type remains to be seen. Many state governments are currently considering ASHRAE Standard 90 P, "Energy Conservation in New Building Design," which is prescriptive with respect to the building envelope, but which provides a budget approach for determining permissible watts per square foot for lighting. The building designer doesn't have to abide by the prescriptive rules, however, if he can demonstrate that his design will not exceed the budget figures determined by the 90 P requirements.

The state of Ohio, on the other hand, has developed energy budgets for the 67 building types included in their state code. The budget figures are Btu/hr/sq ft *connected load* (not energy usage), and typically are 50 Btu hr/sq ft (about 112,000 Btu/sq ft/year) for office buildings, 40 for elementary schools, 70 for hospitals, 100 for stores.

Neither ASHRAE Standard 90 P nor Ohio's energy code set limits on *actual* energy consumption, and for this reason have been criticized by some architects, engineers and building owners among others. While actual energy consumption can be directly determined by meters and fuel bills, it is not easy to say how it might be predicted during the design stage, and whether qualified personnel would be available in building-code departments to evaluate such predictions.

The American Institute of Architects, commenting upon ASHRAE 90 P, has stated, "The present state of the art is such that no reliable

standards can be set, and the adoption of the standards approach in formal legislation . . . may retard the nation's realization of its greatest potential in conserving energy in buildings."

The AIA has taken a completely different tack, indicated with the presentation of their new report last month, "A Nation of Energy Efficient Buildings by 1990." Their premise is that older buildings should be retrofitted, and new buildings designed with more energy-conserving equipment. The AIA states that this approach could save as much raw energy as each of the prime energy systems produce: domestic oil, nuclear energy, natural gas or coal.

But in a capital-short economy—which economists predict will continue for some time to come—where is the money to come from?

Leo A. Daly, FAIA, chairman of the AIA Energy Steering Committee, in a talk before the Federal Power Commission, suggested that 12.5 million barrels of oil per day (equivalent) could be saved by 1990 with energy-conserving new and retrofitted buildings. He estimated the capital to generate this otherwise "wasted" energy as \$415 billion. If the additional cost to buildings were 10, 15 or 20 per cent, the time required for payoff would be 10, 13 and 15 years, respectively.

The AIA sees this sort of strategy: with reduced payback periods (10, 13, 15 years instead of 30), national capital shortage would be significantly reduced. Present energy suppliers would begin to act as "the basic integrator and manager of a national energy system." There would be an optimum mix of on-site generation and traditional supplies. The energy system within the building, says the AIA, might be owned by the utility and an energy service charge would be levied, which could be structured for a higher than normal return, yielding a surplus to go back into capital investment "to keep the ball rolling." But utilities appear to be having plenty of trouble right now getting their rates increased to pay for higher fuel costs and for capital expenditures for new generating facilities. In fact, they lost potential capital during the oil embargo when customers cut back energy usage by 12 per cent or more during the winter months. So again the question, where does the capital come from? Has the AIA talked to the "energy" companies? To the Federal government?

### Can energy budgets work?

#### Where do the numbers come from?

The energy budget idea is attractive to architects. Some engineers, such as Arnold Windman of Syska & Hennessy, think it makes sense too. Writing recently in *Business Week*, Wind-

man says that there has been too much legging and too little engineering applied to, first of all, air pollution, and, now, energy. He thinks that energy budgets could be developed for business buildings if the sample is large enough—in this case, at least 2,500.

Manufacturers of glass and lighting products would prefer to see the energy budget approach take precedence. They feel, and without justification, that prescriptive requirements for the building envelope and for candle levels limit the options of designers, building owners, and unduly penalize building sub-systems.

The Flat Glass Energy Conservation Committee has proposed a Model Energy Budget Bill, which gives values for the "designed" minimum annual energy consumption at the building boundary excluding process equipment: 150,000 Btu's per gross square foot." Typical values are: 150,000 for office buildings, 125,000 for schools, 175,000 for hospitals, 200,000 for mercantile.

In support of the 150,000 figure for office buildings, the Committee cites a 1972 BOMA (Building Owners' and Managers' Association) survey of 531 office buildings averaging 150,000 Btu/gross sq ft/yr. A "light energy study" by consulting engineers Ross and Baruch, aided by BOMA International, showed an average of 122,119 for 86 buildings with computer facilities, and an average of 172,000 for 144 buildings with computer facilities.

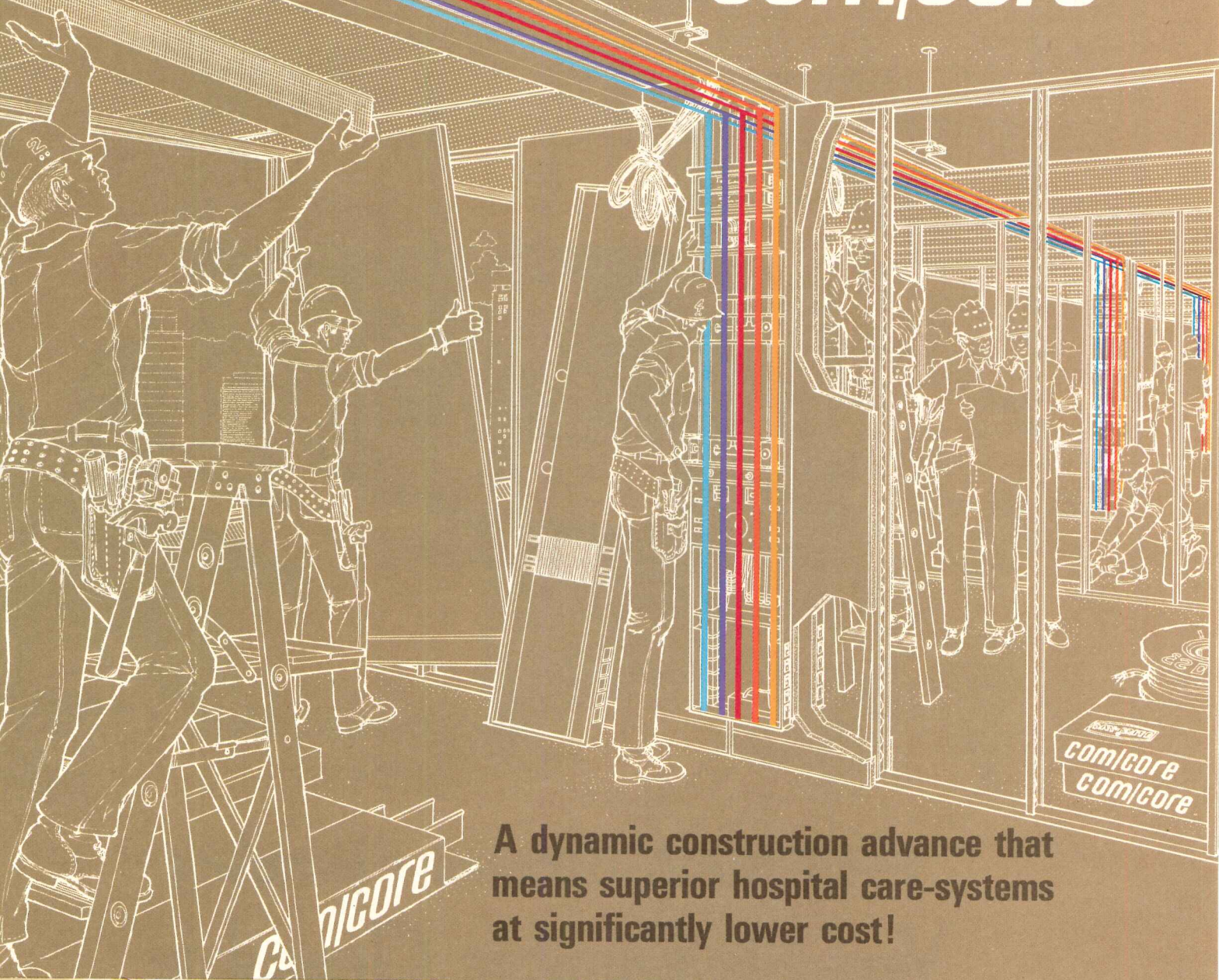
Engineer Larry Spielvogel doesn't think that meaningful energy budgets are all that easy to arrive at. He cites the range of budget numbers found in surveys. Further, he points out that energy consumption varies with type of mechanical system—fan-coil, induction, variable-air-volume; central vs. unitary. Energy, for one thing, can be very significant. Also, he points out, there is no direct relationship between installed capacity of hvac equipment and energy consumption.

There seems to be very little, if any, discussion publicly of whether or not energy budgets themselves might be a sufficient constraint for curbing energy—the constraint perhaps sweetened a bit with capital tax reductions for more efficient hvac equipment. Despite the present disparities in energy costs across the country, the feeling in Washington is that it will even out, and everybody will pay more.

On the other hand, considering the Administration's philosophy of letting the free market—the "real" cost of energy—determine prices to consumers, one wonders whether tax penalties might be applied to excessive consumption of energy above "budget" numbers.—R.F.



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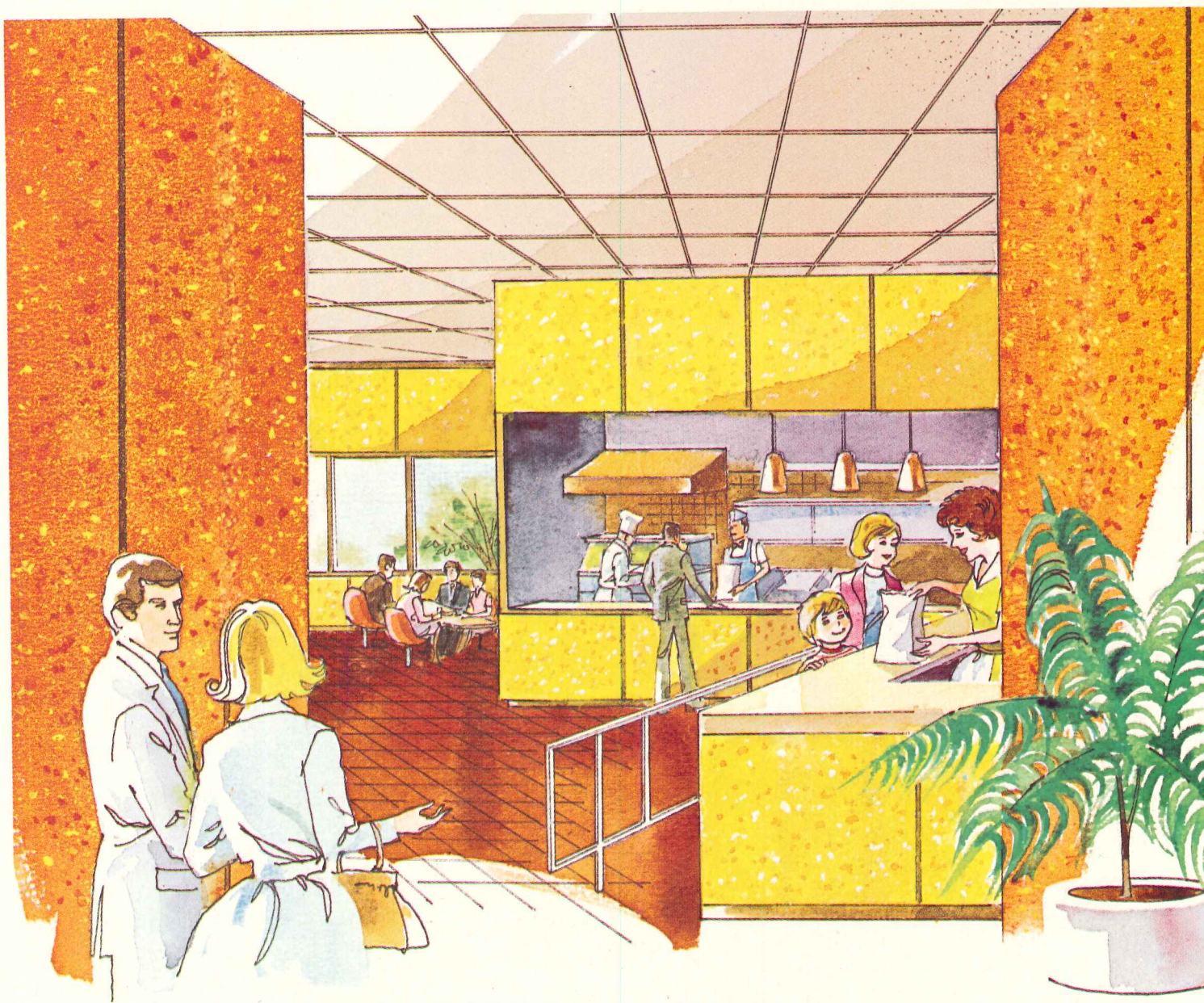
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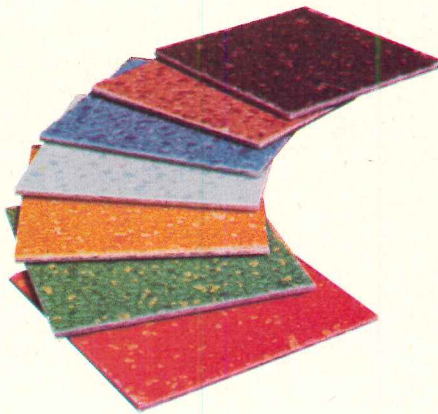


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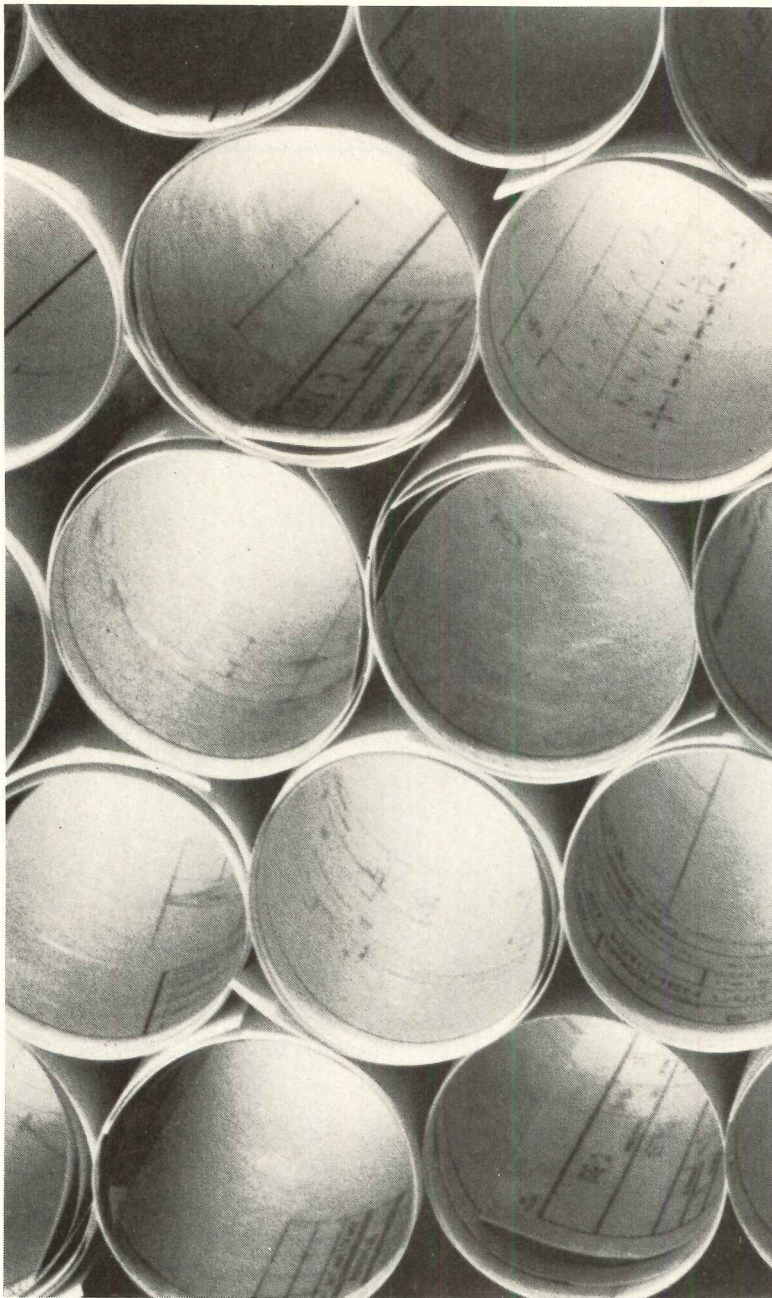
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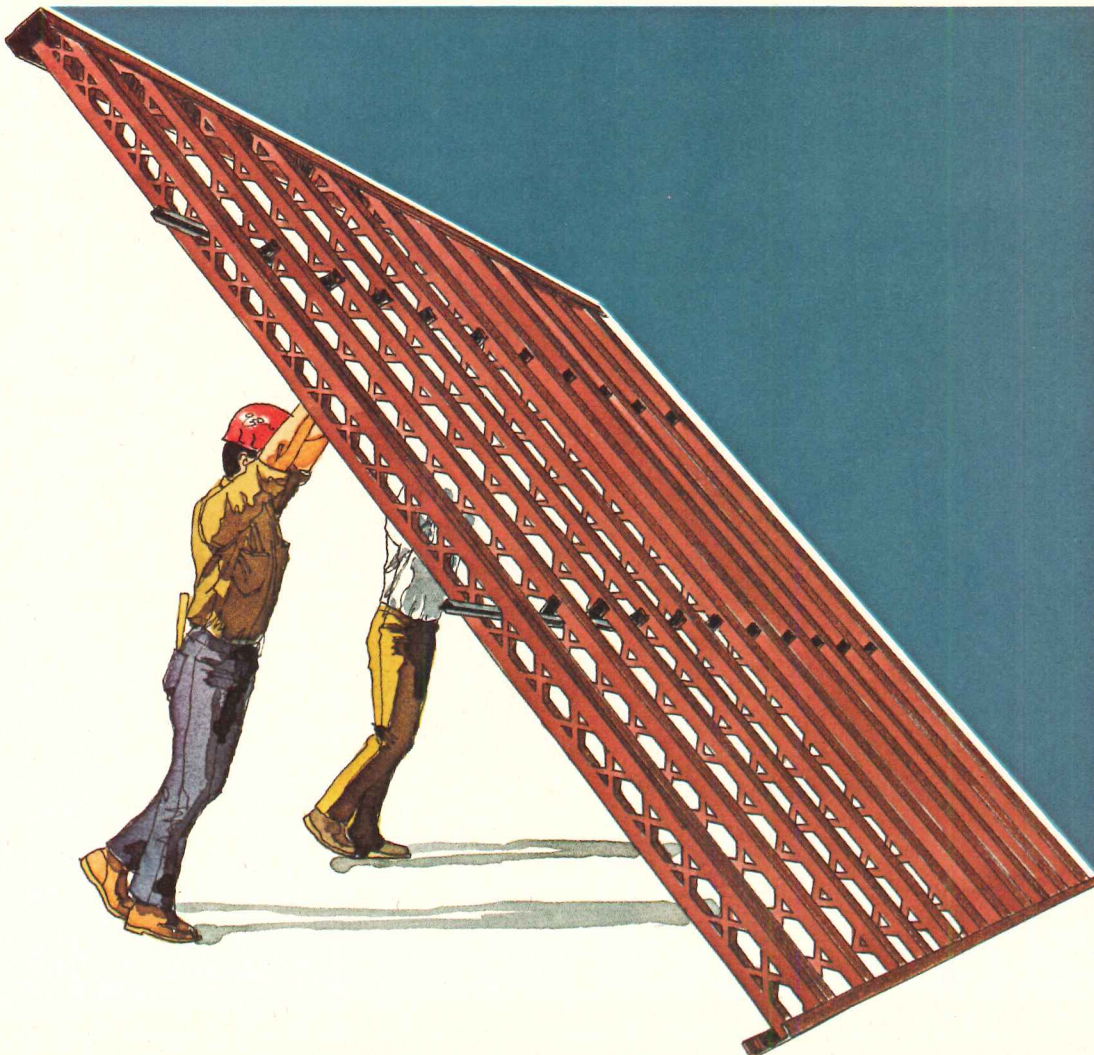
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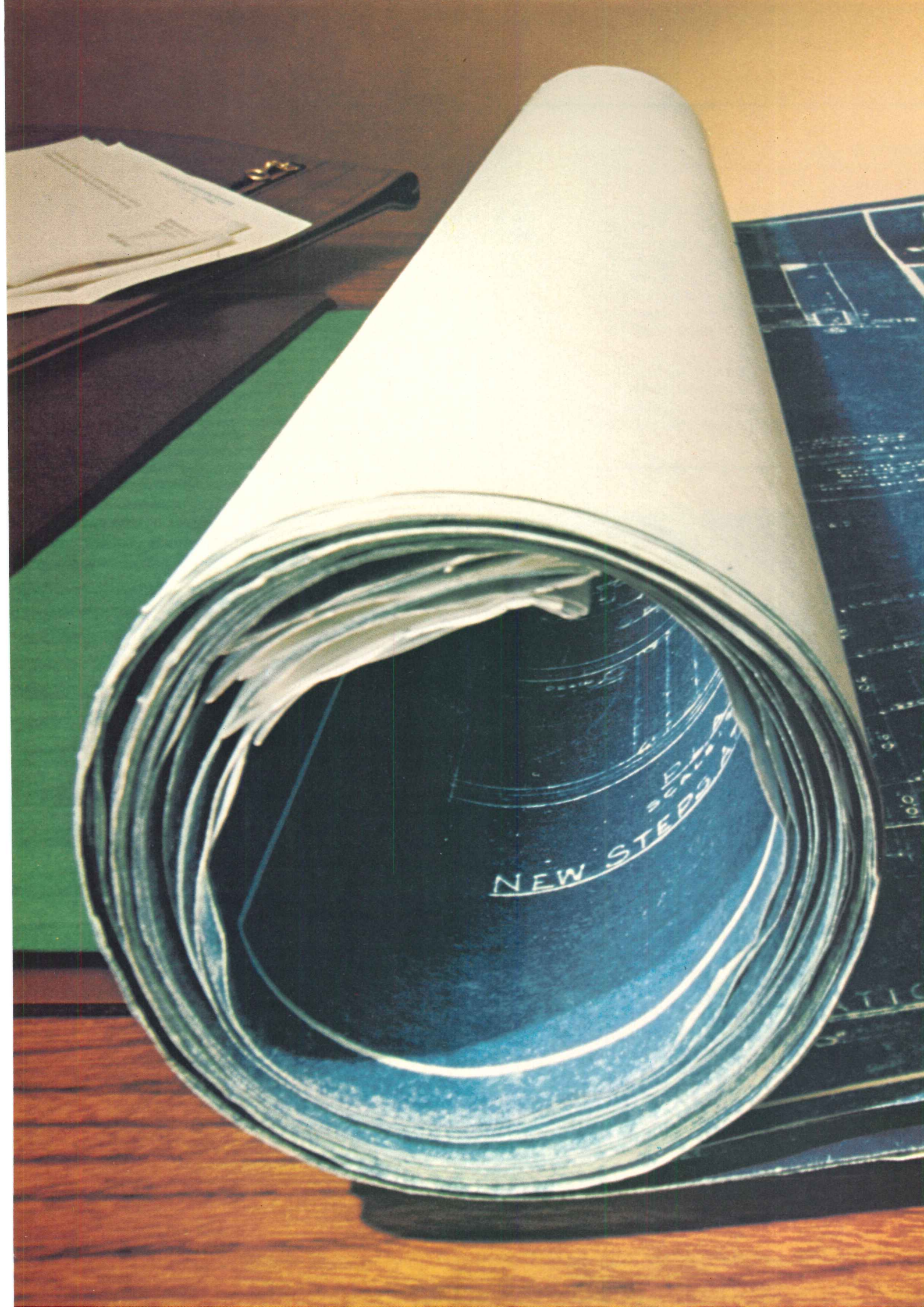
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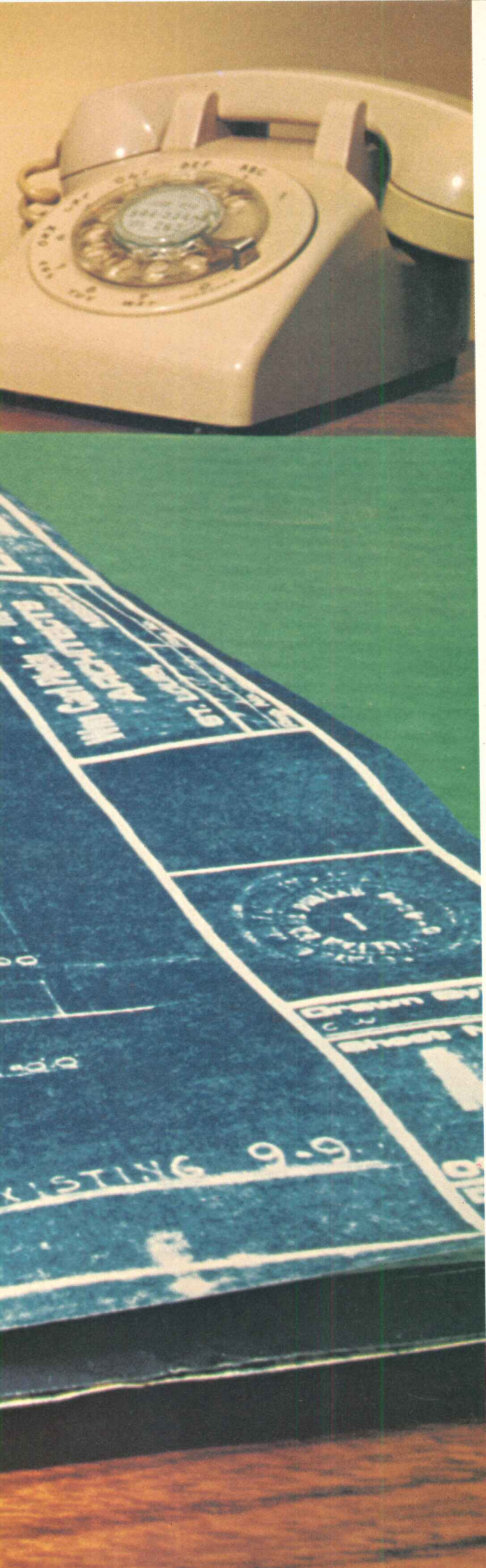






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# i line

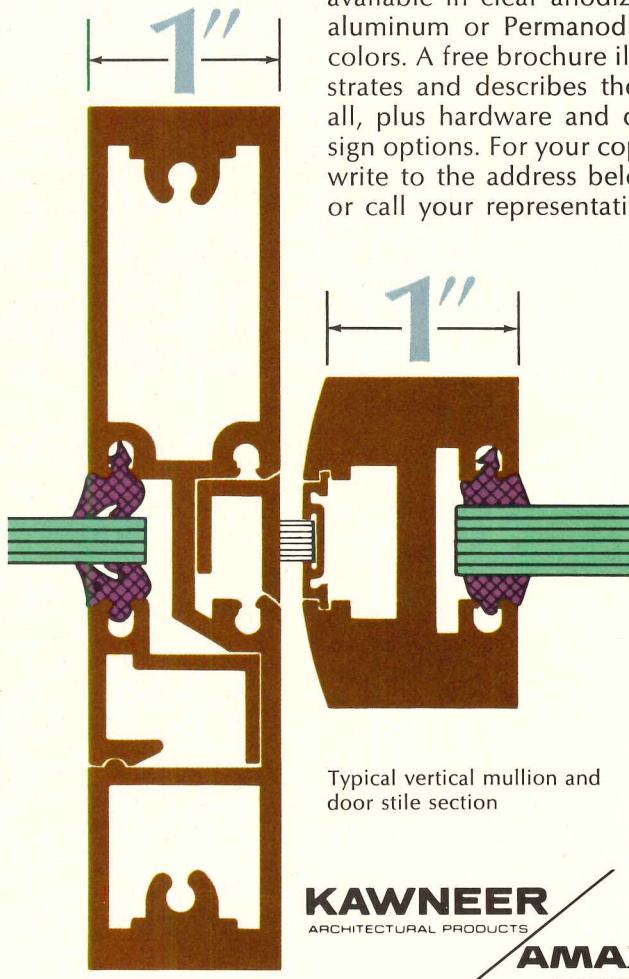
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Deg/rad mode selection	yes	yes
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Polar-rectangular conversion	yes	yes
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$e^x$	yes	yes
$10^x$	yes	yes
$x^2$	yes	yes
$\sqrt{x}$	yes	yes
$\sqrt[y]{x}$	yes	no
$1/x$	yes	yes
$x!$	yes	yes
Exchange $x$ with $y$	yes	yes
Metric conversion constants	13	3
% and $\Delta\%$	yes	yes
Mean and standard deviation	yes	yes
Linear regression	yes	no
Trend line analysis	yes	no
Slope and intercept	yes	no
Store and recall	yes	yes
$\Sigma$ to memory	yes	yes
Product to memory	yes	yes
Random number generator	yes	no
Automatic permutation	yes	no
Preprogrammed conversions	20	7
Digits accuracy	13	10
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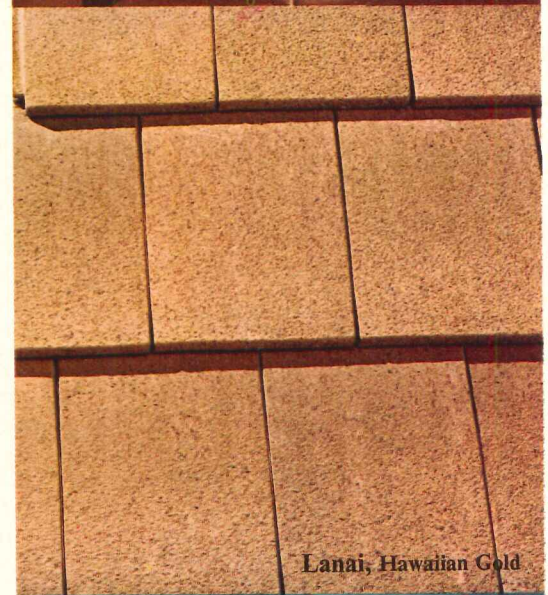


and economy are projected  
over the life of the structure.

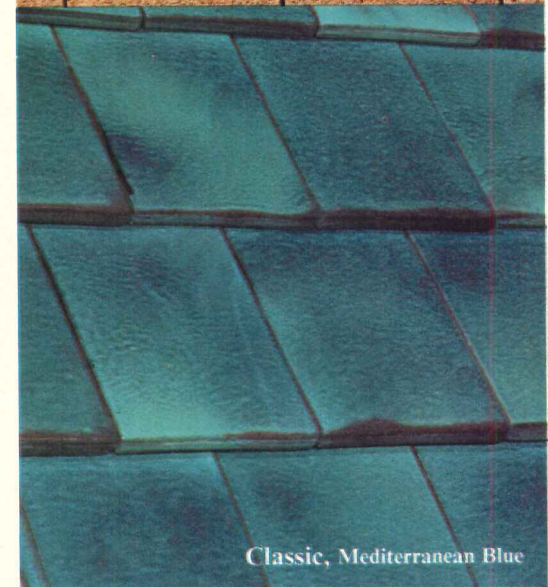
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*Research Tower, College of Veterinary Medicine,  
State Colleges, Cornell University, Ithaca, N.Y.*

*Architect: Ulrich Franzen & Associates*

*William Street Apartments, Wesleyan University  
Middletown, Conn.*

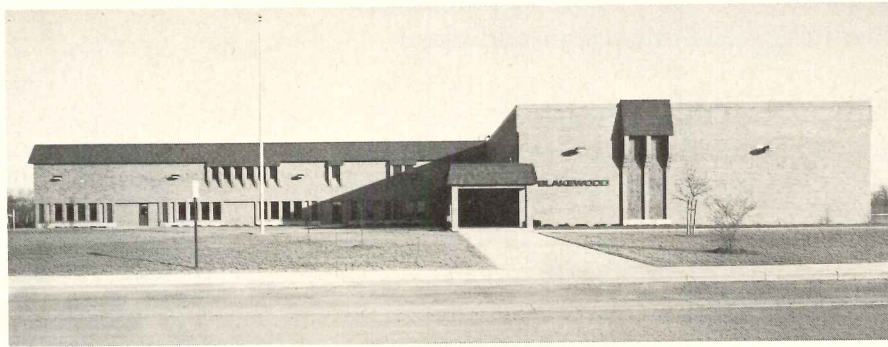
*Architect: Ulrich Franzen & Associates*

*Photographs: David Franzen*

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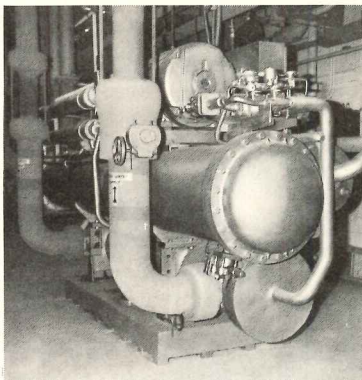
90,000 sq. ft. Blakewood Elementary School, South Milwaukee, Wisconsin  
 Architect: Py-Vavra, Architects-Engineers, Milwaukee, Wisconsin  
 Heating, Ventilating & Air Conditioning; Walter R. Ratai, Inc., Milwaukee, Wisconsin  
 General Contractor: Bauer Construction Company, Hales Corners, Wisconsin

# Dunham-Bush saves Blakewood Elementary School \$9,913 per year in heating and cooling.

(A Case History: Heat Recovery vs. Conventional Heating/Air Conditioning)

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The Blakewood School system is a central type water-to-water heat pump, heat recovery and storage system incorporating a Dunham-Bush PCX-230 Rotary Screw Compressor Packaged Chiller. It provides simultaneous heating and cooling. Hot water from the special condenser and chilled water from the evaporator is supplied to heating and cooling coils. Heat is recovered from lights, people and equipment for use when heat loss exceeds heat gains.



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Heart of this system is the Dunham-Bush Rotary Screw Compressor Packaged Chiller with a condenser designed for hydronic heat recovery. It requires less maintenance because it has fewer moving parts. Conserves energy because its stable operation is maintained over the entire operating range. You can depend on that. We pioneered rotary screw packages. Contact your Dunham-Bush Sales Office listed in the Yellow Pages, or mail the coupon.

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## Both carpets cost the same. But 68% of the people we asked preferred the one on the left, thanks to high-density foam

The carpet on the left has 22 ounces of fiber and 38 ounces of foam per square yard. The one on the right has 26 ounces of fiber and 18 ounces of foam. Both have exactly the same raw materials cost.

We asked 150 women in three cities—Philadelphia, Chicago and Los Angeles—to walk on both. Then we asked them to tell us which one they preferred. Which one they judged to be of higher quality. And which one they thought would be more expensive.

Of the 150 women we asked, 68% preferred the one on the left, 67% judged it to be of higher quality, and 63% thought it would be more expensive. Even though the one on the right actually had a higher fiber content.

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## NEWS REPORTS

## BUILDINGS IN THE NEWS

## HUMAN SETTLEMENTS

## REQUIRED READING

**Federal policies in housing, transportation and labor have shifted to new cabinet members.** Clara Hills, the new Secretary of Housing and Urban Development, is expected to have little to do with initiating policy, but will see to it that HUD programs maneuvered through Congress last year get off the ground successfully. The new Labor Secretary, John T. Dunlop, is well known to the construction industry and although not making his views on the industry situation known now, he has indicated support for a boost in housing. William T. Coleman, Secretary of Transportation, sees a need to promote more investment in transit. Profiles of these new cabinet members appear on page 34.

**Changes in Senate and House Banking Committee leadership may have significant impact on construction financing.** With Wisconsin liberal Democrats Senator William Proxmire and Representative Henry Reuss assuming the chairmanships of the two Banking Committees, the nation's money markets, banks and thrift institutions can expect to be the targets of Congressional activity. Goals are to ease up the money supply, and aid the housing industry among others. For an in-depth profile of these two important public figures, see page 35.

**The updated Dodge/Sweet's Construction Outlook for 1975 places new construction value at \$98 billion,** up 5 per cent over 1974. Residential construction, with 1.4 million projected new starts, will lead last year by 11 per cent, but non-residential building is expected to decline by 10 per cent, with a 1975 value of \$30.6 billion. For further coverage of the Outlook, see page 57.

**Changes in its construction management policies will be explained by GSA on April 23, in Washington.** Changes in the GSA approach include: evaluation of construction manager qualifications; the scope of the CM's work; the criteria for CM selection; and the relationship between GSA, the construction manager, and the architect-engineer. Those interested in attending the briefing may contact Ms. Charlene Heeter at (202) 343-4731, or write GSA in Washington, D. C.

**The International Architectural Foundation design competition has so far received 400 applications** to participate in the design of a housing community in Manila. Entrants are being sought from around the world, and the deadline for registering is May 15, 1975. (See page 176 for details.)

**EPA has announced state shares of \$4 billion for sewage treatment construction grants.** The amount is said to represent a substantial portion of the funds which, under earlier Presidential direction, had been withheld from the allotment of sums for fiscal 1973 and 1974. The money will be divided among the states under the same formula that was used in the allocation of funds in fiscal 1973 and 1974.

**GSA has issued a caveat emptor regarding "influence peddling" in A-E selection.** According to the General Services Administration, it has come to their attention that there are certain public relations firms and similar organizations claiming to have "personal influence" in the selection of A-E firms for GSA projects. GSA warns that no such influence exists and that any allegation of such influence should be considered as false representation and treated accordingly.

**Sir Nikolaus Pevsner has been awarded the Thomas Jefferson Memorial Foundation Medal in Architecture,** presented by the University of Virginia annually to an individual who had made outstanding contributions to architecture. The April 14 presentation to the noted English architectural historian carries a \$5000 prize. Dr. Pevsner is known for his 46-volume work, *The Buildings of England*, and has authored numerous other books, including *An Outline of European Architecture*. He is presently professor emeritus of art history at Birkbeck College of the University of London.

**The General Services Administration second Biennial Design Awards program has been announced.** GSA Administrator Arthur F. Sampson said entries are encouraged from architects, engineers, interior designers, energy consultants, artists, urban planners and private industry. Entries must pertain to projects successfully bid or where construction was begun by December 31, 1974. Entries will be judged in May and awards announced in June. More information may be obtained from Walter Roth, Public Buildings Service, GSA, 18th and F Streets, N.W., Washington, D. C. 20405.

**An architectural design competition for a community school center has been announced by the NIAE.** The 1975 Hiron Prize is co-sponsored by the National Institute for Architectural Education and the AIA, through the Educational Facilities Committee of the New York Chapter. The competition is open to all persons in the architectural field under 35 years of age who are not enrolled in a full-time architectural academic program. Interested persons may obtain a copy of the program from: Byron Bell, National Institute for Architectural Education, 20 West 40th Street, New York, N.Y. 10018.

**Migration away from metropolitan areas of the nation continues, says the Urban Land Institute.** A December 19, 1974 census report shows that from March 1970 to March 1974, nearly 6 million people moved out of metropolitan areas; 4.1 million moved into these areas, resulting in a net migration loss of 1.8 million. Copies of the report, "Mobility of the Population of the United States, March 1970 to March 1974" are available at \$1.35 from the U. S. Government Printing Office, Washington, D. C. 20402.



## New cabinet members have construction roles

Control of Federal policies in housing and urban development, transportation and labor has shifted to three new members of President Ford's cabinet. Only one of the three, Secretary of Labor John T. Dunlop, is widely known to the construction industry and in one capacity or another, Dunlop, a Harvard University economics professor, has been involved in trying to ease the industry's labor relations problems for 30 years.

In contrast, the new Secretary of Housing and Urban Development (HUD), Carla Hills, has little experience in either housing or urban affairs.

Before moving to HUD, Mrs. Hills headed the Civil Law Division of the Justice Department where she supervised the work of 237 lawyers and managed a budget of \$11.5 million a year. At HUD, she will be responsible for the work of 15,000 employees and in charge of a spending program that President Ford expects to reach \$7 billion in the fiscal year starting July 1.

### Mrs. Hills job: making White House decisions work

Mrs. Hills has been likened to her predecessor at HUD, James Lynn, who—from the Ford-Nixon administration's point of view—so successfully managed the department that he was promoted to head the powerful Office of Management and Budget. Like Lynn she is a young, smart, successful corporation lawyer.

Mrs. Hills is expected to have little to do in the way of initiating or recommending pol-



Carla Hills

icy. She will find, as Lynn did, that all the significant decisions are made at the White House. Furthermore, she will find Lynn himself—a firm believer in the Nixon-Ford policies—sitting at the President's side. Instead, her main job will be to see to it that the new HUD programs that Lynn maneuvered through

Congress last year get off the ground successfully.

Those programs are: 1) The \$2.5 billion-per-year community development block grant program (which replaces the categorical grant programs that were frozen in January 1973) and, 2) The new Section 8 leased housing subsidy program for lower-income families (which replaces the Sections 235 and 236 housing subsidy programs also frozen two years ago).

The block grant program should not stir up major troubles—the money is passed out to the cities on a formula basis, and they are free to spend it with little supervision from HUD headquarters. The Section 8 program is something else: the Administration has claimed that it will stimulate literally hundreds of thousands of housing starts over the next couple years, while the housing industry and mortgage lenders say it lacks the incentives to do the job.

### Coleman: has mass transit a strong voice at last?

William T. Coleman moved into the post of Secretary of Trans-



William T. Coleman

portation from a prestigious Philadelphia law firm, and though a lawyer by profession, he has had at least some exposure to the complex problems of national transportation policy. Coleman has been a labor negotiator for the Southeastern Pennsylvania Transportation Authority, which handles mass transit in the Philadelphia area, a director of Pan American World Airways, and a member of a research team during the Kennedy Administration that assessed the problems of rail service in the Boston-Washington corridor.

At DOT, Coleman will be on the firing line in taking another big step towards reducing Federal highway expenditures while promoting more urban transportation. But promoting more investment in transit will not be his only major project: the Administration is also faced

with trying to find some way the government can assist the nation's railroads in finding the funds necessary for future needs. Coleman will also inherit the job of trying to convince Congress to relax Federal regulations in the transportation field.

In the highway-transit area, Coleman recently told a panel of senators at his confirmation hearing that more funds for transit capital projects may be needed beyond the present \$12 billion Federal commitment to transit over the next six years. However, he resisted any suggestions that the highway program should be totally abolished. Until transit facilities can be greatly improved, Coleman added, "Society's best hope is not turning away from the private automobile. For this reason, the interstate highway program as well as the rural program will have to be an important part of any over-all transportation system," he added.

While the Administration is committed to finishing the interstate system, it has also proposed a radical change in road funding. Under the program, expected to take the form of legislation soon, are funding changes designed to eliminate about \$5 billion in Federal road-building authority. Interstate funding would continue at approximately \$3.5 billion per year, but Congressional authorization of long-term road financing beyond that level which presently exists will be scrapped. These funds will be moved out of the Highway Trust Fund and into general revenues for other uses, including transit; also planned are tax changes designed to limit the amount of Federal excise taxes flowing into the Trust Fund.

### Dunlop: a respected pro with a tough new job

John Dunlop's involvement in the labor relations problems of the construction industry for the past three decades has been so deep as to prompt one observer to ask, not entirely in jest, "What are people of con-



John T. Dunlop

struction and the building trades going to do when one day they don't have John Dunlop around to solve their problems anymore?" Dunlop, 60, is best known for his experiences from 1971 to 1974 as a government wage-price controller: two years as head of the Construction Industry Stabilization Committee (CISC), followed by 11 months as director of the Cost of Living Council. More recently, he got construction labor management to agree on a joint committee to deal with industry bargaining.

However, he is a man of many facets and apparently boundless energy. He has a solid academic reputation as an economist—he was dean of the faculty of arts and sciences at Harvard before taking on CISC and returned there as a university professor last year—and has long concentrated his attention on the structure problems of the American economy.

As Secretary of Labor, Dunlop will add a strong voice of pragmatism to the inner councils of the Ford Administration. He will be part of the economic deliberations at the White House and, on the basis of his record and beliefs, is likely to come into sharp conflict with conservative advocates of stringent fiscal restraint such as Treasury Secretary William Simon, and Alan Greenspan, chairman of the Council of Economic Advisers.

Despite his long background in construction, Dunlop has not made known his views on what should be done specifically to aid the ailing construction and housing industries, although he did tell his confirmation hearing, "I believe the present recession is very heavily concentrated in the housing industry. . . . I think stimulus for housing is appropriate at this time."

Dunlop is an advocate of the Government taking a much stronger hand in economic planning.

A long-time student of the collective bargaining process, Dunlop has applied this approach to many of his dealings, including the later stages of wage-price control. He has been criticized by conservatives for being too close to unions and letting them get away with too much. And a liberal economist who has known Dunlop for a long time says his mediator's approach frequently tends to give the most to the most powerful. Dunlop, he says, is a master of "unctuously giving the lion's share to the lion."—Stephen Wildstrom, Donald Loomis, John Higgins, *World News*.

## Honor recipients announced by AIA

Ten individuals, including U.S. Congressmen, have been elected Honorary Members of The American Institute of Architects in recognition of their distinguished contributions to the architectural profession.

The honorary memberships, extended to persons outside the architectural profession, will be presented at the annual convention of the Institute in Atlanta, Ga., May 1-5.

The new honorary members are: Representative Thomas Ludlow Ashby (Ohio); Augustus Baxter, executive director of the Philadelphia Architects Workshop; Biddle, president of the National Trust for Historic Preservation; Representative Brooks (D.-Tex.); Judge Brown, director of the National Gallery of Art, Washington, D.C.; Marvin B. Durnin, attorney; Philip S. Kory, chairman of the board of economic consultants; Kory, director of community development, N.Y. State Development Corporation; Robert M. Pease, executive director, Allegheny County on Community Development and Bernard Weissbourd, president of Metropolitan Structures, Chicago.

The AIA also announced that Van B. Bruner Jr. has been named as the recipient of the Whitney M. Young Award for 1975. Characterized as "the Jury on Institute Honor," an "eloquent spokesman for the minority architect," Bruner was hailed for his "dedicated improvement of opportunities for minority architects, challenging and inspiring the efficacy of minority causes."

The Cummins Foundation, Columbus, Ohio, has been selected to receive the Institute's 1975 Citation of Merit Organization. The Foundation's efforts, said the jury, "made Columbus an architectural showcase and the best possible example of how architecture can improve the physical environment and the quality of life."

The 1975 AIA Merit Award, awarded annually to an individual or to an organization for distinguished achievement in research or to architecture or the environment, will be awarded to the Environmental Research and Development Foundation, St. Louis, Mo., for its "significant contribution to research on the human response to the architectural environment."





Proxmire



Henry Reuss

## Banking chairmen may shake money markets

feisty Wisconsin liberals, Senator Proxmire and Representative Henry Reuss, as the chairmen of the Senate and House Banking Committees, housing policy, as well as guidelines and construction industry's will be affected. years the nation's markets, banks and thrift have operated with interference from Congress affecting the not infrequently down between the Senate House Banking Commission when they were headed for John Sparkman (D-Tex.). While both committed to strong government support for housing—their successors—the often proved ineffective legislation enacted, Proxmire has reappointed Sparkman via the senior (with Sparkman moved the Foreign Relations Committee) and Reuss has Patman in a coup the seniority system, from fourth place on the committee to the chairman have been nurtured populist Wisconsin have waited nearly 20 their chairmanships, determined to make quickly.

### Prescription: Action on money

Wisconsin duo do not eye on everything, immediate changes are in pressure on the Fed to ease up on the supply, an effort to beef controls in concentrated industries, and a rescue for housing. the long range, creation single agency to regulate on's banks and a sub-overhaul of financial institutions, including moves to savings and loan associations competitive with on the agenda. Both

self and should be brought more under the policy direction of Congress.

### Both argue for more investment in social purposes

Another prominent issue this year will be credit allocation. Democratic leaders in Congress have embraced allocation as a party position, and the two banking committees will be holding hearings. Proxmire is cool to the idea, except that he would consider ways of requiring banks to put more of their lending into the housing field. He is also interested in the possibility of requiring the Fed to buy more housing paper, or use the discount rate to steer more money into mortgages.

Reuss has introduced a bill ordering the Fed to allocate credit to "priority" social purposes such as housing, small business and "productive capital investment" and away from conglomerate takeovers, currency speculation or bidding up inventories. Already a compromise is in the works, however. The beleaguered Fed is expected to propose ways of beefing up the present voluntary "affirmative action" program under which banks are supposed to be channeling more credit into social-priority lending on their own.

On the housing front, a bill subsidizing mortgage interest for middle-income citizens as a way of moving the existing housing surplus off the market, is expected to clear Congress swiftly. The government would pick up the tab for interest charges over 6 per cent, phasing out the subsidy over six years. Presumably homebuyers' incomes would grow enough during that time to enable them to pay the full interest charged by the time the subsidy runs out. Proxmire has also been a strong supporter of government subsidies in the Section 235 and 236 programs. And the committees may be getting into legislation to prevent mass foreclosures on homes. Several proposals to bail out homeowners unable to meet their mortgage payments have been introduced, but the committees have not yet put them on their priority agendas.

### Reuss for openers: an eye on Federal Reserve

Reuss' first bill through the House was a resolution expressing the sense of Congress that the Federal Reserve should conduct monetary policy this year in a manner designed to lower long-term interest rates. He charges that on the record the Fed has followed a "disastrous" stop-start policy, and he wants the extremes ironed out. He is not a perpetual "easy money" man, however; in hearings last April he was chastising the Fed for letting the money supply grow too fast in the previous two years. "At the time I was saying stop the drunken sailor-ing, and so was Senator Proxmire," he recalls. Proxmire also feels the Fed is too much a power unto it-

pected to stay neutral. Twice before the agency has backed down under Congressional opposition.

A set of complicated problems will face the two new chairmen when they get down to legislation aimed at restructuring the nation's financial markets. It is far from clear where things will come out.

The Administration is expected to resubmit proposals based on the Hunt Commission's recommendations which got nowhere in the last Congress—but with more hope of action now. Basically they are aimed at letting savings and loans handle checking accounts and broaden the scope of their lending beyond residential housing, while getting other lenders more into mortgage lending and increasing competition in the industry.

Proxmire is leery of anything that would jeopardize the S & L's favored position as generators of home mortgage money, including an end to Regulation Q which lets them

pay higher interest than full-service banks, and Treasury is backing off its proposed phase-out of Regulation Q. To Reuss, Regulation Q is "philosophically all wrong," but he sees no way of ending it except as part of a complete overhaul of financial institutions. "Our highly compartmentalized banking system is part of the problem that periodically hits housing," he figures. But he has not zeroed in on this problem yet, and thinks another commission including legislators—not just industry representatives—might be needed to study the whole thing once again. Treasury is also ready to include credit unions as mortgage lenders, which will win some friends for the package on Capital Hill.

In any event, the banking panels which have been rather sleepy bailiwicks for the past few years are likely to be the storm center of a great deal of controversial legislation for the next few years.—David Secrest, *World News Washington*.

## Grand Central loses landmark status

Late in January, State Supreme Court (New York) Justice Irvin H. Saypol invalidated the landmark designation of Grand Central Terminal in New York City, paving the way for what many fear would be either demolition of the structure, or construction of a 59-story office tower over it.

The court decision did not question the constitutionality of New York's landmark laws, but did find that Grand Central placed an economic hardship on the owner, Penn Central, by preventing the railroad from

earning income from its property. However, in the current soft commercial space market in New York, the feasibility of building now on the site is questionable; and a Committee to Save Grand Central Station has been formed in the meantime to overturn the Court's decision.

The Committee includes, among others, Philip Johnson and Paul Rudolph. There is also a national wing headed by William Marshall, AIA president, and James Biddle, National Trust for Historic Preservation.

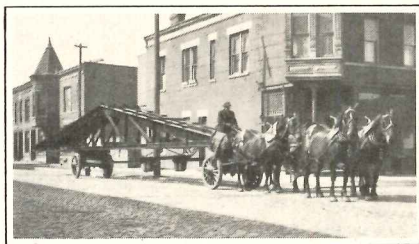


Mark Johnson



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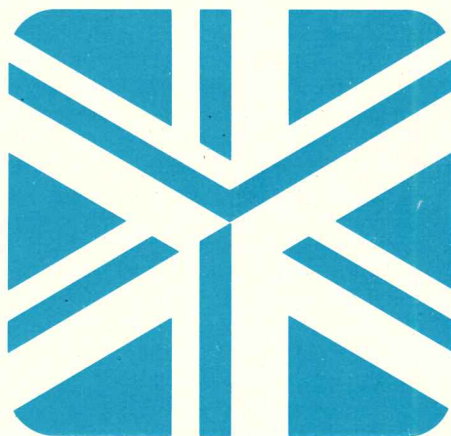
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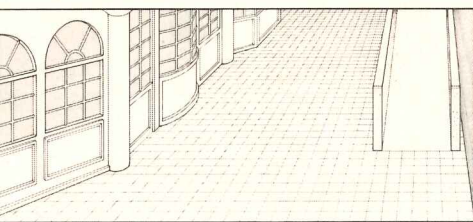
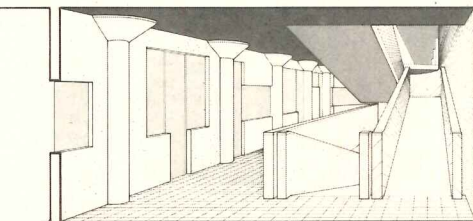
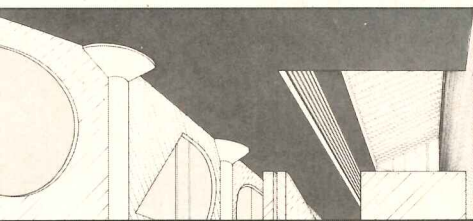
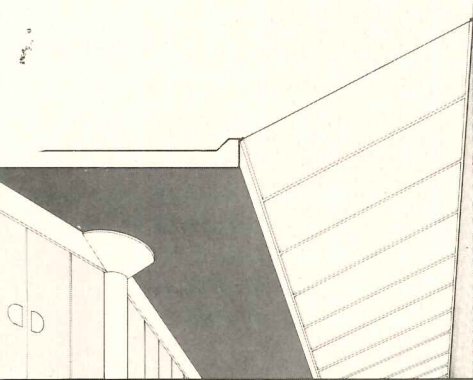
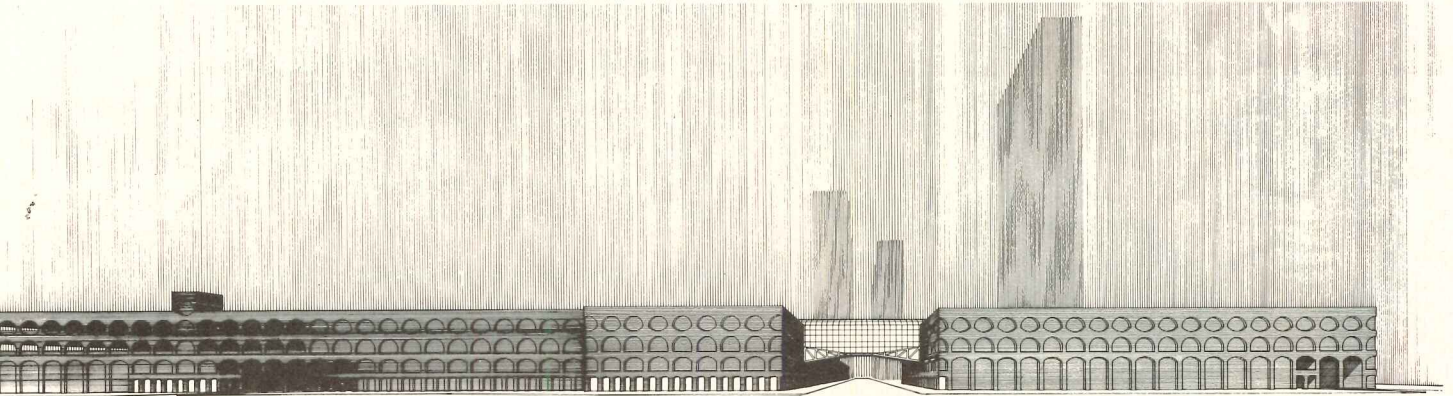
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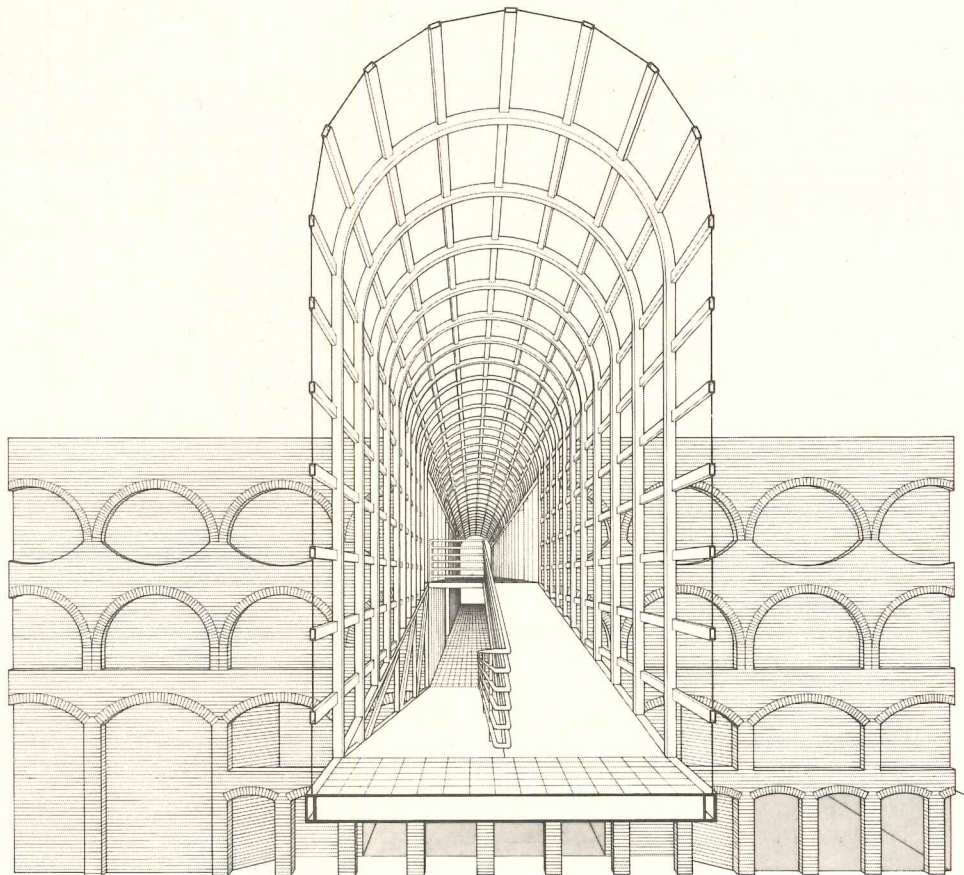


**Piper's Alley, Chicago: nostalgia and Victoriana enrich shopping mall**

According to the architect of this project, Stanley Tigerman, Piper's Alley in Chicago's "Old Town" has over the years remained a "nostalgic niche, small specialty shops clad in the garb of Queen Victoria." With a desire to retain and expand upon that notion, Mr. Tigerman—through some remodeling, but primarily by new build-

ing—plans to expand the Alley into an internalized vertical commercial mall bridging (below) over Wells Street and extending 750 feet along North Avenue (see above). At either end a major drug store and a grocery store anchor the plan, with specialty stores in between. The character of the ground floor has for decades

been reminiscent of the Crystal Palace era, hence the English mannerisms (see section, left). On other floors, store fronts approximate Scandinavian, Art Deco and other regional, historic commercial moods seen since the industrial revolution. The first stage of the project will begin in June, with the remodeling of a garage into shops.





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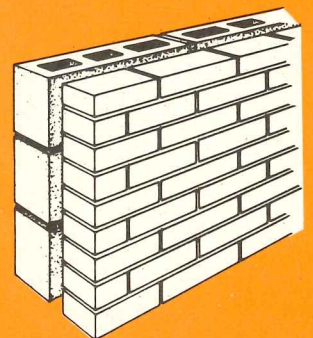
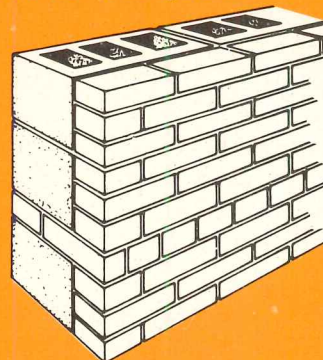
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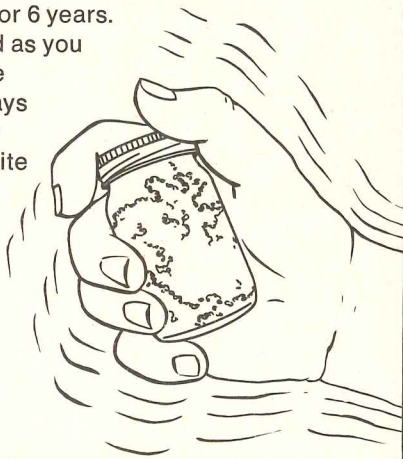
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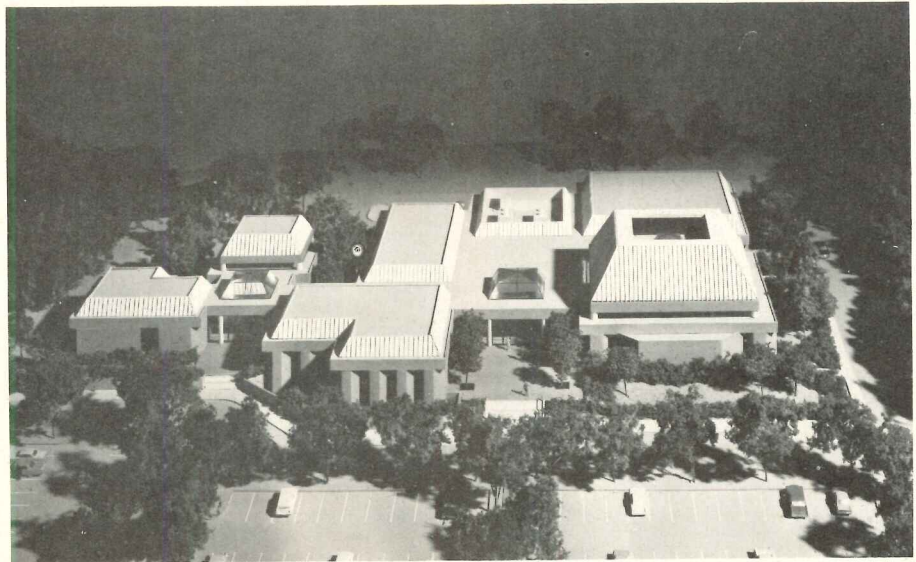
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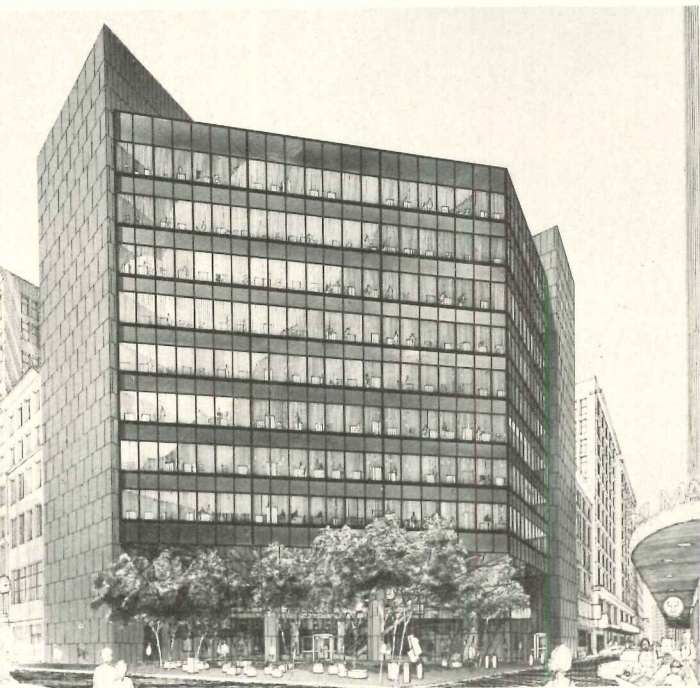
**Construction begun on Maryland synagogue**

1976 completion date for the 55,000-sq-ft Congregation B'nai B'rith Synagogue Complex in Anne Arundel County, Maryland. The building is designed by Robert A. Heery and Haft, Holtz and Haft, Holtz, Karabekir + Associates Architects and planners. The project, a masonry struc-

ture to be located on a 13.5-acre wooded site near Washington, D.C. The spaces include a 600-seat main sanctuary expandable to 1700. The vaulted sanctuary ceiling (right) "floats" on a ribbon of glass, and is supported by four columns, 70 feet on center. Classrooms are located at left.



Ronald N. Anderson



**First Boston Savings Bank rising in downtown Boston**

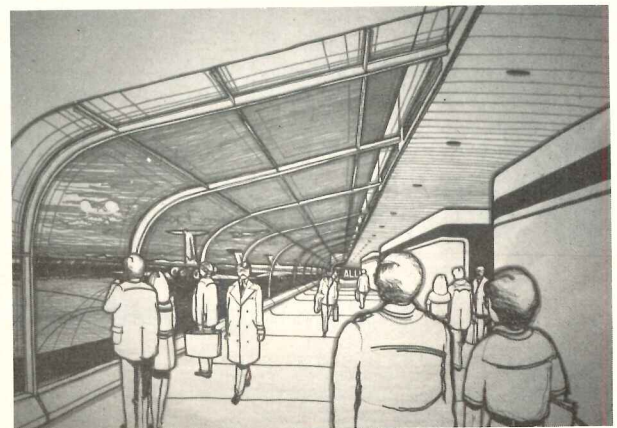
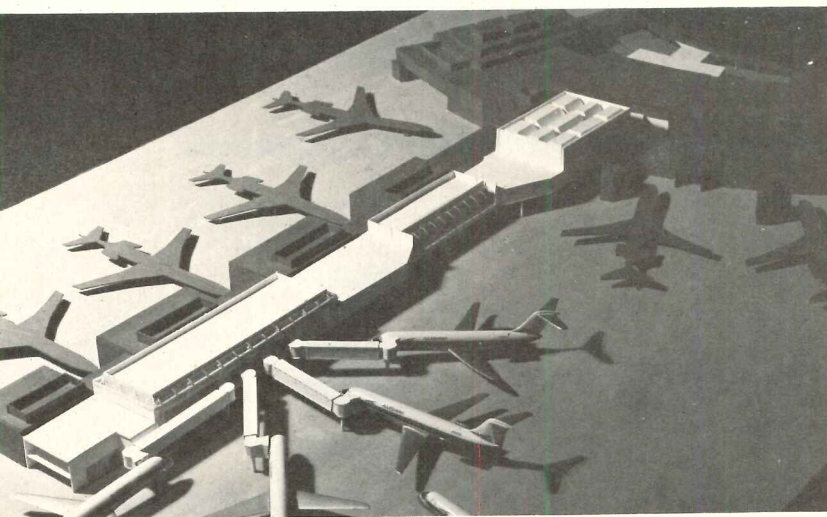
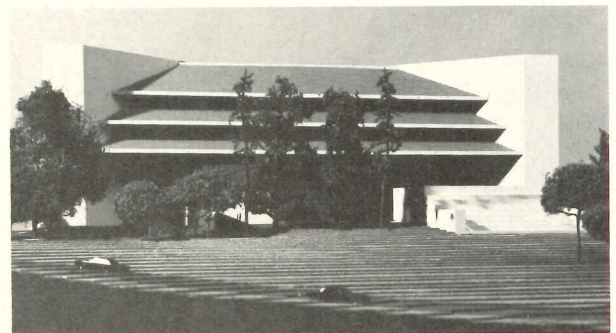
Architects Collaborative, designed this ten-story bank headquarters under construction at Summer and State Streets in Boston. The building will be set back 50 feet

from the corner, allowing for an outdoor park with trees and benches. A two-story main banking floor is planned, with escalators connecting it to a mezzanine.

**Medical administration building under construction**

This \$7 million administration building for the Woodruff Medical Center at Emory University in Atlanta was designed by Heery & Heery Architects and Engineers. Situated on the high point of the site, the building is

concrete, with red Spanish tile roofs and brick pavers inside and out. The building's triangular plan reflects circulation patterns across the site, and provides a plaza area as well, adjacent to an interior exhibit area.



**Addition to Washington's National Airport started**

Completion is expected for the fall of 1976 on this Allegheny Airlines Unit Terminal designed by Giuliani Associates. The \$8 million project will include a skylighted ticketing lobby (above) featuring a kiosk type ticketing counter, departure

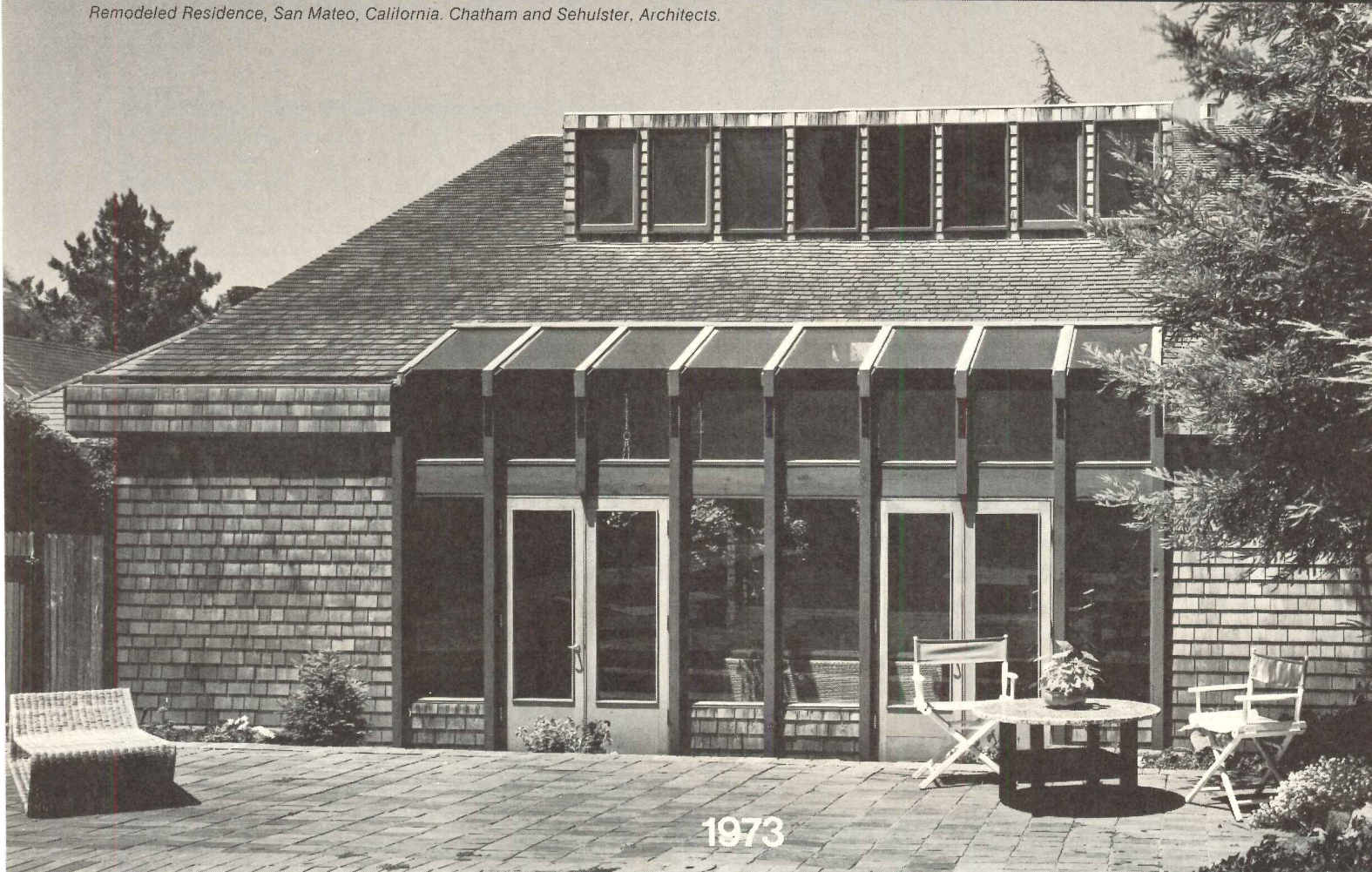
lounge with four gates, and ground level aircraft support facilities. Efficient passenger flow is expected in the single-level scheme, which eliminates stairs and escalators. Construction was begun in mid-November of last year.





1913

Remodeled Residence, San Mateo, California. Chatham and Schulster, Architects.



1973

## Red cedar comes back on the job after sixty years.

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What other material than red cedar could lend continuity and tradition to such a drastic remodeling? And what other material has the unique insulative properties of red cedar, a major consideration in the energy conscious 70's?

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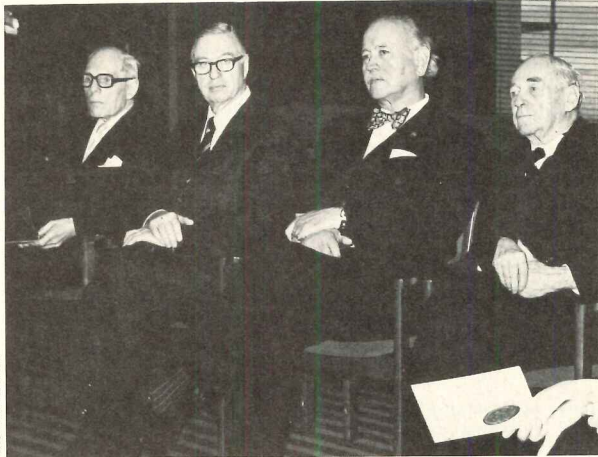
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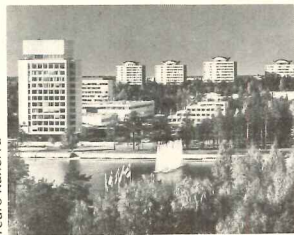
**Honors four com-  
to planned towns**

ary 10, 1975 Dr. Urho  
n, President of Finland  
d the Tapiola Medal-  
our distinguished per-  
b have made a "signifi-  
tribution to the creation  
munities planned to  
e social and psycho-  
l needs of human

ceiving the award were:  
alto (right); Otto-livari  
an (left), teacher and  
Bob Frommes (second  
ht), managing director  
Société Nationale des  
ons à Bon Marché, Lux-  
g; and Frederick Guth-  
ond from left), formerly  
t of the Washington  
or Metropolitan Studies.  
Gutheim, who is a  
in the firm of Gut-  
elig/Erickson, Van-  
B.C., was instrumental  
g up the International  
tural Foundation (see  
D, March 1975, page  
ch is sponsoring an in-  
nal design competition  
sing in Manila. His  
Arthur Erickson, is the  
onal advisor to the com-



Ate Mattiäinen



Teuro Kämerla



the Tapiola Medallion was  
d in 1971 to commemo-  
principle that commu-  
nning should never lose  
the needs of the individ-  
apiola is almost com-  
ow, and the Housing  
ation Asuntosäätiö is  
g a second project, the  
e town of Kivenlahti.  
is the town center and a  
ial cluster of Tapiola.  
n center was designed  
e Ervi, who won an in-  
nal design competition  
. Almost 80 per cent to  
s in Tapiola were allo-  
o state-subsidized hous-  
16,000 persons in both  
d low buildings.)

the following are ex-  
remarks by Mr. Gut-  
on receiving the Medal-

apiola found its origin in  
's national reconstruc-  
blem of the early 1940's  
massive resettlement of  
tion and the growth of

towns had revealed the inade-  
quacy of the conventional ap-  
paratus of housing and town  
planning. But its realization  
long after these immediate  
needs had waned was due to the  
pragmatic outlook and persist-  
ence of Heikki Von Hertzen,  
the managing director of the  
Housing Foundation. Widely  
known for its social concepts, its  
planning innovations and its ar-  
chitectural qualities, Tapiola  
has been studied equally for its  
resolution of the problems of  
housing finance, land develop-  
ment and central city-suburban  
relations. To the United States it  
has shown what private initia-  
tive can do.

"Today, when the city is  
widely regarded as an environ-  
mental problem, one surveys  
the world-wide experience with  
new towns with a fresh appreci-  
ation of this aspect of Tapiola.  
One does not have to eat the  
new towns doctrine as hot as it

was cooked in order to sub-  
scribe to the need for greater so-  
cial planning and participation.

"I shall conclude these  
brief remarks by reflecting on  
the significance of Tapiola  
today. Its importance is no  
longer that of a concept but of a  
realization. Here one sees the  
interaction of social and archi-  
tectural ideas with the stubborn  
realities imposed by time,  
money, politics, organization  
and the other worldly consid-  
erations. From being a subject  
of critical analysis, Tapiola has  
become the material history. In  
the panorama of new town fail-  
ures, not simply of projects but  
of disasters of programmatic  
scale, the success of Tapiola re-  
quires historical interpretation.  
How did it survive the forces  
that have prematurely aged  
Cumbernauld and made it a  
passing fancy that converted the  
promise of Reston as an alterna-  
tive to suburbia to another form  
of suburbanization? That have  
placed the indelible stamp of  
bureaucracy upon the new  
towns of Britain and the Soviet  
Union alike?"

"An urbanizing world de-  
mands answers to these ques-  
tions. They will be asked in the  
1976 conference of the United  
Nations on human settlements.  
One would like to think that Fin-  
land could offer there in Van-  
couver some graphic descrip-  
tion in which pride of accom-  
plishment is balanced by a ma-  
turity of historical interpretation  
that will allow the meaning of  
Tapiola today to be given a  
worldwide application equal to  
its worldwide renown."

**World Congress of UIA will meet in Madrid in May**

The 12th World Congress of the  
International Union of Archi-  
tects (UIA) will be held in Ma-  
drid May 5-10. Organized on  
the theme "Architectural Creati-  
vity and Technology," the  
Congress will feature speakers  
such as Giancarlo DeCarlo,  
Italy; Frei Otto, Germany;  
Kenzo Tange, Japan; Paul Ru-  
dolph and Luis Sert, USA; Oscar

Niemeyer, Brazil; James Stir-  
ling, United Kingdom; and Ar-  
thur Erickson, Canada. (Mr.  
Erickson is the official advisor to  
the UIA-conducted design com-  
petition mentioned on this page  
in the Tapiola Medallion story.)

Congress regulations, pro-  
grams, registration forms and  
fee schedules are available from  
AIA, Washington, D.C.

**Manila competition attracts Texas students**

Five Texas Tech University ar-  
chitectural students claim they  
are benefitting this semester  
from a large dose of cultural  
shock, and they're determined  
to use their experience to im-  
prove urban life.

The five are members of a  
nine-man student team—work-  
ing with three faculty mem-  
bers—who have entered a com-  
petition offered by the Interna-  
tional Architectural Founda-  
tion, Inc., (RECORD, March  
1975, page 13) to design an en-  
vironment for urban slum  
dwellers of Manila.

To get a better understand-  
ing of slum conditions in Ma-  
nila, the five students made a  
three-week visit to Manila in  
December, to an area called the  
Tondo District, which has the  
highest concentration of inhabi-  
tants in the city. Within the  
Tondo there are 180,000  
people, the students report, giv-  
ing it a density of 685 people per  
acre.

While in Manila, the archi-  
tectural students visited with of-  
ficials of several government  
agencies to learn the parameters  
of the problem, and with com-  
munity organizations. The Fili-

pinos, they said, had done a de-  
tailed study of the situation and  
were helpful in sharing data and  
planning concepts.

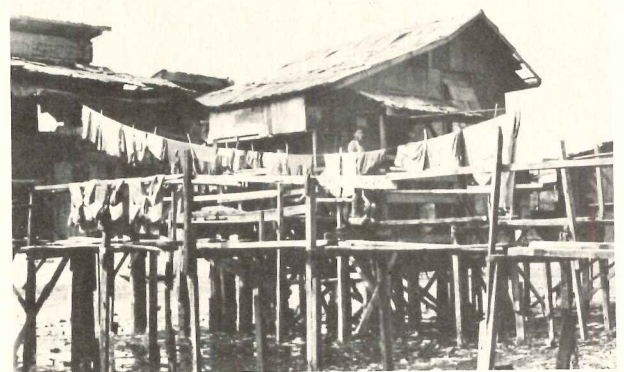
The students also visited  
with individuals in the Tondo  
district to learn how they earned  
their livings, what they wanted  
out of life, how they looked  
upon the inevitable move from  
the Tondo which is soon to be-  
come an international port area.

"We found a surprising  
sense of community among the  
people," one student said, "and  
we want to design a new environ-  
ment which will protect this  
valuable feeling."

The team hopes to develop  
an urban design approach  
which will refine strategies for  
understanding and responding  
to the character of people and  
their places.

Working with the nine-  
member student team are archi-  
tecture professors William  
Stewart and Dudley Thompson,  
who went to Manila, and John  
White who did not.

(At this writing, over 400  
architects and teams have en-  
tered the competition. For entry  
information, see pages 176-  
177, this issue.)





## Sullivan versus Burnham? It's now Burnham versus Sullivan

BURNHAM OF CHICAGO, by *Thomas S. Hines*; New York, Oxford University Press, 1974, 445 pages, illustrations, \$19.50.

Reviewed by *Edmund M. Bacon*

The conflict between Daniel Burnham and Louis Sullivan, those titans of the once-fecund Chicago school, is an issue which is as bright today as it was when these giants first articulated it during the decades around the turn of the century.

At first, of course, "Dan" Burnham was the darling of the establishment, the friend and co-worker of such people as Cyrus McCormick and Frederic Delano. Louis Sullivan, physically wasted and financially impoverished, was the voice from the wilderness. As time went on the Louis Sullivan cry was picked up by a growing number of "modern" architects, until they themselves became the new establishment. Anyone who dared to say a good word for Daniel Burnham was immediately pounced upon, and branded with those pejorative words, "City Beautiful Movement," which, for some obscure reason, were supposed to represent everything that was reprehensible. This type of thinking impregnated the whole structure of the intellectual establishment, and still is mindlessly repeated as the new truth except in such arcane corners as the pages of the *Journal of the Society of Architectural Historians*.

*Daniel Burnham of Chicago* by Thomas S. Hines restores the discussion of this conflict to the level of a rational discourse. The value of the book lies in the fact that it is a serious attempt to restructure the issues raised by the Burnham-Sullivan conflict in the light of what we know today. To my mind this restructuring is of very great value and is long overdue.

Lest by my ponderous introduction I give the impression that this is a formidable, academic type of book, I hasten to say that it is a very warm, personal biography of a very interesting and enjoyable character, and that the book is beautifully written. When I first heard of it I wondered why, in these days of paper shortage, a new biography was needed in view of Charles Moore's 462-page two-volume biography of Burnham, first published in 1921 and recently republished by Da Capo Press. The answer lies in the fact that Hines knows how to write, leavened by the historical perspective that has accumulated during the period between the two books. Unfortunately, in terms of size, layout and quality of illustrations, we have gone way downhill since the 1909 "Plan of Chicago" was put out under Burnham's supervision. In terms of communication the contrast between this and the Hines book is startling, the latter most assuredly not communicating by its design the ebullience, stature and breadth of view of its subject. This

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*Mr. Bacon was executive director of the Philadelphia City Planning Commission from 1949 until his retirement in 1970. In this role he began a continuous program of rebuilding for which Philadelphia has become famous. He is the author of Design of Cities.*

handicap is largely offset by the freshness of the writing, which never lags.

This is a many-faceted book. Even if one were not interested in architecture or city planning, nor especially in Burnham the man, one would likely find the book rewarding because of the window it provides on a significant period of American history. Here the writer's skills come on full force. Through a judicious intermix of separate documentary fragments and sociological backgrounds, Hines brings alive many of the forces that were beating upon Burnham and his contemporaries, and which are shaping our lives today.

At this point I would express a slight disappointment. While I think Hines succeeded admirably in connecting Burnham with historical movements one or two decades before and after his work, I do not think he did as well in relating Burnham to his deeper roots going back to the earlier history of this country, nor to the longer-range implication and impact of his work. The discussion of the interrelation of Burnham's and L'Enfant's approach to the planning of Washington is superficial, and, while frequently mentioned in the book, the debt that modern city planning owes to Burnham was not adequately covered.

Details stand out. I wish even more stress had been laid on the basic plan and interrelationship of buildings and landscape in the 1893 World's Columbian Exposition, and its long-term lessons, such as: the plan is more important than surface stylistic manifestations. I wish he had discussed the fact that Daniel Chester French's colossal figure of the Republic turned her back on Lake Michigan, probably because this fact intrigues me. But under such a broad, generous, lucid ambience, all is forgiven.

It is fashionable nowadays for academics and writers to take the disembodied view of the pure intellectual, to avoid at all costs expressing their own view of the value issues involved in the work they are doing, and so render themselves invulnerable to the accusation of error. Hines does not slide into this happy Nirvana.

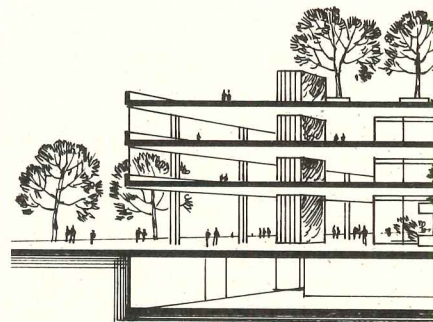
In his discussion of the Sullivan-Burnham conflict, Hines is dealing with a very difficult issue. For some reason this issue seems to strike a very sensitive nerve, and almost all references to it have been highly inflamed. Hines' description of it is measured, objective, fair and fascinating, and, I think, will carry along partisans of either side up until the end.

Then, thank God, he is willing to come to a conclusion. The last sentence of the book is a resounding declaration, and I leave it to you to read the entire book to find out what it is—but don't read the end first.

### Also received

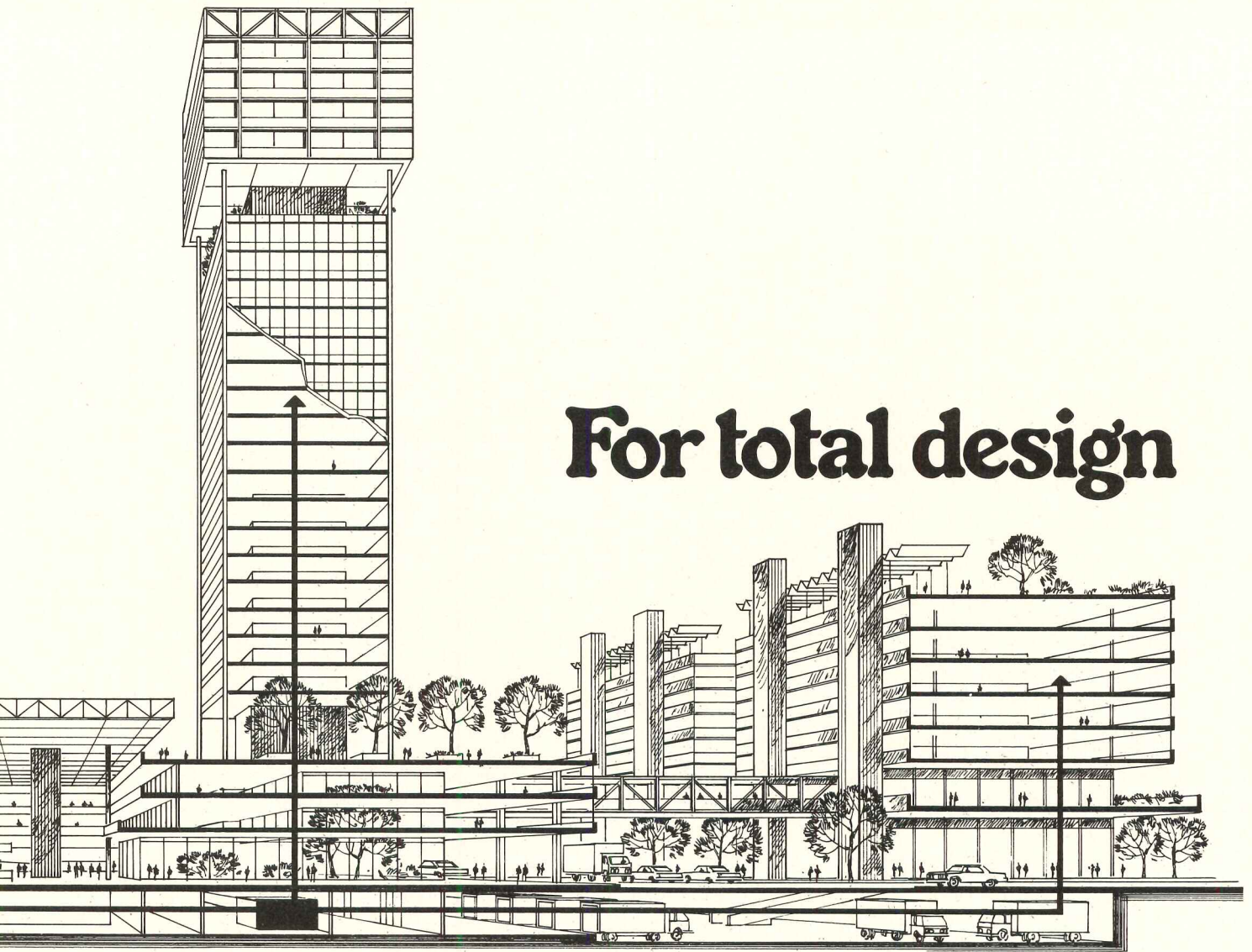
INTERIOR SPACES DESIGNED BY ARCHITECTS, edited by *Barclay F. Gordon*; New York, Architectural Record Books, 1974, 230 pages, illustrations, \$22.50.

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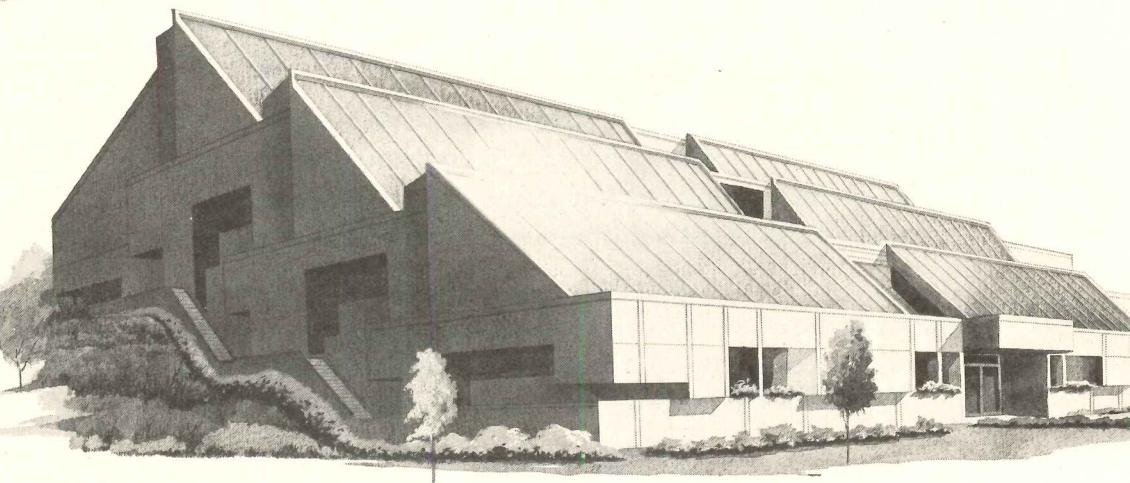


1972 winners: Mercy Hospital II, Coon Rapids, Minn., designed by S.C. Smiley Assoc., Minneapolis. Not shown: Westinghouse Nuclear Center, Monroeville, Pa., designed by Deeter Ritchey Sippel Associates, Pittsburgh. And the Energy Center, Mount Sinai Medical Center, Miami Beach, designed by The Smith Korach, Hayet, Haynie Partnership, Miami, Florida.



1973 winners: Weyerhaeuser World Headquarters Building, Tacoma, designed by Skidmore, Owings & Merrill, San Francisco. Not shown: General Electric River Works Program, Lynn, Mass., designed by GE, Lynn, Mass., Construction and Engineering Section. And the Boca Raton Community Hospital design by The Smith, Korach, Hayet, Haynie Partners, Miami, Florida.

1974 winners: Desert Research Institute, University of Nevada Systems, Boulder City, Nevada, designed by Jack Miller & Associates, Las Vegas, in association with Arthur D. Little, Inc., Cambridge, Mass. Not shown: Federal Building, Saginaw, Mich., designed by Smith, Hinchman & Grylls Associates Inc., Detroit.



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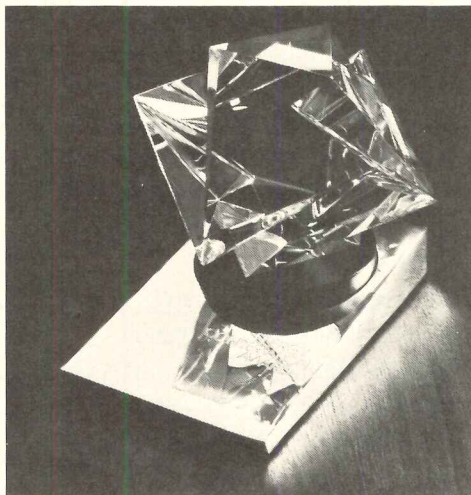
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Winning architects and/or engineers will receive the Steuben Crystal sculpture at left. Owners or clients will receive other Steuben Crystal awards.

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to create safe areas,

7. Projects a plan of the fire floor onto a central illuminated screen.
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12. Masses elevators at ground level to rush firefighters to the fire scene.
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16. Gives the alarm the instant entry is attempted.
17. Identifies the exact point of intrusion by projecting a floor plan of the area on an illuminated screen.
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28. Uses 100% outside air for "free cooling" when outside air is at the right temperature.
29. Eliminates unnecessary heating whenever possible, by admitting only the barest minimum of outside air to meet codes.
30. Sets temperature higher or lower automatically at night to save heating or cooling costs.
31. Turns non-critical equipment on and off automatically to cut costly peaks in electric demand bills.

## **A Self-running Control System That:**

32. Centralizes all building system monitors and controls at a single, one-man control center.
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and outside  
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36. Reads,  
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thousands of  
incoming reports  
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37. Remembers these readings and  
keeps them on file.

38. Produces filed-  
away information at the  
touch of a button.

39. Makes lightning calculations  
based on information received, to  
arrive at an intelligent decision.

40. Executes decisions at the right  
time and in the right sequence for  
simultaneous, automatic, exacting  
control of heating, cooling, ventilat-  
ing, humidification, firesafety,  
security, lighting, communications  
and clock systems.

41. Performs innumerable manage-  
ment functions: keeps daily totals,  
makes efficiency reports on equip-  
ment, maintains a running summary  
of building operation costs.

42. Takes orders and responds in  
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in as little as two days).

## A Built-In Service- Maintenance System That:

43. Reports equipment  
emergencies by both visible and  
audible alarms.

44. Signals all abnormal equipment  
trends so they can be dealt with  
before they become emergencies.

45. Shuts down endangered equip-  
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46. Contacts a repairman if an im-  
portant motor breaks down in the  
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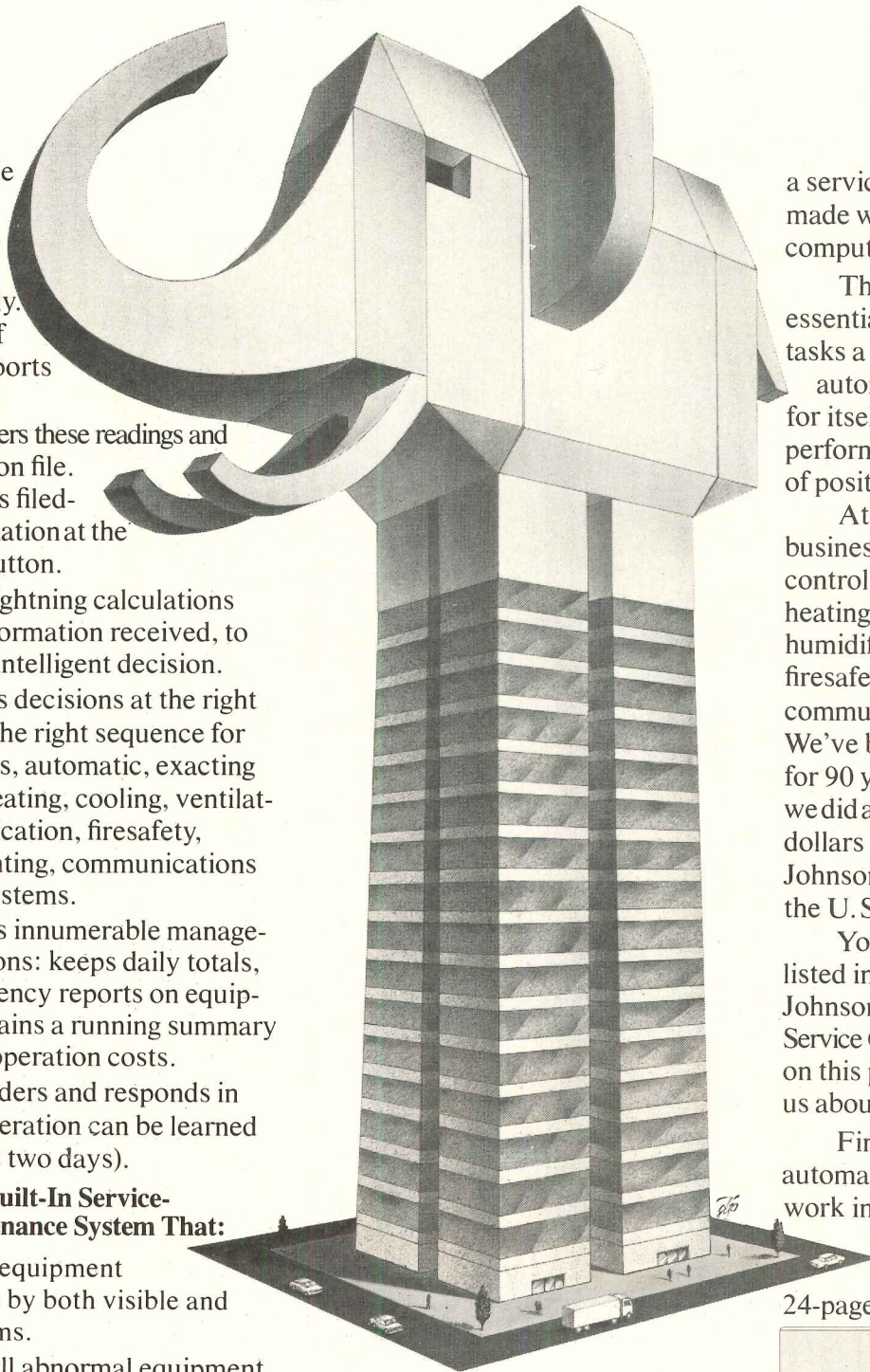
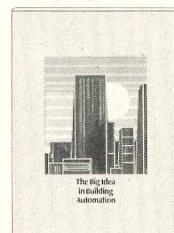
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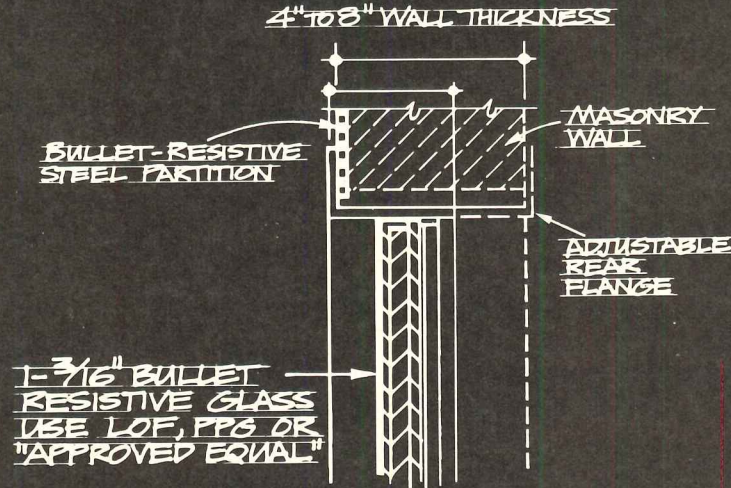
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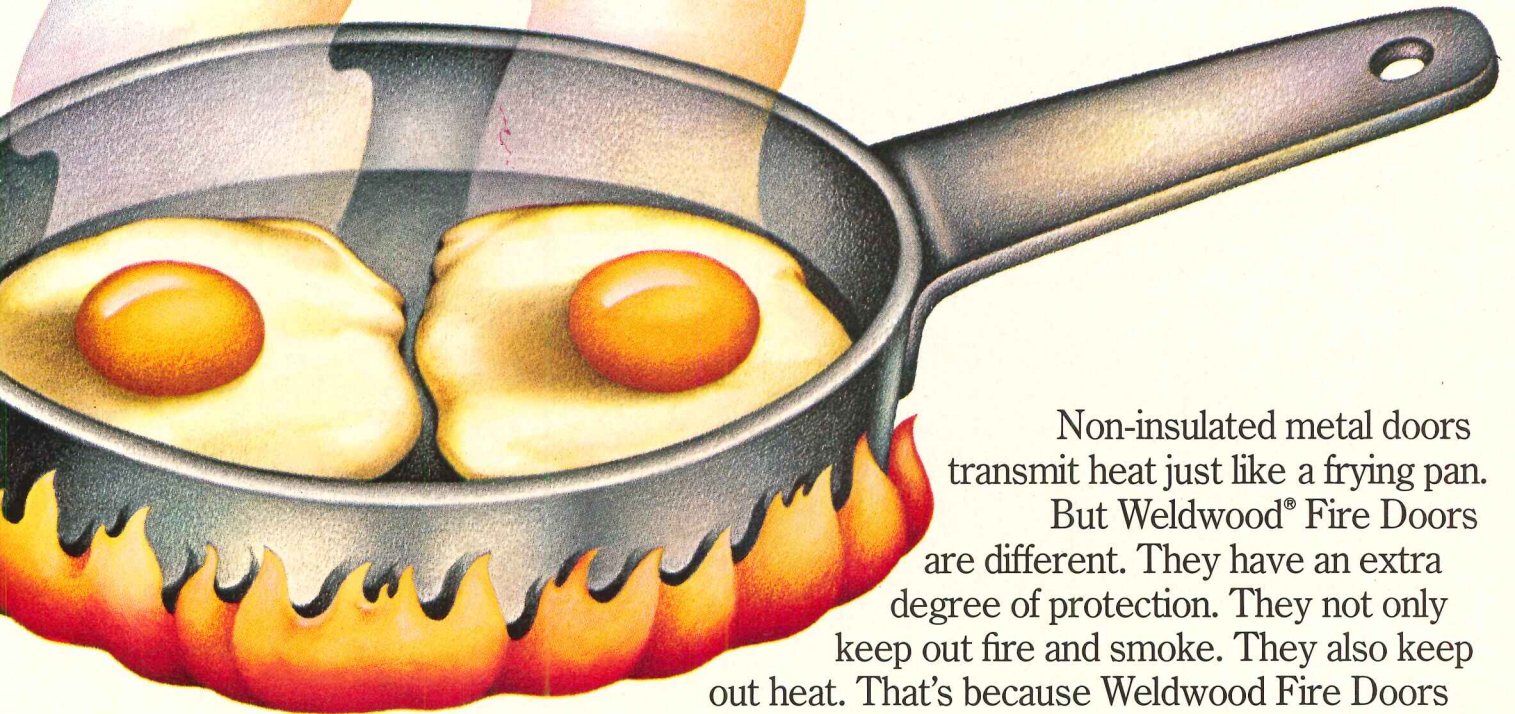
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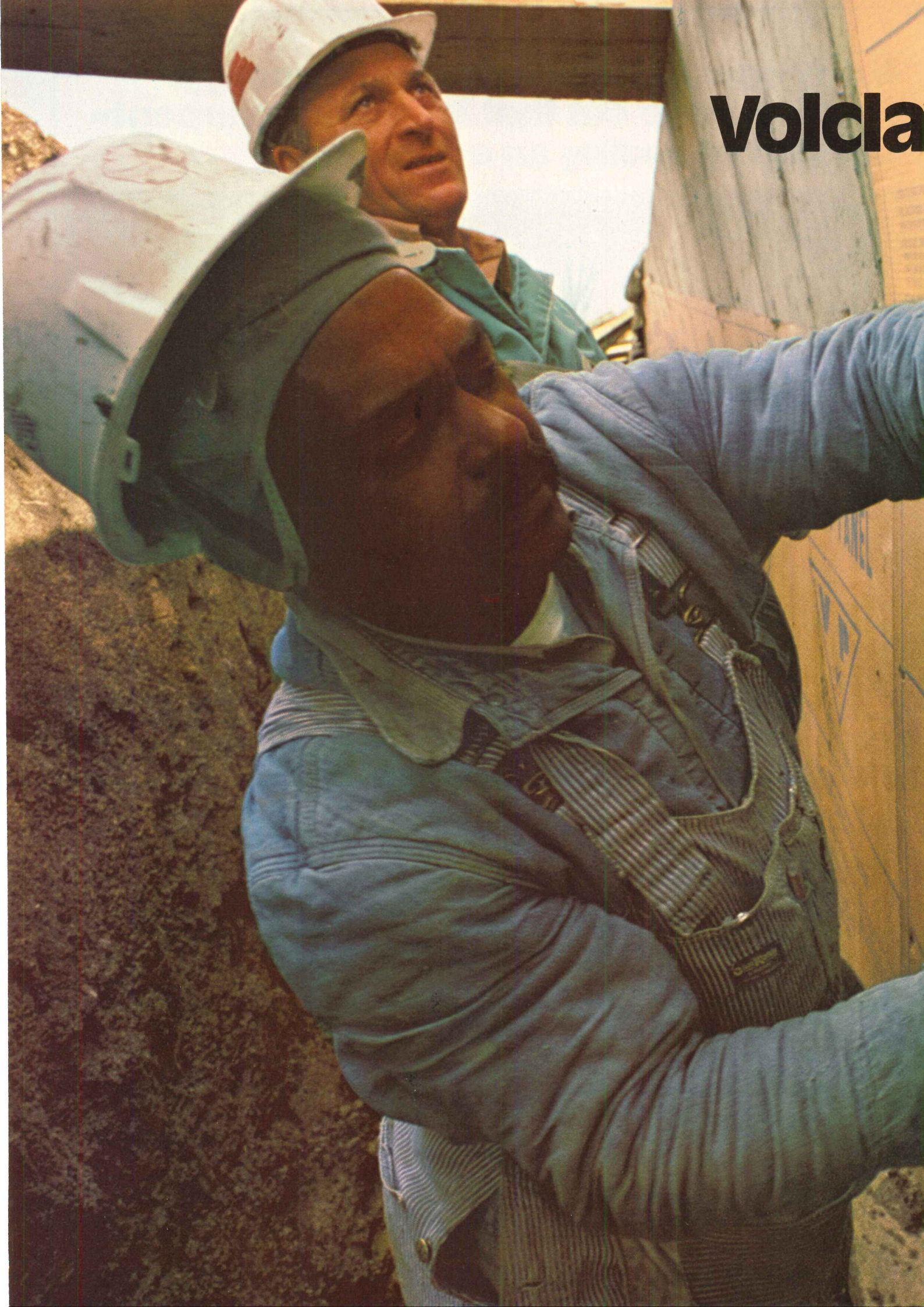
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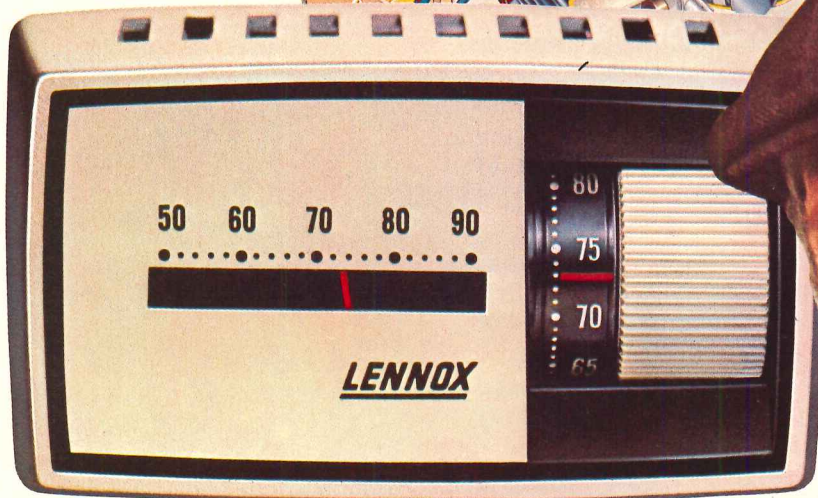
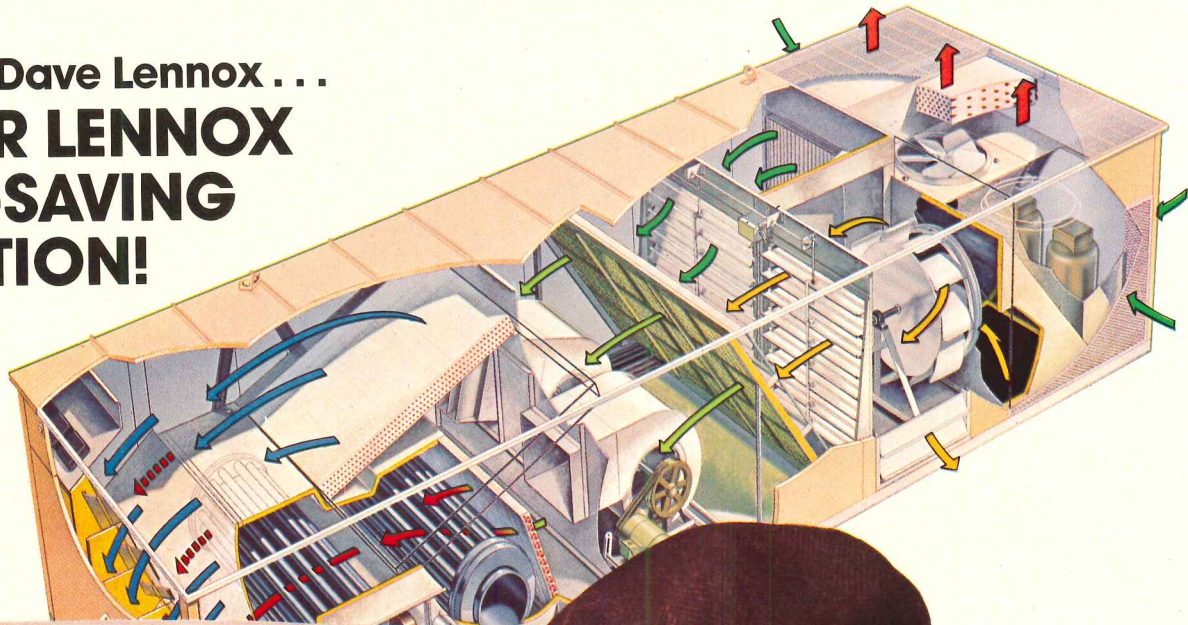
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BUILDING COSTS  
BUILDING ACTIVITY

## A project scheduling system that really works

The notion of a computer-linked system for critical-path scheduling and monitoring of the whole building process from pre-design through construction has engaged the attention of some first-rate technical minds for many years. And it has been frustrated many times in the piles of printout stacked unread on the construction shack floor—or locked up like empty documents in the credenzas of design offices.

The problem has not been one of technical feasibility—despite the inevitable setbacks

of the GIGO principle (garbage in garbage out), overconfidence, and overkill of manageable detail. The real problem has been the slow maturing of the process and its applications in a rather forced transfer from the military-industrial beginnings of CPM and PERT to the multi-disciplined and zealous professional and entrepreneurial mix of today's general building ownership, design and construction.

The article that follows is a detailed description of a construction scheduling system developed out of the resources of the Turner

Construction Company and the growing capabilities of central data processing services. The system is described by Garrett Thompson, Turner's chief cost and project control engineer. Briefly, this system works because it has overcome many of the difficulties of other systems, and it comes on stream at a time when owners, architects, engineers and contractors have not only recognized the potential of this management tool, but have allayed some of the apprehensions that accompanied its development in recent years.

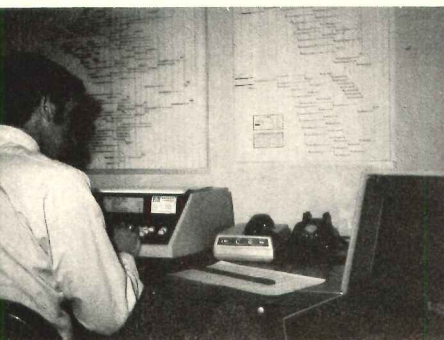


Figure 1. Data-phone terminals at several Turner offices "talk" directly to a central computer services center in Ann Arbor, Michigan. Date-related CPM charts, such as those on the wall, can be plotted by computer and updated via the oscilloscope console at the terminal. Conventional typed printouts received at the terminal being operated by the author, Garrett Thompson, in the New York office.

A few years ago, CPM was viewed by many as THE solution to the organization, scheduling, monitoring and control of the building process. Based on early (1956-1958) critical path method experiences of DuPont in engineering and construction and the program evaluation and review techniques (PERT) of the Navy in Polaris missile development in 1958-1960, those expectations seemed warranted.

In the decade and a half since Polaris, construction companies have used the critical path method as a scheduling aid, but the results have often been disappointing. One of the reasons has been the tendency to view CPM as a cure-all and the failure to realize that the output of any CPM system is only as good as the logic that went into its creation and the willingness of all concerned to read, understand and apply that logic. A CPM system never could actually define how a project could be constructed; it can only refine and combine information given initially.

More specifically, some of the reasons for

CPM's relative failure in the construction industry have been insufficient training of project personnel; many managers' apprehension about the computer-dependency of the system and a fear of its inflexibility (and their subsequent accountability); and the fact that schedules were often prepared *for*, rather than *with*, or *by* project staff, leading to feelings of resentment and a non-supportive attitude toward the specific schedule. There has been the additional major problem of excessive detail in traditional CPM schedules leading to inflexible, overcomplicated networks and voluminous computer printouts which inhibit use by job management.

Turner Construction Company has maintained that CPM, if properly applied, could offer many benefits beyond those of more conventional scheduling techniques and could provide the basis for an effective scheduling system. So work continued through the 60's and early 70's to develop a method that would overcome the above difficulties and create a comprehensive, easy-to-use system. Today, we feel that this belief and continued development has paid off in the form of Turner's "Project Scheduling System."

### Philosophy, concepts and criteria

The Turner system is designed to provide the user with an effective technique for scheduling, monitoring, and controlling work which must be completed within acceptable resource parameters; i.e. time, cost, manpower, materials, and seasonal effects. Implementation of the system has complimented other widely used scheduling methods such as, manpower controls, bar charts, work-in-place analysis, and so forth.

There are three prime objectives of the project scheduling system: first is a well-defined, realistic schedule plan; second is a visual means of conveying this plan to all

levels of project management with a timely updating and monitoring procedure; third is to develop adaptable feedback schedules in order that optimum results may be realized and preset completion dates firmly held. This is called "recovery planning" in the Turner lexicon.

The visual output of the project planning system is a computer-plotted, time-scaled, critical path network that illustrates activities and their logic relationships. All information describing an activity (the work item number, description, duration, and interdependencies) is plotted on the network. Although great emphasis has been placed on the use of the plotted network as the primary project scheduling document, the system also offers to the user a full range of conventional printout reports, sorting out activities by performer, time frame, milestones, or other useful categories.

The key element to success of the system is the ability to easily update the current schedule and turn-around the results in the shortest possible time in order that necessary action may be taken. Using the graphic display as the prime tool of the system, the recording of actual field progress and changes to the over-all plan can be maintained and monitored at the field level. When a formal update is needed, it can generally be produced in a few days from the time a scheduling engineer obtains the information. Due to the simplicity of the system, a small number of logic changes in a given time period may make a manual update more realistic. Thus, the system is self-sufficient and requires a minimum of corporate staff services.

The operational costs of running the system compete favorably with existing scheduling packages. Where costs of construction and benefits from early occupancy are substantial, proper application of the system may pay for itself many times over through the savings of time and related dollars. Of course, costs de-



pend on specific applications and are related to the amount of detail generated.

Several project control concepts are inherent in the Turner system and are essential for its success at the operating level. A key one is the philosophy of "early start" which gears management to think in terms of starting activities as soon as possible, rather than at the last available moment. Such a philosophy stimulates a search for activities which could start earlier than originally planned, e.g. when an activity *can* start vs. when it *must* start.

A second concept in project control involves the level of network detail. Here, the aim is to develop a level of detail necessary to monitor or control significant activities of the project, but without providing *unnecessary* detail. This level of detail is directly related to the type of project (high-rise, hospital, commercial, industrial, etc.), to the complexities of the project, and to the type of contract (construction management, general contract, consulting, pure construction services). Throughout, the aim is to avoid the high degree of network detail which has in many cases proved unworkable. An effective plan must provide the minimum level of detail which can provide a sound basis for the monitoring and control of significant project elements. At the early stages of a project, emphasis should be placed on developing in adequate detail the schedule for the next 6 to 9 months. Actual progress will dictate the degree to which activities previously developed on a more summary basis need additional controls in the form of a more detailed definition of the work. This may be accomplished by means of separate subnetworks or by expanding the current level of network detail.

Inherent in the Turner scheduling philosophy is the idea that one makes greater effort to

form of developing specific recovery plans to return the project to its initial time objective. By keeping end dates fixed, reassessment studies evaluate alternative construction schemes (unusual expediting, shift work, logic revisions) in order to accomplish the end objectives.

### The project scheduling cycle

The project scheduling cycle is the process by which the project schedule is developed, reviewed and monitored. The cycle is illustrated in Figure 2, and a detailed discussion of each stage follows:

**Stage 1, the input phase:** At this stage, the project manager and/or the project superintendent along with a scheduling engineer and members of the project management team organize the information necessary for the development of a preliminary project schedule. This initial involvement of the project staff is vital to the establishment and support of the computerized project schedule. It becomes the responsibility of a Turner scheduling engineer to stimulate and encourage discussion during the planning phase. Activities should be forced to start as early as possible, thus supporting an "early-start philosophy." However, realistic constraints to the start and finish of activities should be recognized, such as: manpower, costs, logistics, flow of work, etc.

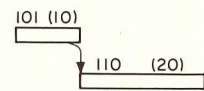
A key to the success of any project schedule is the degree of detail which is developed. Prior to drawing the network diagram, consideration should be given to the level of detail. It is important to recognize that there are two distinct concepts involving the level of detail. The first concept deals with the number of different contract items to be delineated on the schedule. The second concept deals with the dissection of each of the contract items.

As an example of the first concept of level of detail, consider the scheduling of every item of work handled by each trade or subcontractor. This has been done in the past using CPM software packages and has met with varying degrees of acceptance and success. A second approach is to focus planning efforts on identifying those contract items which most often control the flow of work on a project. In general, this approach has resulted in the production of a much more effective and more manageable schedule.

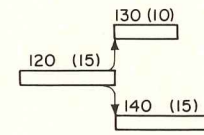
As an example of the second concept of level of detail, consider the scheduling of two projects similar in construction but different in size. The larger project may require a greater dissection of the construction activities to provide the same control as the smaller project. There may be little difference in the type of work activities scheduled, but there will be a significant variation in the number of monitorable activities scheduled.

The most important schedule planning tool is a project master schedule. This schedule should be developed at the beginning of the project and used to set the framework for all detailed schedules.

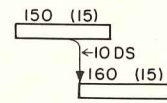
The master schedule is made up of all the applicable important items in the project delivery process—i.e. land acquisition, budget approvals, demolition, clearing, surveys, borings,



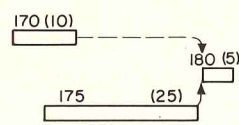
Activity 101 lasts 2 weeks and activity 110 can start upon completion of 101 and lasts 4 weeks (which equals 20 work days).



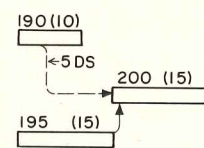
Activities 130 and 140 can start upon completion of activity 120.



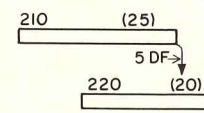
After 2 weeks from the start of activity 150, activity 160 can commence. The notation "10 DS" signifies a delayed start of 10 days (or 2 weeks) for activity 160 from the start of activity 150 which is implied by the time scale.



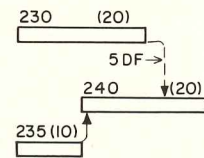
Activity 180 cannot start until week 6, or until activities 170 and 175 finish. Hence activity 170 can be delayed finishing to week 6 without changing the start of activity 180. This allowable delay is called "float". 175 directly affects the start date of 180 and creates the float in activity 170.



This notation combines delayed start and float. Activity 200 cannot start until week 3 after the finish of 195, or 5 days after the start of activity 190. Which ever comes last governs when activity 200 starts. Hence, if activity 190 starts behind schedule by less than 2 weeks, activity 200 can still be on time.



After 5 days from the completion of activity 210, activity 220 can finish. The delayed finish (DF) imposes a condition on activity 220 tying its finish to at least 5 days after activity 210 finishes.



Activity 240 cannot finish until 5 days after the finish of activity 230. The completion of activity 230 can float one week without affecting the completion of activity 240.

DS = Delayed Start  
DF = Delayed Finish

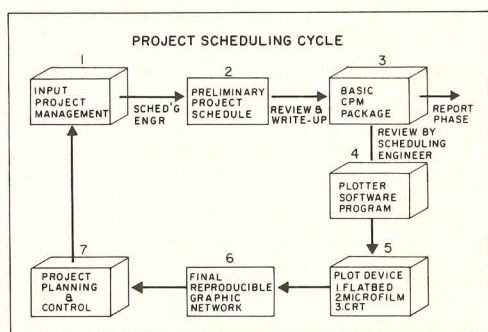


Figure 2. Process elements and feedback flow of the computer-linked Turner project scheduling system.

adhere to a schedule that he has helped establish, rather than one which is imposed upon him by some outside source. Initial and continuing involvement of the project superintendent is essential. His commitment to and support creates both a realistic initial plan and one which he will use during the actual construction process. Finally, and most important, is the concept of *recovery planning*. With scheduling objectives agreed upon for both the short and long term, the projects completion date is determined and "locked in." Any variances in progress compared with the schedule will indicate "slippage," and become the basis for formalized action in the

Figure 3. Logic relationships of the network plan based on a scale of 5-day weeks.



major design phases, and other key milestones. In order to obtain this information the project manager must communicate with all of the parties who are involved (client, architect, engineer, etc.), visit the site, analyze the construction market, note the status of related activities such as site acquisition or fund allotments, and, in general, gain an overview of the project tasks which must be accomplished from the time of initial development to completion of the project.

**Step 2, the preliminary project schedule:** The project management has organized the information which will define the preliminary schedule, the scheduling engineer will begin plotting the working time-scaled network. It is tested that the working network diagram is time-scaled in order that manpower distribution, flow of work, and seasonal effects may be considered.

The diagramming technique used is a variation of CPM network diagramming termed "precedence method." Through the use of various overlapping types, logic relationships between activities are described. There are three types of overlap: the "E" type or end-to-end, the "DS" type or delayed start, and the "FF" type or delayed finish. By being able to overlap it is possible to produce a more real-world and workable relationship between activities and reduce the number of total project activities required.

**Step 3, basic CPM package:** After the hand-drawn network has been reviewed by project management, the schedule is transferred to a processing format and is processed by the computer software program. Estimated dates are calculated as the program makes a forward pass through the activities based on when activities can start and finish. Required dates are calculated as the program makes a backward pass through the activities based on when activities must start and finish to meet an established project completion date. The program is run in a time-sharing mode, with terminals loaded at some 12 territory offices. Off-line data entry is provided by means of a tape cassette device.

Once all format and data input errors have been corrected, the scheduling engineer will initiate the printing of a work report titled, SWI report (succeeding work item report). All information shown on the hand-drawn network diagram plus calculated data are incorporated in this report; i.e. preceding work items (PWIS), succeeding work items (SWIS), estimated and required start and finish dates, float, total and remaining duration, bind-codes, critical path designation, work item numbers, work item descriptions, and milestones critical activities.

**Step 4, plotter software program:** Step four is the plotter software program phase and is the point which separates the Turner system's output from that of more conventional systems. After input data are checked for errors the scheduling engineer, he can either initiate a report or a plot of the schedule or both. Within the software plotting program, the user

has a high degree of flexibility, with many available options. Some of these options are : 1) banding groups of activities; 2) plotting only specific activities, such as mechanical or electrical; 3) plotting a specified time period; 4) graphically identifying the critical path; and 5) designation of procurement activities. This plotter software program was developed specifically for Turner and is linked internally with that of the CPM program, and provides the user optimum turnaround time and ease of operation and handling.

**Step 5, plotter device phase:** Following the selection of system options, a decision is made regarding the use of one of the several alternative plotting methods for producing the final graphic network. A drum or flat bed computer-driven plotting device is generally used to produce the graphic display. Or, a microfilm plotting procedure can be used to reproduce the network on 35 mm microfilm. A third alternative is available which utilizes a cathode ray tube unit to produce an image of the network. This method has been used successfully in presentations and internal training to demonstrate the capabilities of the system.

**Step 6, reproducible graphic network:** Once the plotting of the schedule has been completed, the plot is sent to a specified address via a predetermined designated delivery method. In general, delivery time of plot revisions is within a few days from the time the data are received at the center.

**Step 7, project planning and control phase:** During this phase the schedule is implemented by project management. A key component of the implementation of the schedule is periodic review and update which generally identifies problem areas and stimulates the investigation of alternative solutions. This phase closes the loop to the cycle and integrates a continuous chain of action and interaction.

The monitoring process is, of course, nothing more than determining on a periodic basis where the project actually stands when compared with the plan. In addition to consideration of actual vs. planned time expenditures, effective monitoring should evaluate physical progress, value of work in place and manpower expended against the plan. Obviously, the real task of controlling a job with regard to schedule only begins with the creation of a formal plan and monitoring actual progress against that plan. The difficult part is to evaluate the update or monitoring data and to re-analyze the logic of the original plan based upon this and other new information to develop the plan to complete the project in the most expeditious manner economically consistent with the quality desired. In effect, this may mean replanning the entire job on some periodic basis. Included in this process is the communication and leadership required to put the new plan into action.

**In summary**

Turner feels that the degree of flexibility along with the components of the graphic display make the CPM scheduling system an effective

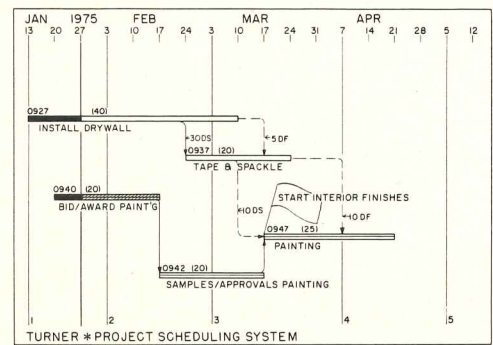


Figure 4. Small segments of the network can be isolated (by trade or otherwise), viewed on the monitor, altered if necessary and reentered for critical effect. Flags mark milestones. Notations are explained in Figure 3.

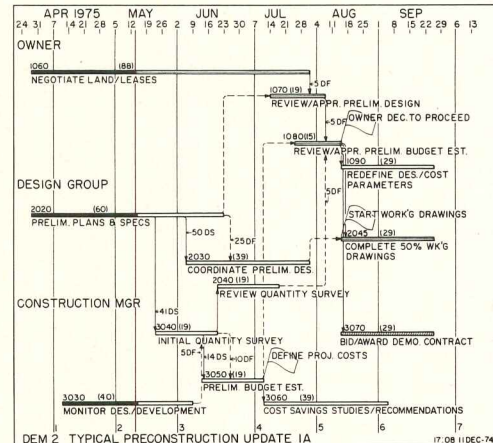


Figure 5. Sorting the preconstruction network by principal operating groups: Owner, A-E and CM.

and responsive management tool. The fact that Turner is using this scheduling system does not mean the elimination of more traditional tools. The system is not a cure-all; it is only one of several procedures such as statistical modeling, cost control systems, job minutes, manpower analysis, etc. Thus far, however, it has been an extremely effective tool resulting from Turner's philosophy of adopting, developing or modifying systems which will support the firm's method of operations, rather than subject personnel to "canned" programs which may adversely affect the management process itself.

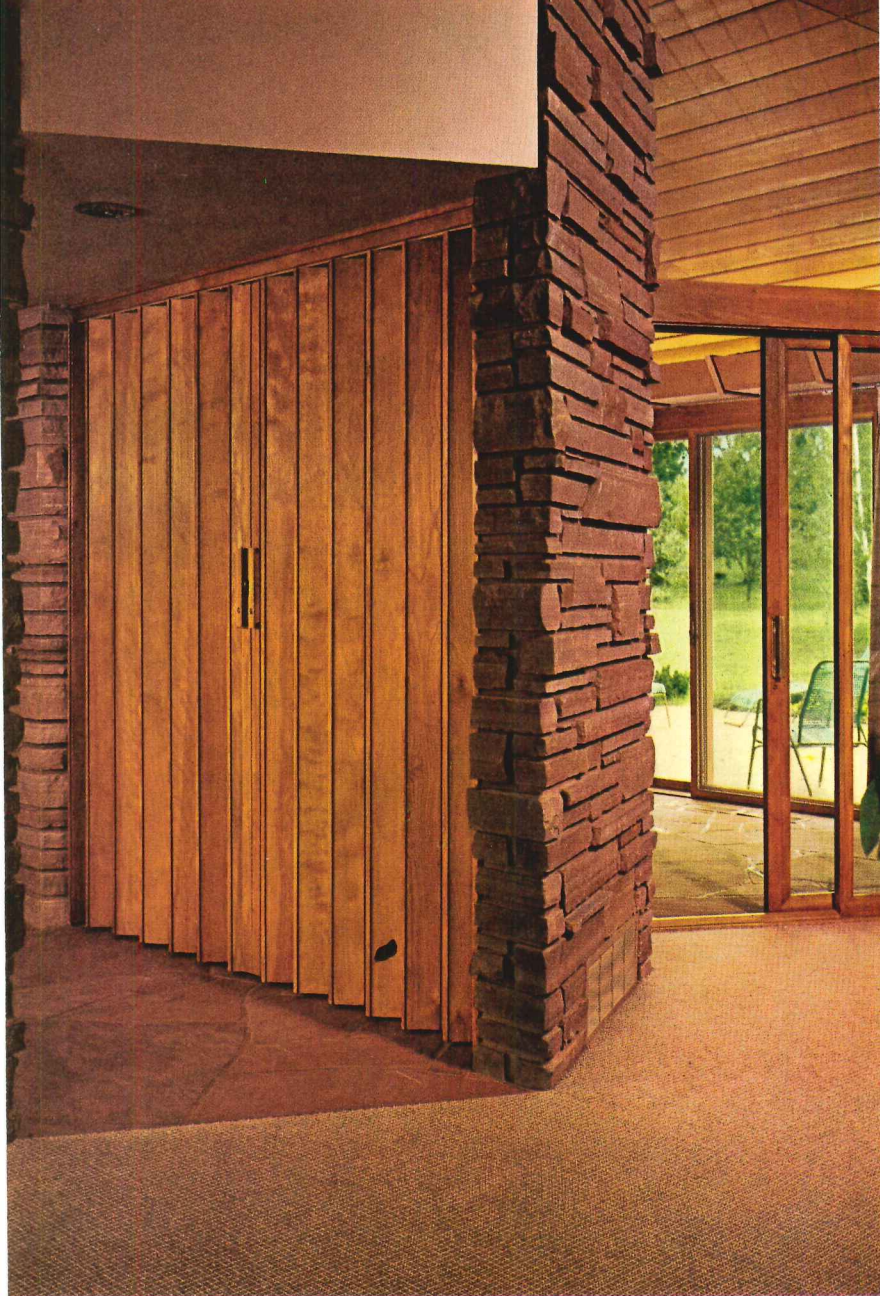
While most management tools identify where a project is at any given time, the Turner project scheduling system is an attempt to define where the project is going. It is a forward planning tool as well as a monitoring tool. The distinctive graphic display is the tool provided to help managers plan for completing the construction project on time . . . and on budget.

—Garrett Thompson

Turner not only invites but insists upon the participation of owners, designers, consultants and contractors in setting up the basis of a feasible schedule. They are carrying the notion forward to prototype schedules for various building types. These will then form the basis of the approach to projects. In effect, they will be a time-related check list of things to consider, inherent milestones and historically documented time frames for all activities. Such a prototype schedule would, of course, be edited and adapted to the particulars of any given project of the building type.

—W.F.





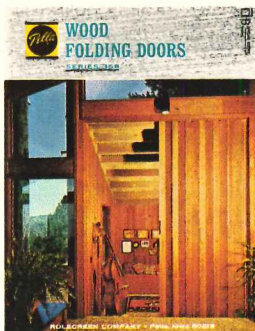
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**Components of regional cost increases**

Average building construction costs have gone up 3.9 per cent since last fall and now stand 13.2 per cent above a year ago. 183 metropolitan areas throughout the United States reporting in the current Dodge Building Cost Indicator survey tie the increase to higher hourly wages for building trades craftsmen, up 10 per cent for the year, while building material prices increased 7.6 per cent.

Basic hourly wage rates are 5.8 times what they were in 1941, whereas material prices are about 3.6 times that year. Over-all, building construction costs at the builder-to-instructor level average about 404 per cent higher than in 1941. The accompanying United States summary table shows how this varies from one major district to another.

**Regional cost increases**

	10/74	4/74	Index* as of 4/75
	% to 4/75	% to 4/75	
<b>Eastern U.S.</b>			
New York-NJ	2.9	7.8	381.1
New England States	3.4	8.1	409.8
Southeastern and North Central States	4.1	7.9	411.9
Southeastern and South Central States	3.2	7.3	379.7
Average Eastern U.S.	3.4	7.8	395.6
<b>Western U.S.</b>			
Mississippi River and West Central States	3.8	7.9	398.7
Pacific Coast and Rocky Mountain States	5.0	9.3	425.8
Average Western U.S.	4.4	8.6	412.3
Overall average	3.9	8.2	404.0

1941 = 100

**INDEXES: April 1975**

1941=100.00 (except as noted)

Metropolitan area	Cost differential	Current Indexes				% change last 12 months
		non-res.	residential	masonry	steel	
U.S. Average	8.5	492.1	461.9	483.5	471.4	+ 7.81
Atlanta	7.5	591.4	557.5	579.9	568.3	+ 5.15
Baltimore	8.5	548.4	515.5	537.6	522.4	+ 4.34
Birmingham	7.3	444.7	413.6	431.6	425.5	+ 8.16
Boston	9.0	490.9	463.8	488.3	472.9	+ 6.37
Buffalo	9.1	541.0	507.9	532.0	517.2	+ 7.01
Chicago	8.3	547.3	520.3	527.1	520.0	+ 4.86
Cincinnati	8.8	525.2	494.2	511.6	498.6	+ 6.92
Cleveland	9.0	524.3	493.4	514.6	500.9	+ 5.36
Columbus, Ohio	8.2	506.9	475.9	499.7	485.7	+ 6.69
Dallas	7.9	493.2	477.6	484.1	475.7	+ 7.63
Denver	8.4	536.8	504.9	529.4	516.1	+11.40
Detroit	9.8	561.1	534.4	570.8	547.2	+ 6.72
Houston	7.4	452.9	425.2	441.2	433.0	+ 8.78
Indianapolis	7.8	443.6	416.5	434.1	423.7	+ 8.06
Kansas City	8.7	487.8	460.9	478.9	470.5	+10.44
Los Angeles	8.5	559.3	511.2	542.3	530.4	+ 6.30
Louisville	7.6	479.1	449.8	466.6	458.3	+ 4.87
Memphis	8.4	507.2	476.2	487.5	479.0	+ 9.61
Miami	7.9	506.0	482.0	491.5	480.6	+ 6.82
Milwaukee	8.7	563.4	529.0	555.2	540.4	+10.51
Minneapolis	8.9	520.1	489.2	512.7	500.8	+ 9.41
Newark	9.0	486.9	457.2	483.0	470.2	+12.03
New Orleans	7.5	470.0	443.7	464.5	452.8	+ 5.94
New York	10.0	536.7	498.9	525.6	513.5	+ 5.37
Philadelphia	9.1	537.9	512.4	534.9	520.4	+ 7.22
Phoenix (1947 = 100)	8.2	290.3	272.6	282.1	275.8	+10.08
Pittsburgh	8.9	480.9	452.4	477.1	461.6	+ 7.10
St. Louis	8.7	504.5	476.1	500.0	488.6	+ 8.46
San Antonio (1960 = 100)	7.6	187.1	175.6	184.1	179.2	+ 7.65
San Diego (1960 = 100)	8.7	208.2	195.5	204.3	198.9	+ 8.29
San Francisco	9.6	732.5	669.5	723.8	702.6	+10.65
Seattle	8.6	485.3	434.2	479.8	461.0	+ 7.93
Washington, D.C.	8.4	486.8	457.1	478.0	465.1	+11.59

Cost differentials compare current local costs, not indexes, on a scale of 10 based on New York

Tables compiled by Dodge Building Cost Services, McGraw-Hill Information Systems Company

**HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL NON-RESIDENTIAL BUILDING TYPES, 21 CITIES**

1941 average for each city = 100.00

Metropolitan area	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974 (Quarterly)				1975 (Quarterly)				
										1st	2nd	3rd	4th	1st	2nd	3rd	4th	
Atlanta	321.5	329.8	335.7	353.1	384.0	422.4	459.2	497.7	544.8	555.2	556.7	573.5	575.0	583.8				
Baltimore	285.7	280.9	295.8	308.7	322.8	348.8	381.7	420.4	475.5	516.3	517.8	532.8	534.3	538.7				
Birmingham	265.9	270.7	274.7	284.3	303.4	309.3	331.6	358.3	402.1	405.5	407.0	419.7	421.2	438.6				
Boston	257.8	262.0	265.7	277.1	295.0	328.6	362.0	394.4	437.8	455.1	456.6	461.0	462.5	484.1				
Chicago	311.7	320.4	328.4	339.5	356.1	386.1	418.8	444.3	508.6	514.2	515.7	528.1	529.6	539.2				
Cincinnati	274.0	278.3	288.2	302.6	325.8	348.5	386.1	410.7	462.4	484.5	486.0	498.6	500.1	518.0				
Cleveland	292.3	300.7	303.7	331.5	358.3	380.1	415.6	429.3	462.2	490.3	491.8	508.0	509.5	516.6				
Dallas	260.8	266.9	270.4	281.7	308.6	327.1	357.9	386.6	436.4	453.7	455.2	476.4	477.9	488.3				
Denver	294.0	297.5	305.1	312.5	339.0	368.1	392.9	415.4	461.0	476.1	477.6	508.5	510.0	530.4				
Detroit	284.7	296.9	301.2	316.4	352.9	377.4	409.7	433.1	501.0	519.5	521.0	537.2	538.7	554.4				
Kansas City	256.4	261.0	264.3	278.0	295.5	315.3	344.7	367.0	405.8	435.6	437.1	443.4	444.9	481.1				
Los Angeles	297.1	302.7	310.1	320.1	344.1	361.9	400.9	424.5	504.2	514.3	515.8	531.3	531.8	546.7				
Miami	277.5	284.0	286.1	305.3	392.3	353.2	384.7	406.4	447.2	467.6	469.1	484.6	485.5	499.5				
Minneapolis	285.0	289.4	300.2	309.4	331.2	361.1	417.1	412.9	456.1	469.7	471.2	487.1	488.6	513.9				
New Orleans	256.3	259.8	267.6	274.2	297.5	318.9	341.8	369.7	420.5	437.5	439.0	440.6	442.1	463.5				
New York	297.1	304.0	313.6	321.4	344.5	366.0	395.6	423.1	485.3	497.4	498.9	513.8	515.3	524.1				
Philadelphia	280.8	286.6	293.7	301.7	321.0	346.5	374.9	419.5	485.1	495.7	497.2	517.0	518.5	531.5				
Pittsburgh	267.0	271.1	275.0	293.8	311.0	327.2	362.1	380.3	424.4	443.7	445.2	464.1	465.6	475.2				
St. Louis	280.9	288.3	293.2	304.4	324.7	344.4	375.5	402.5	444.2	458.7	460.2	475.2	476.7	497.5				
San Francisco	368.6	386.0	390.8	402.9	441.1	465.1	512.3	561.0	632.3	647.1	648.6	671.0	672.5	716.0				
Seattle	268.9	275.0	283.5	292.2	317.8	341.8	358.4	371.5	424.4	437.8	439.3	448.7	450.2	472.5				

Costs in a given city for a certain period may be compared with costs in another period by dividing one index into the other; if the index for a city for one period (200.0) divided by the index for a second period (150.0) equals 133%, the costs in the one period are 33% higher than the costs in the other. Also, second period costs are 75% of those in the first period (150.0 ÷ 200.0 = 75%) or they are 25% lower in the second period.



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## The Dodge/Sweet's construction outlook for 1975: first update

you confused by the stream of contradictions that is being passed off as economic policy these days?

Like . . . one day the President informs us that he's done a 179-degree turnaround; that he has moved the recession up to position number one on his public enemy list, and for some time being, at least, he's dropped inflation to a lower rank. Now, to any perceptive listener, this means only one thing: he has given up his WIN program with its restraints and restraints, and in exchange for WIN buttons he is substituting policies geared to stimulating recovery and expansion. Fine, but then the next day he comes out with his "Economic Report of the President" in which he gives us a peek at how he and his key advisors think—intend—the next few years will go. This is a forecast of recovery and expansion. This is a scenario of excessive unemployment and tolerable inflation.

Or . . . how about a *double* reverse? As of December, Mr. Ford was still clinging to his notion that what we really needed was an income tax *surcharge* to siphon off excess cash. In January that was changed . . . to a tax *rebate* in order to encourage more consumer spending. And then he followed this up with the news that he's going to take it all away again with a new tax on fuel . . . designed to encourage us from buying as much as before.

It boggles the mind. But since we have to function in this Alice-In-Wonderland environment, here are a couple of interpretations: (1) the Ford Administration is even more confused than the rest of us; (2) national economic policies still in transition, being dragged along by events—reacting to them rather than anticipating them. Since alternate 1 is a dead end, let's see where alternate 2 leads.

Actually, the notion of an economic policy in transition fits rather well with what has worked out to be the most critical assumption in the original *Dodge/Sweet's Construction Outlook for 1975*. That was published last October (RECORD November 1974) and is now being updated for its first updating. Six months ago, when everyone in the Ford Administration was preoccupied with inflation—even though the problems were everywhere that the economy was falling apart—we said this: "In the end, austere policies will eventually yield to the pressure of rising unemployment. Every bit as critical an economic issue for 1975 as inflation is when, and abruptly, the present policies of restraint will reluctantly be abandoned." That was last October.

And that's exactly what's been happening for the past month or two, and is still going on. Right now we're seeing the transition from austere policies aimed at containing inflation, to activist programs required to generate recovery. It's just too bad that unemployment had to go all the way up past eight per cent in order to bring this change about.

In plain language, Mr. Ford's latest economic strategy—it's all there in his January budget and economic messages—seems to be trying to accomplish two conflicting objectives at the same time. They are both admirable goals. We must conserve energy. And we must get this recession turned around. But to a large degree the goal of energy conservation is in competition with the goal of economy recovery . . . at least the way this Administration insists on going about it. How effectively do you stimulate consumer spending with an income tax cut if at the same time you put a stiff new tax on fuel? That just takes the money out of one of Mr. Simon's pockets and puts it in the other. *And this approach to energy conservation is a large part of the rationale for the Council of Economic Advisors' very grim outlook for the next several years.*

We've come this far, at least: compared with last fall, when national economic policy was highly repressive, it is now more or less neutral (due to its divided objectives). That change alone should be enough to let the recession grind to a halt sometime in 1975. But Mr. Ford hasn't yet become enough of an economic activist to give us a strong recovery once the recession bottoms out. And that's what he must become if we are to avoid a long period of stagnation.

So once again our construction outlook must contain a critical assumption about national priorities. This time it is this: that having moved from a rigid position of total emphasis on inflation to one of divided concern about energy and recession, Mr. Ford and friends will soon go all-out for recovery.

The table of construction spending shows how construction markets actually came out in 1974, and how our evaluation of the changing economic environment will shape 1975's outcome. The key developments to watch for in the year ahead are:

- A recovery of the long-depressed housing market. While the improvement from beginning to end of 1975 is likely to be quite strong, the year's total of housing starts is not apt to exceed 1.4 million, mainly because the recovery will be taking off from a very low point.

**Dodge/Sweet's construction outlook, 1975: first update**  
(in billions of dollars)

Building Types	1974 actual	1975 estimate	per cent change
<b>Nonresidential</b>			
Industrial & commercial	\$17.7	\$14.2	-20%
Institutional & other	16.2	16.4	+ 1
Total	\$33.9	\$30.6	-10%
<b>Residential</b>			
1 & 2 family homes	\$23.3	\$26.9	+15%
Apartments	9.3	9.3	—
Hotels, motels, dorms	1.6	1.7	+ 6
Total	\$34.2	\$37.9	+11%
<b>Nonbuilding</b>			
Public works	\$19.8	\$23.8*	+20%
Utilities	5.2	5.7	+10
Total	\$25.0	\$29.5	+18%
Total Construction	\$93.1	\$98.0	+ 5%
Dodge Index (1967=100)	169	178	

\*includes an estimated \$2 billion trans-Alaska pipeline work scheduled to be started during 1975.

- *Declining* industrial and commercial building through most or all of the year. Experience of the last (1970) recession shows, however, that institutional building (educational, health, public administration, etc.) tends to bear up surprisingly well in periods of moderate economic adversity.

- *Gains* in nonbuilding projects, sparked by the release of billions of impounded Federal funds appropriated for sewer and highway construction to provide temporary employment.

The one thing you can't overlook is that *cyclical sensitivity* is the key to the immediate future of the construction business. Experience shows that the construction cycle normally leads the general business cycle—both on the way down and on the way up again. That's especially true for the design professions whose involvement in the construction process comes at the very earliest stages. So we've taken most of our lumps already. That was in 1974. Now is the time to begin looking for some help through the old accounting principle of FIFO: first in, first out. I'm expecting the construction industry to lead the rest of the economy out of this recession—in 1975 with gains in housing and public works contracting, and in 1976, with a recovery in nonresidential building. And I expect both 1976 and 1977 to be years of well-above-average expansion for the construction industry as that recovery gains momentum.

George A. Christie, vice president  
and chief economist  
McGraw-Hill Information Systems Company



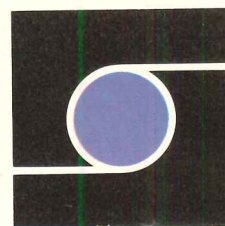


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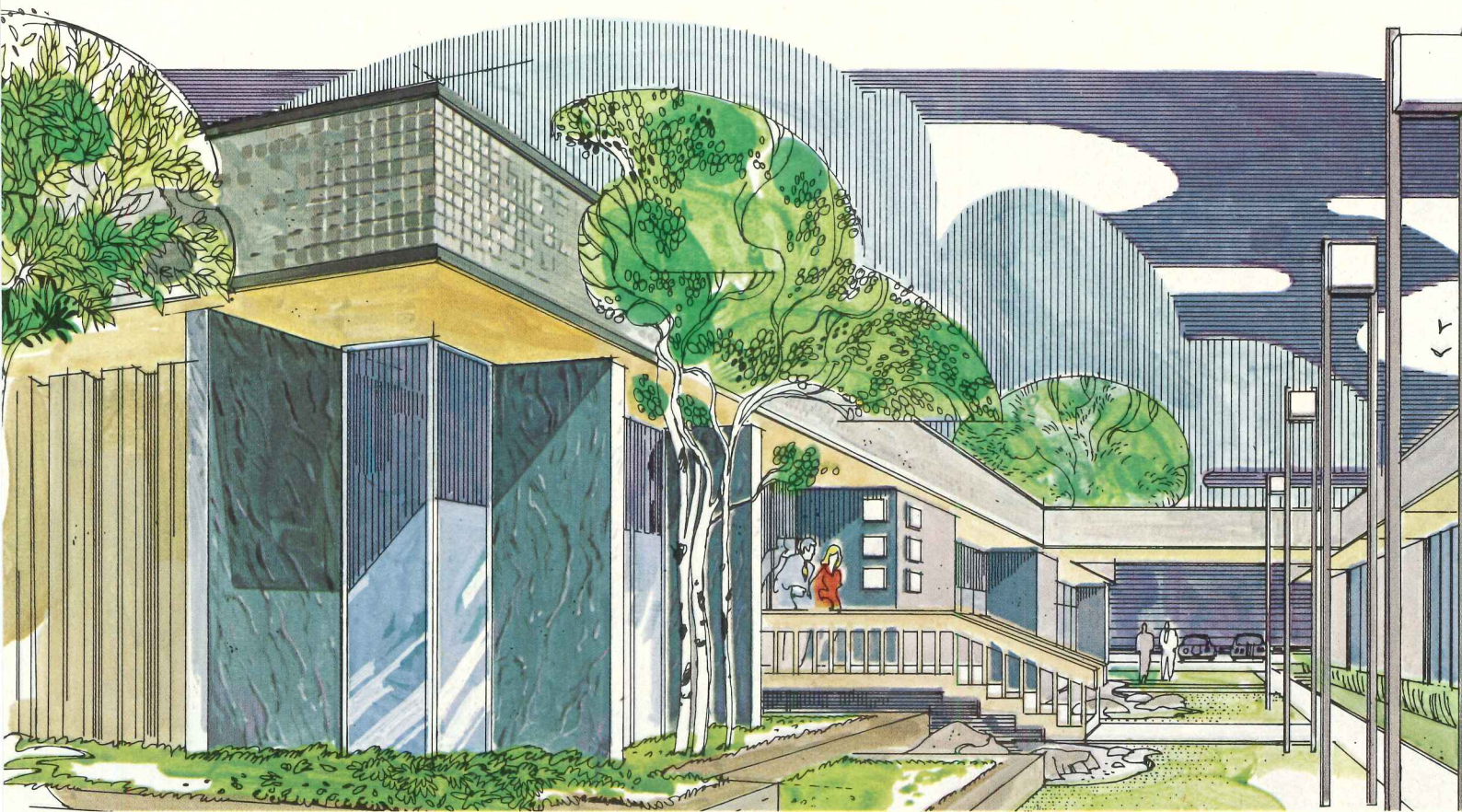
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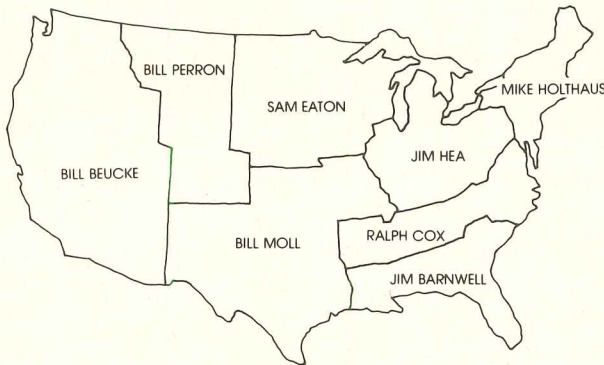
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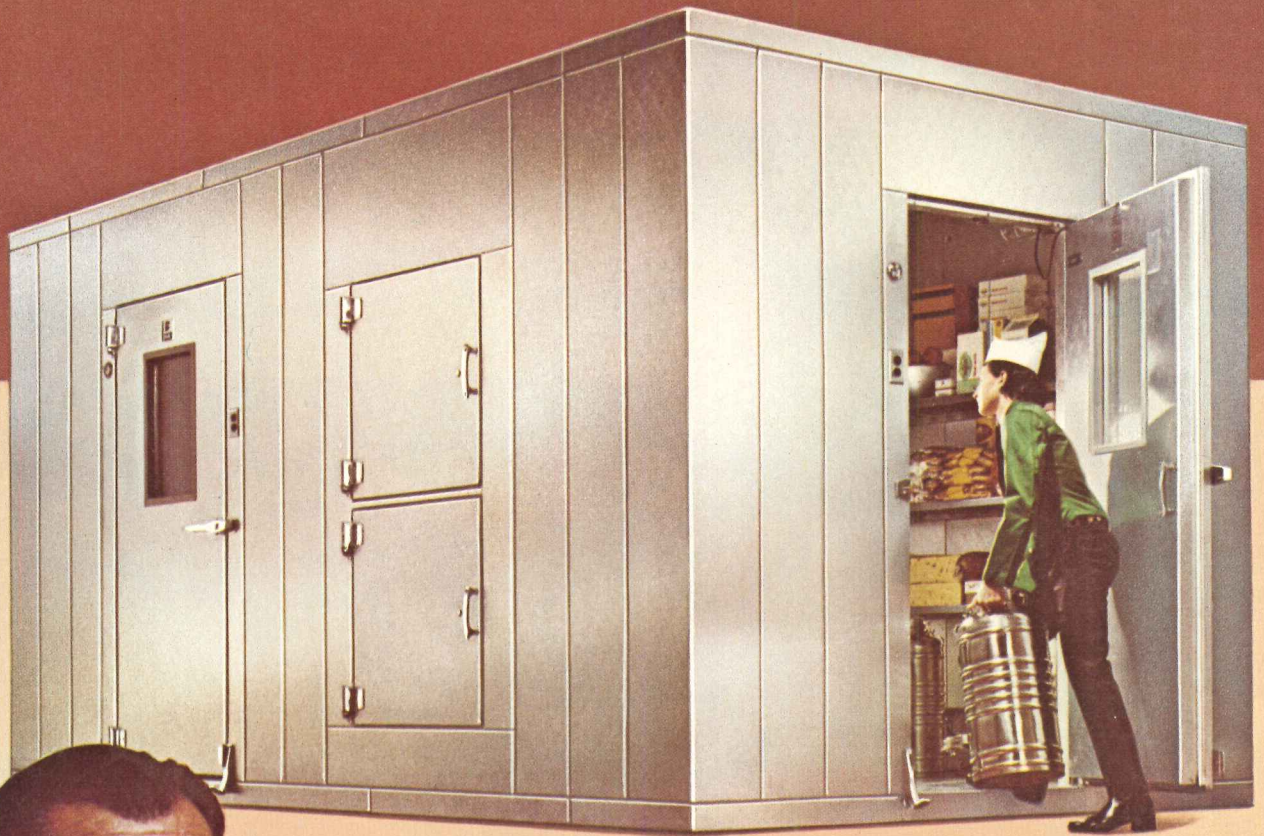
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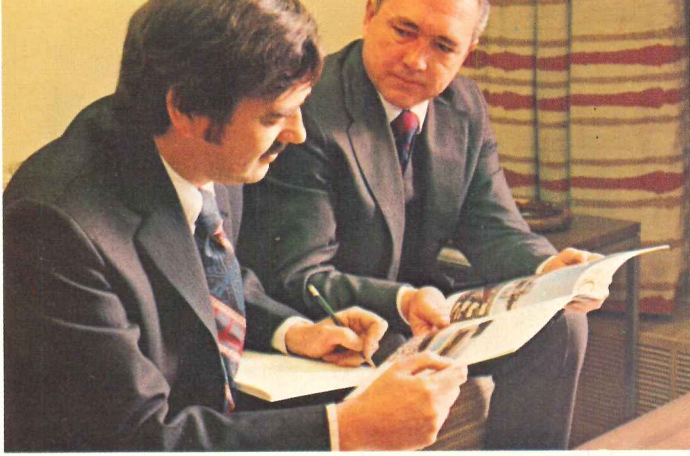
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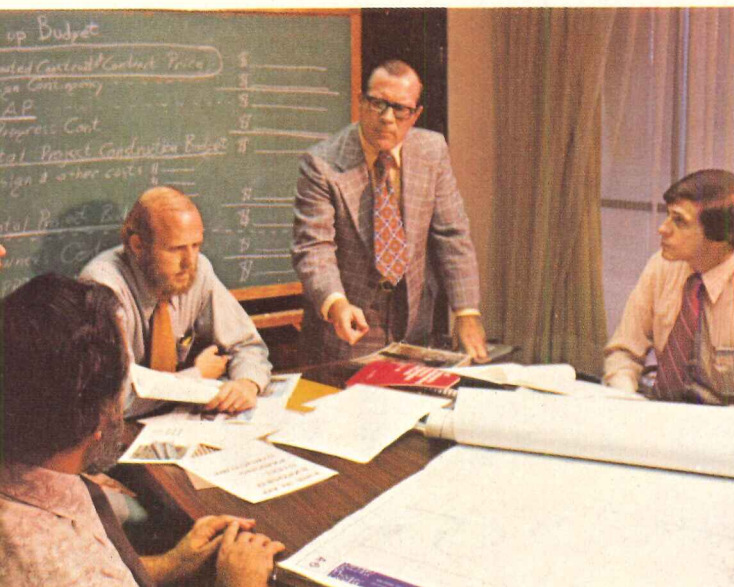


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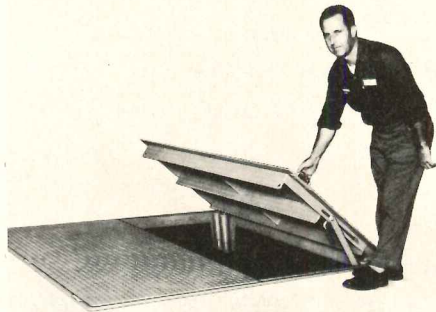
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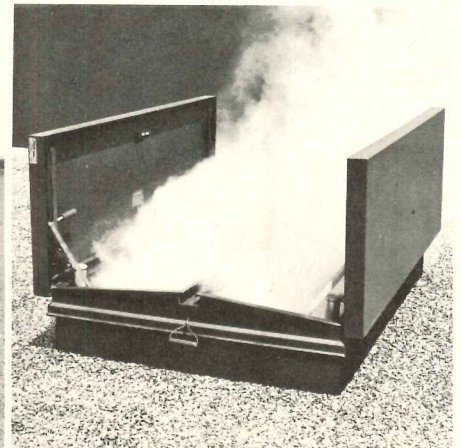
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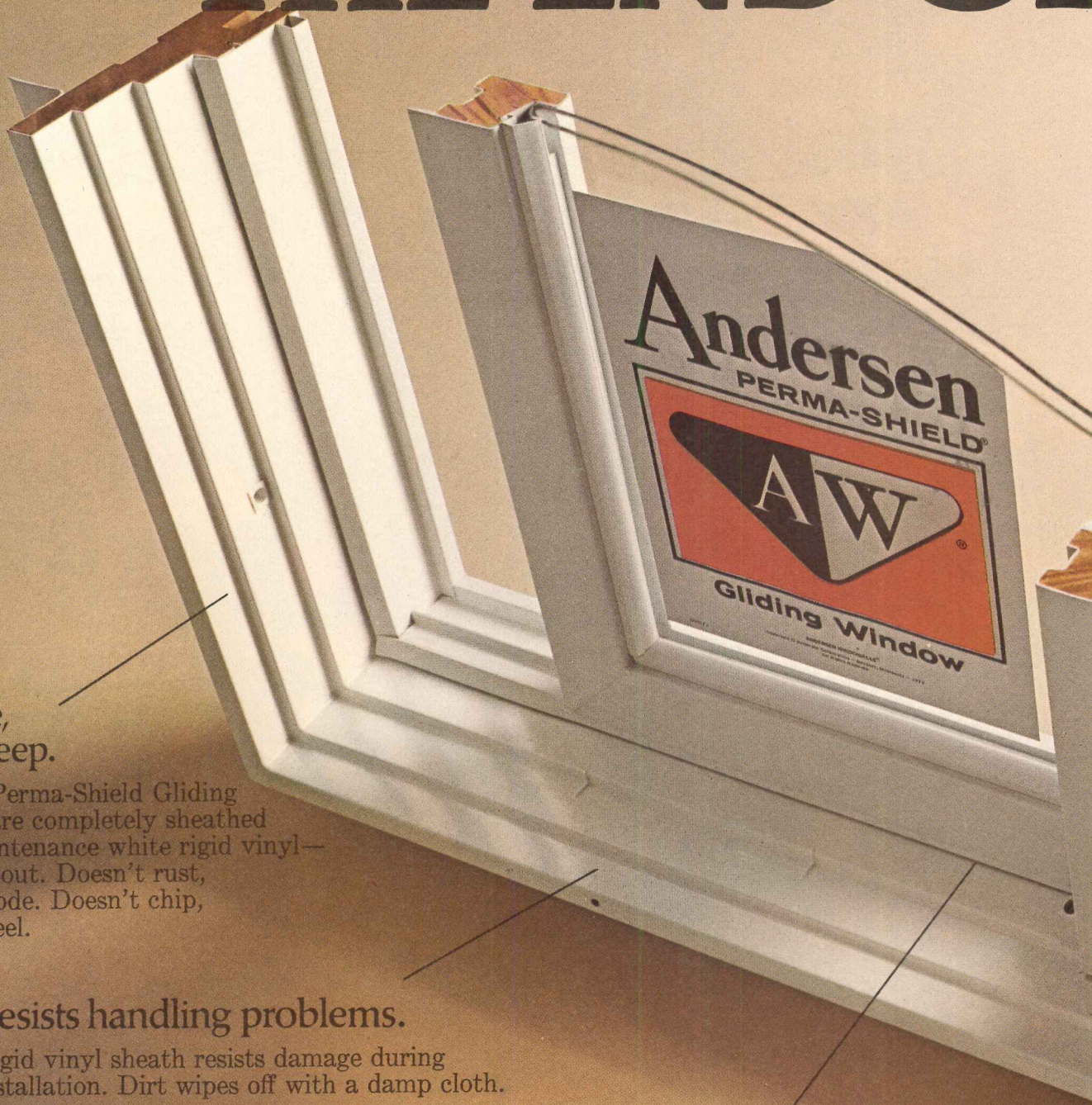


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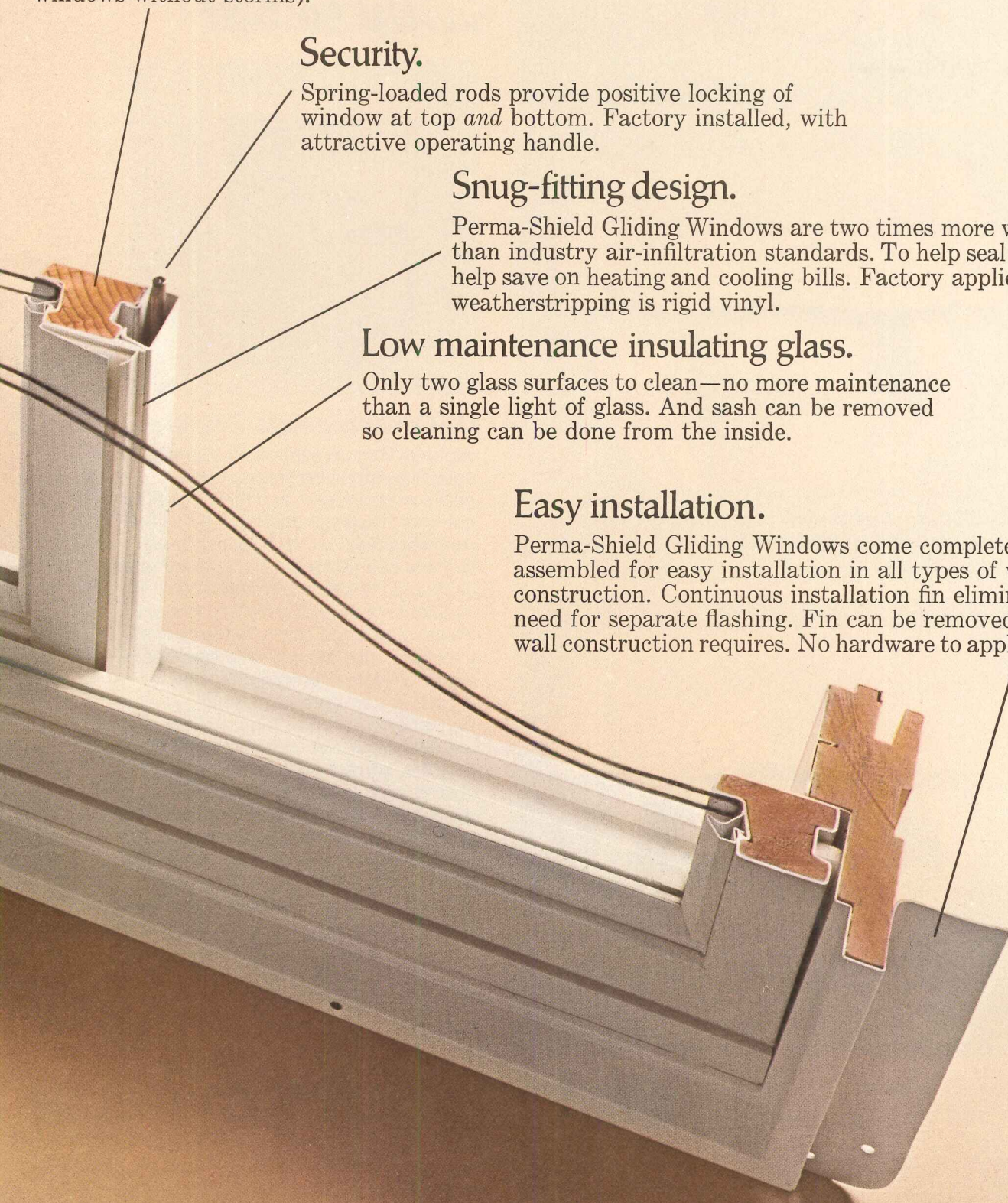
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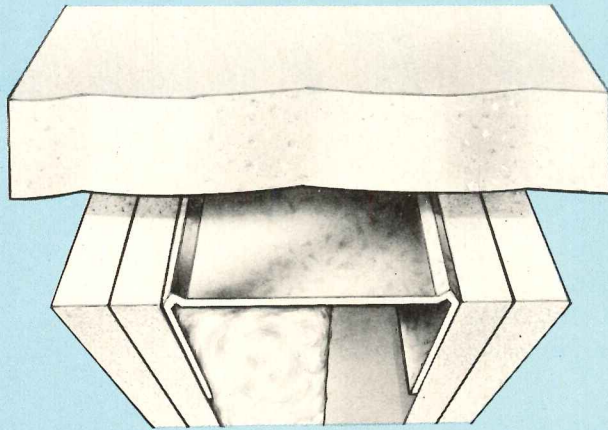
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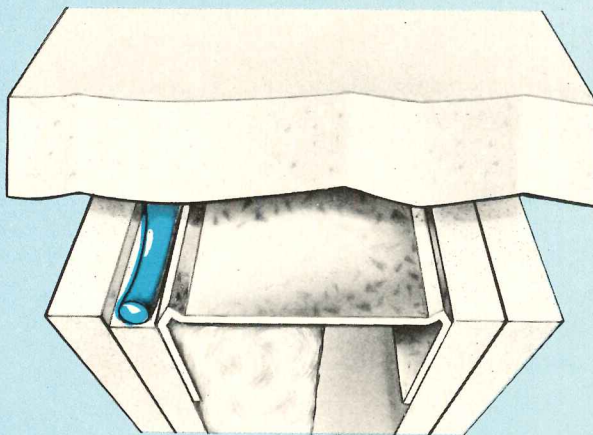
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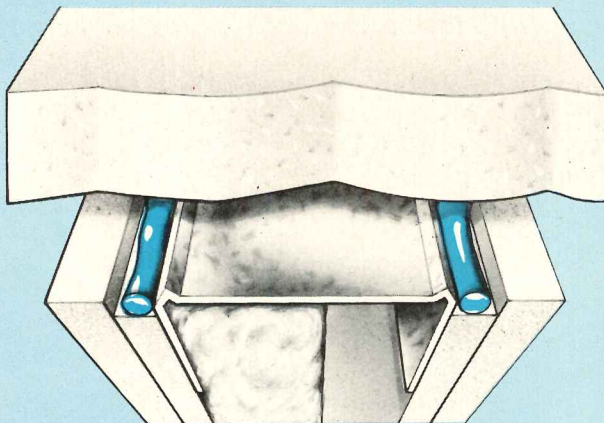




**29 STC-Unsealed**



**49 STC-Bead of sealant at perimeter of one base layer. No relief on other three perimeters of board.**



**53 STC-Both base layers sealed. No relief on face layers.**

**Draw a bead  
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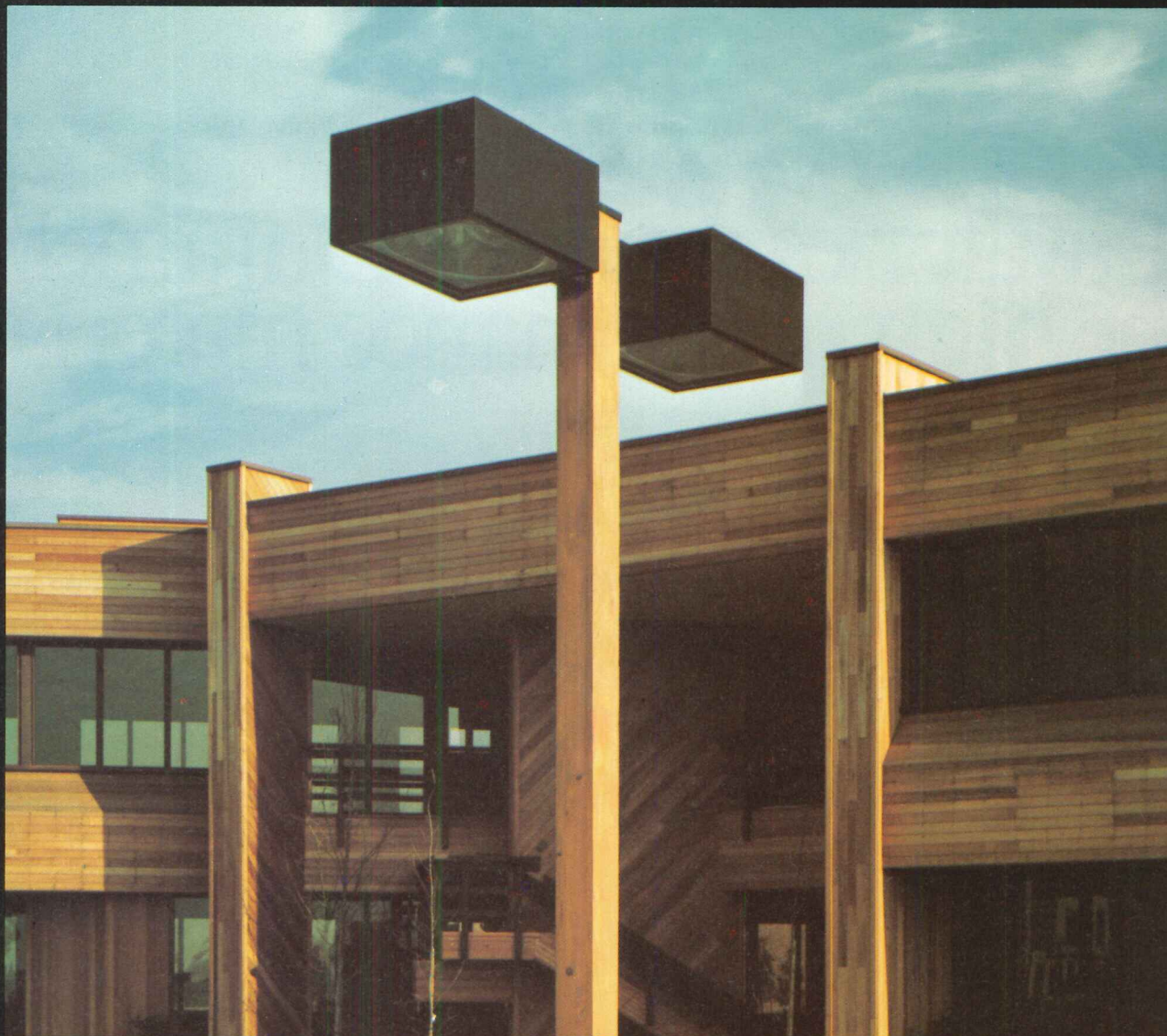
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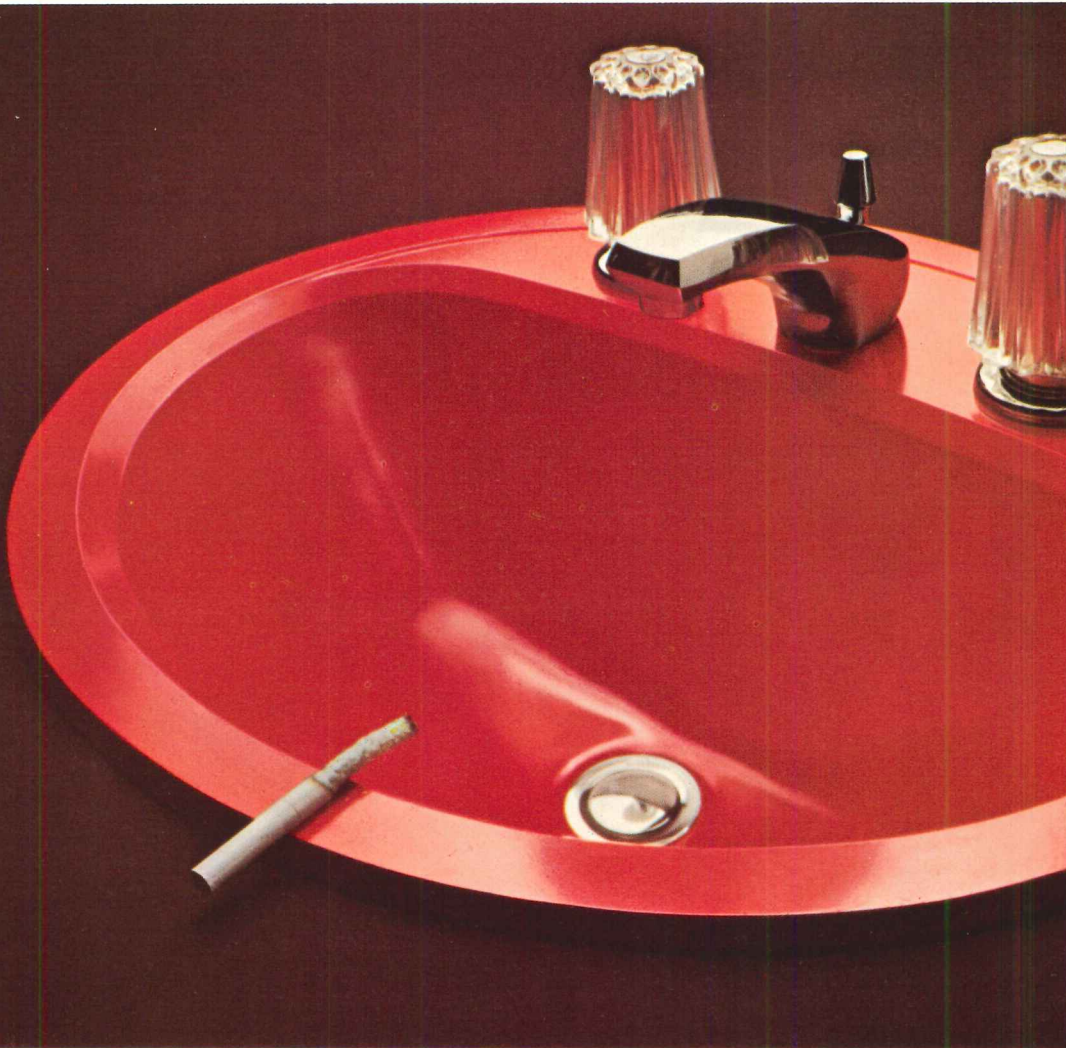
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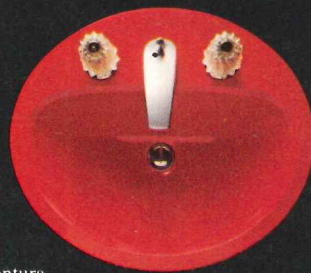
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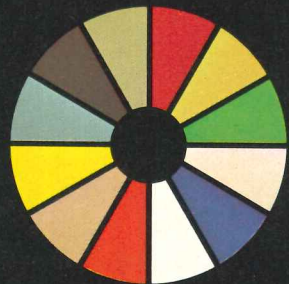
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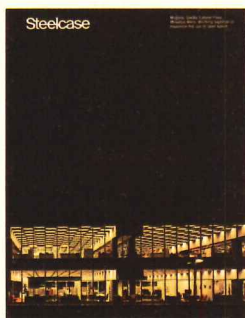




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**Top photo left.** Steelcase 9000 system in use at an energy company on the West Coast.

**Top photo right.** Steelcase Mobiles system in use at a corporate training center in the East.

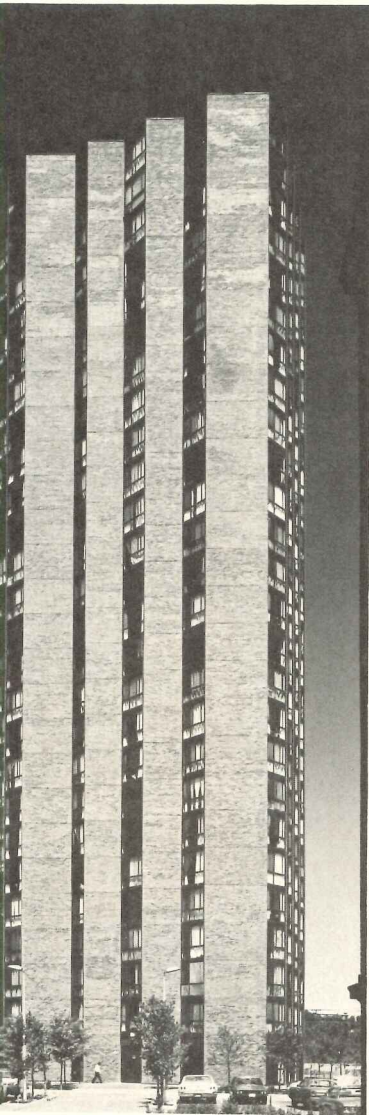
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For more data, circle 53 on inquiry card

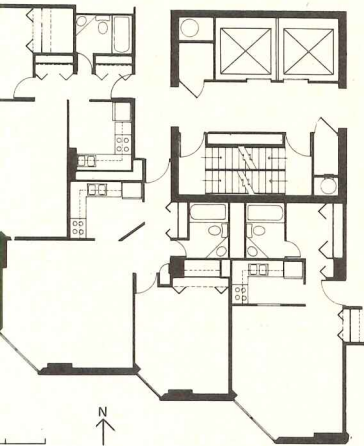


# WEESE (BEN) VERSUS MIES (TIGERMAN): TWO BUILDINGS, TWO ARCHITECTS, TWO POINTS OF VIEW

is better, this by Weese . . .



Lake Village East, a 25-story apartment tower



Architects Stanley Tigerman and Ben Weese of Harry Weese and Associates have each added a high-rise apartment to Chicago's skyline. Tigerman is noted as a radical and innovative designer. His fans and critics were surprised, therefore, when he elected the Miesian manner for Boardwalk, his first high-rise apartment building (right). No one was more astonished than his friend Ben Weese who lately has designed some apartment house towers which are handsome alternatives to the Mies box, including Lake Village East (left).

There is, of course, no one right way to do a building. The two under discussion were built in the same city, at the same time, at comparable costs per square foot—and yet they are remarkably different. Tigerman and Weese are in friendly disagreement about the best approach to high-rise apartment design. Both responded to our invitation to debate the issues in the RECORD offices, and their comments accompany the pictures on the following pages.

### Boardwalk is massive, modular and repetitive

The Tigerman apartment house slab is a 28-story complex of reinforced concrete financed under FHA, 221-d(4). Its construction cost as bid in January 1973 and excluding land costs and fees was \$8.4 million or \$18,666 per dwelling unit or \$15.96 per gross square foot. The project consists of 450 dwelling units made up of 128 studios, 222 one-bedrooms and 100 two-bedrooms. There are 25 typical apartment floors consisting of 18 dwelling units per floor for a typical gross floor area of 14,499 square feet.

The base accommodates a 270-car parking garage, commercial spaces, restaurant, swimming pool with bath house, tennis court and landscaped plaza deck. The total gross area including these facilities is 526,045 square feet.

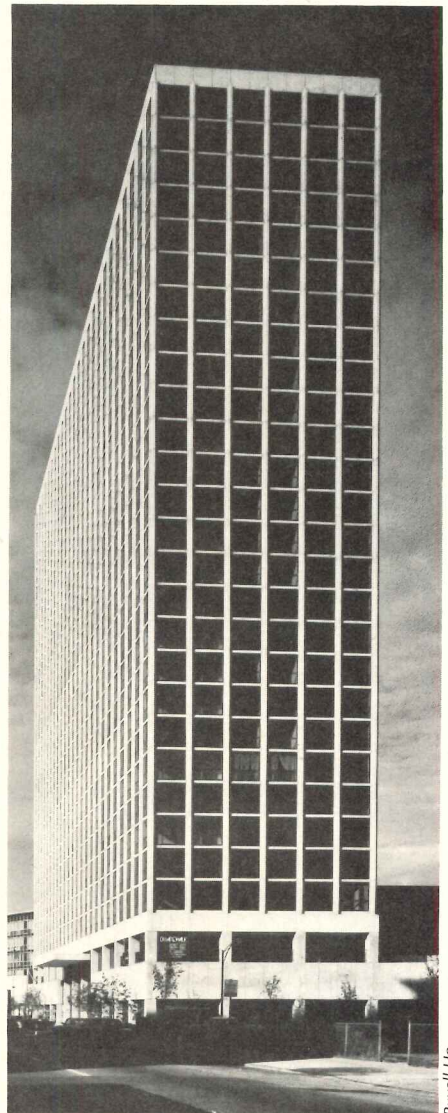
The structure is reinforced concrete frame with 20-by-20-foot square bays with a peripheral intermediate column for slab stiffening. This column system produces a repetitive series of 8-by-8-ft openings which are glazed with bronze hued float glass in hard anodic coated aluminum sash. The tower is 60 by 240 feet. The building has central heating and air conditioning distributed by vertical fan coil units at the perimeter.

### Lake Village East is slender, non-modular and varied

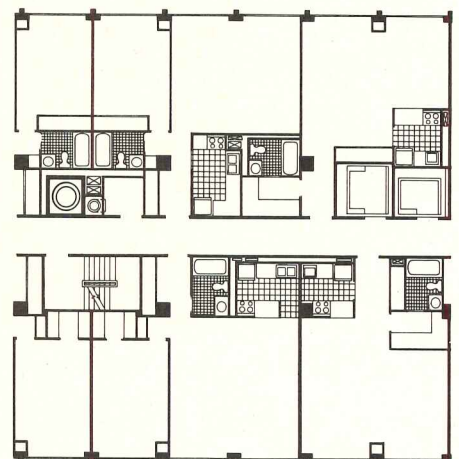
The Weese apartment house tower is a 25-story reinforced concrete structure financed under FHA 236. Its construction cost was \$3.1 million or \$15,500 per dwelling unit or \$16.90 per gross square foot. It consists of 200 dwelling units made up of 50 studios, 75 one-

*continued on page 90*

or this by Tigerman?



Boardwalk, a 28-story apartment complex





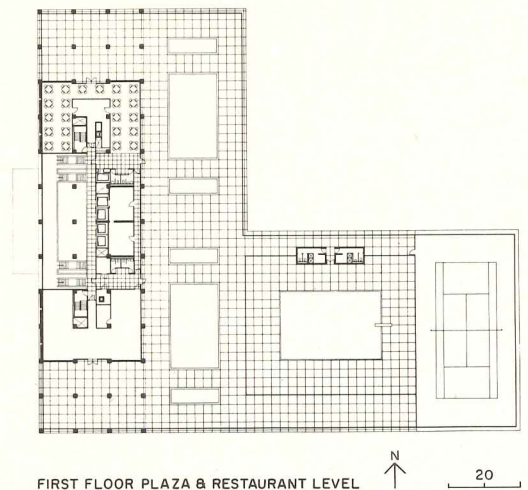
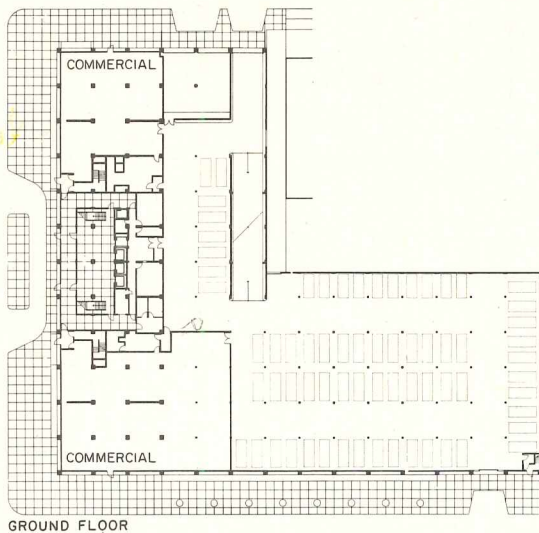
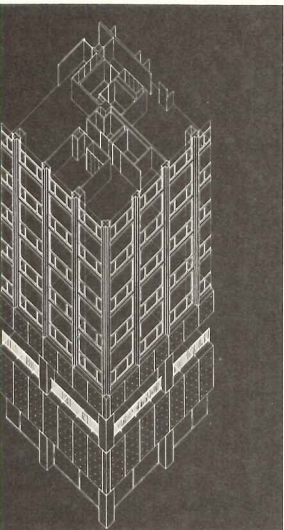
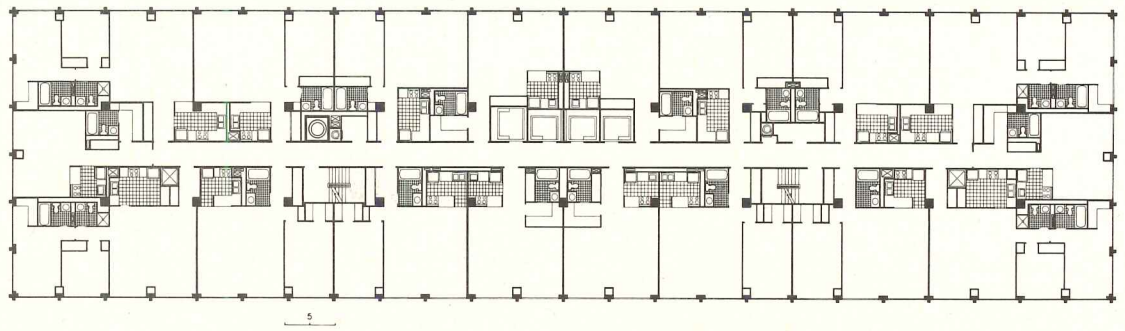




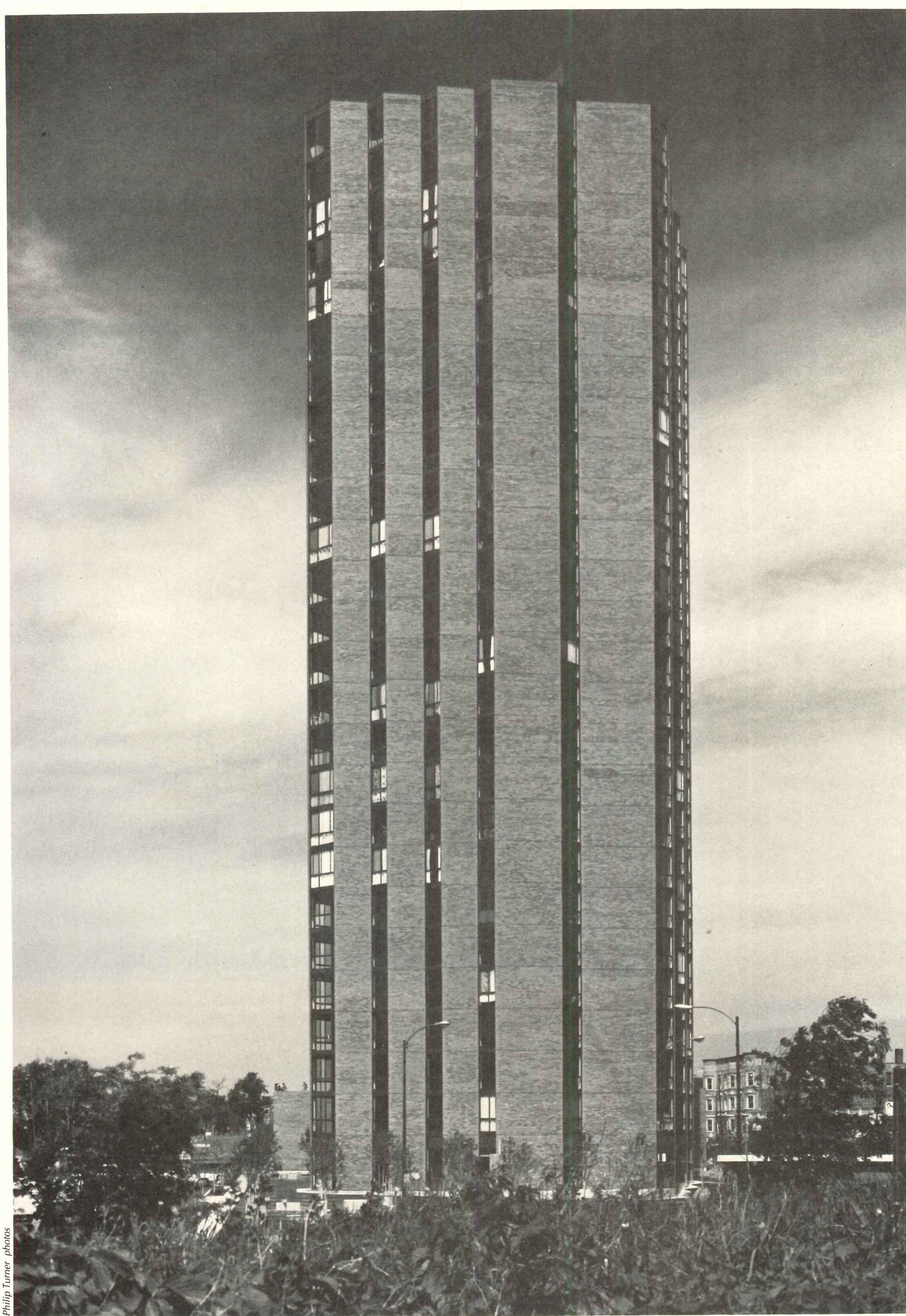
How many more of  
can Chicago stand?"  
Weese of Tigerman

...se's view Boardwalk is simply  
... "You could have done two  
... buildings on that site, Stan-  
... is brutal, austere, overpower-  
... Tigerman countered by empha-  
... the economies of doing a "big  
... resulting in a 1973 construction  
... \$15.96 per gross square foot.  
... ining the 450 dwelling units to  
... e mass a large portion of the  
... cre site was made available for  
... on a terrace above the park-  
... ge. "It takes a large concentra-  
... tenants to make such extensive  
... on facilities feasible," Tiger-  
... ints out.  
... ys Weese: "Why do bedrooms  
... corner exposure with three  
... y bays while living rooms get  
... yo?" Neither architect would  
... e that the other's room spaces  
... adequate size or could be eas-  
... ished. Tigerman's net to gross  
... typical floors is 89.9 percent  
... t, however, and the net areas of  
... rtment units are generous by  
... standards. Studios range in net  
... m 481 to 570 square feet, one-  
... ms from 570 to 764 square feet  
... o-bedrooms from 976 to 981  
... feet. These areas are signifi-  
... rger than those provided by  
... s plan.

...DWALK, Chicago, Illinois.  
... City Centrum Corporation. Ar-  
... s: Stanley Tigerman—asso-  
... Anthony Saifuku, John Haley.  
... rs: Cohen-Barreto-Marchertas  
... al); Wallace & Migdal (me-  
... l/electrical). General contrac-  
... C, Inc.

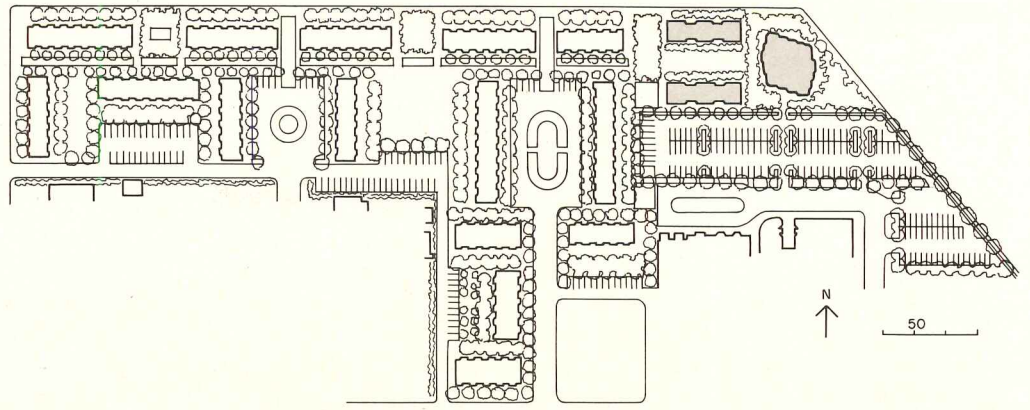








**You think you can do brownstone in the sky," says Tigerman to Weese, "but you can't"**

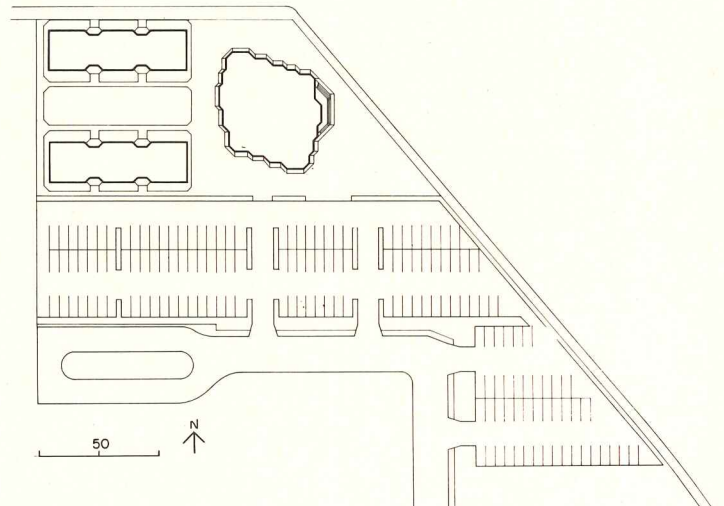
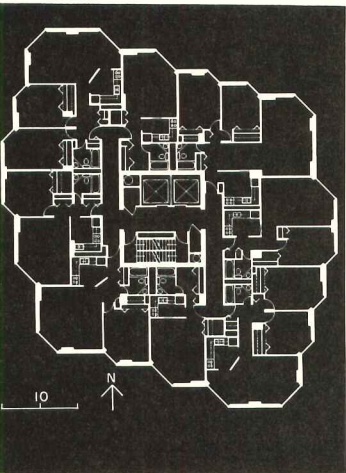


True, but by trying to give apartment units bay windows and the variety of room shapes which exist in older types of dwelling places such as brownstones, it is possible to create an apartment tower silhouette of great interest and variety," counters Weese. This tower is fascinating to look at, changing shape as the viewer circles it (right). Windows are angled toward the best orientation and views, but glass area is reduced in favor of continuous vertical slabs of brick.

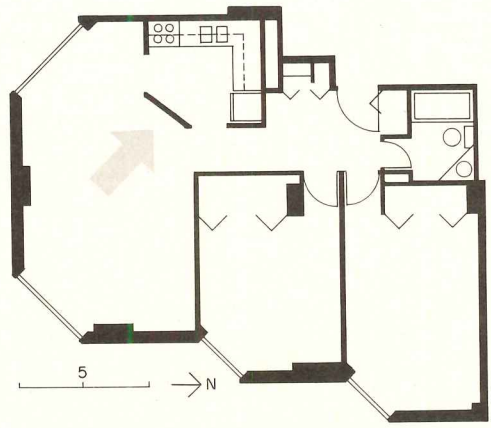
Weese began by developing the plan form (below) to fit the site and relate well to the two low-rise buildings included as part of his design (right). The non-modular beam and column layout came later, after the apartment units had been worked out. The additional cost of an irregular structural system is offset by the minimum perimeter skin. Tigerman, on the other hand, was limited to 20-foot-square bays to accommodate Boardwalk's basement parking garage. Money saved by adhering to this economical module was partially spent to provide the floor-to-ceiling glass for each bay.



LAKE VILLAGE EAST, Chicago, Illinois. Owner: *Lake Village Associates*. Architects: *Harry Weese & Associates—associate-in-charge: Benjamin H. Weese*. Associated architects: *Gordon-Levin Associates*. Engineers: *Cohen-Barreto-Marchertas* (structural); *Nachman, Vragel & Associates* (mechanical/electrical). Consultant: *Loe Karr & Associates* (landscape). General contractor: *McHugh Construction Co.*





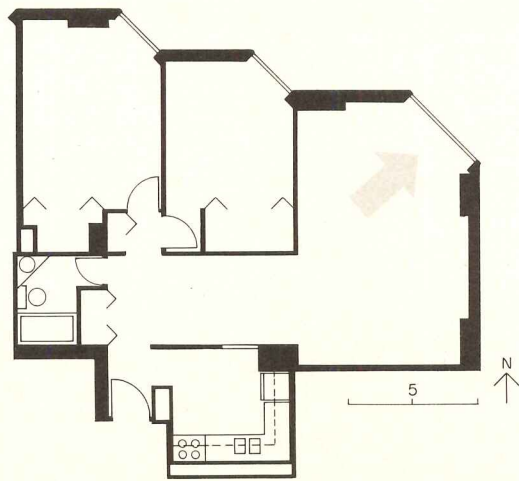


Hedrich-Blessing

Says Weese: "Universal space is what Mies, in the name of efficiency, said people should live in. Well, I disagree. You can't furnish these spaces. Where do you put the chifforobe—against the window, as I once saw in a Mies apartment? How does a guy live with Biedermeier? We are back to that." Although the Lake Village East model apartments shown above and opposite are poorly furnished examples, Weese's apartment layouts do provide a lot of wall perimeter for chifforobes, escritorios, bibelots and other nostalgic objects to which people unaccountably cling and which are now once more in fashion.



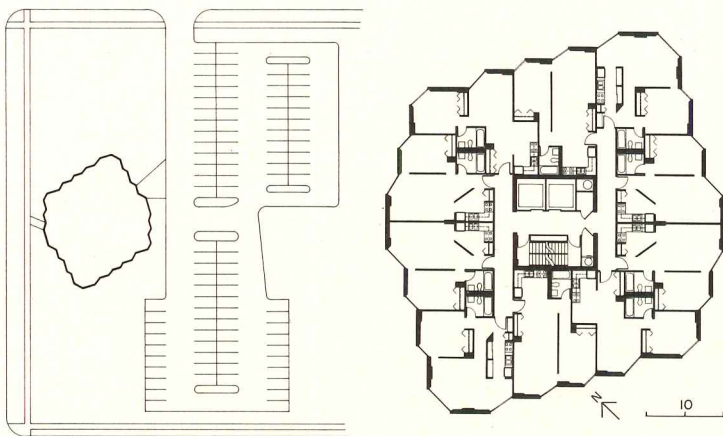




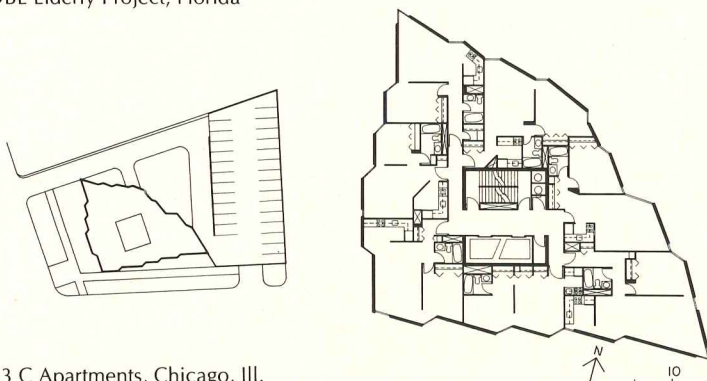
Hedrich-Blessing

"For Boardwalk I wanted to get the biggest units and the largest area possible. I wanted a lot of glass and flexible space." Tigerman got his space. His apartment units are significantly larger than Weese's shown above and opposite. Lake Village East's studios range in net area from 434 to 486 square feet, one-bedrooms from 586 to 690 square feet and two-bedrooms from 859 to 947 square feet. These figures can be compared with those given for Boardwalk on page 85. Weese's net to gross ratio on typical floors is 87 per cent efficient as opposed to Tigerman's 89.9 per cent. Tigerman's units cost less to build.

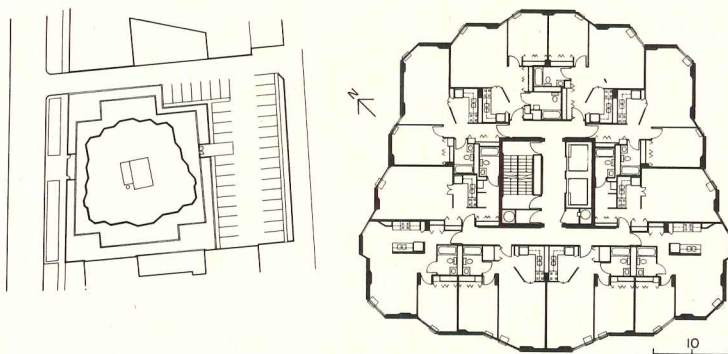




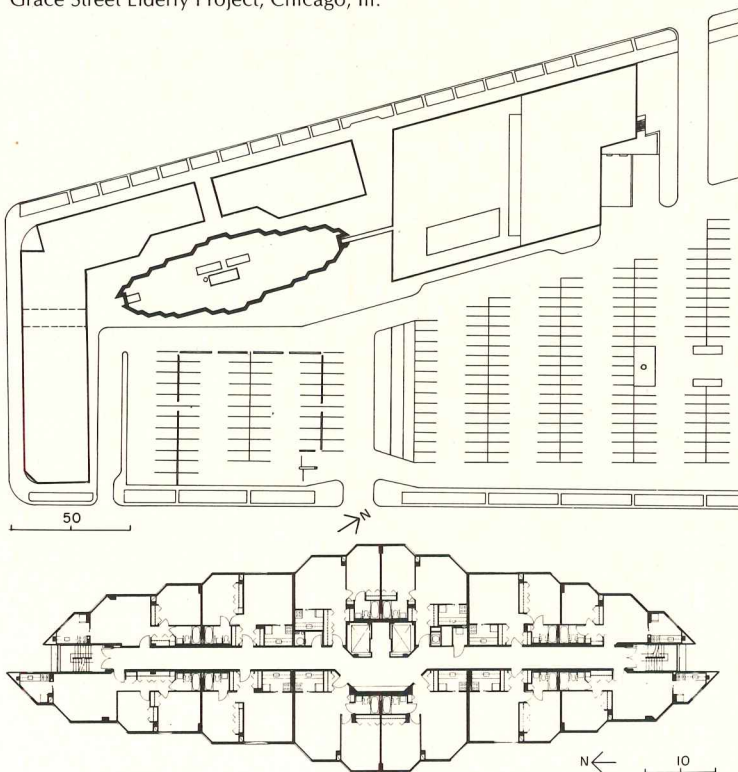
DBE Elderly Project, Florida



53 C Apartments, Chicago, Ill.



Grace Street Elderly Project, Chicago, Ill.



John Knox Home Elderly Housing, Norfolk, Va.

bedrooms and 75 two-bedrooms. The 25 typical apartment floors have eight units per floor for a gross floor area of 6,255 square feet. Parking for approximately 130 cars is on grade. Its program did not call for the commercial and recreational facilities of the Tigerman project.

Lake Village East demonstrates the advantages of "minimum perimeter" floor planning. Through this approach a variety of finely tuned floor plans can be achieved. Weese has set aside rigid structural modules and predetermined plan shapes in favor of plan forms which he believes are more closely adapted to need. Permutations of these plan forms are devised to suit a variety of programs, even low-income housing. Weese has compared "equivalent area" rectangular and square floor plans. Such plan shapes, which he believes are often used arbitrarily, require sizable additional wall surface to enclose the same amount of floor area. In minimum perimeter schemes the savings in wall area can offset the extra costs stemming from the complexities of non-modular slab and reinforcing steel forming.

Weese asserts that the individual apartment units at Lake Village East are more livable than those in Boardwalk, and that the variety of unit types offered is an advantage. A minimum perimeter tower will fit well into an oddly shaped site and give a reduced sense of mass because of its receding wall planes. It may enhance views and make the most of available orientation.

#### Designing a building form with 38 facets

The tower, limited to 25 stories by community pressure, was planned to attract young, fairly sophisticated households who would become the nucleus of the population. Ben Weese and his team, working within the Section 236 cost limits and the tight constraints imposed by urban renewal, came forward with a complicated *parti* which departed widely from the standard rectangular form. The structure they proposed was based on developer requirements which included short corridors for efficiency and security, interesting floor plans for rentability, and structural economy. The result was a building form with 38 sides, tending toward the circular form which offers the most economical ratio of perimeter wall to floor area, while at the same time permitting standard rectangular components and rooms. The flexibility of the design allowed maximum planning efficiency, since variations dictated by floor plan considerations could be expressed in the exterior wall without cost penalties. At the same time the plan made the most of the good views toward the lakefront and downtown Chicago, while reducing glass areas to reduce heating and cooling loss.

#### Examining the options

Tigerman's building illustrates his belief that Miesian architectural forms and details are not only still applicable to current high-rise apartment requirements, but are endlessly perfectable in the esthetic sense. In proving his point, he has created a building which is at once more economical in cost and generous in its square foot allotments than Weese's tower. Lake Village East is of more current architectural interest, however, because it embodies genuinely new planning ideas. Its silhouette is attractive (partly because it is unfamiliar looking) and the basic concept is adaptable to many other site conditions. Neither building is really better than the other. Together they represent two of the kinds of viable, valid options we need.—Mildred F. Schertz



# DISPLAYING AND PRESERVING ARCHITECTURAL ARCHIVES

...those countless drawings and other documents from the past that describe the ways architects have designed and built buildings. Architectural archives are often objects of great beauty, they are of vital interest to historians—and, with the increasing interest in rehabilitation and adaptive reuse, they are of great practical value to architects. What are we doing to preserve them and make them available?

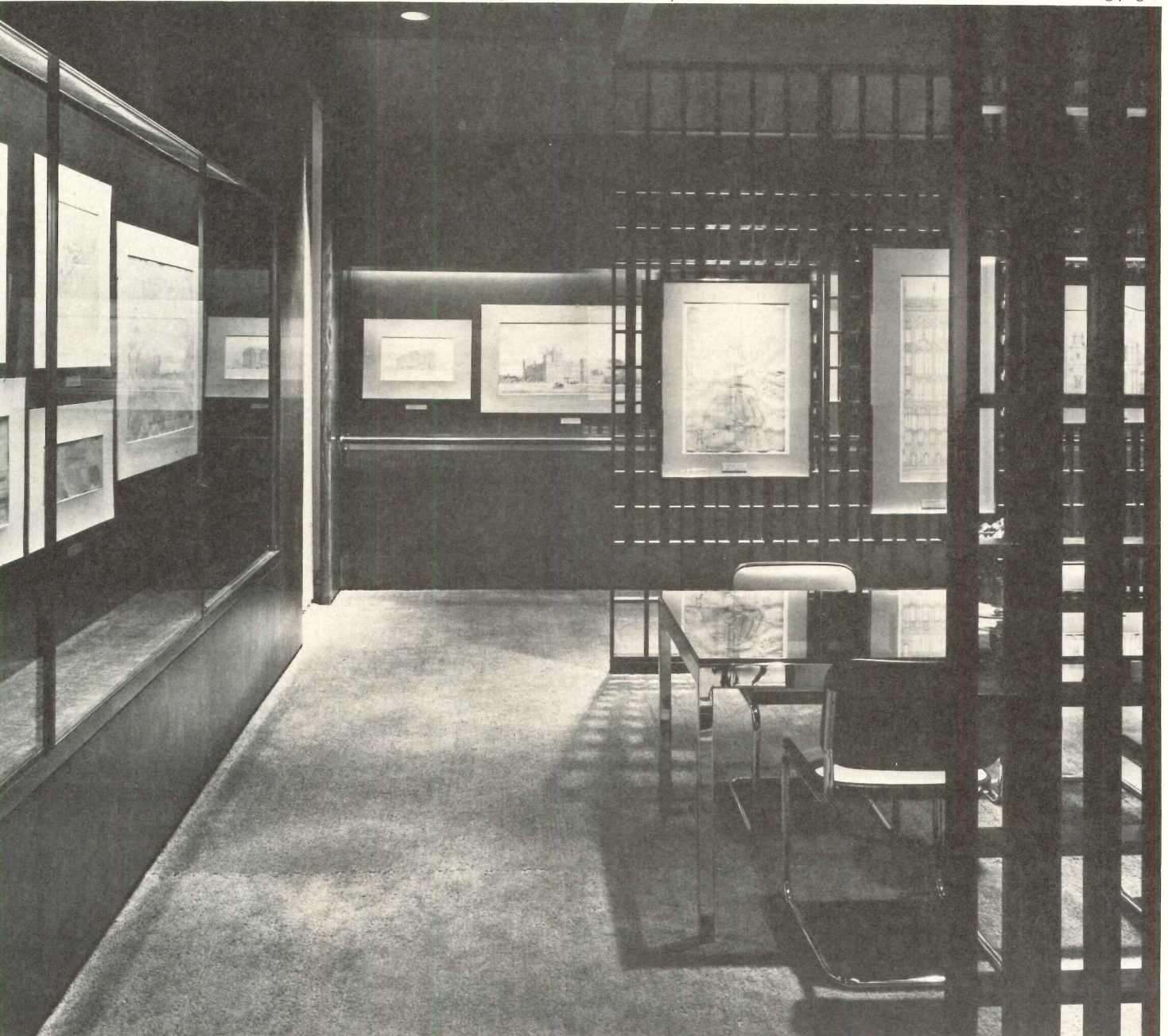
We are not doing enough to save our important architectural documents, according to the Committee for the Preservation of Architectural Records, a group of architects and architectural historians who banded together just over a year ago under the sponsorship of The Architectural League of New York to try to do something about a bad situation.

"We're miles behind countries like Canada and England," says Catha Rambusch, CPAR's project director. "There is really no national architectural archive in the United States, and not only are many valuable documents being lost almost daily, but it is often hard to find out what libraries, museums and other collections actually have stashed away.

Sometimes they don't know what they have."

The problem is complicated, too, by the difficult question of just what is really worth preserving, as Adolf Placzek, librarian of Columbia University's Avery Architectural Library, points out: "For a piece of music there is usually only one original score, and for a novel one manuscript. But for a building there are sketches, presentation drawings, working drawings, specifications, plumbers' bills, change orders and so on. It is not easy to decide what to keep." And among today's practicing architects concern for keeping anything for the historical record tends to be low, so that there is no standard procedure for preserving the drawings even of a generally acknowl-

The Heinz Gallery at the Drawings Collection of the Royal Institute of British Architects (described on the following page).





edged great architect like Louis Kahn, the fate of whose papers is at the moment unclear.

### An example from abroad

In Great Britain, by contrast, the Royal Institute of British Architects has a vast store of drawings which have been collected since 1834 and which date from about 1520 to the present. The RIBA's collection amounts to well over 200,000 drawings, amply housed in an eighteenth-century row house designed by James Adam, which has a modern gallery (shown on the right) for continuing public exhibitions. RIBA is also in the process of publishing a more than 20-volume catalog of its drawings, so that information about them will be available in architectural libraries virtually everywhere in the world.

The RIBA's drawings collection, and its very large collection of books and its other information services make it a central and important clearing house for almost every kind of architectural information—and even so its library, known as The British Architectural Library, is actively expanding (see box on the following page).

In these terms the American Institute of Architects is considerably less lucky, with a much smaller collection of books and drawings that, at least according to some critics, is incapable of functioning as an information center on a national level. America's nearest parallel to The British Architectural Library is probably the Avery Library at Columbia University in New York, which has not only a large collection of books, but a number of ancillary bibliographical services and between ten and twenty thousand architectural drawings.

In addition, the Historic American Buildings Survey, though it is not itself concerned with old drawings for the sake of their intrinsic artistic merit, has a vast collection of measured drawings and other information on old American buildings. Though it has traditionally received meager funding since its founding 42 years ago, the Historic American Buildings Survey is still a major source of information about the architecture of the past in this country.

But still the vast majority of archival materials are scattered about the country, more or less well preserved, more or less well documented in various libraries and museums and historical societies, in the buildings which the drawings depict, or—quite literally—in people's basements or attics.

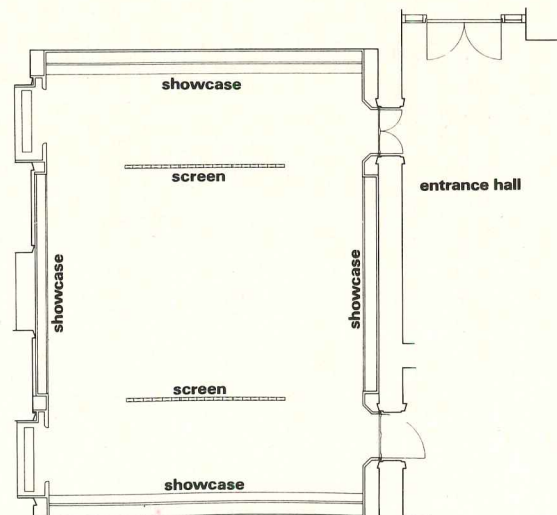
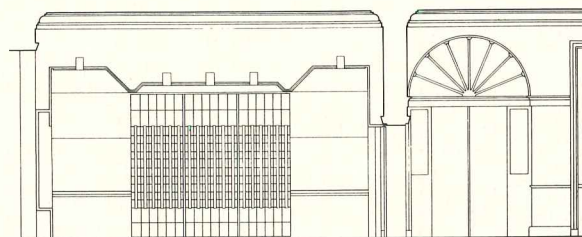
### Goals of the Committee for the Preservation of Architectural Records

There are in general two different challenges today in the field of architectural archives in the United States: One is that of raising money and enthusiasm, as well as developing techniques, for the preservation of architectural drawings and documents, so that they will not be destroyed either by accident or on purpose, and so that they will not slowly deteriorate in storage. The other quite different challenge is to develop some sensible way for interested people to find out what exists and where. In the process of all this, other important decisions have to be made—like, for instance,

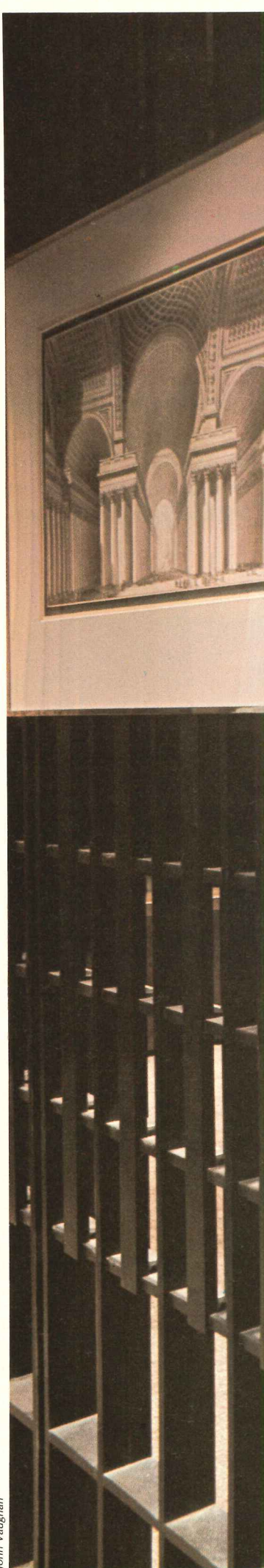
The Heinz Gallery for the Drawings Collection of the Royal Institute of British Architects occupies a completely remodelled ground floor room in an 18th-century London townhouse. All four walls of the room have long recessed showcases with dustproof sliding glass fronts and directional lighting with ultraviolet filters. The lighting consists of parallel rows of fluorescent tubes, one 3000K, which is similar to the temperature of tungsten lamps, and one 4000K, which is closer to the color of daylight. Each set of tubes is controlled by a separate dimmer, and a great variety of color and intensity can thereby be achieved.

In the center of the room is a stainless steel and glass table, and on either side of it are removable screens made of solid ebony, on which large framed drawings can be hung. The walls are of Brazilian Imbuva veneer, and the carpet is natural color undyed North African wool.

THE HEINZ GALLERY, Royal Institute of British Architects, London. Architects: *Stefan Buzas and Alan Irvine*. General contractor: *E.A. Edmonds & Co. Ltd.*



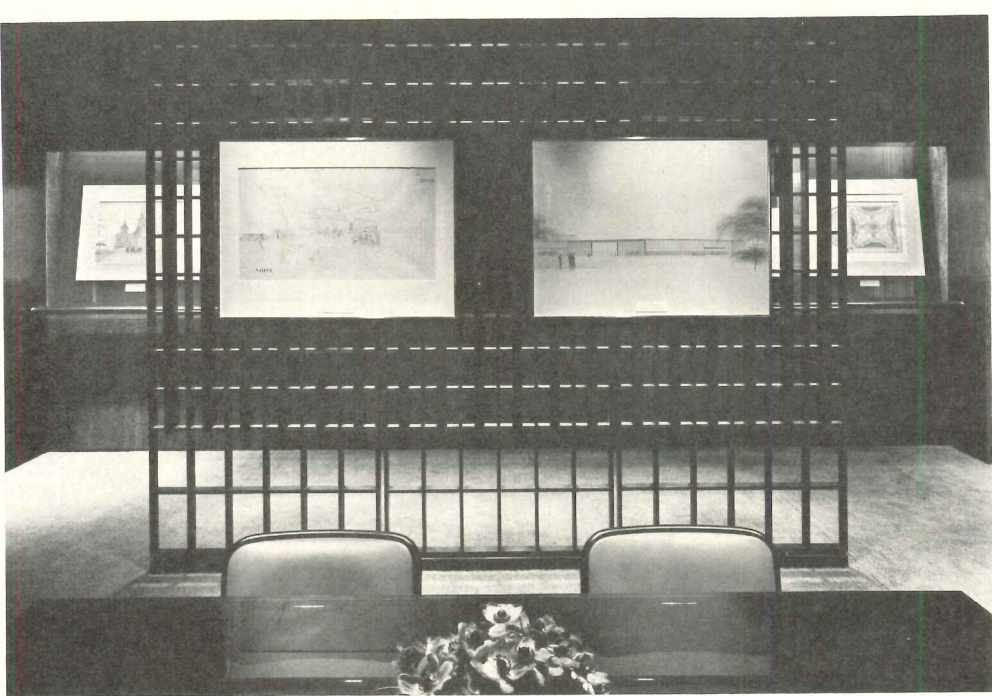
John Vaughan











Edgar Hyman

what kinds of architectural drawings are valuable as objects of art themselves (and are therefore worth preserving as originals) and what kinds are valuable only for the information they convey (and can therefore be stored more efficiently on microfilm or microfiche).

The Committee for the Preservation of Architectural Records is a loosely knit group of people whose interest is focused on the question of architectural archives on a national level. The central ingredient is concern for the problem, and it is matched by a sufficient flexibility to respond to several different constituencies—architects interested in preserving their own records or those of others, art and architectural historians who want to know

about the location and availability of certain documents, librarians and other people interested in establishing and maintaining architectural archives in their communities.

So far the Committee has concentrated mainly on the task of providing information. A directory of existing architectural resources in New York City has been established as a pilot project which it is hoped will be emulated elsewhere in the country. In cooperation with Columbia University the Committee is also developing as a pilot project inventories of three existing New York City architectural firms, and, as is described below, they publish their own newsletter for the benefit of interested architects, scholars and students.

### Where to find old architectural drawings and drawings of historic buildings

#### The Koyl-Mathieson Catalog

Far from complete, this is still by far the most complete listing of drawings of American buildings, catalogued with descriptions of individual drawings and their whereabouts. The original is now housed in the Smithsonian Institution, Washington, D.C. 20560, where access to it is limited but can be arranged.

A part of the Koyl-Mathieson catalog was published in 1969 in four volumes and in a cumbersome format. It is available in some libraries. A useful Bicentennial project would be the publication of the full catalog in a more convenient format—but so far there are no funds.

#### Historic American Buildings Survey

HABS, which is a part of the National Parks Service, has assembled a collection of measured drawings, photographs and other information about more than 16,000 American buildings. The collection is stored in the Library of Congress, where it can be consulted. Copies of HABS material can also be ordered from the Prints and Photographs Division, Library of Congress, Washington, D.C. 20540.

Finding out what HABS actually has in its collection can be confusing. Its original catalog was published in 1941, followed by supplements in 1959 and 1963. Since the supplements are not cumulative it may be necessary to look in all three

listings to find a particular building. Since 1963, however, HABS has begun a new series of cumulative and comprehensive catalogs organized by states or by region. HABS hopes to complete this series by 1976; more information can be obtained from the Historic American Buildings Survey, Office of Archeology and Historic Preservation, National Park Service, Department of the Interior, Washington, D.C. 20540.

#### Newsletter of the Committee for the Preservation of Architectural Records

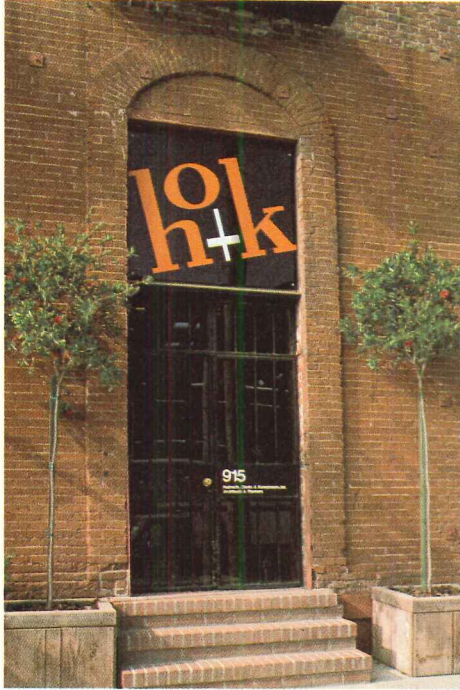
CPAR regularly publishes a two-page *Newsletter* as a part of its efforts to act as a clearing house for information about all aspects of architectural archives. More information can be obtained from the Committee for the Preservation of Architectural Records, The Architectural League of New York, 41 East 65th Street, New York, N.Y. 10021

#### The British Architectural Library

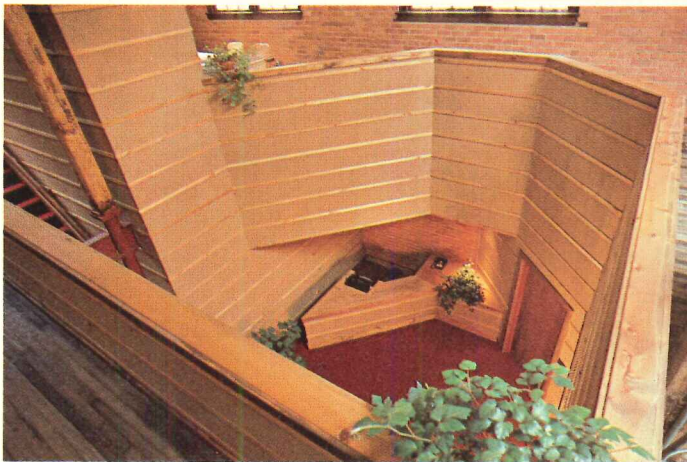
The main collection is in the Royal Institute of British Architects, 66 Portland Place, London W1N 4AD, and the Drawings Collection is at 21 Portman Square, London W1H 9HF. The Library will answer requests for information from the United States, and it also invites contributions to its current appeal for \$2.5 million for expansion of its collections & services.



Stephen Dunham and Kiku Obata



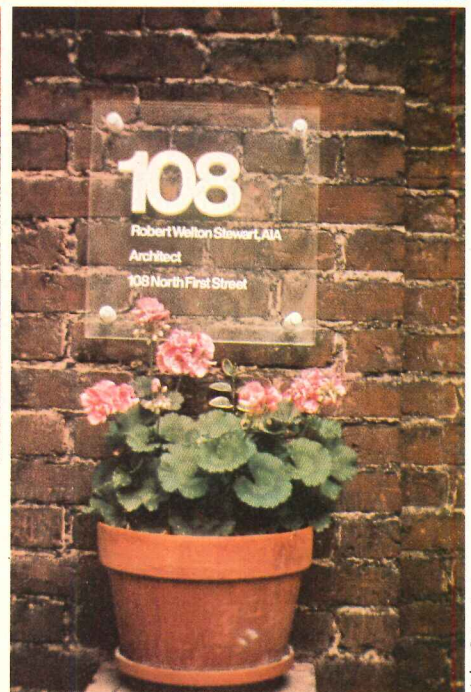
Balthazar Korab



Harris and Davis



Ron Thomas

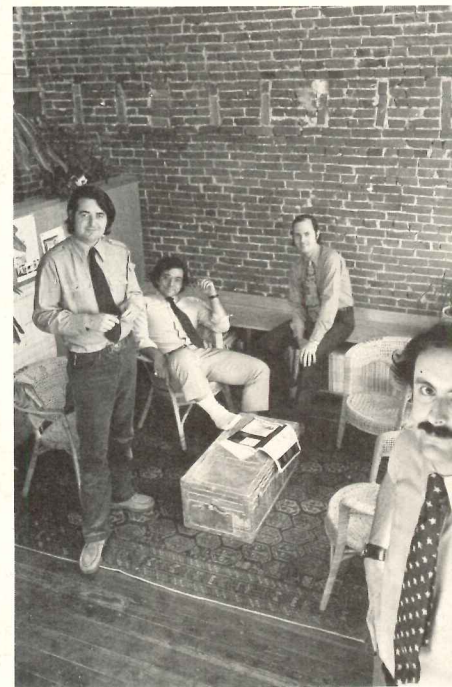


John G. Lewis, Jr.

# THE "BARE BRICK SCHOOL"

In their enthusiasm for old buildings, architects have become major consumers of renovated spaces for their own offices. They not only have discovered the economic advantages of remodeling an older building, but together they have also developed a surprisingly consistent rehab style, consisting of exposed wood surfaces, rough and ready details, bright colors (preferably Marimekko) and—above all—the obligatory bare brick wall. What has emerged is one thing the profession desperately needs—a vernacular style that is handsome, economical, easily understood and easily copied by just about anybody just about anywhere. Some examples. . . .



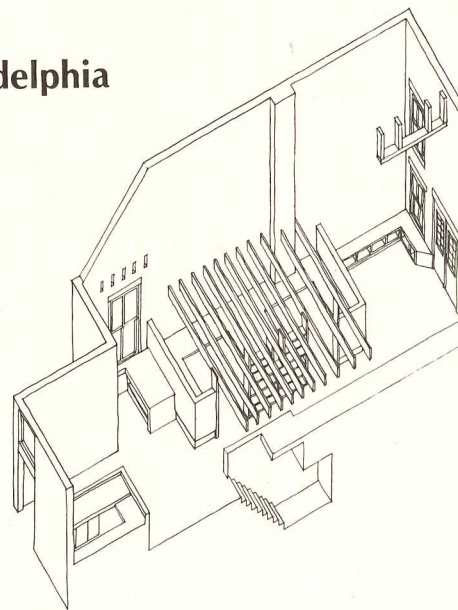


Harris and Davis photos

## Baker Rothschild Horn Blyth—brick and bright color in Philadelphia

This young firm took on as its first project the remodeling of an 840-square-foot space for its own office. The space is on the third floor of a nineteenth-century commercial loft building, and originally it had two levels. The architects put new joists into the existing joist pockets to create the feeling of separation between the reception area (photo top right) and the rest of the office (photo above). Below the new joists are individual work stations for each of the firm's four partners, and above—in due course—there will be a mezzanine for expansion. The conference area (photo above right) is the only part of the office where the full 19-foot height of the loft space is unobstructed; it stands at the opposite end of the office from the raft of colored banners that are the office's other memorable feature.

OFFICE FOR BAKER ROTHSCHILD HORN BLYTH, Philadelphia, Pennsylvania. Architects and general contractor: *Baker Rothschild Horn Blyth*.







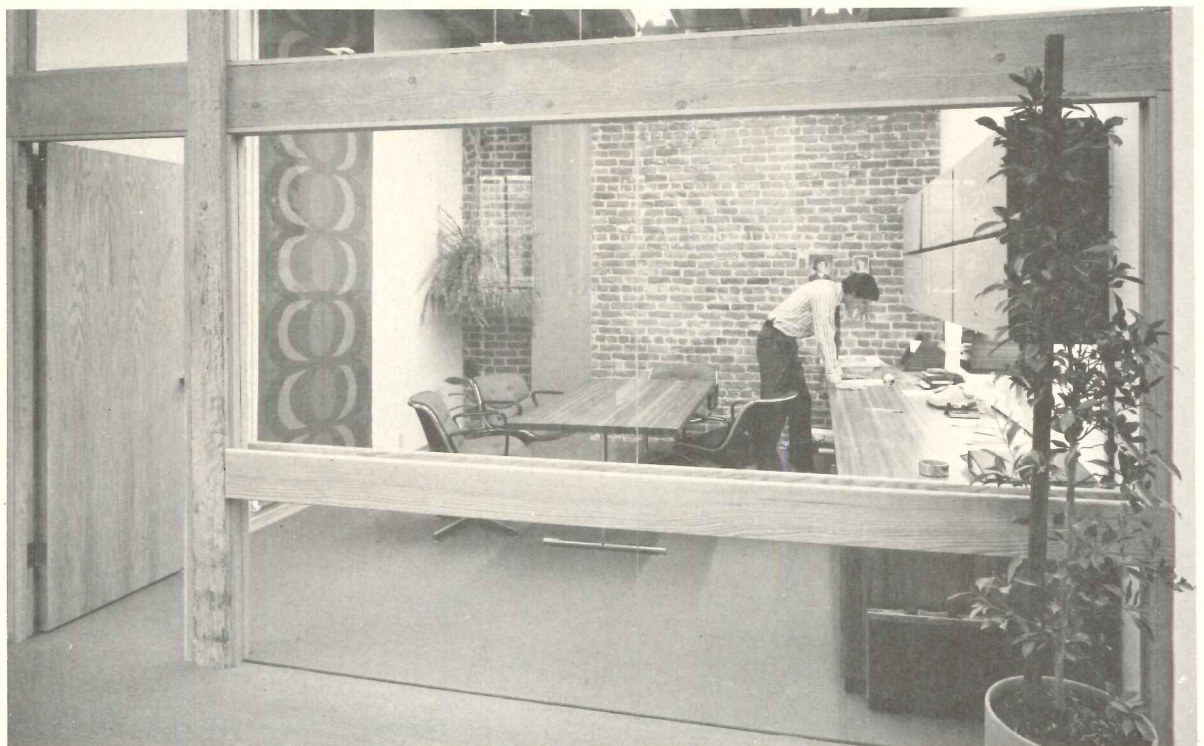
Stephen Dunham and Kiku Obata photos

## HOK in San Francisco—a big firm goes Bare Brick

HOK'S San Francisco office is in a part of the city between downtown and Telegraph Hill where renovation and adaptive use are the rage—an area characterized by large brick warehouse buildings ready to be turned to more glamorous commercial use. In this case the intention was to create a simple kind of space where there could be a heterogeneous mix of employees without the usual distinctions between front and back room. So the major part of the space is given over to one open office area (photo above) where members of the staff have their own work stations defined by low partitions. This large space is on the outside of the building, with exposure to natural light. On the inside wall there are three offices that offer more privacy (photo below) and a conference room.



OFFICE FOR HELLMUTH, OBATA & KASSABAUM, San Francisco, California. Architects: Hellmuth, Obata & Kassabaum—project team: Gyo Obata, Dan Gale, Bill Valentine and Bob Stauder. Contractor: Balliet Brothers Construction Corporation.





## William Morgan Architects—crisp and white hits old and mellow

The building this architectural office calls home began life in 1901 as a livery stable and a blacksmith's shop. In more recent times its ground floor had been turned into a parking garage and its second floor, where the office now is, contained a printer's shop and press. What was originally the blacksmith's shop is now the entrance stairwell (photo far right) leading up to the office proper (photo below). This is a high skylit space in which an elegant white structure has been inserted, in strong contrast to the rough brick walls and the bare roof joists above. The main level of the office is occupied by a reception area and a conference room (photo immediately right), while the upper level is one large, open drafting loft, brightly lit by the skylights immediately overhead.

OFFICE FOR WILLIAM MORGAN ARCHITECTS, Jacksonville, Florida. Architects: *William Morgan*. Engineers: *Haley W. Keister*, (structural); *Roy Turknott & Associates* (mechanical/electrical). Contractor: *Newman Construction Co.*



Ron Thomas ph





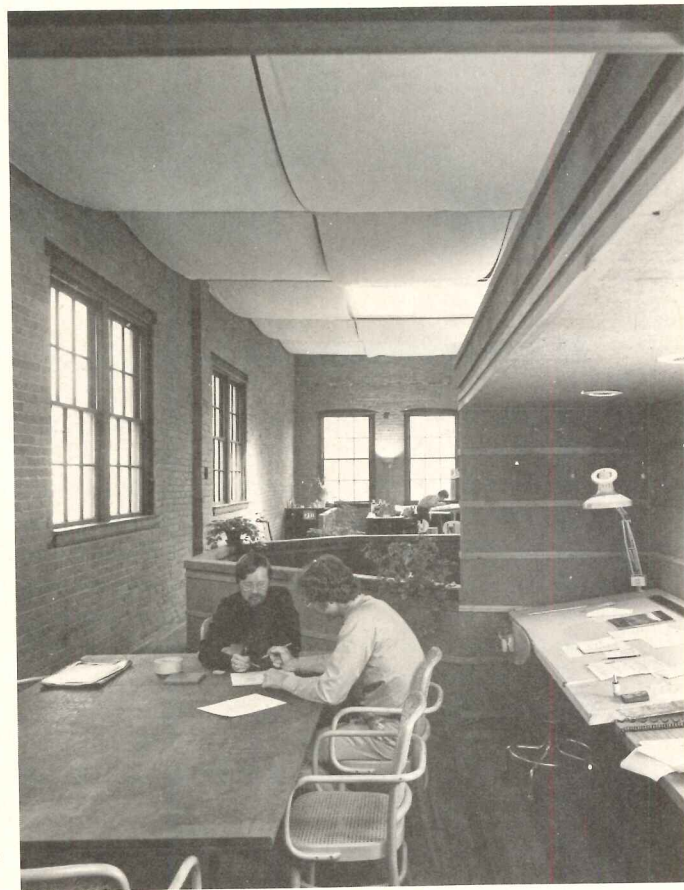
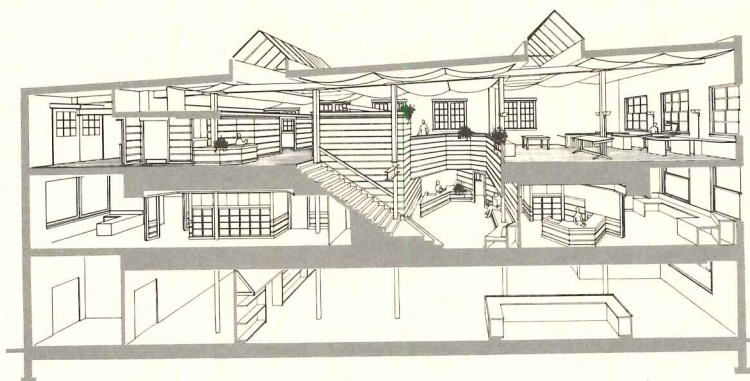


Balthazar Korab photos

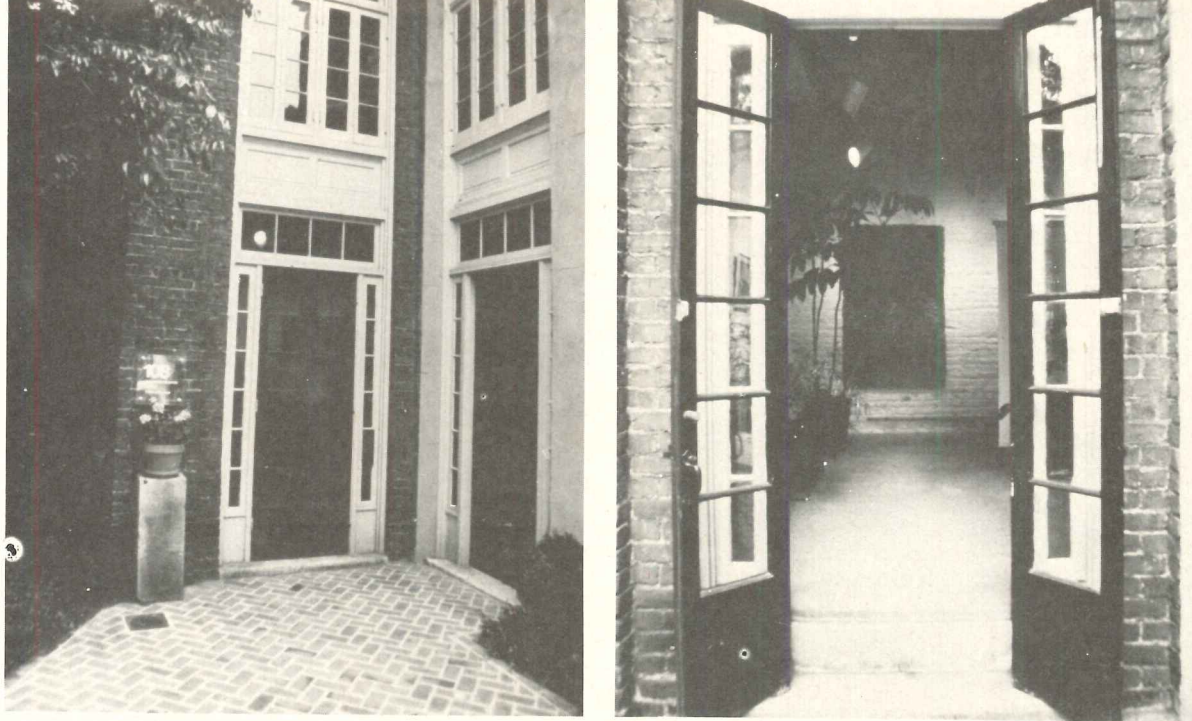
## John Hilberry and Associates—negative value becomes positive worth

John Hilberry and Associates is a six-man architectural firm with a particular commitment to an area of Detroit known as Harmonie Park. As architects they have worked with local businessmen to organize a special tax assessment district and with city agencies to expedite public improvements—all to preserve and enhance the special sense of place of this area. By moving their own offices there they sought to demonstrate to others that the area was viable, and that buildings there were worth reusing. The building they chose for themselves was a three-story loft structure that was so little prized that its lot was considered more valuable with the building gone. The architects renovated the top floor for their own use and rented the other two.

OFFICE FOR JOHN HILBERRY & ASSOCIATES INC., Detroit, Michigan. Architects, owners and construction managers: *John Hilberry & Associates Inc.*—project team: *John Hilberry and Anthony Foust (partners), Keith Moffat, William Vogan, and Erick Mesko.* Engineer: *Gerry Shreve (mechanical).*







John G. Lewis, Jr. photos

## Robert Welton Stewart—Southern comfort in a carriage house

The Kent-Valentine house in the heart of Richmond, with its oasis of magnolia trees and its grassy lawn, is a valuable asset to the city, and it has been acquired for preservation and adaptive reuse by the Garden Club of Virginia. Robert Stewart, an architect who encouraged the acquisition, found himself actively involved when the chance came to remodel the Kent-Valentine house's carriage house for his professional office. The small courtyard of the carriage house opens into a reception area and drafting room (top photos), from which a stairway leads to a second drafting room on the floor above (photo immediately above). Alterations to the existing building were minimal, and the genius of the design lies in Stewart's demonstrated ability to seize the moment and to recognize a pleasant and reusable building that had escaped others' notice.

OFFICE FOR ROBERT WELTON STEWART, Richmond, Virginia. Architect: Robert Welton Stewart. Contractor: George Banducci.



# MOUNTAIN VIEW COLLEGE: BIG, INNOVATIVE AND SURPRISING



*Viewed toward the students' entrance in the photo above, this building does not appear large by single-building-college standards. But it is really an upside-down pyramid; the "apex" is in a void between the massive building elements where the floors are steps down both sloping sides of a sunken stream—or in suburban Dallas, an arroyo. Turning a seeming defect of the natural site into an asset, architects Harrell + Hamilton/Chan + Rader have produced a big, rich, interior environment in a building that does not overpower its surroundings. And it is this stimulating environment that generates the involvement necessary for such junior colleges to produce better-rounded graduates. By an unorthodox arrangement of facilities and a strong visual connection between them, there is a pleasant exposure to the constant options of varied activities; students are encouraged toward a much broader range of programs than those required to just get through.—Charles Hoyt*



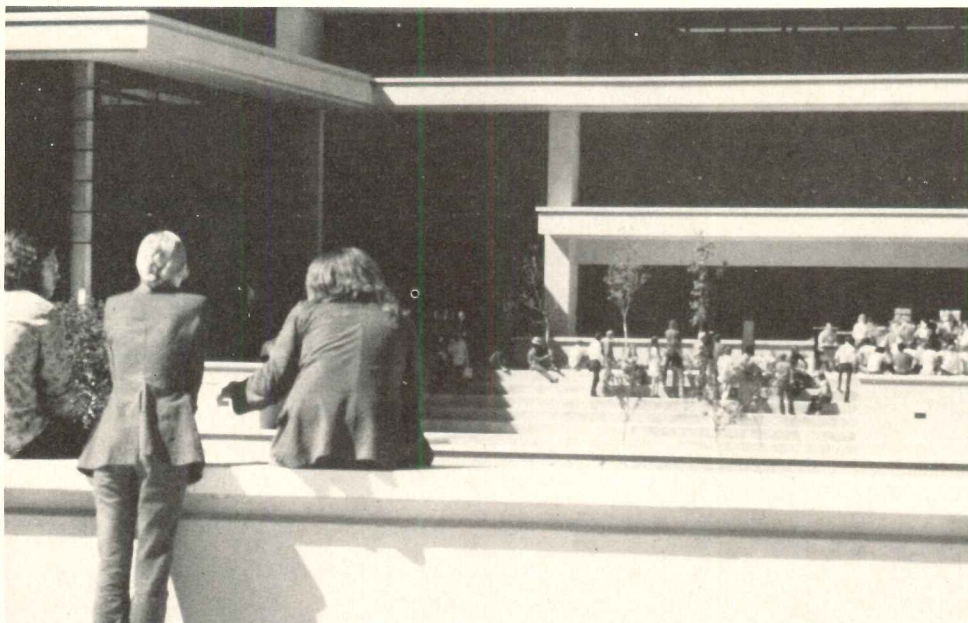


In Dallas, a rapidly growing population is creating an ever increasing demand for school facilities, contrary to that of the nation as a whole. Currently, seven junior colleges are planned on scattered sites for easy neighborhood access. Each will meet the need for both technical-occupational and liberal-arts educations. One of the initial buildings is Mountain View, which is located in the southwest section of the city on a gently rolling, largely undeveloped site of 200 acres. Much of the surrounding area is similar in character, although a development of closely spaced houses to the east presages the possible future environment. Incidentally, there are no real mountains in Mountain View's view.

Rather than dominating such a site with a building exhibiting its true size of over 360,000 square feet, the architects chose to take advantage of the terrain's potentially unusable natural feature, an arroyo. By placement in this sunken area, the bulk of the building is minimized. Indeed, it is completely hidden from the students' entrance at the south of the site by low hills which have been planted with local trees to augment the natural vegetation.

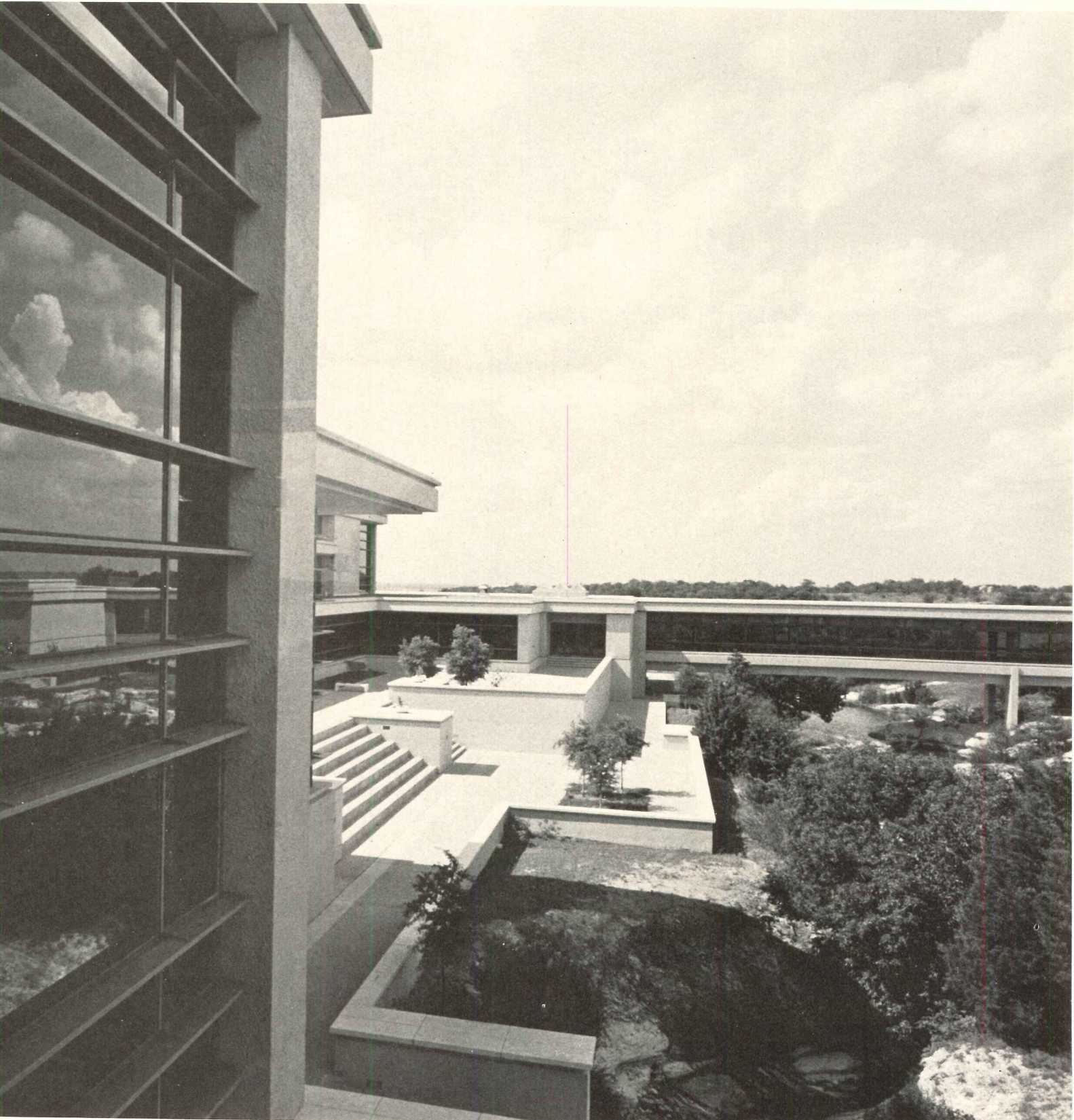
While an important concept in planning was to expose the students to the widest range of activities during daily travels through the college, the activities were separated into two building units (connected by bridges) to facilitate community use. The gym, auditorium, administrative offices and the public entrance are located in the eastern element. Students enter the western part of the building by crossing a large plaza (photo on page 101), which forms a semi-enclosed transition from the open spaces of the site. The two elements are centered on the arroyo, (photo right) extending several levels below the entrances and terraced as an open-air extension of the interior student center.

Mountain View can presently accommodate 2,500 to 3,000 students, and projected expansion is planned to double that number (see site plan). Accordingly, the central facilities in the eastern building element, along with the student center and the laboratories have been sized to meet the eventual demand. Parking and athletic fields are also projected to occupy the greater portion of the site. Therefore, the placement of the building in the arroyo has a twofold purpose. Beside allowing the recessing of the bulk of the building and providing for expansion, it frees the remainder of the site for a green buffer at the perimeters.

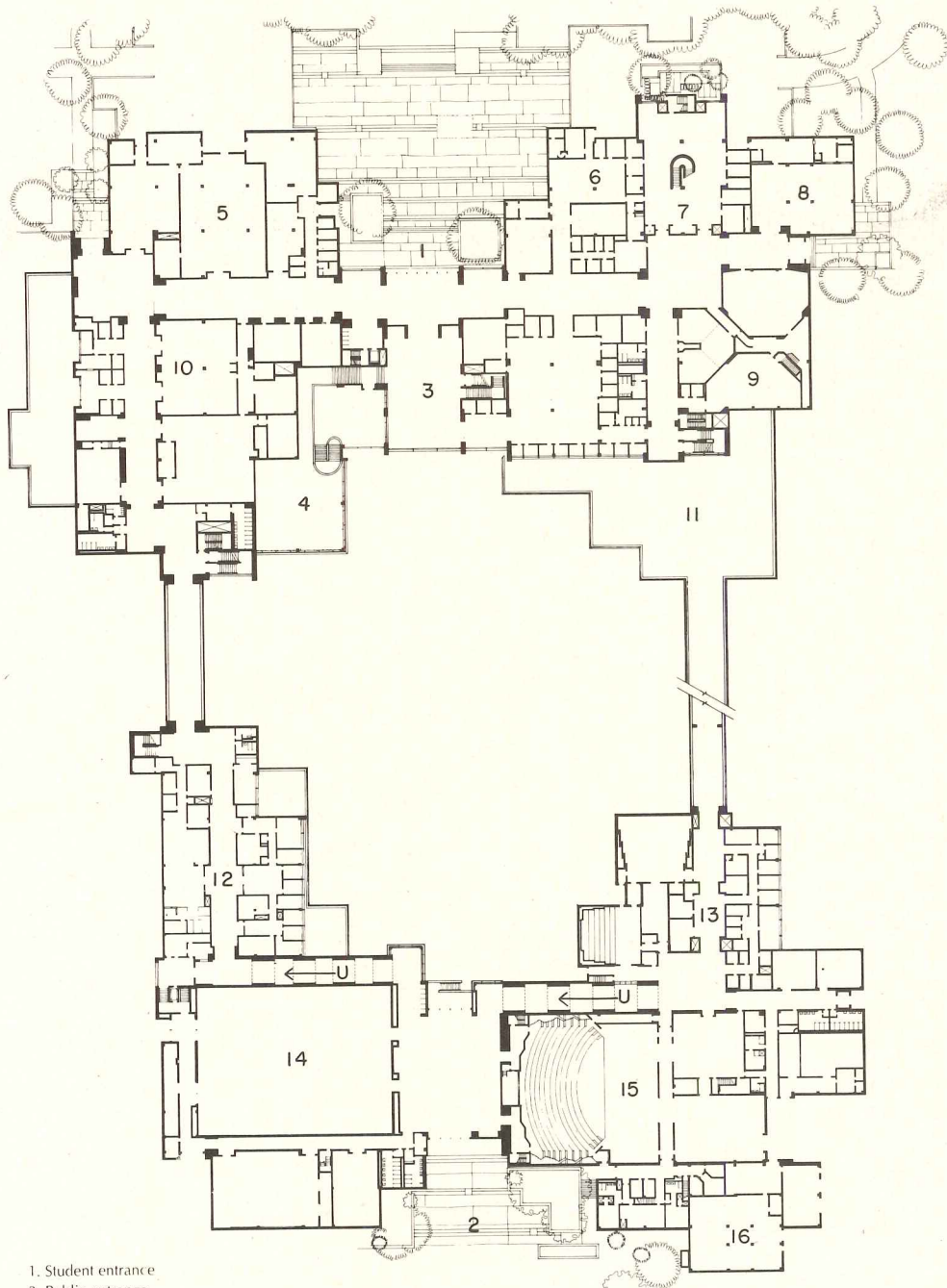




A view of part of the building from the south (photo left) shows the transition from the single-story students' entrance, on the west facade, to the multi-level space within the arroyo shown in the photos below (the other half of the building is shown overleaf). The connecting bridges span a stream, which is kept at a constant level by artificial lakes. Terraces are an extension of the student center, and are a focal point of activity above the natural stream bed. A jazz concert is shown in progress. The dark colored glass is typically shielded from the sun by projecting horizontal mullions as shown in the photo below.







1. Student entrance
2. Public entrance
3. Student center
4. Dining
5. Machine shop
6. Audio-visual
7. Library
8. Store
9. Lecture rooms
10. Classrooms
11. Roof of level below
12. Administration
13. Music
14. Physical education
15. Auditorium
16. Mechanical Equipment

Many school boards in Texas have recognized nationally shared problems in education, and are willing to try new solutions. Junior colleges have particular problems. The students tend to be there for an education in a particular occupation, without much exposure to the liberal arts, or they want a general education without the commitment of a four-year program. To counter the limitations of either situation, Mountain View functions as a merger of options. There is maximum exposure to every sort of activity as the students move through the building, and those activities are located in surprising places. For instance, highly visible machine shops are adjacent to the student center, the "heart" of daily activity (photos, right). From the student entrance, the pleasantest route to the science and art departments on the floor below is across a bridge through the physical education, drama, and music departments, and back across a bridge at the lower level. All of the time, the student is seeing different activities. A bright atmosphere, as seen in the student center, encourages involvement by making the college a pleasant place to be.

In recognition of a sometimes harsh climate, Mountain View has limited glass walls which are mainly oriented toward the south. Between the two elements of the building, there are largely solid walls around the perimeter of the complex which are faced with limestone painted to match the exposed limestone on the site. Five separate air handling units are applied with the appropriate chilled or hot water from a central mechanical room. Hot water was chosen over steam because of the problems of returning condensate through a change of elevation between the two building elements. The poured-in-place concrete structure rests on spread footings or caissons depending on the varied soil conditions. The 25-foot bays are: the steel-truss roof of the theater, the pre-cast-T gym roof and post-tensioned bridges. Costs were \$32 per square foot.

MOUNTAIN VIEW COLLEGE, Dallas, Texas. Owner: Dallas County. Associated architect: *Reid + Hamilton/Chan + Rader*—principal-in-charge and designer; *E.G. Hamilton*. Engineers: *T. J. Senlund & Co.* (structural); *Texas Testing Laboratories* (soils); *Gaynor & Sirmen, Inc.* (mechanical/electrical). Consultants: *Paul Vanekla Assoc.* (acoustical); *Dan Heyn* (landscape); *Hunt & Bogan* (theater). General contractor: *Hattan Construction Co.*



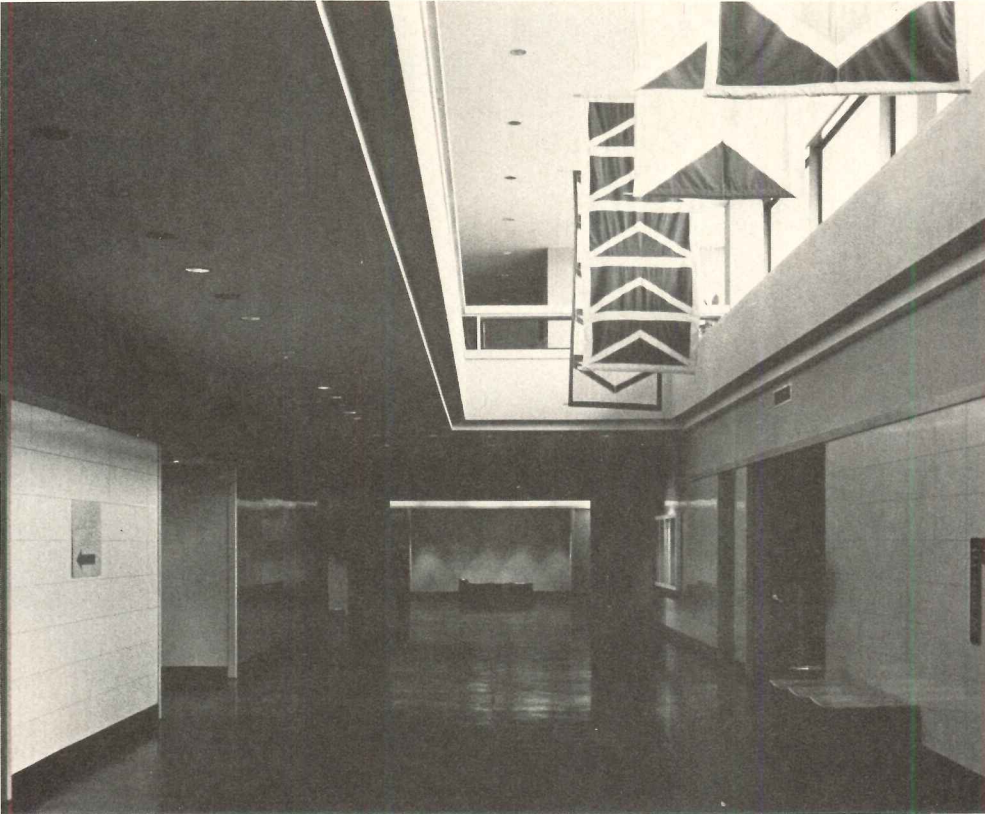
The plan shows the public entrance (photo left) halfway between the student-entry level and a floor of teaching spaces below that level. A third part-floor is occupied by faculty offices which open on the balcony above the student center's lounge (photos below). This lounge is the hub of activity where students meet, and it is furnished for both relaxing and study. The student center consists of several spaces for varied activities and includes the dining room (photo opposite page, bottom), which is on the level below the adjacent lounge. This relationship brings the center's activities to both the main floors.

or photographs by Luigi Cuberli





The extra wide corridors are designed for students' leisurely viewing of the activities in the adjacent teaching spaces. The polished concrete floor, tile murals, banners and skylights contribute to a cheerful atmosphere. The greater ceiling heights in the classrooms are detailed with dropped soffits around each wall, which carry through the corridor ceiling height and conceal mechanical equipment and wall lighting. Other uses for the wide corridors include exhibits such as an airplane, which signals the presence of the machine shops. The skylights also permit indoor planting, which is a lush contrast to the arid environment.





# STORES AND SHOPS

For storekeepers, the name of the game is merchandising; for architects, it is design. Put these two together and the result can be merchandising in a place designed to enhance the use of the most sophisticated selling devices of the retail world. In a boom economy, anyone can sell in any kind of environment. In an economic slowdown, it takes something more than goods for sale to induce customers to enter, and to persuade them to buy. In the four stores shown here, innovation and creative design have provided the right combinations at the right time.

*Bergdorf Goodman store, White Plains, New York*



*Martin Heller photos*



# Skylighted open space in branch specialty store continues a tradition of elegance within an innovative design

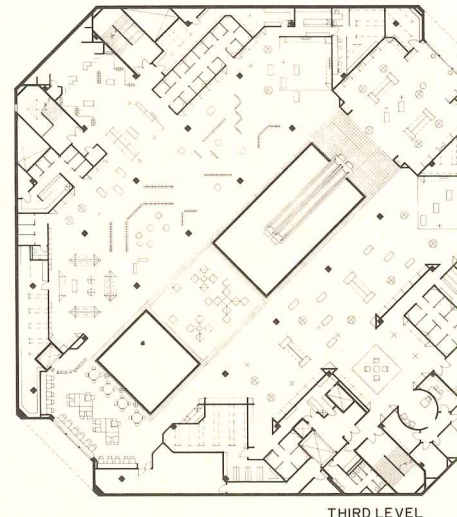
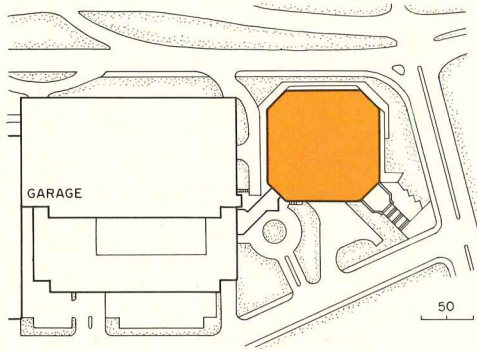


For the first time in its long history, Bergdorf Goodman—an elegant specialty store on New York's Fifth Avenue—has a store building designed to its own needs and desires. The new building is in the retail section of White Plains, New York, a fast-growing center (not a mall) for shopping which serves all of Westchester County, reported to be the "largest retail area in New York State."

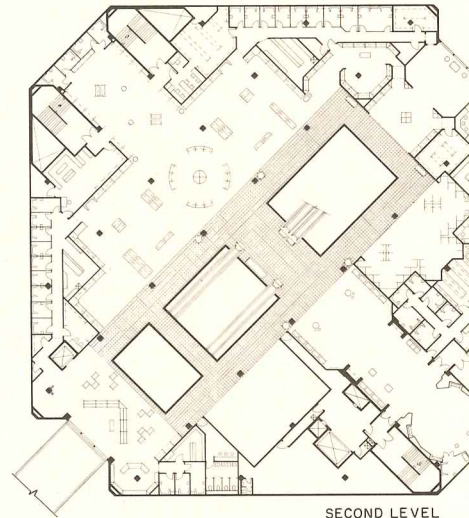
Since this was the client's first experience with a project of this kind (the first store had been remodelled and added onto but was never a custom building for the client), the standards for the new store's program grew out of the reputation for elegance and service that had characterized the first store. Some of the physical amenities of the New York location also became requirements for the suburban site. In New York, for instance, Bergdorf Goodman is "on the Plaza" by the Plaza Hotel, and across 59th Street from Central Park. At White Plains, Bergdorf Goodman opens from a plaza which, like the Plaza in New York, has a distinctive fountain and is across the street from the park.

Inside the elegant travertine-faced building, everything focuses on a great open space covered by a 200-foot-long mirror-glass skylight which floods the store with light by day and at night presents a kaleidoscopic picture of colorful merchandise and movements of people below. This open space functions much as a street would—Fifth Avenue, for instance—providing circulation among and access to the boutiques which line its perimeter. The visual excitement produced by the great court overshadows the basic architectural function served by the covering skylight: to unify the diverse elements of the store, and in providing the means for understanding the whole store at a glance, to act as a constant orientation for the shopper. It is traditional elegance achieved without using traditional forms.

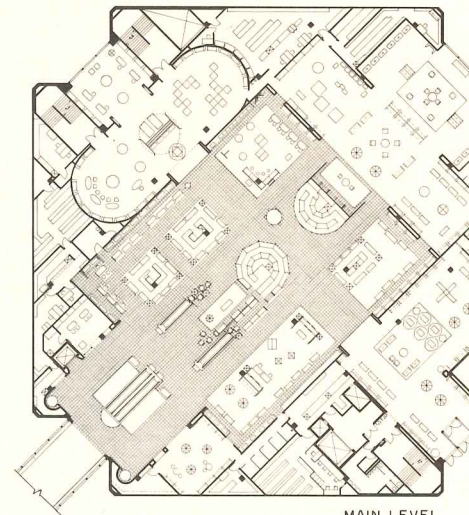
BERGDORF GOODMAN, White Plains, New York. Architects: *John Carl Warnecke, F.A.I.A., Architects*—project team: *A. Eugene Kohn, partner-in-charge; Emilio Arechaederra, project director; Laurence Goldberg, project manager; Stanley Abercrombie, Joe Owczarek, designers*. Interiors: *Eleanor LeMaire Associates, Inc.—Warren Hansen, design director; Vincent Caruso, project design; Naomi Leff, Jody Saylor, David Tredway, designers; Edward J. Agastino, managing director*. Engineers: *Ames & Selnik (structural); Joseph R. Loring & Associates, Inc. (mechanical/electrical)*. Lighting consultant: *Douglas Baker*. Landscape architects: *M. Paul Friedberg Associates*. Contractors: *Conforti & Eisele*.



THIRD LEVEL

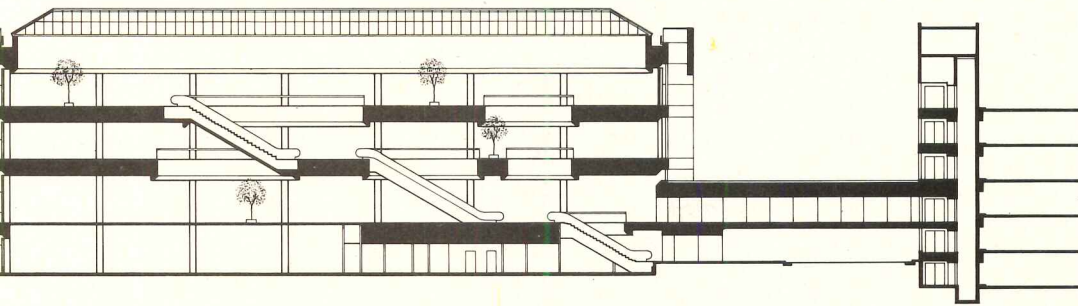


SECOND LEVEL



MAIN LEVEL





Escalators cascade through the open court on an angled line from topmost level to the lowest floor. Around the court or "street" are boutiques, shaped to the particular kind of merchandise offered and open to the "street." The boutiques are small, defined and intimate, but the over-all effect is an easy elegance, a degree of informality but never casualness. Fine materials play an important part in the quality of the store: marble and bronze are the principal materials used—marble for floors of general use (selling areas are carpeted) and to enclose escalator wells, bronze to cap and trim horizontal planes.







Two materials—marble and bronze—are used as a common denominator throughout the store, but color identifies specific departments and kinds of merchandise: warm neutrals make a quietly elegant background for accessories on the first floor; deep, rich colors on the second floor suggest high fashion; strong bright colors against a neutral gray background on the third floor are the mark of young shoppers. The men's department on the first floor (top left) is done in brown tones; the third floor restaurant (top) is dramatic with mirrors, many small lights and lots of red; the colorful wares of Marimekko on the third floor (center) are in wood cases; the third floor street is display area and lounge.





# Comprehensive system for store fixturing gives store unusual flexibility in interior arrangement and merchandising

The drawing below diagrams the basic elements of the OMNIPLAN system, which concentrates all necessary services, all the means of organizing and subdividing sales space, and provides for the hardware accessories used for showcases, hang rods, display islands and tables, cash registers and other merchandising devices. Baffles screen the above-ceiling grid. All components of the system are interchangeable, so that there is an important degree of flexibility. Essentially, the system coordinates the building shell and the interior of the store, and is applicable to both new and remodelled space.

Miller's West Town, a department store in a shopping center in Knoxville, Tennessee, the architects, OMNIPLAN Architects Harrell + Hamilton, used a comprehensive fixturing system that coordinates dimensionally the shell of the store building—new or existing—with the interiors to provide a consistent but highly flexible relationship among all facets of the store. Since all components of the system are of modern design, they are interchangeable.

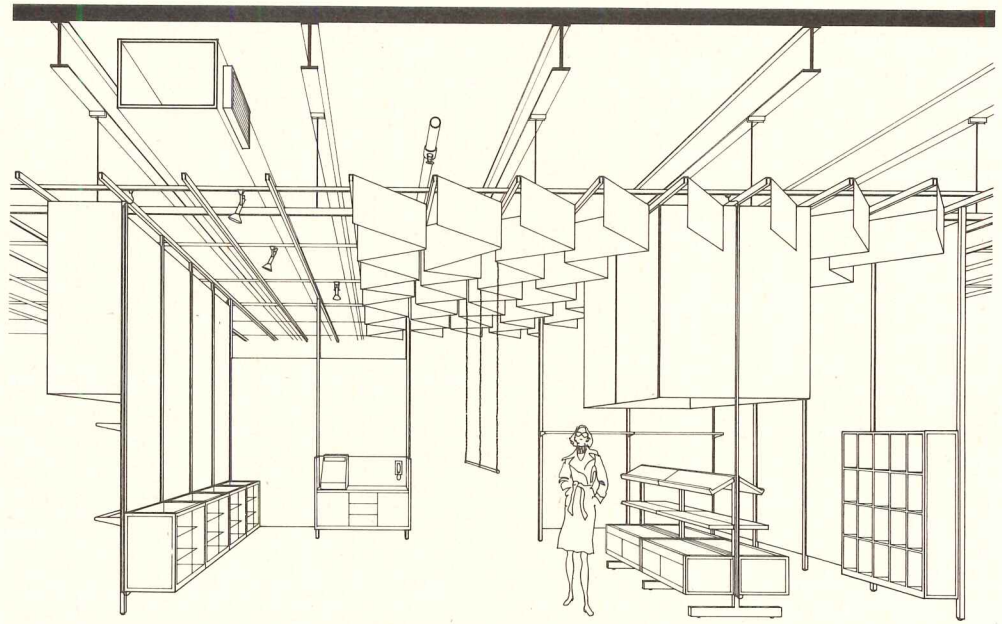
Three new stores for Miller's, now in development by the same architects, will use the system even more fully than the West Town store has done. In this first of their new stores, Miller's was hesitant about giving up some conventional store practices—partitions are standard metal studs and gypsum board, electrical outlets are in floors, floor coverings change from department to department—but since the store has been in operation, it has found that the flexibility that it wanted was greatly restricted by the inflexibility which resulted from these decisions.

One of the first tests of the store's flexibility came in the last days before its opening. Because changes in merchandise and in customer demand occur with great rapidity, much of the planned layout for fixturing had become obsolete between completion of design and arrival of fixtures. With a minimum of time and trouble, the sales staff reorganized the area, reworked the configuration of the fixture components, and opened the store with the latest sales approach.

Frank S. Kelly, senior vice president of OMNIPLAN Architects Harrell + Hamilton, was project architect of Miller's West Town, and gives this vivid account of his firm's answer to Miller's request for a store that would be "a flexible sales tool, responsive to new directions in merchandising and in merchandise:

"Because department stores are usually budgeted and designed in two parts—building shell and interiors—the potential of the store as a sales tool, and its esthetic qualities, are largely a factor of how well the two parts work together. Often, they fail to support each other. Sometimes, over the life of the building, they can even be in actual conflict.

"What we have tried to do in our OMNIPLAN system is to overcome this failure and avoid this conflict. Using a 2-foot-6-inch planning grid, we have coordinated dimensionally the elements of the shell (columns and walls) with the interiors (fixtures, partitions, decor, displays). And we have provided, in the



Bill Cox





process, not only consistency throughout the store but the kind of flexibility that stores—especially today when things change radically in short periods of time—require to stay abreast of new developments.

“Three aspects of the system account for the high degree of flexibility:

1. The dimensions of every display component are based on a multiple of the modular grid. Each component fits into any location of the store, and is interchangeable with every other component.

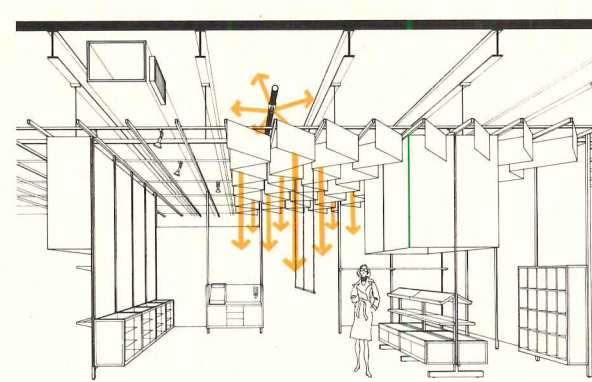
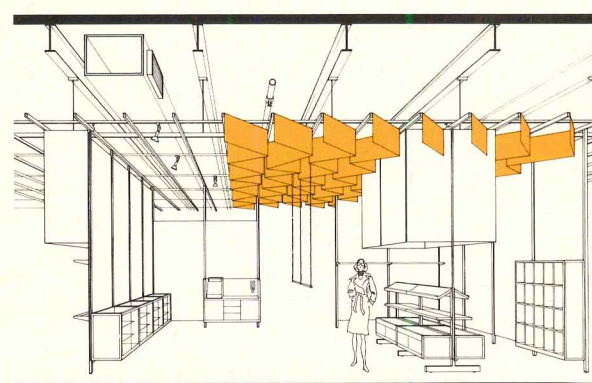
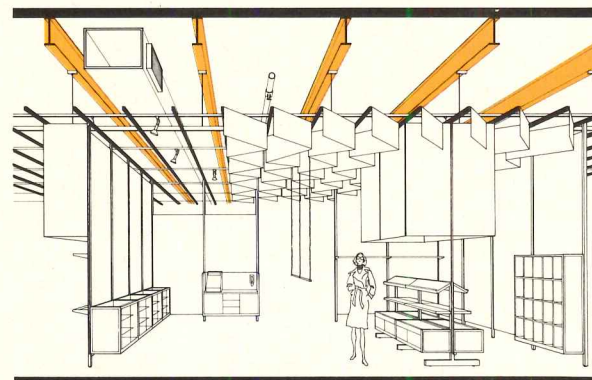
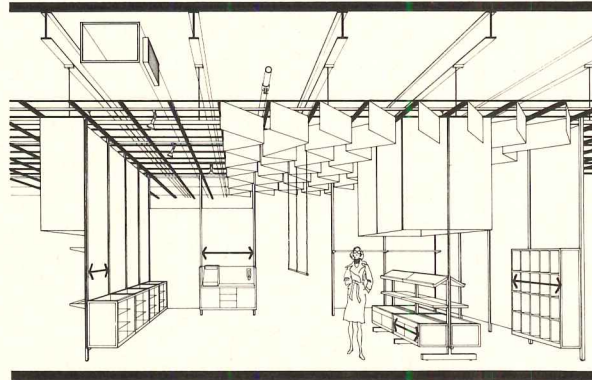
2. Components are connected to supporting standards with the same detail, so that any component can be hung from any standard in the store.

3. The same white plastic laminate finish is used on every component. Large components can take interchangeable decorative panels, but most surfaces of each component are clad in white so that they can be used in any sales area without consideration of color scheme or decor.

“The OMNIPLAN Ceiling System is designed as the interface for the building shell and the interior. It is a grid of structural steel channels hung from the building’s frame—at Miller’s this is a composite of fireproofed steel beams and concrete slabs. From the grid are hung aluminum baffles, painted white, which give the overhead plane a rich texture and openness that make it seem higher than it is.

“The Ceiling System is an integral part of the Fixturing System which also is based on the 2-foot 6-inch grid. This is both a system of related components from which fixtures and partitions of many configurations can be assembled, and also a collection of completed fixtures. Fixtures are made by hanging display components (partition panels, shelves, drawer units, show cases, cash desks) on hang rods or supporting members called standards. There are six kinds of standards, all fabricated from steel tubing and designed to provide for every fixturing need, from formation of complete display islands to individual show cases. In all, almost 100 components were developed. All are described in a catalog from which Miller’s may select whatever it needs to assemble fixtures for new merchandise arrangements.

“None of our OMNIPLAN components disappear behind the merchandise but instead are clear forms which provide a framework or background against which, or within which, the merchandise can be seen better. Neither merchandise nor fixtures dominate; they work



### Dimensional organization

The elements of the building shell (columns, walls) and the interior (fixtures, partitions, decor, display) are dimensionally coordinated to make a flexible, consistent relationship among the facets of the store. Such elements, mechanical, electrical and communication systems, however, are not part of this interrelationship and can be designed independently. Dimensionally, display components are based on a multiple of the modular grid and are interchangeable.

### Structure

The ceiling system is suspended from rigid steel rods from the building structure. The type of structure is of no matter, provided that it is suited to supporting the concentrated loads which result from the system's use. (If fireproofing, if required, must be developed by the structure itself, not by the ceiling of the building.) The ceiling system is the interface between the shell of the building and the fixtures and displays.

### Ceilings

The ceiling system has two main parts: a structural framework of steel channels laid out on the modular grid and hung from the building's structural frame, with the channel facing down to receive connections for fixtures and displays; and a system of painted aluminum baffles, hung from the structural framework, which screen the mechanical equipment from the sales space below.

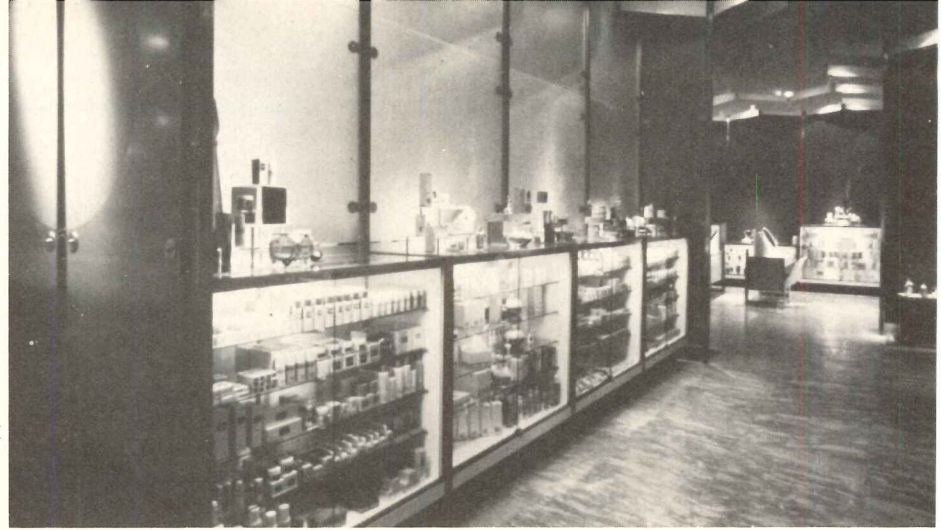
### Sprinklers

Sprinkler heads and piping are concealed above the baffles. The baffles do not interfere with the water distribution pattern, and are easily accessible since the ceiling grid is open to the sales space below.





Frank S. Kelly photos



Bill Cox





## Mechanical Systems

All ducts and registers are located above the baffles and are thus concealed from sight. Air is distributed horizontally above the ceiling. The turn is non-ducted. The space above the ceiling grid acts as a plenum, and everything in it is painted black to minimize the possibility of its being seen: ducts, piping, electrical and telephone wiring, speakers and security devices.

## Power and communications

Since all electrical wiring carries low voltage, and since the ceiling is open, all wiring is run exposed, without conduits. Wiring from telephones, sound systems, and point-of-sale data processing equipment runs in the plenum above the ceiling grid and the main white baffles. Power drops from the electrical system above the grid run along ceiling-to-floor fixturing standards, act as extension cords from the busways, and can be located anywhere on the grid.

## Electrical distribution

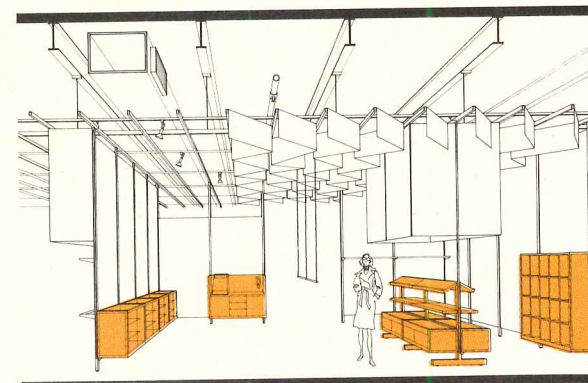
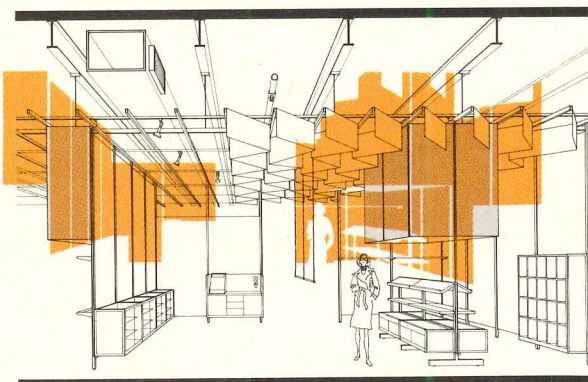
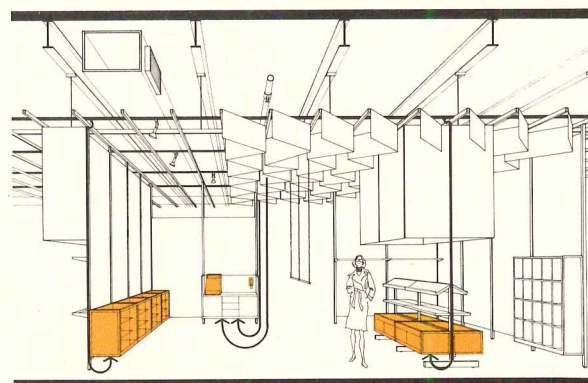
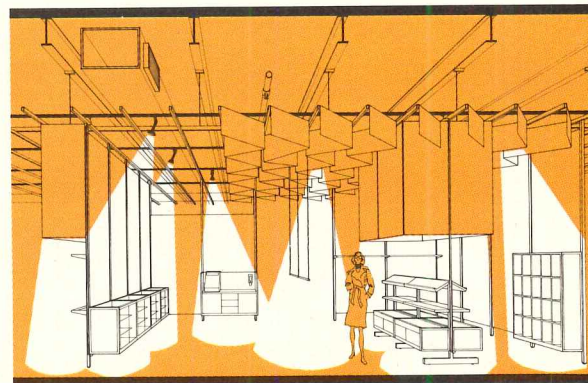
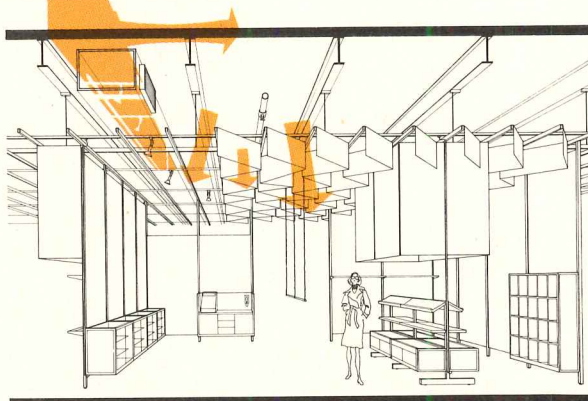
Electrical busways, run above the ceiling grid, provide power for both lighting and floor fixturing. Lighting fixtures, attached directly to the ceiling grid members, are so located that a point on the sales floor can be illuminated. There is no general illumination in the store. The incandescent system is efficient for the purposes of the system and uses only 3.7 watts per square foot of sales area. Wiring is dropped through a steel tube from the electrical busway to fixturing on the sales floor.

## Spatial definition

Sales spaces and displays can be defined in several ways. Forms of various sizes, configurations and materials can be suspended from the ceiling grid, partition panels, supported by floor-to-ceiling standards which bear on the floor and are bolted to the ceiling grid can be used. Partitions may be fabricated of any light material—wood veneers, fabrics, vinyls, acrylics (transparent and translucent)—up to 1/2 inches in thickness, and can be hung at any height.

## Fixtures

All display components, including showcases and other types of fixtures are of modular design so that they work with the system's other parts. They are supported on the floor-to-ceiling standards. Floor fixtures of any size and configuration can be assembled from the components and standards. Power drops from the busways supply wiring to floor fixtures so that they can be internally illuminated. Display components are neutral color, but end panels can be coordinated with specific decors.



together to create effective sales displays.

"Miller's interiors were originally budgeted for standard fixturing, but using the OMNIPLAN system, they were completed for less than the anticipated cost.

"From our experience at Miller's we have found no direct relation between the cost of store interiors and the use of our OMNIPLAN system. By modifying only the details and the materials, while retaining all the basic functional concepts, the cost can be geared to either high or low budgets.

"Department stores function, in effect, like theaters: they present hundreds of small vignettes which tell the shopper what is for sale and elicit his or her interest. Many merchants have recognized this resemblance, but they have not gone beyond the creation of the show to prepare the basic tool of the theater, the stage. The building and fixtures at Miller's West Town are a stage. The decor and merchandise are the sets and performers. The 'stage' is designed to provide the environment and equipment for any merchandising performance, from a fur coat to a pressure cooker. The capabilities of a theater were developed at Miller's West Town through OMNIPLAN's comprehensive fixturing concept.

"From a designer's point of view, the system has worked well, in terms of maintaining the intended character of the store. With the frequent changes that department stores normally must make, it is quite discouraging to a designer to visit one of his projects after it has been open for a while, because of the remodeling that has been done—often quite amateurishly. The use of the system components provides a visual framework which gives order to almost any change, even when done less than professionally. Miller's looks almost as good today as when it opened, and we have not been involved in any of the changes. This may not be ideal from a purely design point of view but it is very unrealistic to think that any store will return to its original designer every time it needs to move a wall."

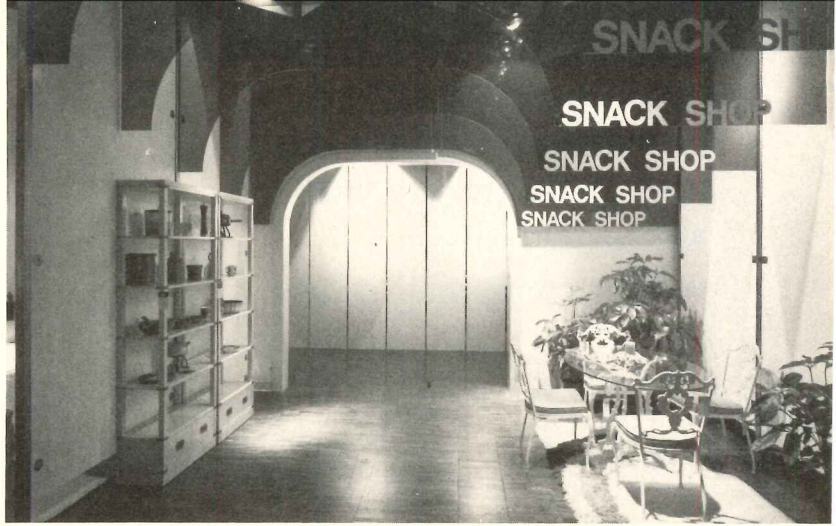
In the new stores, new in design, there will be no fixed interior partitions, and one floor covering will be used throughout the store. The OMNIPLAN System will be used to its designed capability.

MILLER'S WEST TOWN DEPARTMENT STORE, Knoxville, Tennessee. Architect: *Omniplan—Frank S. Kelly*, project architect; *Eann Thut*, interior designer. General contractor: *Anton Waldmann Associates*.





At Miller's West Town, OMNIPLAN's system has had a successful initial use, and has put to almost constant use the flexibility inherent in the system. Departmental changes—expansion or contraction—have been effected with a minimum of labor and no skilled craftsmen, and with little interruption to sales. The system allows a surprising variety in visual effect, both in decor and in merchandise display, thanks to the components of the system which make possible both hanging and floor display fixtures.



Bill Cox photos





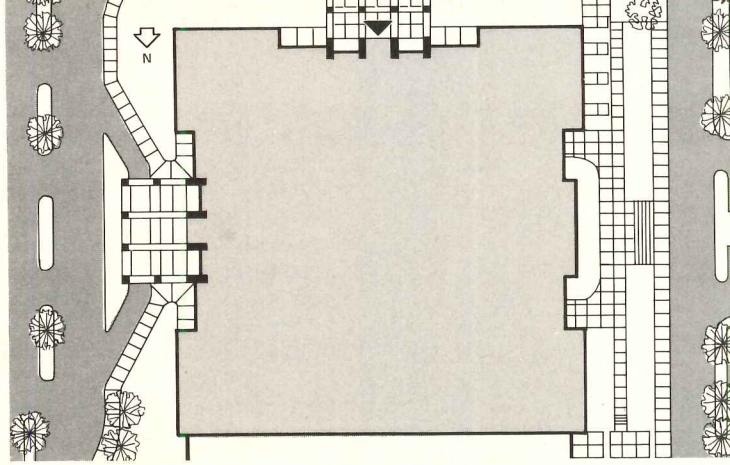
# Rotunda and dome give elegant distinction and spatial excitement to specialty store in large shopping center

The store that wants to locate in an existing shopping center faces the problem of fitting its building into an established architectural concept with which it may not agree—for purely architectural reasons or because the design is alien to the store's identity—but with which it must conform. In such cases, the store and its architects rely on interiors of exceptional concept to create an attraction strong enough to overcome what is, at least initially, the handicap of the non-identifying exterior.

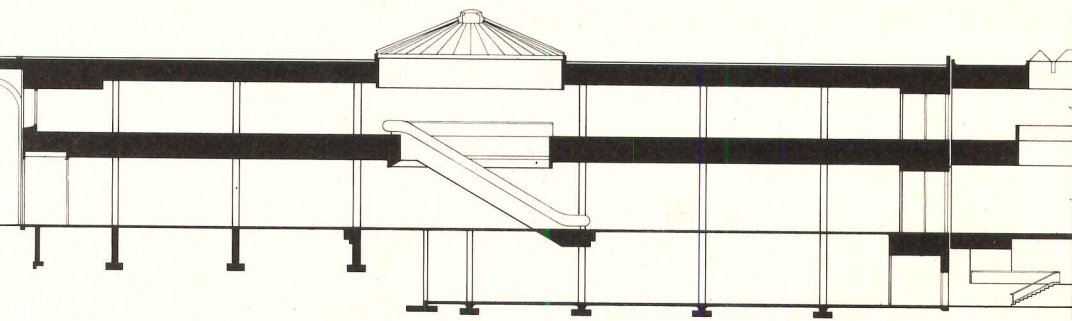
At the Frontenac Fashion Center in St. Louis, a highly desirable retail location for a store of the calibre of Neiman-Marcus, the prevailing (and mandatory) design character was wholly out of character with the Neiman-Marcus image. The exterior of this new store conforms to the vocabulary of the center, but inside, with no impediments to design and expression, what the name Neiman-Marcus stands for is dramatically manifest. The elegant high fashion merchandise for which it is known is displayed with sophistication that enhances both the goods to be sold and the customer who comes either to buy or to look.

At the center of this essentially square building is a breathtakingly handsome "shaft of space," topped with a circular dome of mirror glass which daylights the area and much of the second floor. At night the mirror surface reflects the activity below, so that it is at all times a spectacular part of the store's effective environment. Since this shaft is also the space through which the escalator runs, it becomes a certain and unavoidable orientation for circulation between floors. Around the central "super space" are departments and boutiques with a variety of fixtures for display, with individual manners of setting off their merchandise from neighboring displays.

Although the central court or shaft appears to be an opulent use of space, it is cannily put to work as the location of the escalator circulation for the store, so that it is, in effect, considerably less a luxury than a handsomely executed necessity. Indeed, handsomeness is a key word throughout, expressed in the quality of the materials used, in the colors which differentiate departments and floors, and in a very special way, in the art works which owner Stanley Marcus has placed, as he has in his other stores, throughout this store. The works range in type from sculpture to needlework, from painting to macrame, and their subjects are equally varied. Displayed as part of the store's decor, and never as an exhibition, these







Besides the value of the mirror-glass dome as a focal point and an exceptional attraction for the store, the dome and the light it admits by day to the center of the building provide immediate orientation from any point on either floor. Not only is this two-story shaft of space both dramatic and luxurious, but the continually changing light, from morning to night, is itself an effective aspect of the store's decor. What it reflects from below at night again changes the effect of the interior. The store is large in area but only two stories high above ground, so one escalator only is used to connect the two principal floors.

in Heller photos





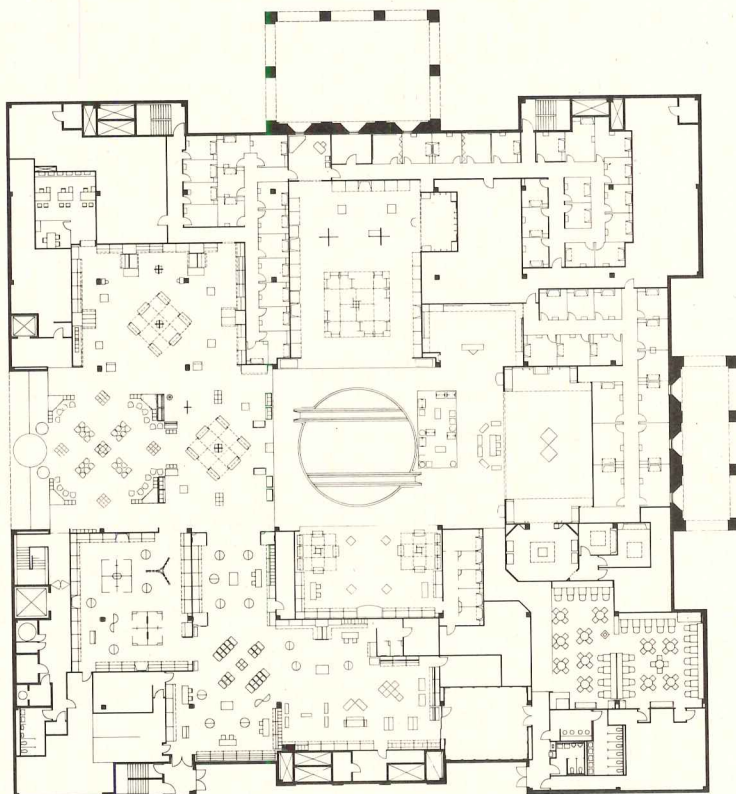


works add greatly to the quality of the store's environment.

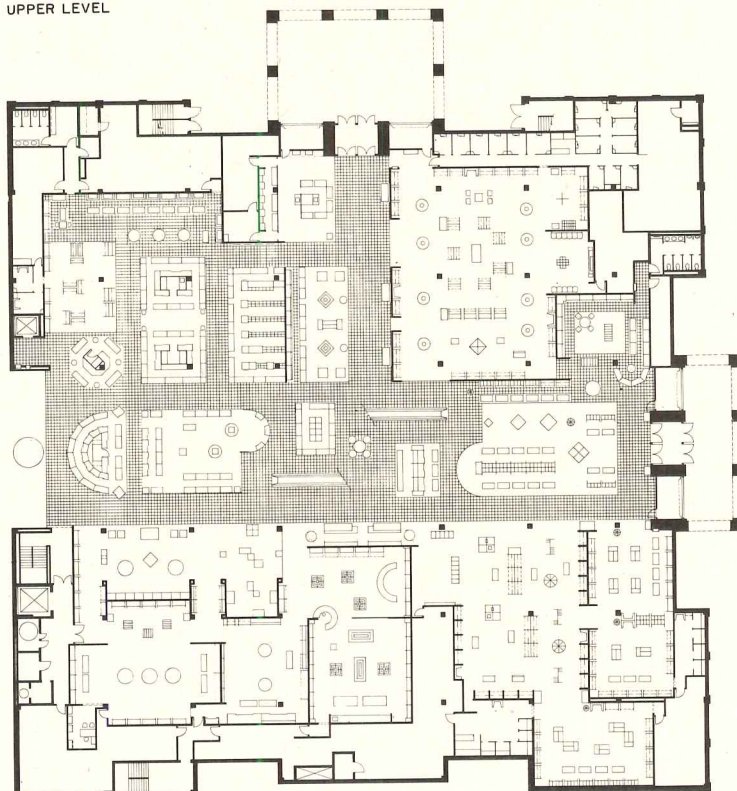
The materials used throughout are not only embellishment of the store's interior, but are used with a subtle degree of functionalism: precast travertine terrazzo is used to state graphically the traffic pattern on each floor, whereas carpeting is used in each departmental sales area. The travertine terrazzo, made in two shades of beige, in Italy, in pieces large enough to emphasize the scale of the spaces in the store, provides an instantly recognizable identification for each boutique or shop, and the carpeting, in special colors developed for this store, invites the customer into the sales area. In certain departments—the second floor fashion department, for instance—custom designs are made for both carpeting and for the printed fabrics used on the walls. Elsewhere, stock designs in special colors, clear and fresh, are used. Acrylic sheet materials are used on the walls of the children's department. Where wood is used, it is left natural.

The design team that worked out the concept for this store represents the coordination of two design offices: the architectural firm and the interior design firm which is its subsidiary, an unusual conjunction but one which worked well together to produce a harmonious integration of space, color and materials. Long-continued studies of the merchandising field have led to participation by the interior designers in the decisions made by the store management on the location and juxtaposition of departments as well as on the design of the interiors. Since Neiman-Marcus stores have a policy of not identifying by signs either departments or merchandise, the interrelation of design and merchandise display is of particular importance in the successful operation of the store.

NEIMAN -MARCUS, Frontenac Fashion Center, St. Louis, Missouri. Architect: *John Carl Warnecke, F.A.I.A., Architects—A. Eugene Kohn, partner-in-charge; Emilio Arechaederra, director of store division; Guillermo Loos, project director; Laurence Goldberg, project manager; Stanley Abercrombie, Joe Owczarek, designers.* Interiors: *Eleanor LeMaire Associates, Inc.—Robert A. Malderez, design director; Frank J. LaBianca, project designer; Henry J. Wilson, Jim Robertson, Cindy Collins, staff designers; Edward J. Agostino, managing director.* Engineers: *Harald Nielsen & Associates, Inc. (structural); Magill-Cloud Engineers, Inc. (mechanical/electrical).* Lighting consultant: *Douglas Baker.* Contractor: *Gamble Construction Company.*



UPPER LEVEL



MALL LEVEL

20



et elegance where elegance is  
ed for characterizes the shops and  
partments in Neiman-Marcus' St.  
is store. At left is the men's depart-  
nt on the main floor; near right is  
jewelry department, also on the  
in floor, where sculptor Ernest  
va's stainless steel "Gox" is on dis-  
y. At far right is the girls' depart-  
nt, adaptable to the addition of  
or by display designers, while re-  
ing its basic clarity of plan and de-  
The Zodiac restaurant (below) on  
second floor is basically a simple  
ce made dramatically exciting by  
n tubing and plexiglass as an at-  
tion to its remote corner location.





# Three-story court is dramatic focus for department store in a Southern California regional shopping center



Marvin Rand p

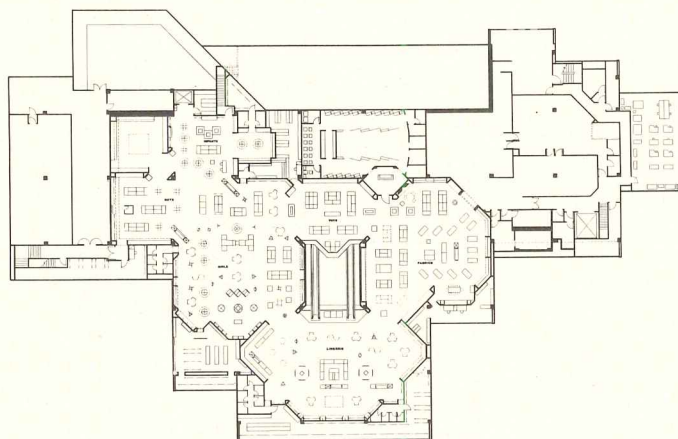
Bullock's is a chain of department stores in Southern California, most of whose newer buildings are located in shopping centers. This store in South Coast Plaza, a regional shopping center in Orange County, is in the city of Costa Mesa. It is the anchor store for the center and follows, in its exterior form, the precedent set by one of Bullock's earlier stores. Its walls are of ribbed weathering steel, with light-colored brick for trim and as a frame for entrances and a facing for some walls. Projecting elements break the length of the building and give it a distinctive form, something the client wanted as an identifying mark in the center.

The interior makes the most of the building's height by providing a three-story open space at the center. On each side of this great space are the escalators, with a dramatic view of the space and the several landings. The ceiling over this space is jet black and is studded with hundreds of clear-glass filament lamps set in crystal globes, and suspended at different distances from the ceiling.

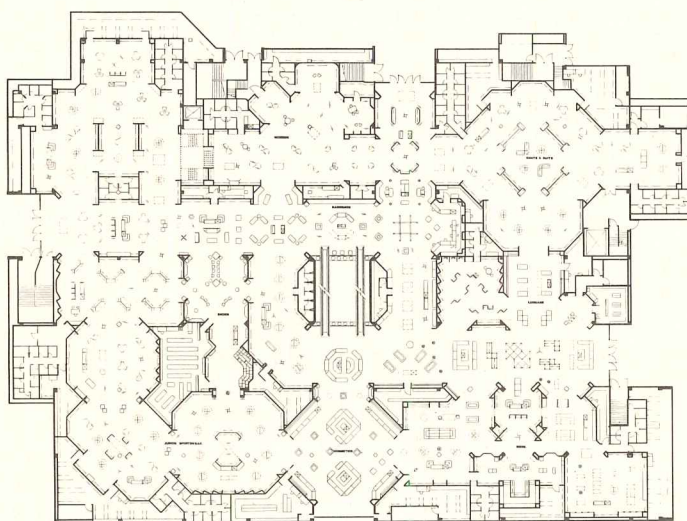
General lighting in the store is minimum, provided by incandescent fixtures set in dark ceilings. Accent lighting from spotlights on a comprehensive system of tracks is used for specific merchandise and to focus on certain areas of the store.

Materials and colors for the interior were selected for their appropriateness to the casual living of the Orange County area: brick and rough sawn wood, earth colors, textured fabrics, and living—not plastic—plants. In the court, for instance, the escalator runs are faced with rough wood, as is the bow on the third floor which projects over the court; the two sides of the court are faced with heavy-textured brick set both flat and at angles. The floors at each landing are paved with octagonal and square tiles, and planters are effectively placed near the escalators. Carpet is used in the selling areas in colors appropriate to the merchandise: brick red, gold, green, blue, brown, red. Walls are treated in several ways—by painting, by use of graphics, and in the Fashion Gallery, silk damask as a wall covering. The architects designed all the interiors as well as all the graphics for the store.

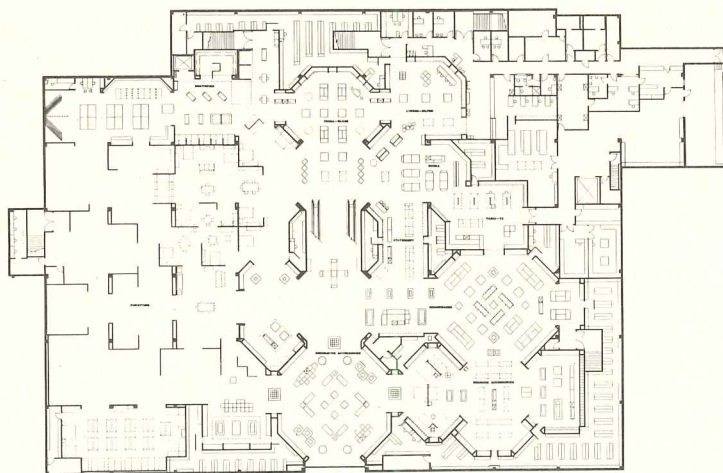
BULLOCK'S SOUTH COAST PLAZA, Costa Mesa, California. Architects, interior designers and graphics: *Welton Becket and Associates*. Engineers: *Welton Becket and Associates* (structural); *Herman Blum Consulting Engineers* (mechanical/electrical); *LeRoy Crandall & Associates* (soils). Landscape architects: *Bridgers, Troller & Hazlett*. Contractor: *C.L. Peck*.



THIRD FLOOR PLAN



SECOND FLOOR PLAN



FIRST FLOOR PLAN

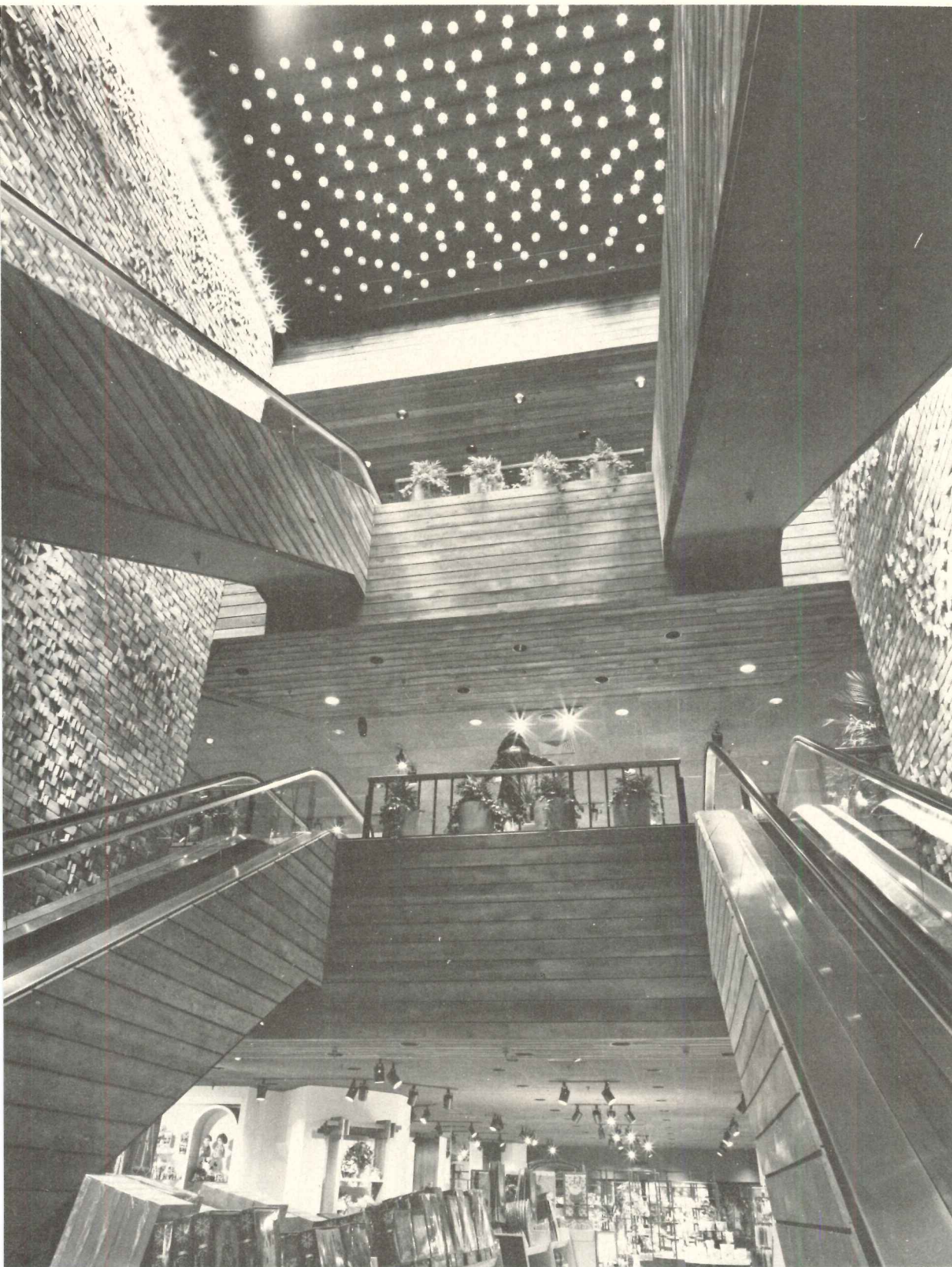








The escalators, which serve the second and third floors, run through a dramatic three-story-high open "court" topped by a black ceiling studded with hundreds of clear-filament clear glass lamps suspended at different distances from the ceiling. The rough-cut wood paneling on the end walls and on the sides of the escalators, and the heavy-textured bricks, set both flat and at angles on the side walls of the "court," contribute to the informal environment sought by the clients for their store in this location. At each landing the floor is set with highly polished octagonal and square tiles in a sandy beige color.



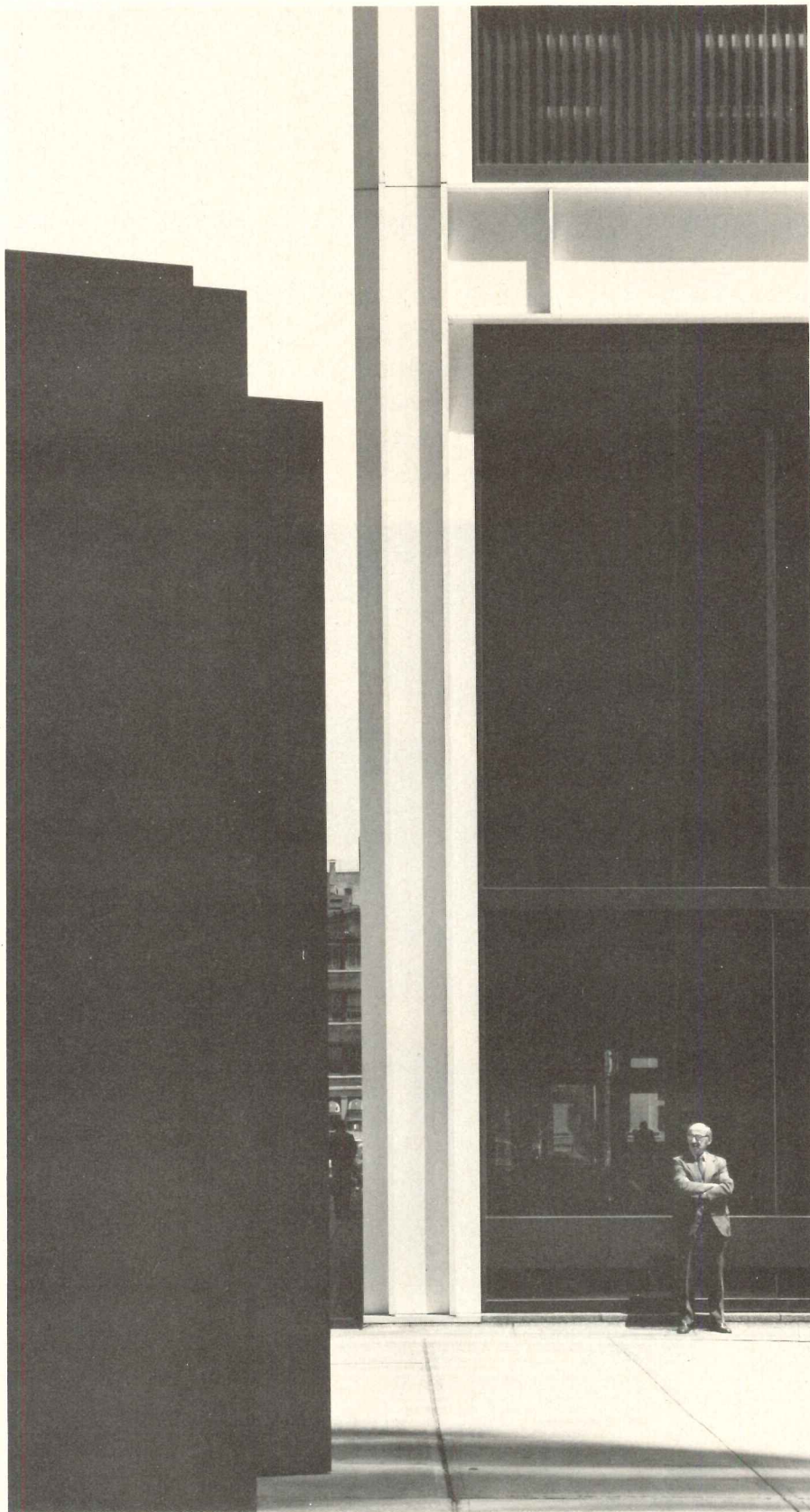


## An expressive skin-and-bones facade done with utmost care

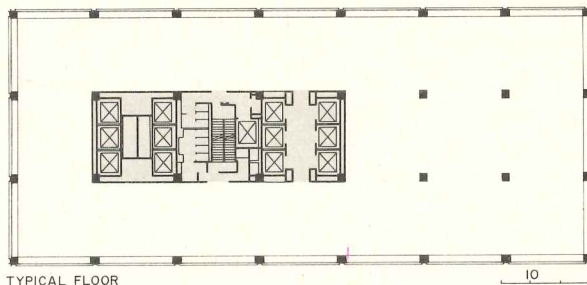
While it is not altogether true that good design costs no more than bad design, neither need it cost that much more. I. M. Pei & Partners' refined and sprightly design for 88 Pine Street cost about \$3 a square foot more than similar investment office buildings, and returns excellent design value for the money. Its crisply detailed curtain wall, its glittering stainless-steel lobby, above all, perhaps, its brilliant whiteness, raise it well above the esthetic standard of most of Manhattan's spec offices.







The finely articulated cage that encloses 88 Pine Street poises near the edge of New York's East River, its slender elegance providing a foil for Wall Street's weightier buildings and a backdrop for the schooners and clipper ships moored at South Street Seaport. Elevator core is offset to give large bull-pen area at one end of the floor.



**D**owntown Manhattan, where dark, massive towers crowd narrow streets and even narrower sidewalks, challenges the architect who aspires to design a building of distinction. The economic realities of the highly competitive office rental business place further constraints on the design of speculative offices.

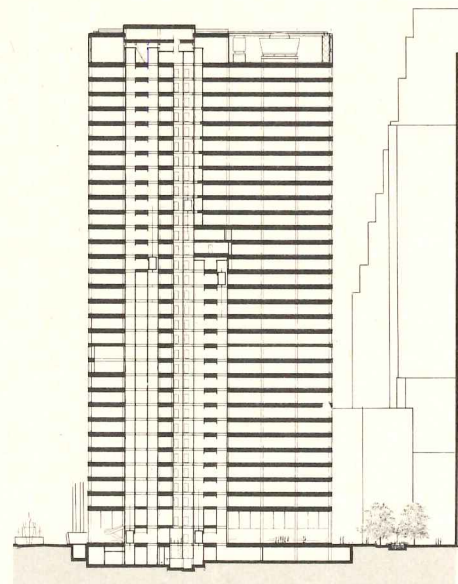
At 88 Pine Street, owner Morley Cho was willing to pay a premium for quality—within limits, of course. But even when the owner is willing, there are fairly few ways to spend extra money. The floor plan for commercial rental space is standard, based on open loft space that will be divided up and finished by tenants under contract at the planning stage. Pei's design varies this standard plan somewhat by locating the elevator core off-center. This arrangement anticipates the needs of Wall Street tenants—brokerage houses and the like—whose operations require large, unpartitioned areas. The asymmetrical Pine Street plan allows small private offices at one end of the floor and three bays of bull-pen space at the other. (Above the 18th floor, where one elevator bank terminates, this space expands to four bays.)

Essentially, however, the structure of the building and the services provided to the tenants—hvac, elevators and so on—are conventional, meeting the fairly high standards that have become normal in the New York office market. The building's personality had to be declared in public spaces, such as the plaza and the lobby, and in its visible exterior.

Plazas, though nowadays also standard equipment for New York office buildings, are particularly welcome in the downtown area, where they provide needed open space for pedestrians as well as sight lines for otherwise obscured buildings. And the handsome lobby, with its curved surfaces of polished stainless steel and its Chinese-red elevator cabs, gives what the architects call "a touch of theater" to the unostentatious building.

Ultimately, however, it is that whiter-than-white curtain wall, with its refinement of proportion and detail, that sets the building apart from less inspired examples of its type.

A major consideration in the design of the curtain wall was that the building should appear clean, light and transparent as a foil to its neighbors, some of which are pretty undistinguished. A short-lived attempt to devise







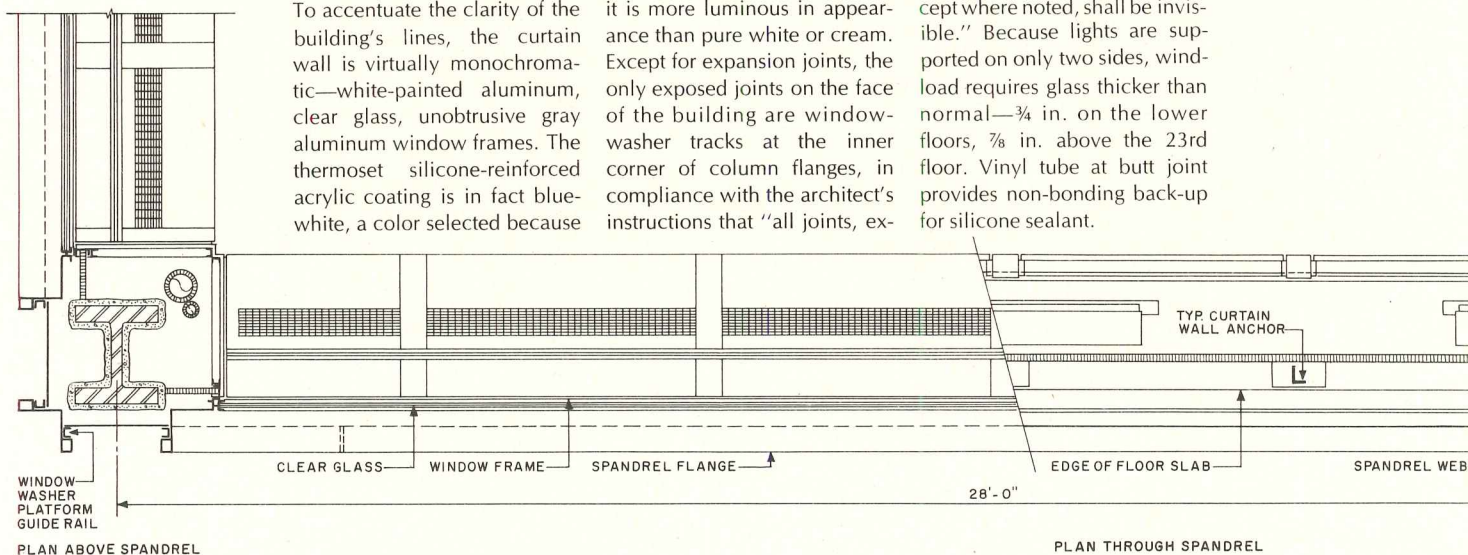




To accentuate the clarity of the building's lines, the curtain wall is virtually monochromatic—white-painted aluminum, clear glass, unobtrusive gray aluminum window frames. The thermoset silicone-reinforced acrylic coating is in fact blue-white, a color selected because

it is more luminous in appearance than pure white or cream. Except for expansion joints, the only exposed joints on the face of the building are window-washer tracks at the inner corner of column flanges, in compliance with the architect's instructions that "all joints, ex-

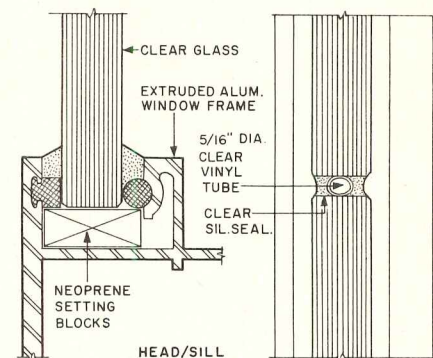
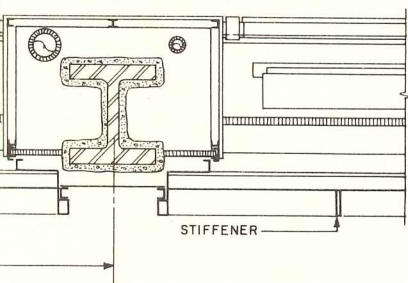
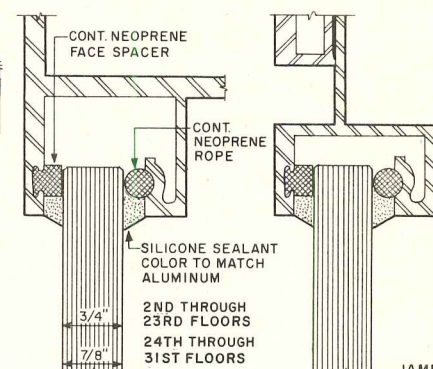
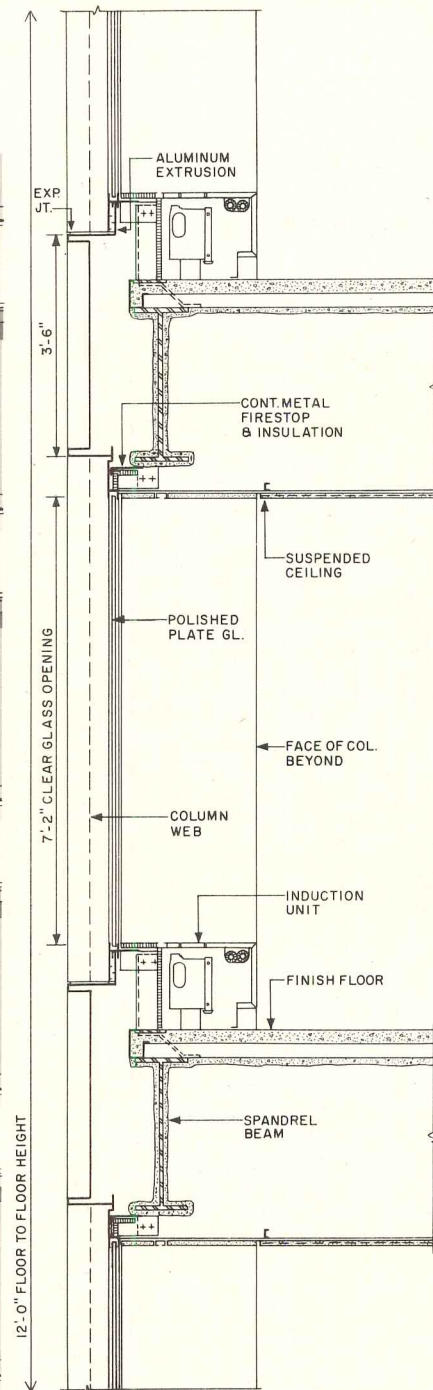
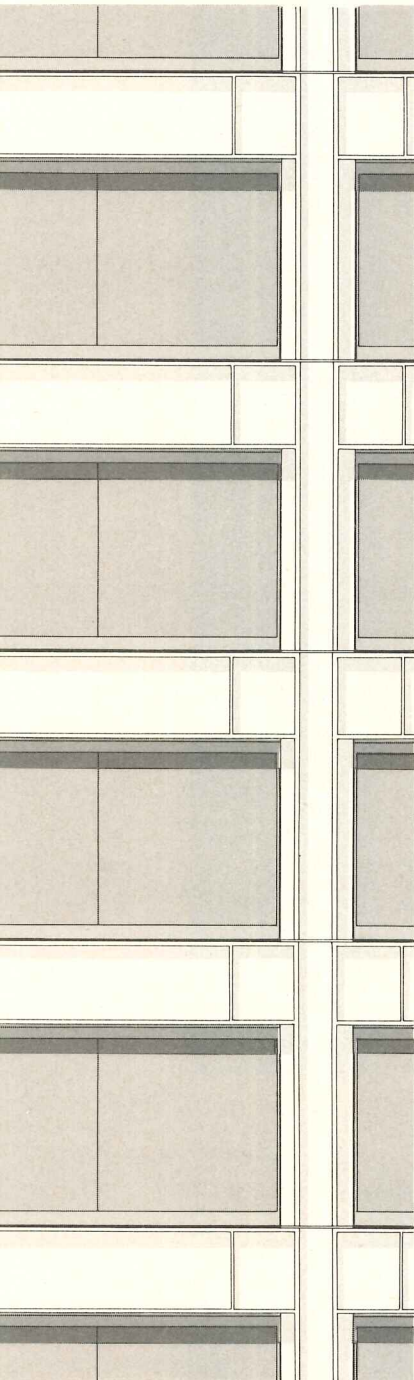
cept where noted, shall be invisible." Because lights are supported on only two sides, wind-load requires glass thicker than normal— $\frac{3}{4}$  in. on the lower floors,  $\frac{7}{8}$  in. above the 23rd floor. Vinyl tube at butt joint provides non-bonding back-up for silicone sealant.



PLAN ABOVE SPANDREL

PLAN THROUGH SPANDREL





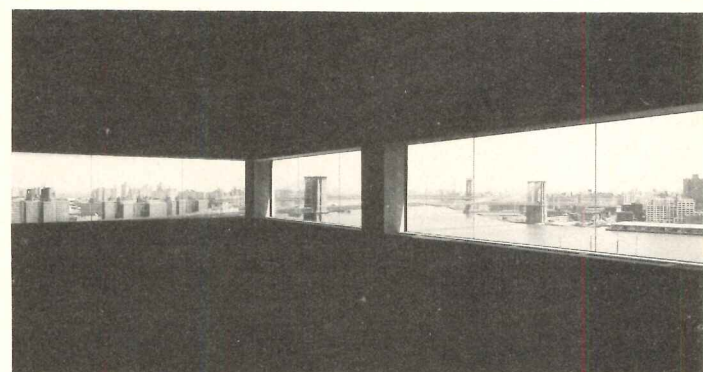
steel wall that would work structurally was scrapped in favor of aluminum cladding that would trace with some accuracy the shape of the rigid-frame structure. (The stiffeners on either side of the columns do not reflect the structure behind, but were added to support the 26-ft spandrels as they were slung into place. They also add greatly to the sought-after play of light and shadow on the face of the building.)

The aluminum cladding is "painted" with baked-on silicone-reinforced acrylic enamel, the first such application of this material on a metal wall of this size. White was chosen partly to contrast with the building's somber neighbors and partly to evoke images of ships and shipping: the site is near the East River and the South Street Seaport Museum, and the owner has considerable maritime interests. (Mr. Cho was the last owner of the liner *Queen Elizabeth*, whose salvaged bronze initials compose one of the plaza's sculptures.)

The voids formed by the curtain-wall members are filled with glass—three lights, butt-jointed with silicone sealant, to each bay. From the outside, this 26-ft expanse of glass imparts the transparency that was one of the guiding design principles; at the same time, the absence of mullions preserves a simplicity of appearance and suggests the flexibility of the interior space. From the inside, the windows offer sweeping views of East River traffic and the Manhattan skyline.

The visual simplicity of the curtain wall contradicts the amount of work that went into its design. The ability of Pei's firm to produce a building with such superlatively executed detail must be attributed, one feels, to a high degree of competence at all levels within the firm, as well as to a corporate capacity for taking pains. The early involvement of cost consultants allowed the architects to consider alternatives before making final design commitments. Subsequent studies of materials, shapes and connections engaged the attention of aluminum fabricators, coating suppliers and glazers, as well as engineers, and produced details of great exactness.

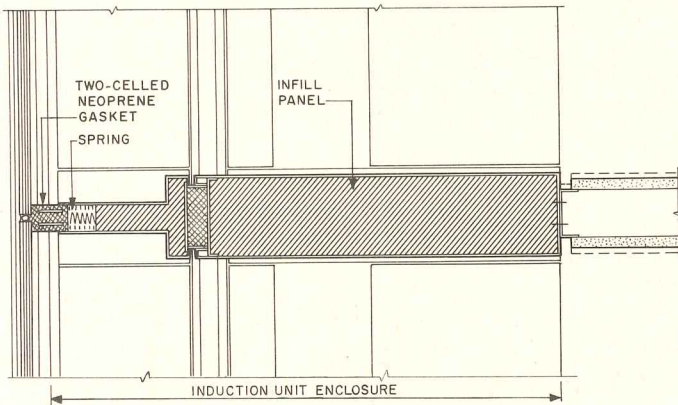
88 PINE STREET, New York City. Architects: I.M. Pei & Partners—James Ingo Freed, associate partner-in-charge; Bernard Rice, associate; Robert Milburn, job captain; Michael D. Flynn, senior associate, and Stewart Barger, curtain-wall design. Engineers: The Office of James Ruderman (structural); Cosentini Associates (mechanical/electrical). Consultants: Diesel Construction, a Division of Carl A. Morse, Inc. (construction management). Owner: Orient Overseas Associates.



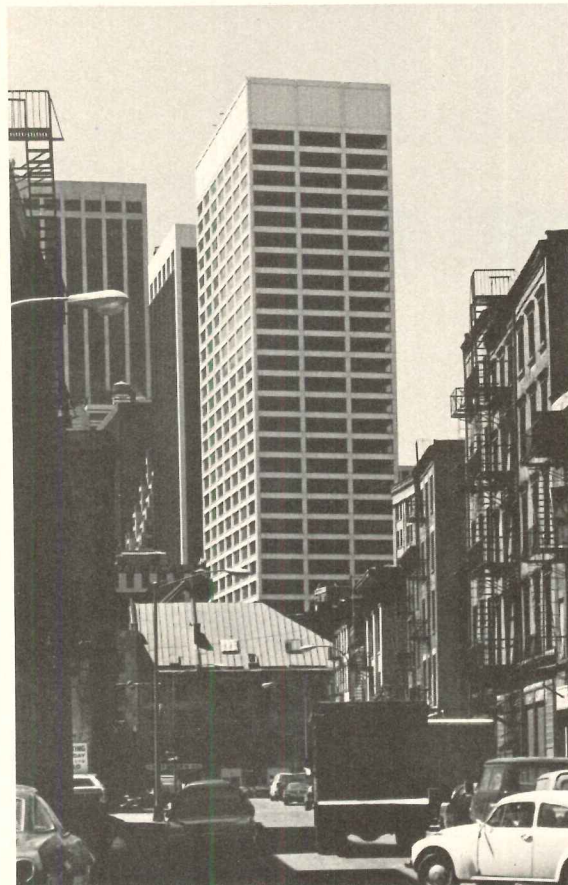




Robert E. Fischer



Because the heavy glass tends to bow under its own weight, partitions for outside offices are provided with spring-loaded neoprene gaskets for a continuous fit at the window. Still another example of the meticulous attention to detail underlying the building's air of well-groomed assurance is the handling of the painted aluminum cornice: the six panels required for the infill are made to appear as three, repeating the proportions of the butt-jointed windows, with alternate hairline and revealed joints.







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"33 Pine Street" offers more of special interest to architects and builders than distinctive beauty alone. This striking new addition to Manhattan's skyline is the first building constructed of aluminum curtain wall in a column-and-beam style. And to accentuate its face dramatically, it is also the first high-rise finished exclusively in a white organic coating. The result is a gleaming study in light and shadows—a clean, carefree appearance that will endure for years to come.

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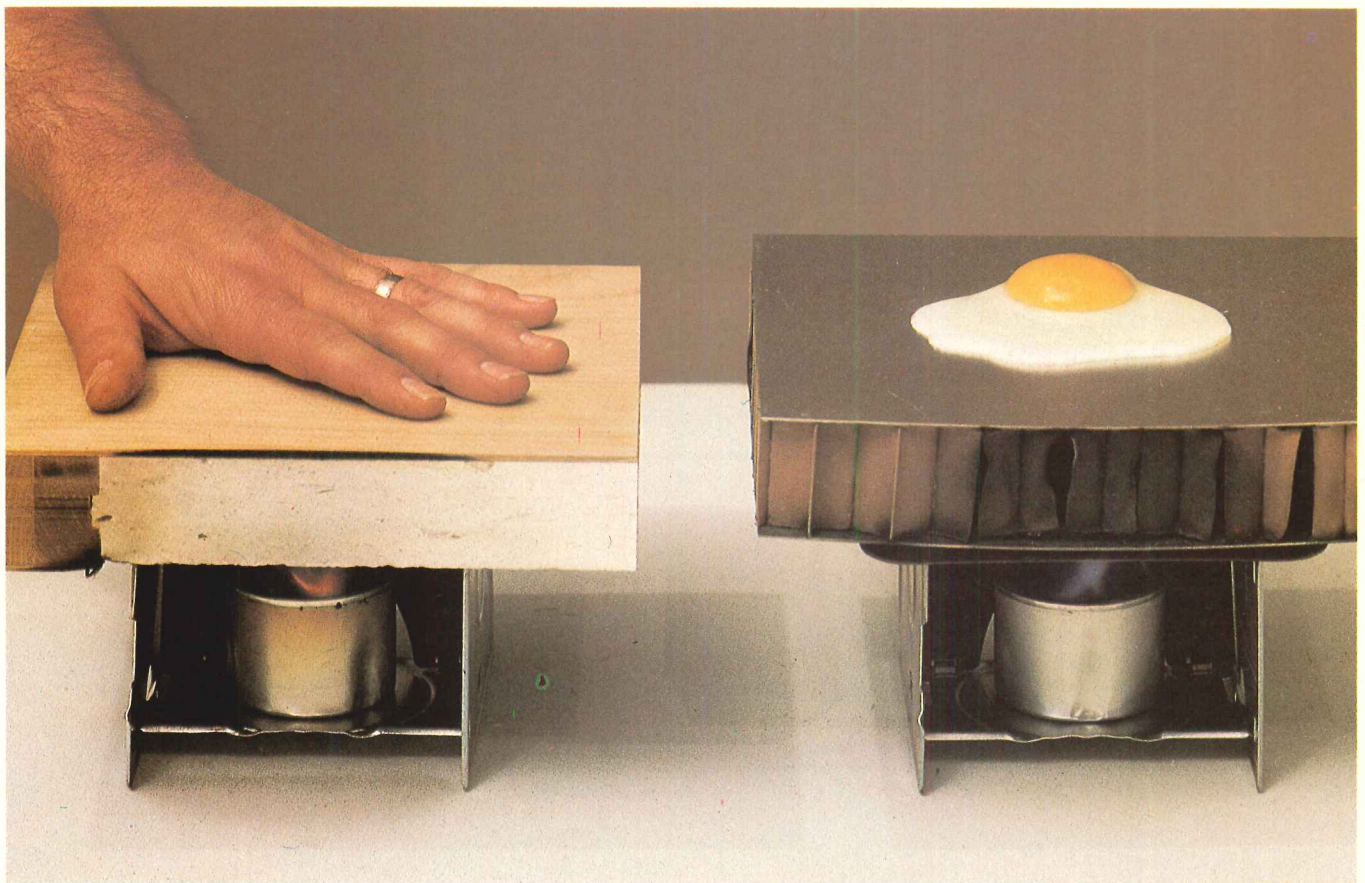
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For more information, circle item numbers on Service Inquiry Card, pages 189-190.



## Anodized black gasket system announced

CS 580 possesses a number of features including a neoprene thermal barrier between exterior and interior metal to reduce thermal conductivity. It is featured here on the Block Building designed by Donald L. Berman Associates, the L-shaped framing assures that each

light is supported by an integral aluminum ledge to prevent stacking. The system is joined at mitered corners with stainless steel clips so that the elasticity of the neoprene is not impaired. ■ Amarlite/Anaconda, Atlanta, Ga.

Circle 300 on inquiry card



## Low venetian blinds used on sloped windows

Quinco Consulting Center in Columbus, Indiana, by James H. Polshak Associates features a special modification of the company's 1-in.-wide venetian blinds which holds them in place to the window where it

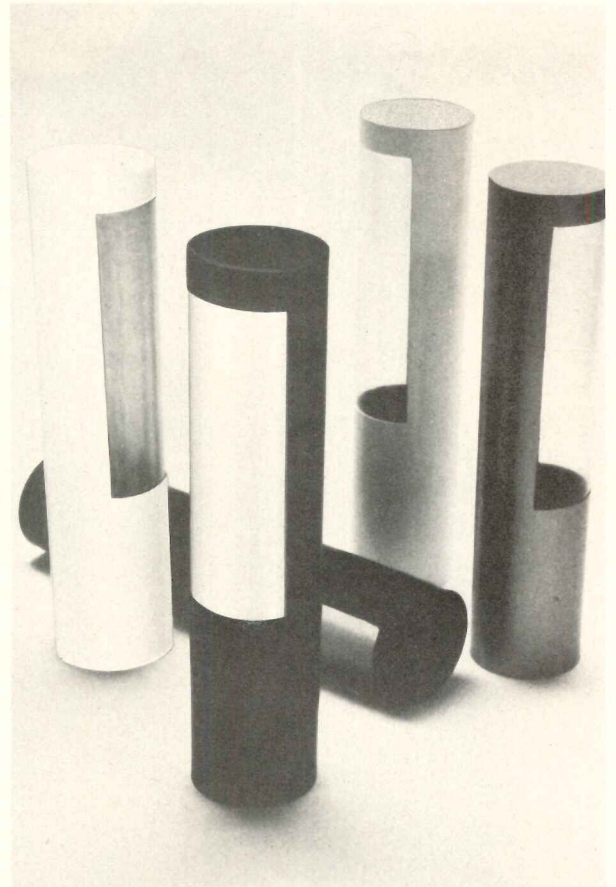
slopes at an 18-degree-angle (top). By using a self-compensating tension wire, tilt and lift operations remain unaffected by any slope. ■ Alcan Building Products, Warren, Ohio.

Circle 301 on inquiry card

## Portable basketball backboard

An aluminum backboard guaranteed for life rolls by tipping onto two rubber tire wheels. The 370-lb unit is official size and glare-free with adjustable height from 8 to 10 ft. ■ Sportsplay Products, St. Louis, Mo.

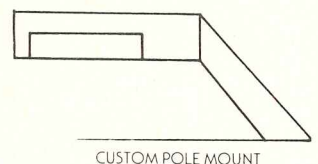
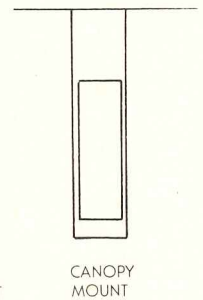
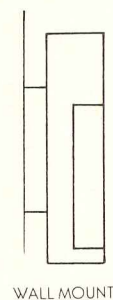
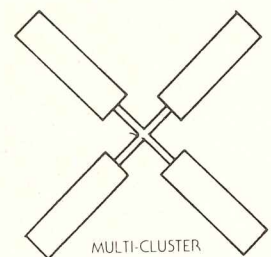
Circle 302 on inquiry card



## Outdoor luminaire for sodium and H.I.D. lamps

The company introduces the Tubaloid architectural lighting fixture for use with low-pressure sodium or mercury vapor lamps. Available in anodized or painted aluminum, for mounting on poles, walls, canopies or the ground as a bollard (see drawings), the unit has a polycarbonate clear or diffuse white lens that resists breakage, and installation is said to be fast and simple. For relamping and maintenance, only the captive end cap need be opened. Pole options include aluminum with satin ground finish or steel poles, prime painted. A single upsweep davit pole and custom poles are also available. Luminaire mounting height ranges from 10 to 20 feet above the ground, in 2-ft increments. The company claims the unit can be totally maintained without disassembling or electrically disconnecting it. Acrylic lenses are also available. ■ Voight Lighting Industries, Inc., Leonia, N.J.

Circle 303 on inquiry card  
more products on page 137





# "A money-saving, space-saving DWV system." That's what Tyler RufWall™ delivered to the One U.N. Plaza Hotel.

United Nations Development  
Corporation, Owner

David Norkin, President of Norkin Plumbing Company, tells why RufWall was chosen for the 10-story, 350-unit hotel portion of Manhattan's newest combination office/hotel building.

"Rigid space requirements, narrow channels in the slab floors, and lack of storage space called for a compact DWV system. Tyler RufWall was the ideal solution.

"In addition to furnishing basic fittings for floor-mounted back-outlet water closets, the RufWall units will pick up tubs which rough-in above the floor and still fit 2-inch pipe into 3-inch channel slots in the slab. And because the RufWall system uses less material than traditional XH class cast iron installation, costs were reduced. All in all, RufWall gave us just what we were looking for, a money-saving, space-saving DWV system."

## But there's another side to this case history

The 350 RufWall units for the 10-floor hotel portion of the building weighed only 66,336 pounds, including 5,750 No-Hub couplings. Tyler delivered the system from Texas on two Tyler trucks; they arrived at the job site in downtown Manhattan on time.

The XH soil pipe and fittings and the threaded pipe in the lower 30 floors of One U.N. Plaza exceeded 300,000 pounds, and required several tons of lead and 1.7 miles of oakum.

Complete on time delivery is not unusual for Tyler, the nation's only full-line producer of SV and No-Hub cast iron soil pipe and fittings with World SV and No-Hub specifications products to meet

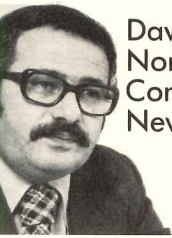
For more data, circle 57 on inquiry







## Here's what the One U.N. Plaza construction team has to say about Tyler RufWall.



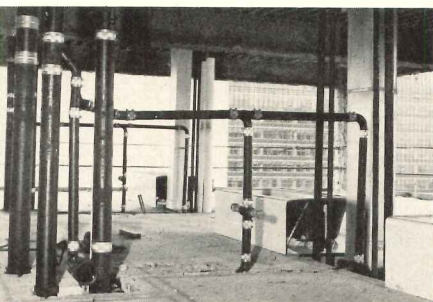
**Dave Norkin, President  
Norkin Plumbing  
Company  
New York, New York**

"Tyler RufWall proved to be a real on-the-job time saver. Our journeymen plumbers were able to install the units and make the No-Hub connections in minutes using only a torque wrench. We were so impressed with the time savings and ease of installation that we are using RufWall in the penthouse addition to the hotel and on other projects."



**Robert Emmert  
Cosentini Associates  
Consulting Engineers  
New York, New York**

"The hotel design called for a compact DWV system. The construction schedule was tight. There were the typical site storage and vertical delivery problems associated with highrise construction in Manhattan, which could have caused delays with a less versatile piping system. However, Tyler's RufWall did the job and provided us with more useful living area in each room."



## RufWall double units on the 2nd floor of One U.N. Plaza.

For complete information on the Tyler DWV system in One U.N. Plaza and your copy of our RufWall brochure, write Engineered Products Department, Box 2027, Tyler, Texas 75701.

## Tyler Pipe

Subsidiary of  
Tyler Corporation

For more information, circle item numbers on  
Readers Service Inquiry Card, pages 189-190.

**RESIDENTIAL HVAC** / A six-page brochure describes the operation and advantages of this central system for older homes and homes with hot water, steam or electric radiant heat. The system includes small, flexible, factory-insulated ducts that thread around studs and other obstacles instead of through them, and end up as inconspicuous two-inch diffuser openings in floor, ceiling, or soffit areas. ■ Dunham-Bush, Inc., Harrisonburg, Va.

Circle 400 on inquiry card

**OFFICE PLANNING** / Nine ways to plan offices and work-stations are described in a 20-page brochure on the company's modular *Series 9000*. Executive and managerial offices, as well as work stations for word processors, programmers and CRT operators, are among the arrangements presented by the brochure, which is designed as an idea workbook. Photographs, 1/8-in.-scale layouts and exploded drawings detail the components required for each assembly. ■ Steelcase Inc., Grand Rapids, Mich.

Circle 401 on inquiry card

**COMBINATION HEATING/COOLING** / Complete data covering 7½- and 10-ton combination heating and cooling roof-top units are available in a 12-page folder. In addition to physical, electrical, capacity and dimensional data, the folder also provides information on gas and electric heating, plus air flow arrangements and performance. ■ Rheem Mfg. Co., Jackson, Mich.

Circle 402 on inquiry card

**CARPET CUSHION** / A sample kit for architects and interior designers contains samples and complete specifications of four cushions manufactured by the company. All of the four lines are specifically formulated according to traffic pattern requirements and are suitable for use in virtually any type of installation. All the cushions also meet or exceed the non-flammability requirements of DOC FF 1-70 and three meet requirements of ASTM E 84-68 (Pill and Steiner Tunnel tests). These cushions are designed to meet medium and heavy traffic in commercial areas. ■ Dayco Carpet Cushion Co., Dayton, Ohio.

Circle 403 on inquiry card

**ASPHALT ROOFING MANUFACTURERS** / The revised edition of the Asphalt Roofing Manufacturers Association booklet is designed as a guide for the roofer, dealer or architect and discusses the latest industry-approved techniques for steep roofing. ■ ARMA, New York City.

Circle 404 on inquiry card

**A-E PRIMER ON FEDERAL CONTRACTS** / The second edition of "Contracting with the Federal Government/A Primer for Architects and Engineers" has just been published by the Committee on the Federal Procurement of Architect-Engineer Services (COFPAES.) The comprehensive document provides a full explanation of the A-E procurement process used by the Federal government, agencies which contract for A-E services, an explanation of how government agencies select and negotiate architect/engineer agreements, and copies of Federal regulations covering A-E contracts. Cost of the primer is \$10. ■ COFPAES, Silver Spring, Md.

Circle 405 on inquiry card

**UPHOLSTERED CHAIRS CATALOG** / A full color catalog illustrating new styles of molded polyurethane shell chairs is now offered by the company. Each shell style is available with five different bases including wood-clad, wine-stem or traditional four-legged styling. ■ Virco Mfg. Corp., Torrance, Cal.

Circle 406 on inquiry card

**PLYWOOD SPECIFICATIONS** / A revised plywood design specification and three new supplements are now available. The 30-page specification contains new section properties and recommended design stresses for plywood. Supplement 1 presents working stresses and design ideas for plywood curved panels in 10 illustrated pages. Plywood beams are covered in Supplement 2, a 16-page booklet which includes general information on glued beam fabrication and testing. Working stresses and designs for flat plywood stressed skin panels are offered in the 20-page Supplement 3, and Supplement 4 covers construction details on plywood sandwich panels. Data presented in all five specifications are in accordance with PS 1-74. ■ American Plywood Assn., Tacoma, Wash.

Circle 407 on inquiry card

**NON-METALLIC GROUT** / A four-page catalog describing the features of *Sealtight V-1* non-metallic grout points out that the product is a pre-mixed, high-density, high-compressive strength, non-shrink grout used for precision grouting of machinery and equipment, anchor bolts, sole plates, bridge bearings, columns, etc. It offers high yield, withstands high vibratory and dynamic forces, is non-corrosive and exhibits outstanding workability, according to the company. ■ W. R. Meadows, Inc., Elgin, Ill.

Circle 408 on inquiry card

**INDUSTRIAL-COMMERCIAL LIGHTING** / A catalog describing a complete line of energy-efficient industrial and commercial lighting systems is entitled "Indoor Lighting Systems—Designer's and Buyer's Guide" and refers to High Intensity Discharge (HID) lighting systems: mercury, metal halide, and *Luca-lox*. The publication includes such data as coefficients of utilization, temperature, room classification, indoor illumination levels. ■ Lighting Systems Business Dept., General Electric Co., Hendersonville, N.C.

Circle 409 on inquiry card

**BUSINESS COMMUNICATION SYSTEMS** / Literature is available for the company's *LSI Interconnex* systems for firms with requirements from 12 to several thousand extensions. Full service from branch offices is available, including system design, installation, personnel training and maintenance. ■ Lear Siegler, Inc., Oklahoma City, Okla.

Circle 410 on inquiry card

**EXHAUST REGISTER** / The bulletin describes the register's concept of assuring uniform exhaust flow, and its low noise level, which permits high-velocity duct design. Also explained is the prebalancing of the exhaust system, and a claim regarding the register's ease of installation. ■ American SF Products, Inc., Fort Lauderdale, Fla.

Circle 411 on inquiry card

**DOOR HEATER CATALOG** / The catalog describes gas-fired and steam/hot water door heaters; it includes selection procedure, suggested specifications, heating capacities and dimensions of all available models. ■ Modine Mfg. Co., Racine, Wis.

Circle 412 on inquiry card

**INDUSTRIAL DOORS** / In addition to providing guidance for correct door selection, catalog includes drawings, specifications and photographs of power- and manually-operated doors for a wide variety of industrial applications. Descriptions of all door controls, and standard and optional components are included. ■ Clark Door Co., Inc., Cranford, N.J.

Circle 413 on inquiry card

more literature on page 145





# Plexiglas® lighting panels are clearly safer overhead.

A shard of broken glass is a dangerous missile. While broken glass is a hazard anywhere, weight and susceptibility to breakage combine to make glass a particularly hazardous material overhead.

Plexiglas acrylic plastic eliminates these hazards in lighting lenses and diffusers. It is tough and resilient, its impact resistance being a function of its thickness. Given sufficient impact, it can be cracked and even broken, but the resulting large, dull-edged fragments minimize the risk of laceration. Plexiglas never breaks into an "infinity" of small fragments.

Do Plexiglas lighting panels create a fire safety problem? The answer of building officials, rating bureaus and fire fighters is, "No". Here's why:

1) To meet installation requirements under building codes and Underwriters' Laboratories standards, Plexiglas panels must be freely mounted in the lighting fixture.

2) When exposed to an occupancy fire, a properly installed panel will fall from its mounting at a temperature well below

the ignition temperature of Plexiglas. Intensive testing and a quarter century of experience have established that Plexiglas lighting panels do not ignite and burn in place.

3) Plexiglas diffusers are not ignited by electrical arcs created in a properly fused system.

Because they meet generally accepted standards of fire safety and eliminate the hazards of glass, Plexiglas lighting lenses and diffusers are accepted under the Uniform Building Code (ICBO), the Southern Building Code (SBCC) and the Basic Code (BOCA).

Safety is only one of several important reasons why Plexiglas is the superior lighting material. We invite you to consider some others.

**For your copy of "8 Reasons Why", or technical assistance, call toll-free 800-325-6400\* now!**

**\*In Missouri, 800-342-6600**



Plexiglas acrylic plastic is a combustible thermoplastic. Observe fire precautions appropriate for comparable forms of wood. For building uses, check code approvals. Impact resistance a factor of thickness. Avoid exposure to heat or aromatic solvents. Clean with soap and water. Avoid abrasives.

For more data, circle 58 on inquiry card



**SOLAR ENERGY COLLECTOR GLAZING / "Tedlar"**

PVF film, recently developed by the company, is recommended for glazing solar energy collectors. The .004-in. thick film transmits 92 to 94 per cent of total incident solar energy, with the main losses caused by surface reflection. The film can be heat-sealed, shrink-wrapped, and bonded by adhesives. Tensile strength is approximately 13,000 lbs/sq in. with an elongation at break of approximately 250 per cent. ■ Du Pont Co., Wilmington, Del.

Circle 304 on inquiry card

**WORKING/DIRECTIONAL SIGNS**

To help in the identification of accessible buildings, and accessible facilities within the building, specially designed signage incorporating the international symbol of access has been developed. The symbol is also used to identify sloping ramps, ground level changes, specially reserved parking places, level crossings without curbs at crosswalks, elevators, and public telephones and drinking fountains placed low enough so they can be used by persons in wheelchairs. The symbol is offered on a variety of signs, plaques and decals. ■ Seton Name Plate Corp., West Haven, Conn.

Circle 305 on inquiry card

**LABORATORY CABINETS**

Over 100 sizes and configurations comprise a standard line of hospital, laboratory and institutional casework with flush interior construction to make good housekeeping easy. Other features include mitred corners to eliminate seams on the cabinet face, institutional-type hinges with lubricant-impregnated nylon spacers between knuckles, heavy-duty drawer channels, nylon-lined steel-ball bearing rollers, double-pan doors with a honeycomb sound-deadening mechanism, and reinforced cabinet bottoms. Providing a standard 24-in. depth and 30½- or 24¾-in. height, any of a number of standard cabinet widths can be selected. Countertops are made in a single continuous unit for one or more cabinets. ■ American Sterilizer Co., Erie, Pa.

Circle 306 on inquiry card

**AUTOMATIC LAUNDRY FOLDERS**

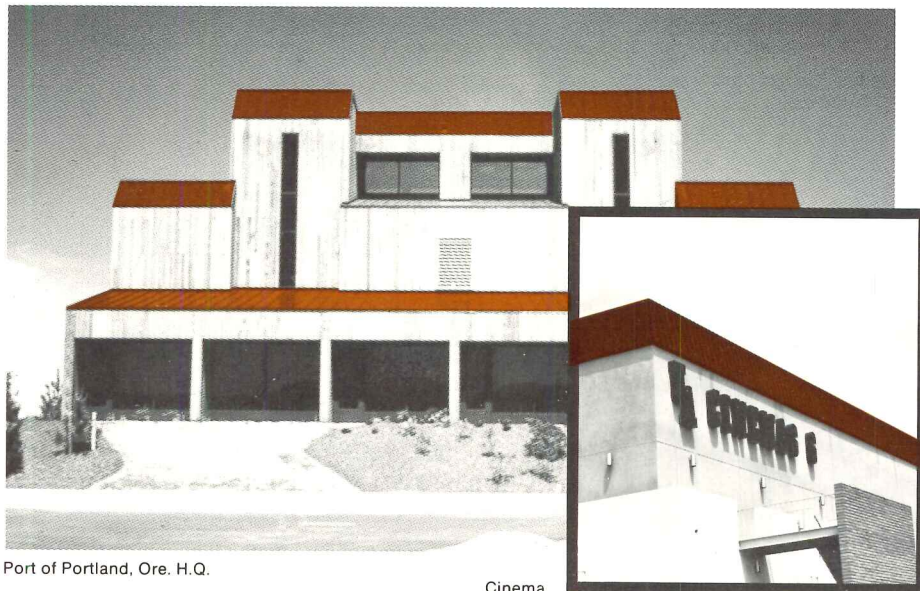
Two automatic folding machines, include: the "Foldmaster" model B-4 that folds large linen items such as sheets and tablecloths uniformly and automatically; and "Foldmaster" model B-5, for folding smaller linen items such as towels and pillow cases. ■ Economics Laundry Equipment Co., White Plains, N.Y.

Circle 307 on inquiry card

more products on page 141



# Architects tell us "Our only regret is that we didn't know about ColorKlad sooner..."



Port of Portland, Ore. H.Q.

Cinema

## ...so we could have specified it for our earlier projects."

This is an exact quote from an Upper Midwest architectural firm. Why are they so high on **COLORKLAD**?

**PERFORMANCE** — The architects asked their sheet metal contractor to test **COLORKLAD**. Bang it around. Beat it up. The answer came back. "It's the toughest on the market. Stands up to every test. Excellent color retention. Doesn't need to be pampered." And the color is warranted—in writing—for 20 years.

**ECONOMY — COLORKLAD** is approximately half the cost of copper; one-third less than zinc based flashing metals, soft stainless steel, or copper clad steel. Costwise, it compares favorably with shop or field painted galvanized.

**COLORKLAD** — The roll coated flashing and fascia sheet that is making big news in the building industry! Send for our new brochure.

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For more data, circle 59 on inquiry card







Genon is the result of General Tire's uniquely coordinated styling artistry and vinyl fabric technology. Pattern, texture and color concepts are precisely translated into quality wall coverings in the manufacturing process.

## ***Unlimited editions of fine wall covering art.***

The Genon gallery of over 700 items satisfies all commercial and institutional requirements with: deep weaves; grass cloths; linens; silks; wood and stone effects; solids; stripes; and random patterns. Genon is available in heavy, medium, and a broad new line of light weight materials. Scrubbable, strippable Genon is known for durability, ease of maintenance and installation, and meets Federal Specification CCC-W-408A.

Genon service meets the same high standards of quality, with: sales and design consultation; complete customizing capabilities; on-time, on-site delivery; and assurance of product performance.

For your next installation, whether new construction or refurbishing, specify Genon, the medium of fine environmental artists. The General Tire and Rubber Company, Contract Wall Covering Group, 979 Third Ave., New York, N.Y. 10022.

*unlimited editions of fine wall covering art*



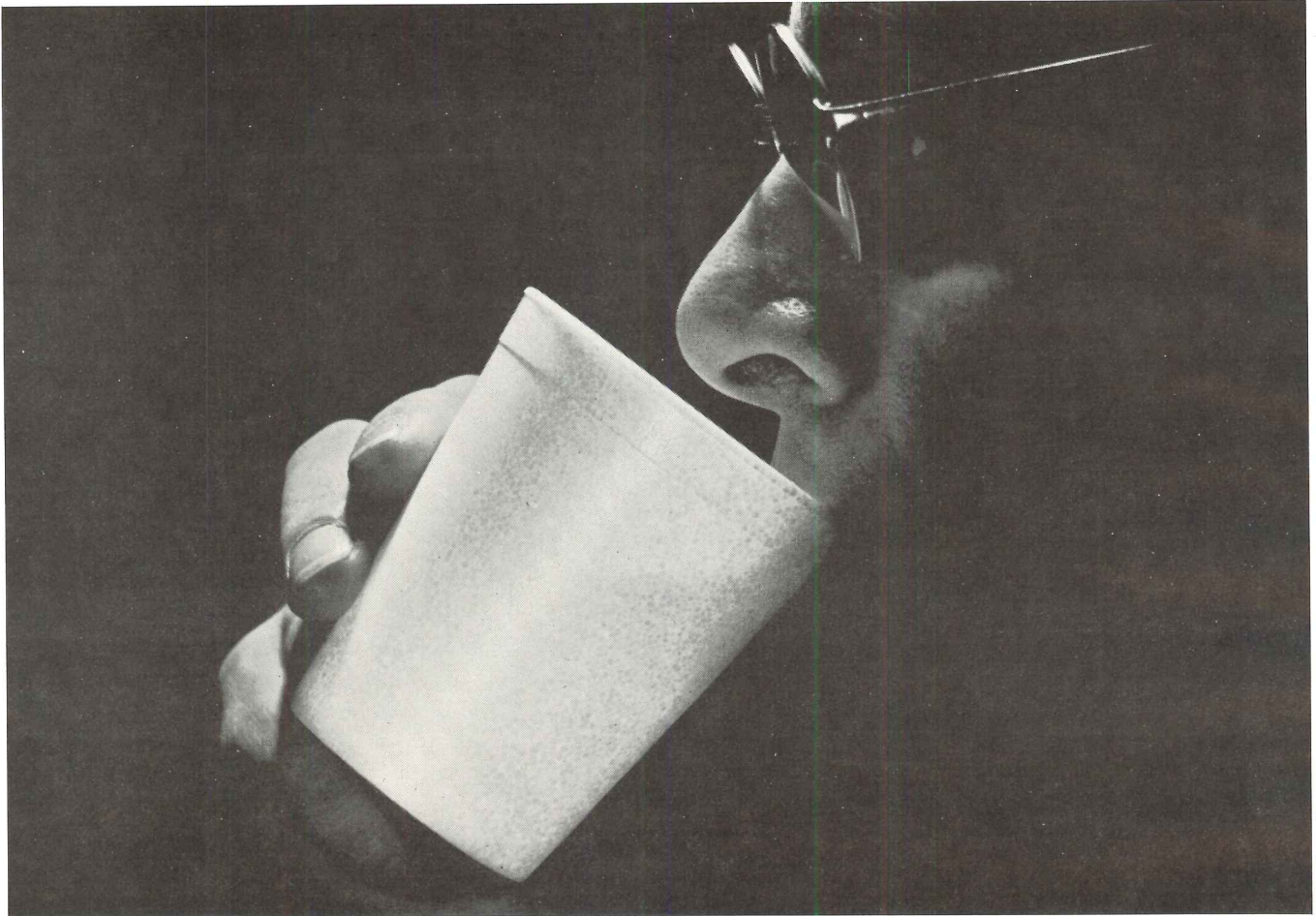
**genon**<sup>®</sup>  
vinyl wall covering





**That great building insulation material  
you've been looking for  
could be right under your nose:**

**Dylite® foam.**



If you're drinking your morning coffee or tea out of a foam cup, chances are it's made of Dylite expanded polystyrene—the same material that's available as insulation for commercial and industrial construction.

The superior insulating properties of Dylite make it ideal for many facets of construction: as a core for wall and roofing panels; cold storage applications; as a weight-reducing, insulating core for concrete panels; as plaster base for walls; as a backing for siding.

CAUTION: Dylite is combustible and should not be exposed to open flame or other ignition sources.

When you use Dylite, construction progresses faster, especially with pre-insulated panels. You save time and on-site labor. Building owners and occupants save on energy costs.

Dylite can be easily shaped and sized. No special tools required.

For more information, write to ARCO/Polymers, inc., 1500 Market Street, Philadelphia, PA 19101.

**ARCO/Polymers, inc.**   
Subsidiary of  
AtlanticRichfieldCompany

*For more data, circle 60 on inquiry card*



**EL SPIRAL STAIR KITS** / The "Model 30" and "Model 40" are within the moderate-to-low budget range and the kit price is for a complete standard stair, including 12 treads, 13 risers and platform with handrail. All the hardware needed to assemble and install the stairs is included, with 3½-in. diameter center post, 10-in. welded base plate, ¾-in.-sq. spindles, ⅝-in. formed steel platform and treads. All metal parts are primed with flat black. ■ Whitten Enterprises, Inc., Bennington, Vt.

Circle 308 on inquiry card

**AIR VIBRATION ISOLATION SYSTEM** / A combination roof mounting frame, curb, and vibration elimination base for rooftop mounted heating and cooling units is being introduced. Named *Vibro-Curb*, the one-piece factory-fabricated system isolates vibration from a typical unit's fans, motors and compressors to reduce the transmission levels to noise-sensitive spaces below, by as much as 90 percent. A 2-in.-thick high-density fiberglass wall within the curb and under the unit's space provides an acoustic chamber for the return air. Duct silencers can also be factory installed in this chamber to save field installation. Counter flashing is snapped in place to make the entire assembly weather-tight. ■ Vibro-Curb, Inc., Wheaton, Ill.

Circle 309 on inquiry card

**NOURISHMENT CENTER** / Two modular pre-fabricated nourishment centers have been designed for use in nursing homes, medical and dental practice buildings, institutions and other health facilities; they can be used for serving supplementary nourishment, special diets and whole meals. The 57-in. center is free-standing and the 60-in. center is designed to be built-in. They include a microwave oven, refrigerator, icemaker, two electric surface units, sink-top and cabinets. ■ Dwyer Products Co., Michigan City, Ind.

Circle 310 on inquiry card

**OSHA-COMPLIANCE CLOCK** / Introduced two years ago, the "Richboro" electric wall clock was specially designed to comply with OSHA regulations that all electrical appliances in industrial plants, offices and institutions be grounded. It is equipped with a 3-wire cord set with molded-on plug that grounds the electric motor, preventing the danger of electric shock. Originally offered in a 12-in.-diameter dial size, the clock is now also available in an 8-in.-diameter version. Additionally, the dials of both clocks have been redesigned with white black Gothic numerals on a white face for better legibility. ■ Franklin Instrument Co., Inc., Richboro, Pa.

Circle 311 on inquiry card

more products on page 143

For more data, circle 61 on inquiry card

# 62-63

**JG Furniture Company, Inc.** 121 Park Avenue  
Quakertown, Pa. 18951

Auditorium seat designed by Peter Dickinson  
Installed at the Institute for  
Advanced Study, Princeton, N.J.  
Architects: Geddes Brecher  
Qualls Cunningham, P.C.  
Interior Consultants:  
Semanko-Bobrowicz





# Transform building codes into beauty codes

## with Hager's new Torsion Hinge.

Now, meet institutional building codes with the clean, crisp, uncluttered lines and enduring strength of Hager's new Torsion Hinge. Eleven tempered spring steel torsion bands provide even, adjustable closing strength for doors weighing up to 100 lbs. No more cluttered appearances. One center mounted torsion hinge eliminates the unsightly coils of bulky spring hinges. It installs easily like an ordinary mortise hinge. Specify one of several beautiful decorator finishes.



Ask your architectural hardware consultant for an interesting look at Hager's complete line of fine quality door hardware. Or, write Hager Hinge Canada, Ltd., 771 Wilson Avenue, Kitchener, Ontario.



For more data, circle 62 on inquiry card





# TOP THE MUSIC!... with ACOUSTILEAD®

Unless you put a sound barrier in the room—the space between a hung ceiling and the slab above—you'll have piped-in noise throughout your building or office.

Acoustilead, 1/64" thin sheet lead, is one of the best noise stoppers in the business. It's limp and dense, and won't let noise seep through, as porous materials do.

Acoustilead is easy to install. It cuts with scissors or a knife, crimps around ducts and vents. You'll hardly hear a note, a laugh, or a new writer.

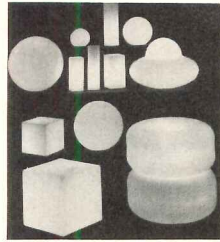
For a booklet on Acoustilead for Room Barriers, or the name of an Acoustilead distributor near you, write Sound Attenuation Department, Asarco, 150 St. Charles Street, Newark, N.J. 07101.

# ASARCO

American Smelting and Refining Company  
FEDERATED METALS DIVISION

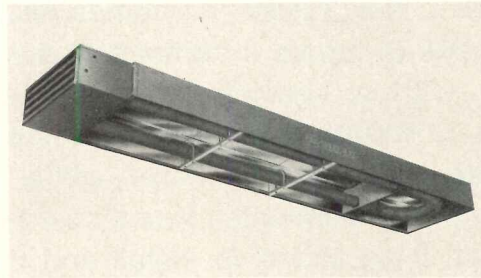
For more data, circle 63 on inquiry card

## TABLE AND FLOOR LAMPS / "Light-White" lamps



are molded from high-density, impact-resistant, translucent white polyethylene, and with UL-approved electrical parts. The cylinders are made of opal acrylic. Certain styles can be stacked up to 4 high for a unique design pattern for floor lamps. All lamps are wired with an "off-on" line switch. ■ Trimble House Corp., Norcross, Ga.

Circle 312 on inquiry card



**INFRA-RED RADIANT TUBE HEATER** / The 175,000 Btu/hr radiant tube heater is available in either vented or unvented models for complete comfort heating to zone or spot heating, condensation control, thawing or drying. Heater can be installed as close as 12 in. below combustibles except when mounted on a 90 degree angle. Measuring about 13 ft long with an infra-red emitting surface of 25 sq ft, this heater provides heating either indoors or outdoors, and is suited for use over large doors that are frequently opened. ■ Space-Ray Div., Gas-Fired Products, Inc., Charlotte, N.C.

Circle 313 on inquiry card



**SOUND-ABSORB MIRRORED CEILINGS** / Vista Sonic mirrored ceiling panels are made from fire-retardant acoustical ceiling panels covered with a tough aluminized back surface that minimizes dust build-up. A 1/8-in. air space between the film and the acoustical tile backing acts as a cushion that allows the film to give under minor impact without damage, and the shatter-proof surface offers distortion-free light reflection. ■ United States Gypsum Co., Chicago, Ill.

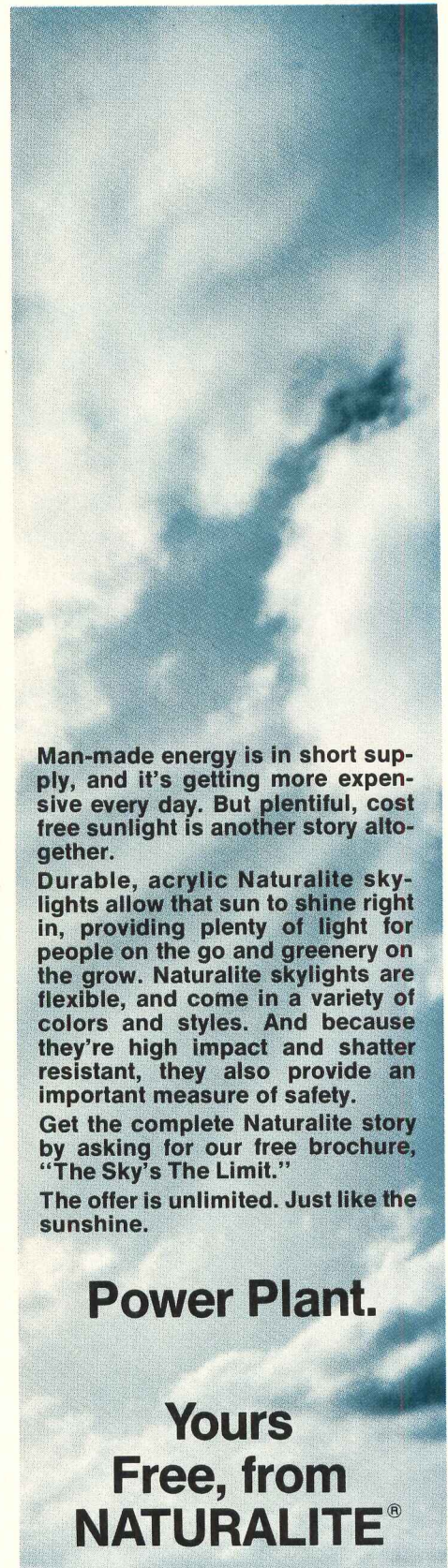
Circle 314 on inquiry card

## INSULATING TACKABLE PRODUCTS / Utilizing a



patented substrate and fire retardant burlap, the company has achieved a fire hazard classification of Class A on the combined products. In addition to fire retardant burlap, dark Portuguese cork and natural cork panels achieved the same fire hazard classification. ■ Homasote Co., West Trenton, N.J.

Circle 315 on inquiry card



**Man-made energy is in short supply, and it's getting more expensive every day. But plentiful, cost free sunlight is another story altogether.**

**Durable, acrylic Naturalite skylights allow that sun to shine right in, providing plenty of light for people on the go and greenery on the grow. Naturalite skylights are flexible, and come in a variety of colors and styles. And because they're high impact and shatter resistant, they also provide an important measure of safety.**

**Get the complete Naturalite story by asking for our free brochure, "The Sky's The Limit."**

**The offer is unlimited. Just like the sunshine.**

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A little sunshine sounds good. Send the brochure. R-4  
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For more data, circle 64 on inquiry card



# New "Rite-On, Wipe-Off" Writing System

## Paints A Pretty Picture

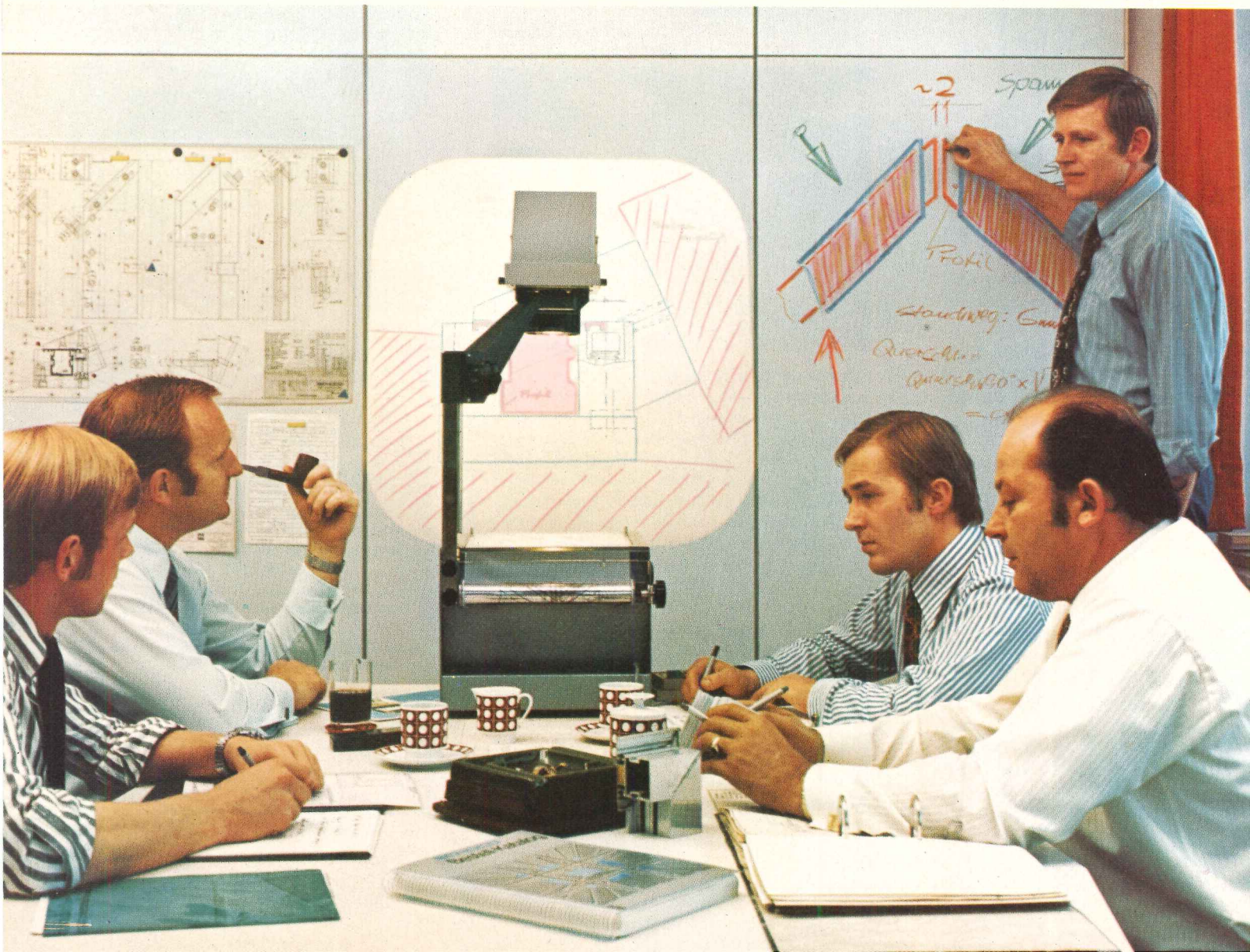
The pretty picture is this: **1.** New system combines AllianceWall porcelain wall panels and dry marker pens to create a completely dustless writing system. **2.** Porcelain panels come with a special finish that enhances both writing and erasing. **3.** Writing dries instantly and can be erased with a dry cloth or eraser. **4.** Every inch of every office wall becomes a productive work surface. **5.** Laminated to low-cost gypsum board, the panels are fire-proof, inexpensive to install and maintenance free. **6.** No special lighting system is necessary. **7.** Boards are guaranteed for 50 YEARS and can be used with any partition system.



\*"Rite-On, Wipe-Off" dry marker pens are now available through local AllianceWall distributors.

Other plants:  
Okmulgee, Oklahoma; Genk, Belgium and Seden, Denmark

**AllianceWall**<sup>®</sup>  
CORPORATION  
Box 247, Alliance, Ohio 44601  
For more data, circle 65 on inquiry card





**METAL DOOR CATALOG** / A metal doors and frames catalog depicts the company's 1975 line of steel doors and framing, lists specifications and explains labeled fire doors and transom panel assemblies. ■ Amweld Building Products, Niles, Ohio.

Circle 414 on inquiry card

**OFFICE PARTITIONING** / A 12-page booklet illustrates full-height walls and screens, and cabinetry, work surfaces, power columns and other accessories. Use of magnets for accessory attachment to the basic steel wall system is also described. ■ Hauserman, Inc., Cleveland, Ohio.

Circle 415 on inquiry card

**AUDIO-VISUAL INFORMATION** / A low-cost packaged audio-visual system that claims to give business and other users most of the advantages of expensive custom units is described in a brochure. The self-contained unit provides for sound motion pictures, slides and overhead transparencies. ■ Jerome Menell Co., Inc., New York City.

Circle 416 on inquiry card

**INSULATED MODULAR BUILDING SYSTEM** / Prefab insulated modular panel building systems for frozen food, meat and dairy plants, cold storage warehouses, freezers, coolers, and environmental control structures are described in a catalog including specifications. The panels incorporate a core of expanded rigid polystyrene foam insulation. Aluminum and other facings are available in a selection of colors and finishes. ■ Modular Panel Co., New Bedford, Mass.

Circle 417 on inquiry card

**SHINGLES, SIDING** / A comprehensive catalog describing the company's roof shingles, sidings, and related building products provides basic information on asphalt roofing shingles, vinyl and mineral sidings, plastic shutters, asbestos-cement building board, built-up roofing materials, roof coatings, plastic cements, fiberglass insulation and corrugated canal bulkheading. The catalog also features information on Vanguard vinyl siding. ■ GAF Corp., New York City.

Circle 418 on inquiry card

**ALL-ALUMINUM POOLS** / A 1975 color brochure features the engineering design of the company's pools with illustrations of projects in: schools, colleges, parks, municipalities, hospitals, hotels, motels, and country clubs. Special interest pools such as therapeutic and teaching pools are also included. All are constructed of aluminum. ■ Chester Products Inc., Middletown, Ohio.

Circle 419 on inquiry card

**MOBILE STORAGE SYSTEMS** / Based on eliminating aisle space by making all storage units mobile, these systems are designed to be moved manually or electrically. Full details and illustrations are in the "Mobile Filing & Storage Systems" catalog. ■ Space-makers, Inc., Brooklyn, N.Y.

Circle 420 on inquiry card

**STORAGE EQUIPMENT GUIDE** / This catalog contains 136 pages picturing equipment for in-plant and warehouse transporting, lifting, dumping, hoisting, pulling, conveying, storing, and drum handling. New products such as cabinets, conveyors, slings, racks, scissor lifts, lockers and rotabins are featured. Complete prices and specifications are included along with technical and engineering information. ■ Standard Handling Devices, Medford, Mass.

Circle 421 on inquiry card

*more literature on page 147*

# imagine a roof deck insulation this effective!

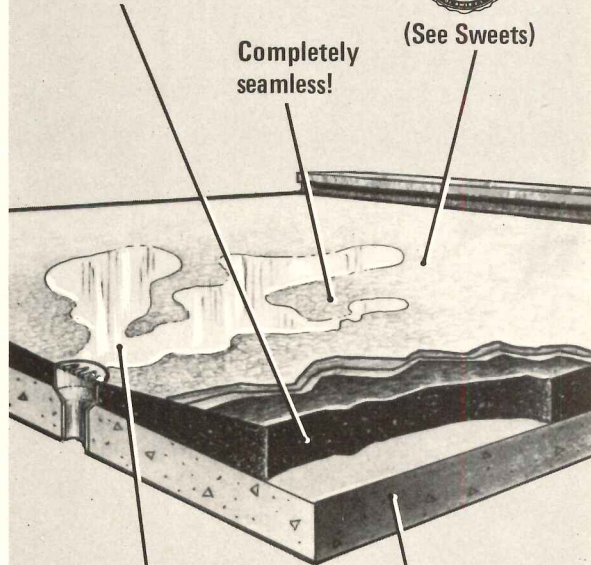
All-weather Crete saves energy — cuts fuel costs 1/3 to 1/2!

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AWC is sloped to drains providing positive water run-off!

AWC systems can be installed on concrete, metal or pre-stressed decks - for roof or plaza!

Quality installation only by trained, licensed applicators!

Hot applied even in freezing weather!

## All-weather Crete®

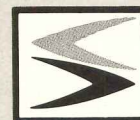
ROOF DECK INSULATION

Get all the technical facts in this new 1975 AWC 16 page brochure.



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For more data, circle 66 on inquiry card



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For more data, circle 69 on inquiry card

**EARTHQUAKE REPORT** / Lessons learned from investigations on the Managua, Nicaragua, earthquake of December 23, 1972, are summarized in a report published by American Iron and Steel Institute. The 54-page report consists of two papers. One, entitled "Engineering Lessons from the Managua Earthquake," describes effects of the quake on major buildings in Managua and ends with 12 important lessons learned from the disaster. The second paper, entitled "Managua: Effects on Systems," describes how the earthquake crippled systems that are not always easily visible but which are vital to the functioning of a city—water and sewer lines, electrical generating stations and lines, the airport and railroad, streets and highways, communications systems, and heavy mechanical and electrical equipment in buildings. ■ American Iron and Steel Institute, Washington, D.C.

Circle 422 on inquiry card

**ELECTRICAL LOAD PROGRAMMER** / A new bulletin describes a power-conserving load programmer with automatic setpoint adjustment. The unit is designed to defer electrical loads and limit peak demands, conserving power and reducing total electrical costs for a wide variety of building types. The bulletin details how the automatic programming adjusts a building's circuits (from 4 to 60) during peak loads and periods when power is less expensive. Complete operation of the load programmer, including setpoints, automatic adjustments, and measures to minimize hunting and maintain service to the maximum number of circuits, is explained. ■ I-T-E Imperial Corp., Spring House, Pa.

Circle 423 on inquiry card

**ELECTRIC UNIT HEATERS** / These units are available for horizontal or vertical mounting with discharge flexibility to provide full 360-degree warm air patterns. All-welded construction is provided, with sub-divided circuit protection to UL and NEC requirements; units are completely pre-wired. Totally enclosed motors and automatic thermostats are standard features. Units are suitable for commercial and industrial applications for spot or auxiliary heating, and sizes range from 1½ to 36 kw for operation on all voltages; 24 volt and two-stage thermostats are also available. The bulletin contains complete technical and electrical information. ■ ILG Industries, Chicago, Ill.

Circle 424 on inquiry card

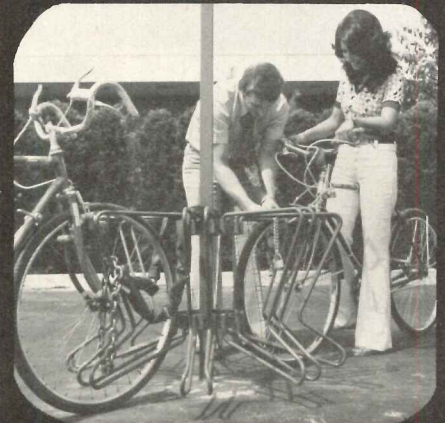
**SIGNAGE PRODUCTS** / A file folder of product literature on signage systems and products provides architects, designers and building owners with a single supply source for a complete line of visually coordinated signage materials and components designed to complement one another. The brochures list specifications on pressure-sensitive legends and emblems; fiber-reinforced polyester (FRP) signs, components and monoliths; post and panel assemblies; plaque signage; metal letters; cast tablets and plaques; finishes and enamel colors; building directories; and a line of letter styles. ■ Jas. H. Matthews & Co., Pittsburgh, Pa.

Circle 425 on inquiry card

**IDENTIFICATION SYSTEMS** / A 68-page full line catalog, complete with prices and ordering information includes: safety signs, lettering systems, numbering and coding, floor marking, and pipe marking. The catalog contains descriptive information, cross-references to related products, and stock numbers. ■ W. H. Brady Co., Milwaukee, Wis.

Circle 426 on inquiry card

## How little it takes... TO BRING HAPPINESS TO A BUILDING



specify:

# Bike Dock

T.M.

Attractive but rugged, Ready Metal's BIKE DOCK is modular in design: plan for three bikes, or three hundred.

BIKE DOCK mounts to any wall; it can be anchored to a post of any diameter; it can be free standing.

Eliminate bike-parking headaches with two words:

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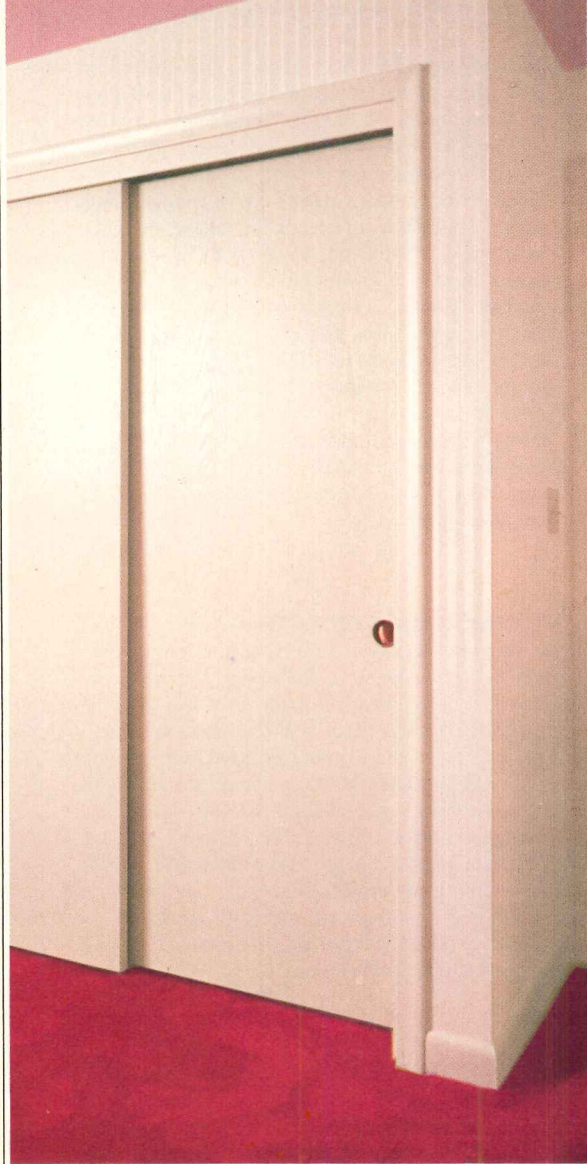
For more data, circle 70 on inquiry card





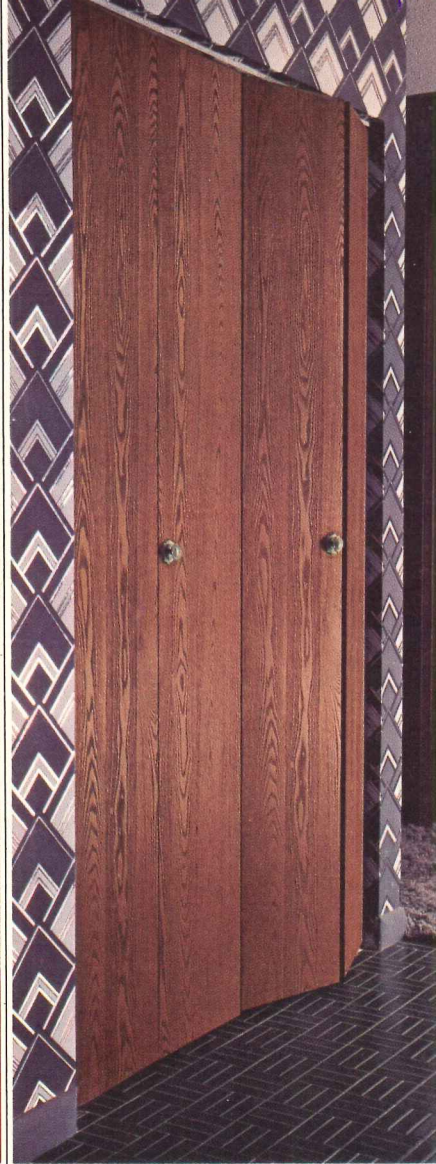
### For Heavy Duty

50% again as dense as natural wood, and prefinished with a hard stain resistant surface. All the subtleties of wood grain are faithfully reproduced in the durable hardboard surface.



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No plywood or wood surfaced door can equal Legacy's resistance to splitting, splintering, cracking or checking. Its easy-to-clean surface has the texture that pleases the eye and hand while resisting wear.



### For sheer beauty

Flat surfaced doors with a mere grain finish cannot match Legacy's natural yet luxurious look. Competitively priced, prefinished Legacy generally costs less installed, definitely costs less to maintain.

# For architectural flexibility Legacy® stands alone

Embossed prefinished Legacy is available in white, oak-tone and walnut-tone for home, condominium, apartment, and commercial installations in sizes up to 5' wide and 8' tall.

For the names of quality door manufacturers currently using Legacy, write: Masonite Corporation, 29 North Wacker Drive, Chicago, Illinois 60606. Or consult your Sweet's 1975 File.



Legacy and Masonite are trademarks of Masonite Corporation. / Man-made finishes on real Masonite hardboard.



# OFFICE NOTES

## New offices, office changes

**Jacques de Brer, AIA**, has opened his new office at 562 Mission Street, San Francisco, Cal.

**MacFadyen DeVido Architects** have moved to 27 West 53 Street, New York City.

Darrell Leatham and Nat J. Adams have announced the merging of their architectural firms, to form **Adams & Leatham, Architects**, 100 W. State Street, Boise, Idaho.

**Page Southerland Page** have opened a Dallas office at Two Turtle Creek Village.

Alec Yuill-Thornton and John Russell Levikow have announced the continuation of the practice of Yuill-Thornton, Warner Et Levikow as **Yuill-Thornton Et Levikow, Inc.**, 442 Post Street, San Francisco, Cal.

**John Roger Johansen, AIA** has opened his office at 228 N. Main Street, Cheboygan, Mich.

Following the death of Louis I. Kahn, members of his staff who had worked in close association with him have formed a partnership. The new firm is called **David Wisdom & Associates**, located at 1501 Walnut Street, Philadelphia, Pa.

Marquis & Stoller have changed their firm name to **Marquis Associates**, 243 Vallejo Street, San Francisco, Cal.

**The Eggers Partnership** have announced the opening of a new branch office in Suite 801, 1629 K Street, N.W., Washington, D.C.

**Patrick Anthony Roy, AIA, AIP**, has announced the establishment of his consulting office for the practice of architecture, environmental design and urban and regional planning. Offices are located at 3 Chaucer Road, Englishtown, N.J.

**Ralph Hahn and Associates**, consulting and design engineers, Springfield, Ill., have recently opened a branch office at 230 Royal Palm Way, Palm Beach, Fla.

**Barton-Aschman Associates**, Chicago, have opened a branch office in Arcadia, Cal.

**T. R. Larson, Architect**, announced the relocation of his office to 213 Grand Ave., Pacific Grove, Cal.

## New associates, promotions

**Fred Fast** has been named an associate of Wilscam & Mullins, Inc., Minn. Also **John R. Birge, R. William Cramer and Phillip Higgason** have been promoted to associates in the Omaha, Neb. offices.

**Adel Foz, Kyung-Bae Park and Jane Weinzapfel** have been named associates of the firm of Wallace, Floyd, Ellenzweig, Moore, Inc.

Flower & Associates, Inc. of Dallas, Tex., have announced the election of **William S. Poole, P.E.** as vice president and director and the appointment of **James L. Balliet** as associate.

Locke Wright Foster Incorporated, Architects-Planners, Oklahoma City, Okla. announce the appointment of **Joe Davis, Tom Fish**, and **Dennis Ward** as associates.

**Kamlah L. Johnson** has been named manager of the New Orleans office of Ellerbe Architects.

**Edward R. "Ned" Jones, Jr.**, AIA, has been named vice president and general manager of the Los Angeles office of Charles Luckman Associates.

# IN THE CAUSE OF ARCHITECTURE FRANK LLOYD WRIGHT

## WRIGHT'S HISTORIC ESSAYS

FOR THE FIRST TIME IN ONE VOLUME

### Essays for Architectural Record 1908-1952

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For the first time ever, the seventeen historic essays Frank Lloyd Wright wrote for *Architectural Record* are collected in a definitive volume. In *The Cause of Architecture*, Wright's major statement of his architectural philosophy, is an essential key to understanding this creative talent.

Reproduced in their entirety and in their original format as they appeared in the pages of the *Record*, these essays give penetrating insights into the mind of an architectural genius at the time he was creating his most significant works.

This handsome, 256-page volume is illustrated with hundreds of photos, drawings, plans and perspectives of F.L.L.W.'s greatest buildings as well as a fascinating photo-essay of never-before-published pictures of Wright taken shortly before his death.

Edited by noted Wright authority Frederick Gutheim, the book also includes a symposium of eight essays by Wright's associates that take a new look at the life and work of America's greatest architect.

*The Cause of Architecture* will be of continuing interest to architects, students, and all those interested in Wright—a basic reference for school, home and office libraries. Beautifully designed, it will be a treasured gift for years to come.

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*The Cause of Architecture: Frank  
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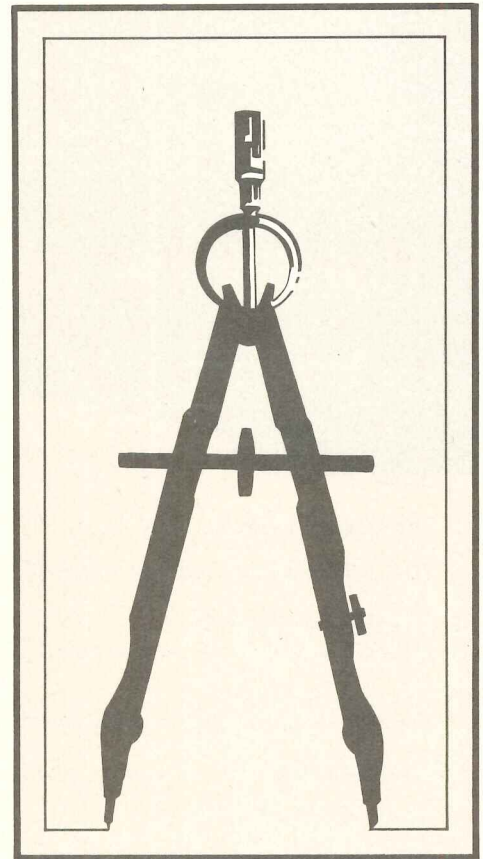
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Call for entries  
first prize \$7,500

Here is an exciting design challenge that tests your inventiveness and creativity in the design of mobile homes. How should they look? How could they look? What is your design opinion? There are substantial rewards.

The competition is open to architects and architectural firms, industrial designers and design firms and students in accredited architecture or design schools. Judgement will be made by your professional peers and representatives of the mobile home industry.

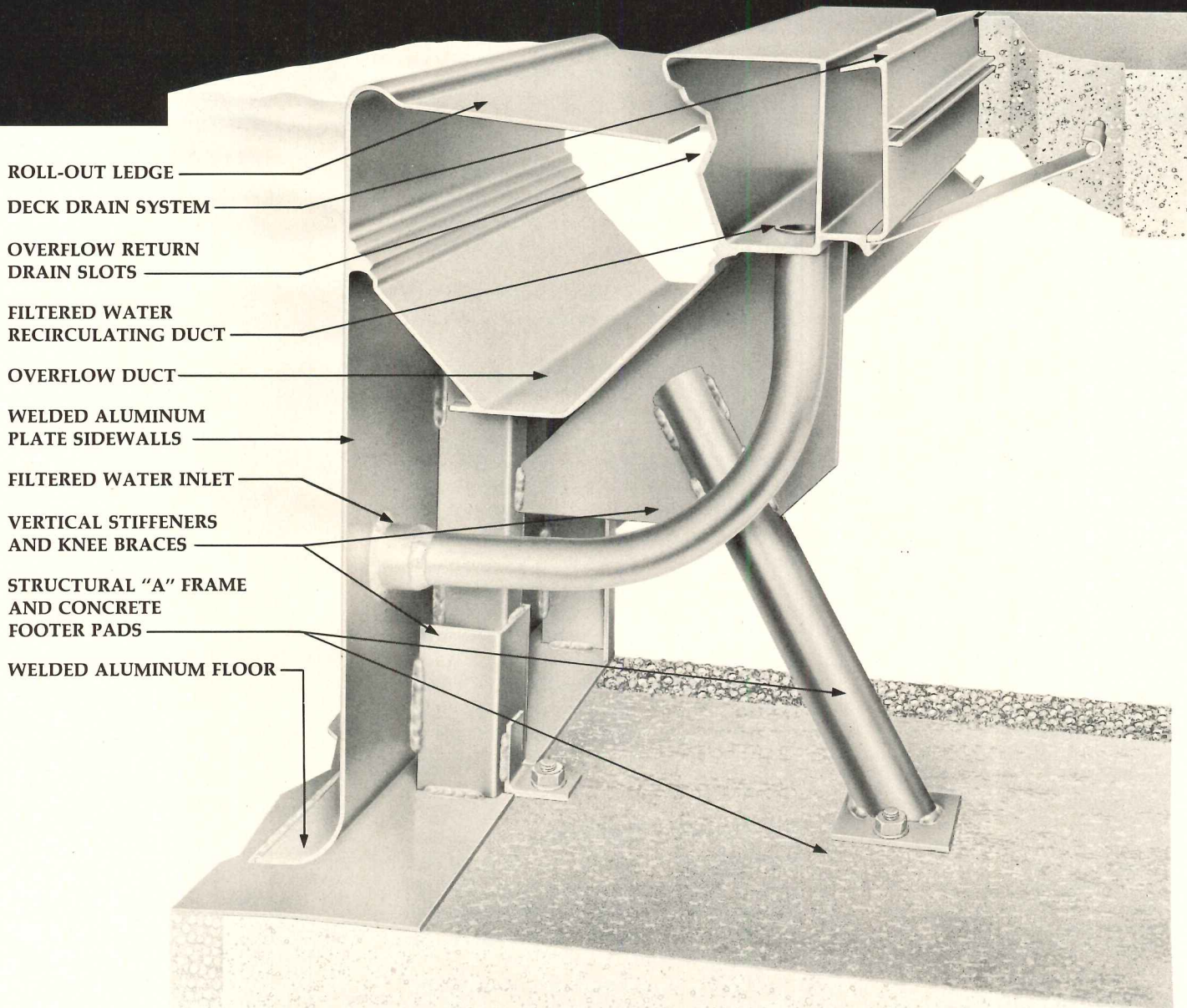
The focus is on exterior and interior design of low-cost, single-family units that can be mass produced economically and transported to site. All entries must be received on or before July 15, 1975. Mail this coupon today to get full information and specifications.

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The Chester pool wall. Self-supporting. Structurally stable. Incorporating an extrusion forming all circulation and overflow ducts. The beginning of a totally engineered pool system, low in maintenance, free of repair. The Chester system — pool, filtration tank, piping between. All aluminum. Chester . . . the single source, single responsibility pool package . . . designed, fabricated, and constructed by the builders with over 20 years of proven performance . . . backed by a comprehensive 5 year warranty. See Sweets architectural file 13.22 Ch. Case histories are available for study which may parallel your present situation.



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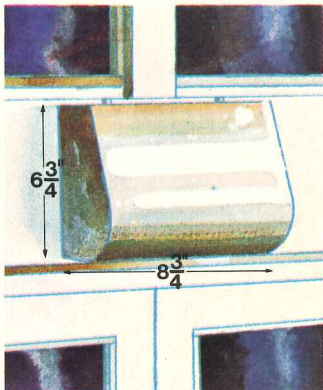
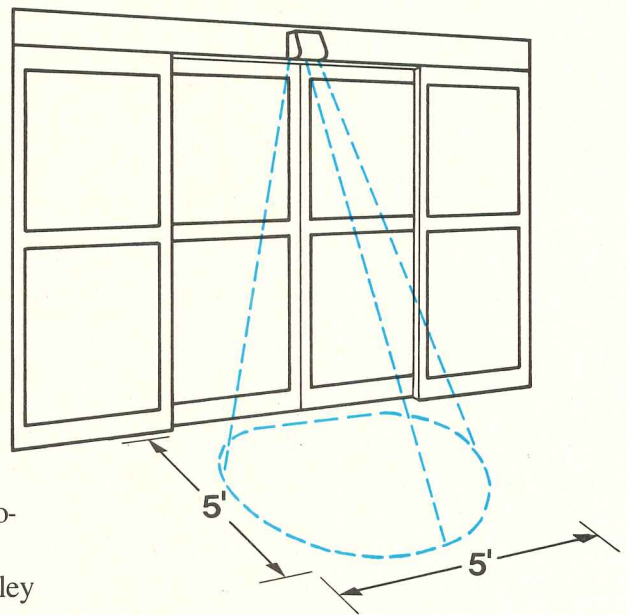
The Magic-Scan Sensor continuously "scans" a 5' x 5' zone in front of the door. Inside, outside or both. When someone enters the zone, the control is actuated. And the sliding doors open.

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You get longer trouble-free life — and an uncluttered, more pleasing appearance.

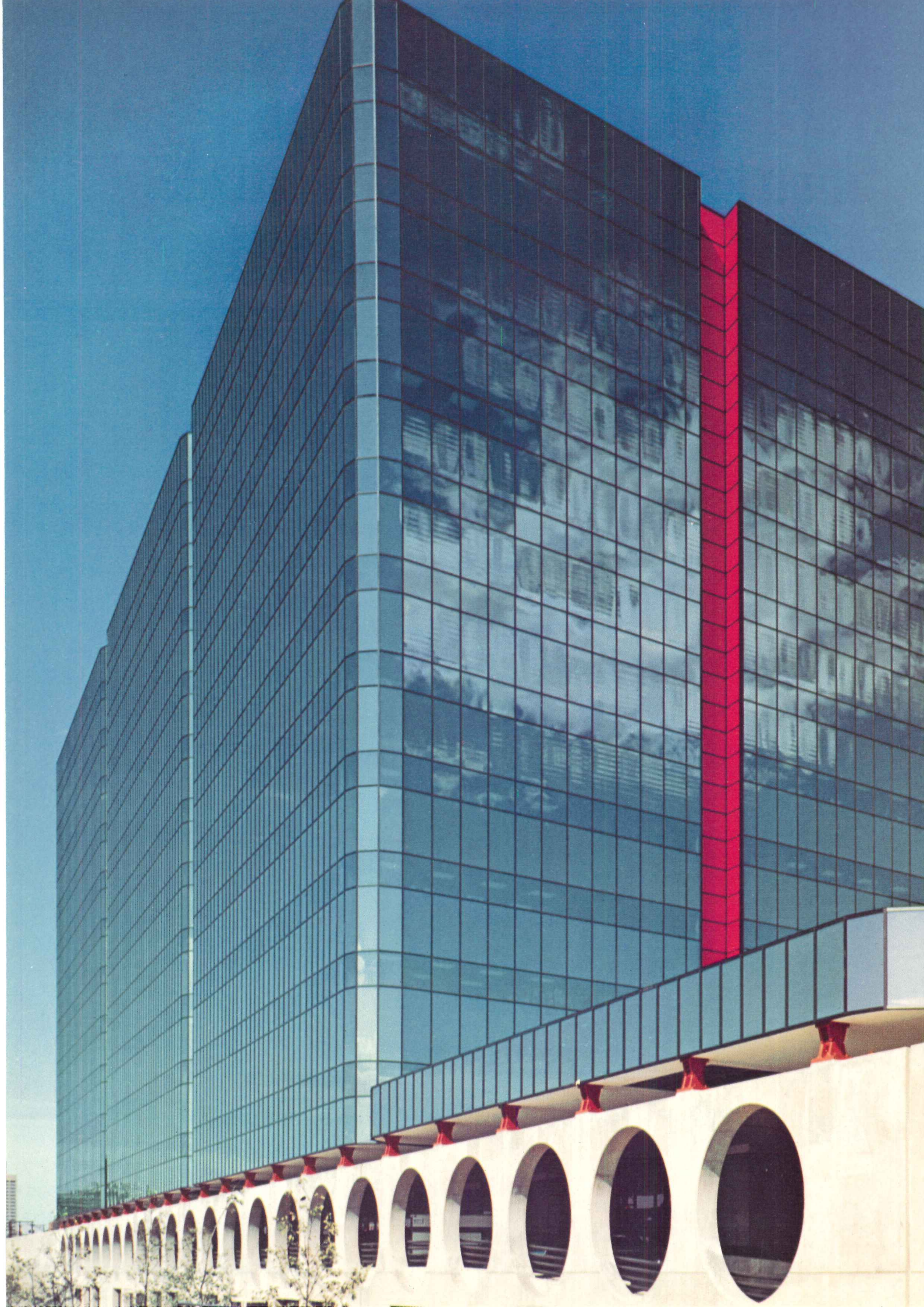
The Magic-Scan Sensor can be used with all Stanley Auto-Slide® Door Packages.

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Their new Denver headquarters presented problems.

The site dictated one thing, and the owner's business another.

PPG Solarban® 550 Twindow® insulating glass helped solve the architects' dilemma. Beautifully and efficiently.

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Yet, for all its size, it is still a graceful neighbor to the smaller buildings in the area.

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But esthetics were not the only consideration. Because of the site, the building had to have an east-to-west orientation. Which created solar heat gain problems. So they needed performance, too. And PPG Solarban 550 Twindow insulating glass gave them the best of both. (Its shading coefficient of 0.24 reduces solar heat gain 76% compared to single-glazed clear glass.)

And since the glass performed so well, they were able to use a lot of it and create view spaces that do justice to Colorado's magnificent vistas.

In short, the glass gave everyone concerned with the building—the owner, his

employees, the architects, even the neighbors—something to be happy about.

And we think it can have much the same effect on your building.

Find how PPG Solarban 550 Twindow insulating glass—or another in our family of High-Performance Glasses—can help you combine esthetics and efficiency for truly remarkable effects. Write for our book

"Architectural Glass Products," or refer to Sweets Architectural File, Catalog Code 8.26/Pp.

PPG Industries, Inc., One Gateway Center, Pittsburgh, Pa. 15222.

Owner: Blue Cross and Blue Shield of Colorado  
Architect: URS/The Ken R. White Company  
Design Consultants: Muchow Associates Architects  
PPG: a Concern for the Future

*For more data, circle 74 on inquiry card*

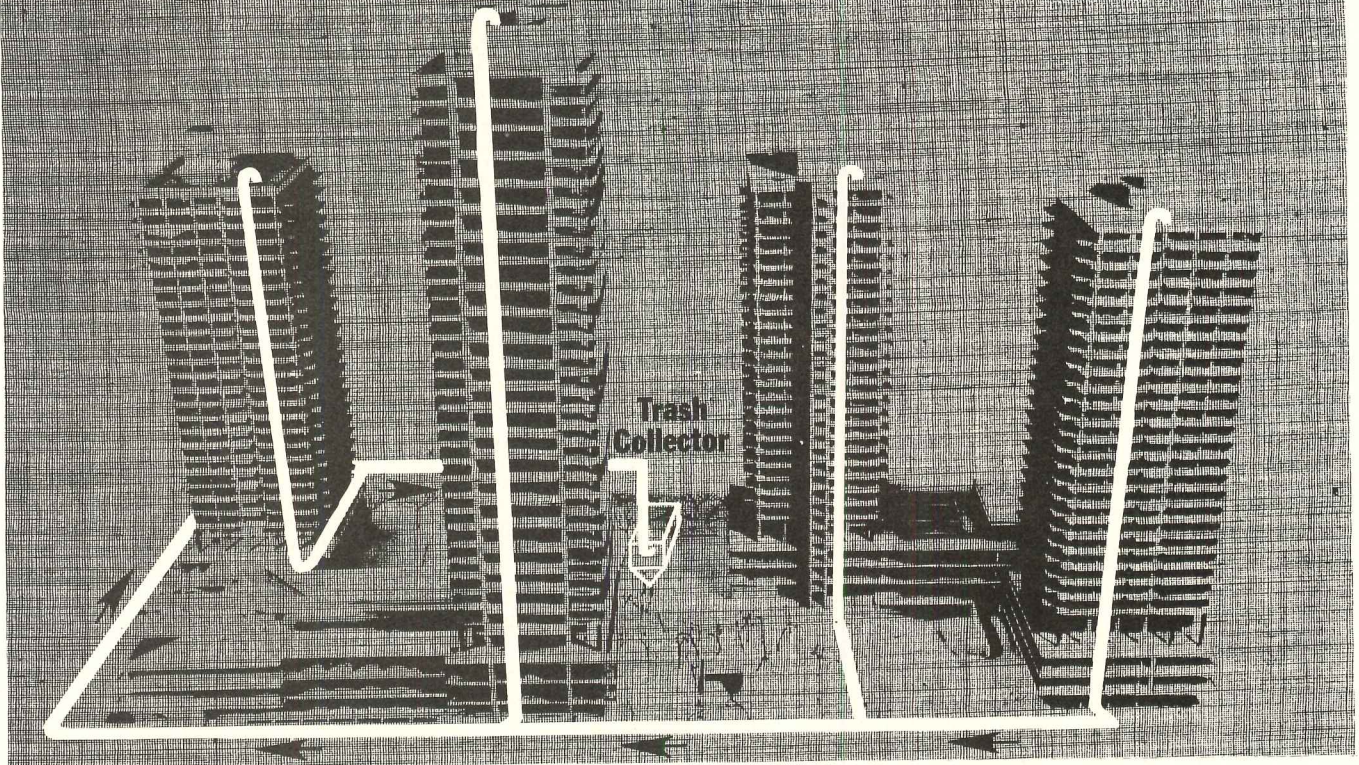


INDUSTRIES





**This ECI Air-Flyte trash disposal system moves tons of garbage every day down, across, through, around and out of all four buildings...at 60 MPH**



**The people in this four tower highrise project in Harlem may never again see a garbage can,...hear a garbage truck,...smell the odors of refuse or see another rat.**

The 656 families (plus a day care center, playhouse, amphitheater and stores) that are housed in the East Harlem highrise project have a built-in waste conveying system developed by ECI Air-Flyte Corp. The ECI Air-Flyte Pneumatic Conveying System uses negative pressure to remove all trash, cleanly, quickly and effectively.

The East Harlem Tenant Council and their architects, Silverman & Cika wanted to make sure that the garbage cans, the odors and most importantly the vermin and the rodents that can ruin a project of this size, were completely eliminated.

A housing project as large as this can develop a lot of trash. The initial estimate was 7,500 pounds a day. The system consists of conventional gravity trash chutes, specially designed sizing and receiving hoppers, an ECI Air-Flyte pneumatic conveying system and a wasteholding area, containing two large compactors with 35 yard roll-off containers.

Waste is placed in the gravity trash chutes, or directly into receiving hoppers in the commercial and service areas. The system automatically sizes and transports the waste to the central collection system via the Air-Flyte conveying system. The Air-Flyte system uses a high velocity negative pressure principle to carry the waste at a mile-a-minute, in any direction, up, down, diagonally, around corners — over any required distance. Once the waste is placed in a trash chute or hopper it's never touched again. Because the system is completely enclosed, odors, vermin and rodents are eliminated.

The Air-Flyte system works efficiently to keep the environment clean, in Harlem or anywhere else. Ask your ECI representative for the whole story on Air-Flyte trash collection systems. For information on ECI Air-Flyte see Sweets file 11.25 EA.



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As James Thurber's grandmother said:

**“Electricity was leaking  
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# But you can stop it with PARABOLUME

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Now, we have come up with a new way for you to use your own energy-conscious imagination in the next building you design. It's an adaptation of standard Parabolume fixtures to control lighting levels for different jobs, for different ambients, to differentiate spaces, or simply to save precious energy whenever possible.

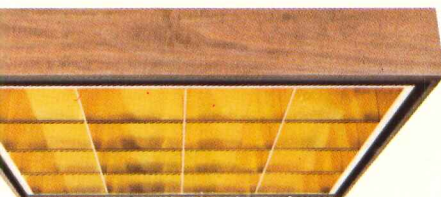
What you create, in effect, is your own custom-designed lighting system, and the esthetic results are an intentional part of your interior design. Your building has a unique three-level lighting

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Ease the mind of Thurber's grandmother. Write for details on how to cut energy drain with Parabolume, or contact your local Columbia Lighting representative.

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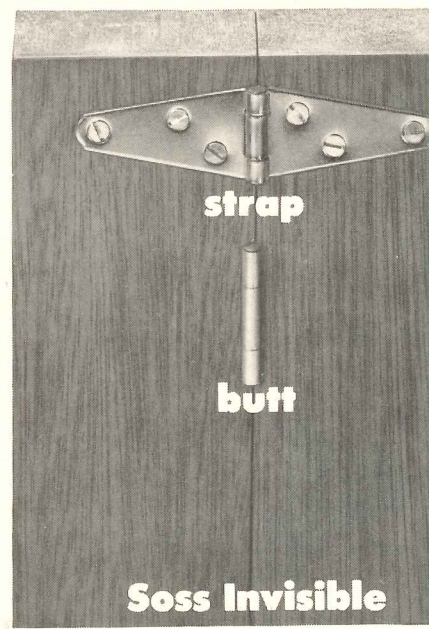
BRENTWOOD, with its end selections of stainless steel or black walnut plus a finish selection of oiled walnut or hand rubbed lacquer, offers unlimited design selection.

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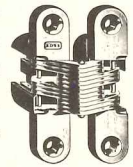


strap

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**Soss Invisible**

Compare the Soss look of invisibility with any strap or butt and you'll choose The Soss Invisibles. These amazing hinges when closed to blend with any decor. With The Soss Invisibles you can create room, closet, or cabinet openings which are unobstructed by hinges or gaps... the perfect look for doors, doorwalls, bars, stereos, or T.V.'s. The Invisibles are extra strong, open 180 degrees, and are reversible for right or left hand opening. Listing in Sweet's or write for catalog: Soss Manufacturing Company, Division of SOS Consolidated, Inc., P.O. Box 8200, Detroit, Michigan 48213.

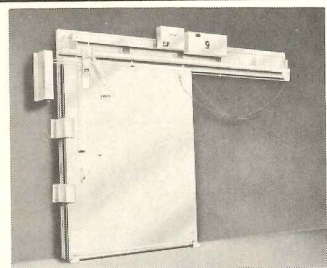


**the Soss Invisible**

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# The world's first Cold Storage Fire Door.



**New THERMADOOR™ has a Class A, 3 hr. UL fire rating...and it's filled with urethane foam.**

New, urethane insulated THERMADOOR saves refrigeration and provides a positive fire barrier...in one, fast moving, easy-to-install door.

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# See how corrosion starts, then stops, because of an aluminum substrate.



Scanning-electron photomicrograph (2500X) of test sample of metal siding with an organic coating, exposed to a highly corrosive industrial atmosphere for four years.

The scanning-electron photomicrograph you're looking at shows how any organic coating weathers in time. The coating has become spongelike and retains moisture. Wet cycles last longer. The hydrophilic cells trap such contaminants as sulfur dioxide, which combines with water to form sulfuric acid. Now the corrosive effects of electrolytic action include chemical attack at the interface . . . underfilm problems that can

cause flaking or loss of adhesion . . . and staining or streaking, depending on the performance of the substrate. At this point, however, an aluminum substrate helps to *protect* an organic coating because its natural aluminum oxide film resists the effects of electrolytic action. This stability at the paint-metal interface discourages flaking or adhesion loss. Painted aluminum can be drilled, punched and sawed without concern about chipping or undercutting. If you want color in the second

place, put it on aluminum in the first place. It will last. Especially if you specify an Alcoa® Super AlumaLure® finish, the long-life PVF coating that offers the advantages of a super-tough fluorocarbon at a price you can live with.

For more information, see Sweet's Architectural or ICR/PE files. Or write Aluminum Company of America, 1085-D Alcoa Building, Pittsburgh, PA 15219.

Change for the better with  
Alcoa Aluminum

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# Winners



## 1974 CRSI design awards program

### **ONE POLICE PLAZA, New York, New York.**

*Judges' Comments:* "Powerful and welcome addition to civic architecture. Well-proportioned and flexible while making good use of a congested urban site."

**Owner:** City of New York.

**Architect:** Gruzen & Partners, New York, N.Y.

**Structural Engineer:** Farkas, Barron & Partners, New York, N.Y.

**General Contractor:** Castagna & Son, Inc., Manhasset, N.Y.

### **SCHOOL OF NURSING BUILDING, University of California Medical Center, San Francisco, Calif.**

*Judges' Comments:* "Simple, understated, and responsible. Good value without loss of quality. Sensitive site development."

**Owner:** Regents of the University of California, San Francisco, Calif.

**Architect:** George Matsumoto & Associates, San Francisco, Calif.

**Structural Engineer:** Hirsch and Gray, San Francisco, Calif.

**General Contractor:** Perini Corporation, San Francisco, Calif.

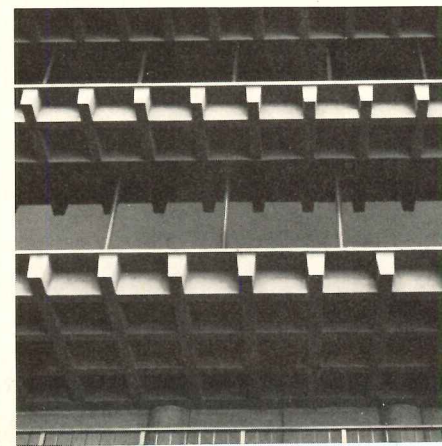
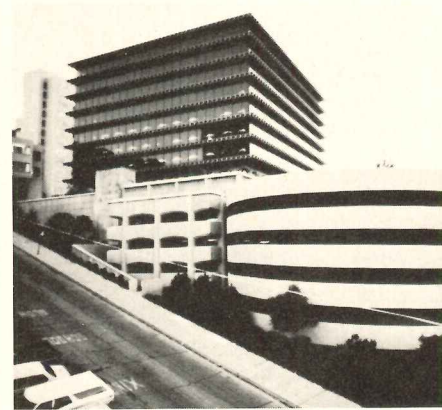
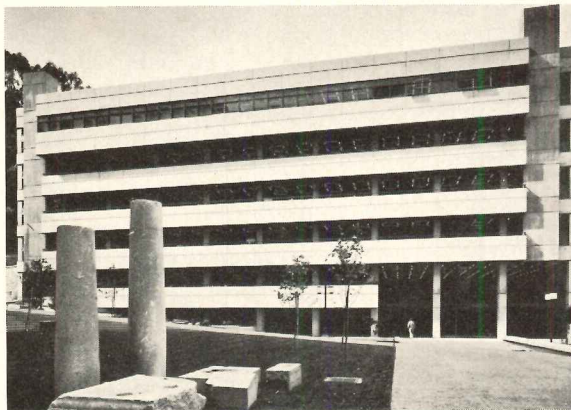
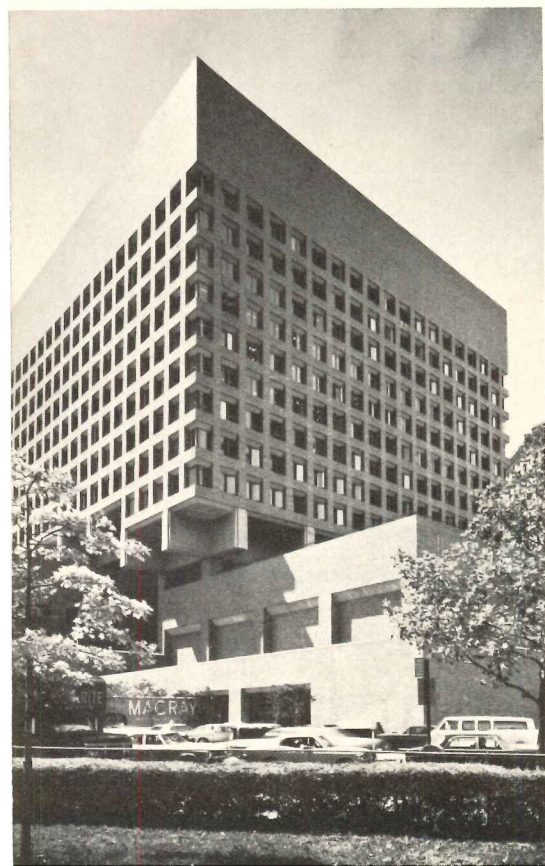
### **CLINICS EXPANSION & PARKING STRUCTURE, University of California, San Francisco, Calif.**

*Judges' Comments:* "Complex problem well-solved. Delicate and valid expression of reinforced concrete in architectural terms. Commendable contrast of forms—translucent and solid."

**Owner:** University of California, San Francisco Medical Center, San Francisco, Calif.

**Architect and Structural Engineer:** Reid & Tarics Associates, San Francisco, Calif.

**General Contractor:** Donovan Construction Co., St. Paul, Minn.





winners from a distinguished group of entries. Each of these structures is a winner in the first annual CRSI Design Awards Program. Each, in the opinion of our panel of judges, demonstrates innovative use of cast-in-place reinforced concrete.

Award recognition shared equally by winners. Since reinforced concrete can be used to solve so many different

design problems, there are no categories of awards in this program. Nor is any ranking expressed or implied in the arrangement of presentation in this announcement.

A portfolio is available. Complete details on the award-winning structures are given in the new Design Awards portfolio. For your copy, write CRSI, at the address below, attention George Leyh, Director of Marketing.

## Panel of judges

**Bradley, FAIA**  
Vice-President, AIA  
Monics Corporation  
Wayne, Indiana

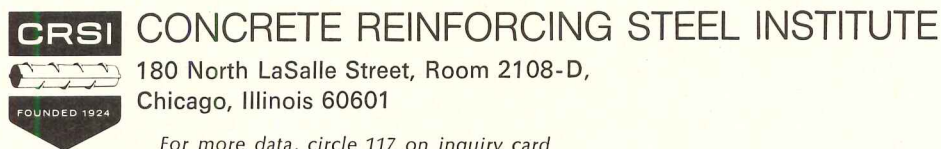
**Russell S. Fling,**  
Vice-President, American  
Concrete Institute  
President, R.S. Fling and  
Partners, Inc.  
Columbus, Ohio

**George J. Hasslein, FAIA**  
Dean, School of  
Architecture  
California Polytechnic  
State University  
San Luis Obispo,  
California

**Hugh Stubbins, FAIA**  
Hugh Stubbins and  
Associates, Inc.  
Cambridge, Massachusetts

**Harry M. Weese, FAIA**  
Harry M. Weese &  
Associates  
Chicago, Illinois

Special Design Award  
Consultant—Maria  
Murray, AIA Headquarters



For more data, circle 117 on inquiry card

### CHRISTIAN SCIENCE CENTER, Boston, Massachusetts.

*Judges' Comments:* "Monumental architecture in modern material. Restrained and elegant. Probably the most technically proficient in-site concrete extant."

**Owner:** The Christian Science Church.

**Architect:** I.M. Pei & Partners & Araldo Cossutta Associated Architects, New York, N.Y.

**Structural Engineer:** Weiskopf & Pickworth, New York, N.Y.

**General Contractor:** Aberthaw Construction Co., Boston, Mass.

### B.L. ENGLAND STATION, SALT WATER NATURAL DRAFT COOLING TOWER, Beasley Point, New Jersey.

*Judges' Comments:* "Pure form derived from scientific principle, executed with maximum efficiency."

**Owner:** Atlantic City Electric Company, Atlantic City, N.J.

**Designed & Built by:** Hamon Cooling Tower Division, Research-Cottrell, Bound Brook, N.J.

**Architect/Engineer:** United Engineers and Constructors, Philadelphia, Pa.

### FREMONT ELEMENTARY SCHOOL, Santa Ana, California.

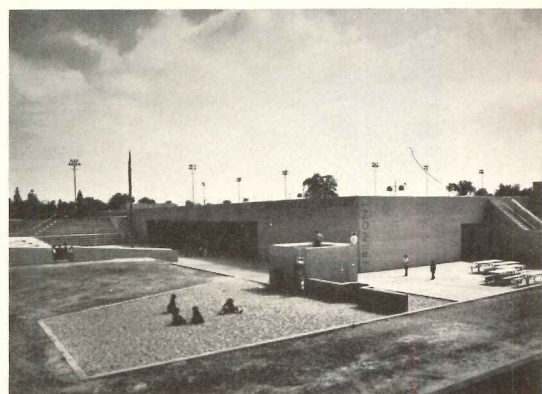
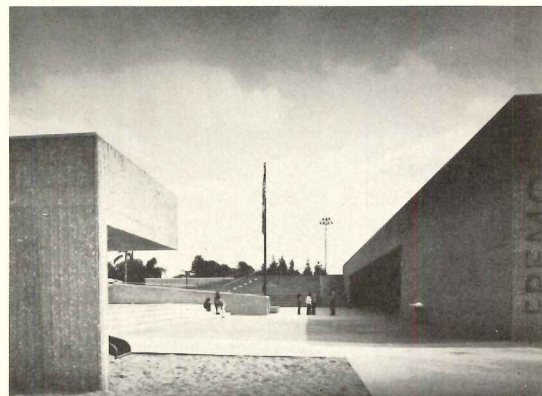
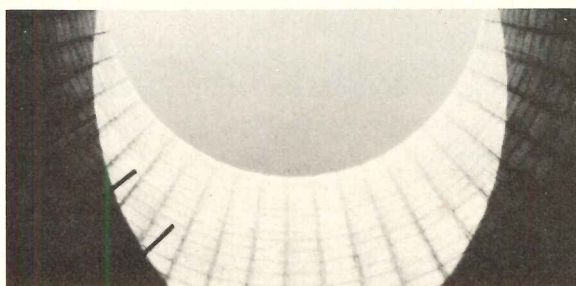
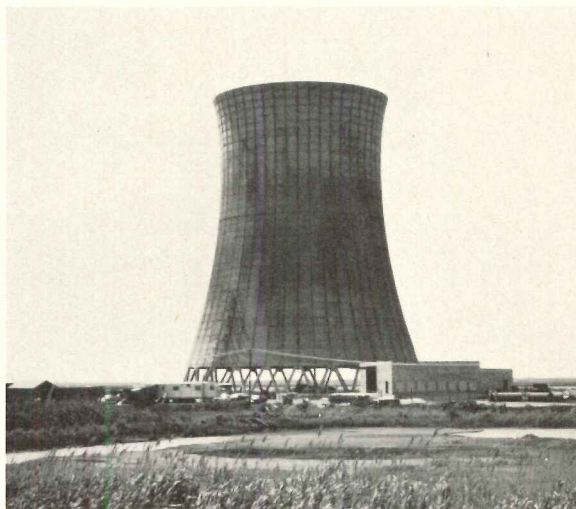
*Judges' Comments:* "Understated, restrained, and effective site planning for maximum utilization. Concrete a natural for a substructure outcropping like strata of rock. Permanence personified."

**Owner:** Santa Ana Unified School District, Santa Ana, Calif.

**Architect:** Allen & Miller Architects, Santa Ana, Calif.

**Structural Engineer:** Martin, Tranberger & Associates, Newport Beach, Calif.

**General Contractor:** Kemp Brothers, Whittier, Calif.





# WE SHOWED T



Executive Plaza, Kansas City, Missouri. Owner: Tower Properties Co. Architectural Firm: Hellmuth, Obata & Kassabaum, Inc.  
Mechanical Engineers: Herman Blum Consulting Engineers, Inc.



# M IN MISSOURI.

## INSULATION YOU CAN SEE THROUGH, FROM LOF.

They liked what they saw because it not only looked beautiful, but it saved energy and money, too.

## \$79,067 SAVED IN INITIAL A/C HEATING COSTS.

In fact, by choosing LOF high-performance Vari-Tran® in Thermopane® units over single-pane bronze tinted 1/4" glass, Kansas City's Executive Plaza owners saved \$79,067 in initial heating and air conditioning costs. The extra cost of this high-performance glass was more than recovered in energy-dollar savings (life cycle costing).

## PEAK LOAD REQUIREMENTS REDUCED.

When compared to tinted glass with medium drapes, this LOF high-performance glass (with no drapes) reduced peak cooling load requirements by almost a million BTUH. It also reduced peak heating load requirements by over one and one-half million BTUH.

But Vari-Tran did more than just make Executive Plaza figures look impressive. It gave building tenants a comfortable working environment. And it showed Kansas City just how beautiful an energy-saving building can be.

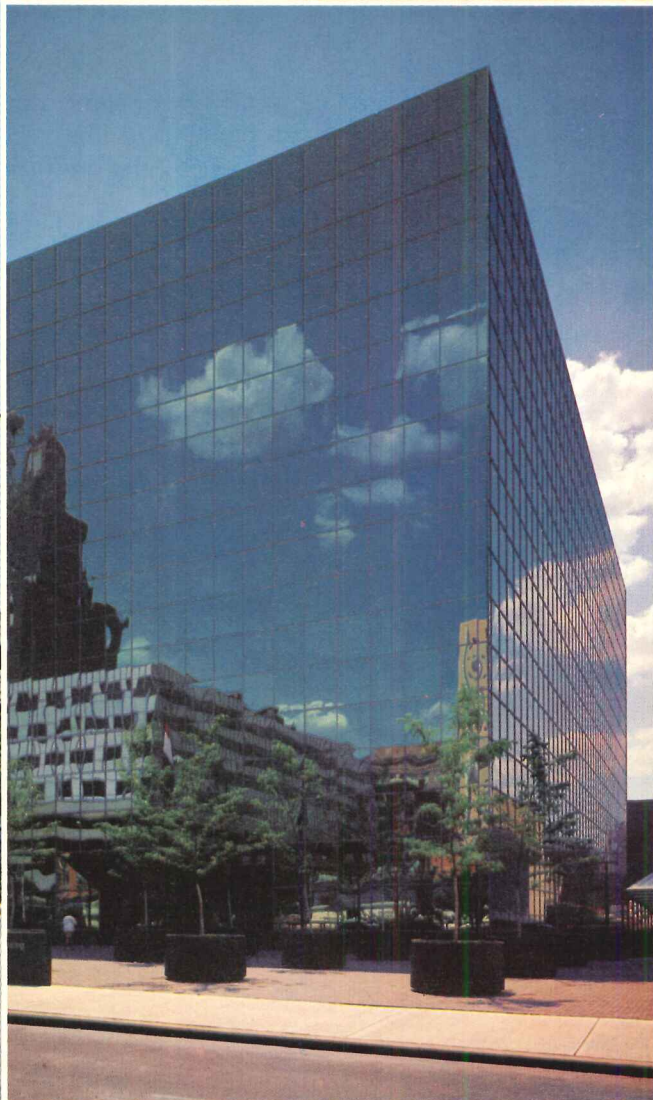
## LOF CAN HELP YOU.

After all, LOF has been bringing you glass for storm sash for over 40 years, Thermopane insulating units for over 30 years, and Vari-Tran coating since the mid-'60s.

If you want to save energy dollars with the right glass, one of our highly qualified architectural representatives will be glad to help you. Or you can write Libbey-Owens-Ford Company, 811 Madison Avenue, Toledo, Ohio 43695.

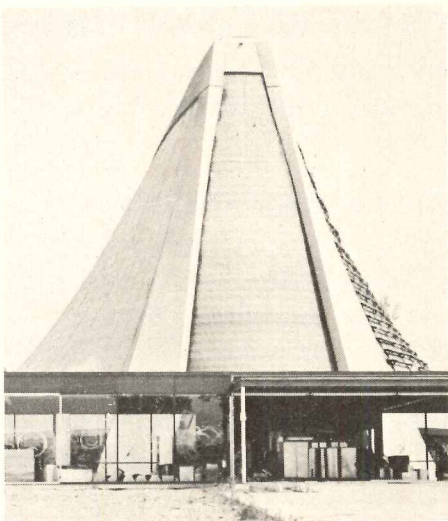
# LOF

For more data, circle 80 on inquiry card





# SYMONS SOLUTIONS: Help architects to create unique and dramatic concepts in enduring concrete.



**The towering, twisted columns of Beth El—inspired by the biblical “Tent of Meeting”.**

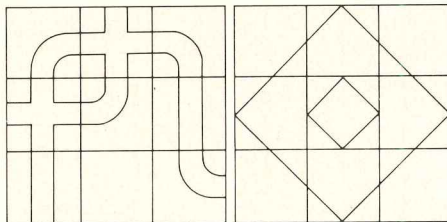
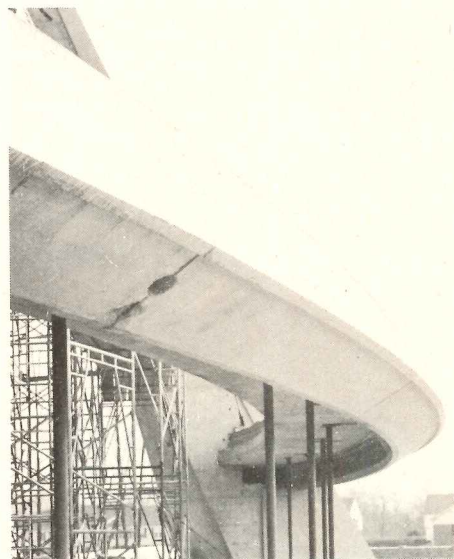
It would be hard to imagine support columns more graceful than the four which support Detroit's remarkable Temple Beth El.

Or to imagine columns more difficult to form.

Designed by world-renowned Minoru Yamasaki & Associates, the Temple's sweeping use of concrete sends columns twisting skyward to a height of 90 feet in a unique parabolic curve.

“Symons did an excellent job of this very complex, tight-tolerance forming task,” reports Top 400 contractor A. J. Etkin. “Their custom forms produced a beautiful finish.”

For full information, write for Case History No. 109.

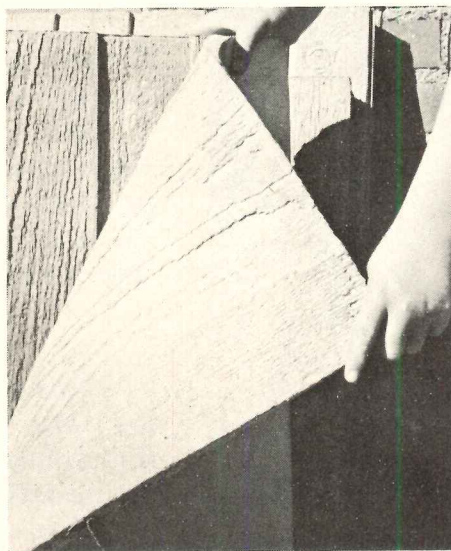


**Symons Plastic and Fiberglass Form Liners achieve special architectural surfaces.**

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From MagicKOTE® form release to curing and hardening agents, and ACS sealers that continue to shield your designs against dirt, moisture, rust, hydrocarbon emissions, efflorescence and fungi. (Even graffiti can be cleaned off.) Symons has a complete package of chemicals to preserve your concrete design.

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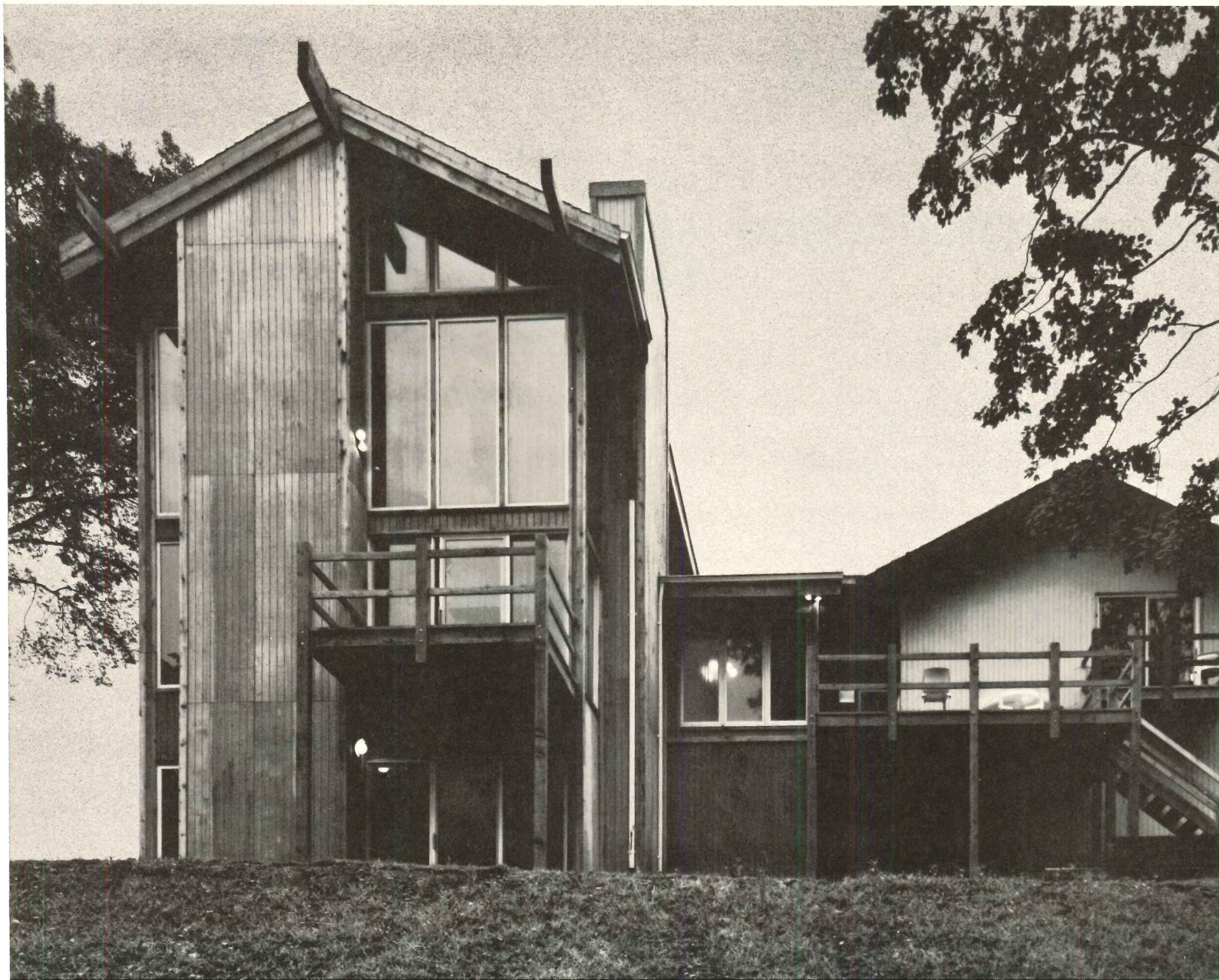
*"The door people"*

*For more data, circle 82 on inquiry card*

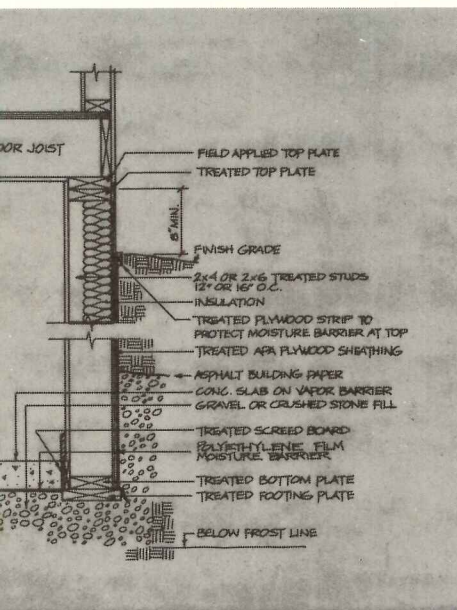




**The All-Weather Wood Foundation saved \$300 here. But that's peanuts compared to the design freedom it gave Tom Tilsley.**







From the street, this Cincinnati home looks like a two-level plywood panel stone design — a far cry from its 4,700 square feet.

But from the rear the house soars several stories high. Clerestory windows admit walls of natural light, and the view stretches all the way down to the woods and valley below. The problem: a steep hillside.

The architect: Tom Tilsley of Panara, Dohme, Tilsley & Co., Cincinnati. Tilsley ended up using the hillside to his advantage, by designing a combination crawl-space and daylight basement foundation using pressure-

treated plywood and framing members.

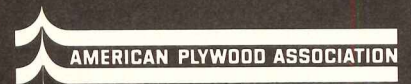
The All-Weather Wood Foundation not only saved \$300 over a concrete foundation, but more important it made a handsome basement space.

"We used the basement for a recreation room, bath and bedroom which gave us a lot more freedom in the upper levels," said Tilsley.

**System Details:** The 50- by 57-ft. foundation is set on 2x8 pressure-treated wood footing placed over an 8-inch deep gravel footing. The concrete basement floor was poured over a gravel bed with a sump pump installed to provide positive drainage.

The panelized AWWF was constructed of pressure-treated half-inch 32/16 C-D interior with exterior glue APA grade-trademarked plywood nailed to pressure-treated 2x6 studs set 16 inches on center.

For more information on the All-Weather Wood Foundation, write to Department AR-045, Tacoma Washington 98401.





# Three ways to ruin your roof.

Edging damage is involved in 80% of all roof losses

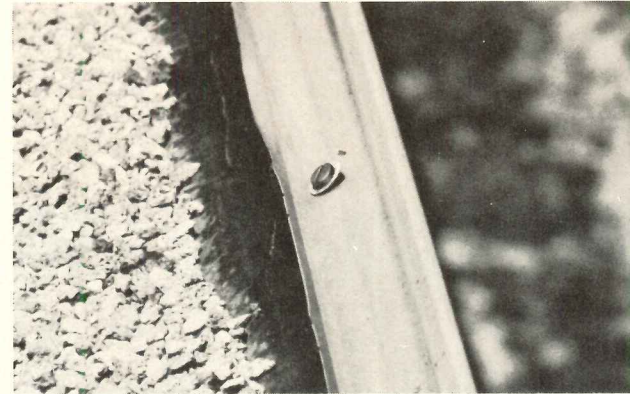
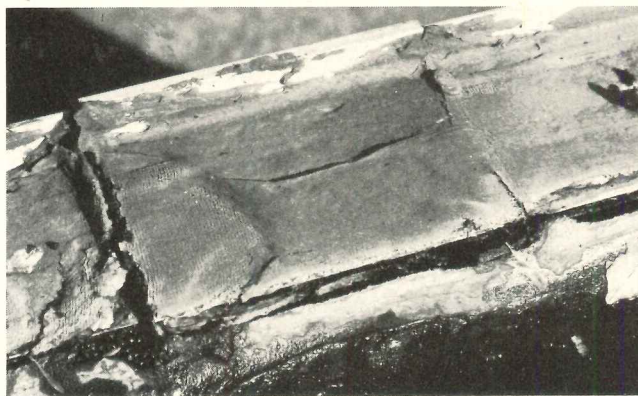
Recently, Factory Mutual Systems studied 145 roof losses. They found that perimeter failure and edge damage were involved in four out of five of these losses. If you want your roof to last, you must do something about these three common roof edging problems.



Ignore roof movement, and you'll have problems.

Whenever two structural planes meet, there is movement in different directions and at different rates. Exterior walls move laterally in response to thermal expansion and contraction. Roof decks move in a direction perpendicular to the wall movement. This differential movement literally tears apart laminated felts.

There's no way to stop movement, but you can use a system that accommodates movement in all directions. Our Tremline® edging system lets you live with movement. Tremline's easy-to-snap-together components are designed to be free-floating. They accommodate thermal shock and structural movement along the entire roof perimeter.



Use exposed fasteners or ones that puncture the membrane, and in comes trouble.

Alternating expansion and contraction often causes exposed nails to pop, nail holes to enlarge and leaks to begin. Thermal changes and ice pressure all pull on exposed fasteners, making the problem even worse.

If you use fasteners that puncture the roof membrane, water can leak in. The insulation can get wet and become ineffective. That's just the beginning of trouble and the beginning of the end of the roof.

The Tremline system uses no exposed fasteners or ones that puncture the membrane. So you have two less problems to worry about.

◀ Don't isolate the roof membrane from wall movement, and you'll have headaches.

Movement between the vertical and horizontal surfaces of your edging is one of the most difficult movements to live with. The best way to do it is to isolate the roof membrane from wall movement.

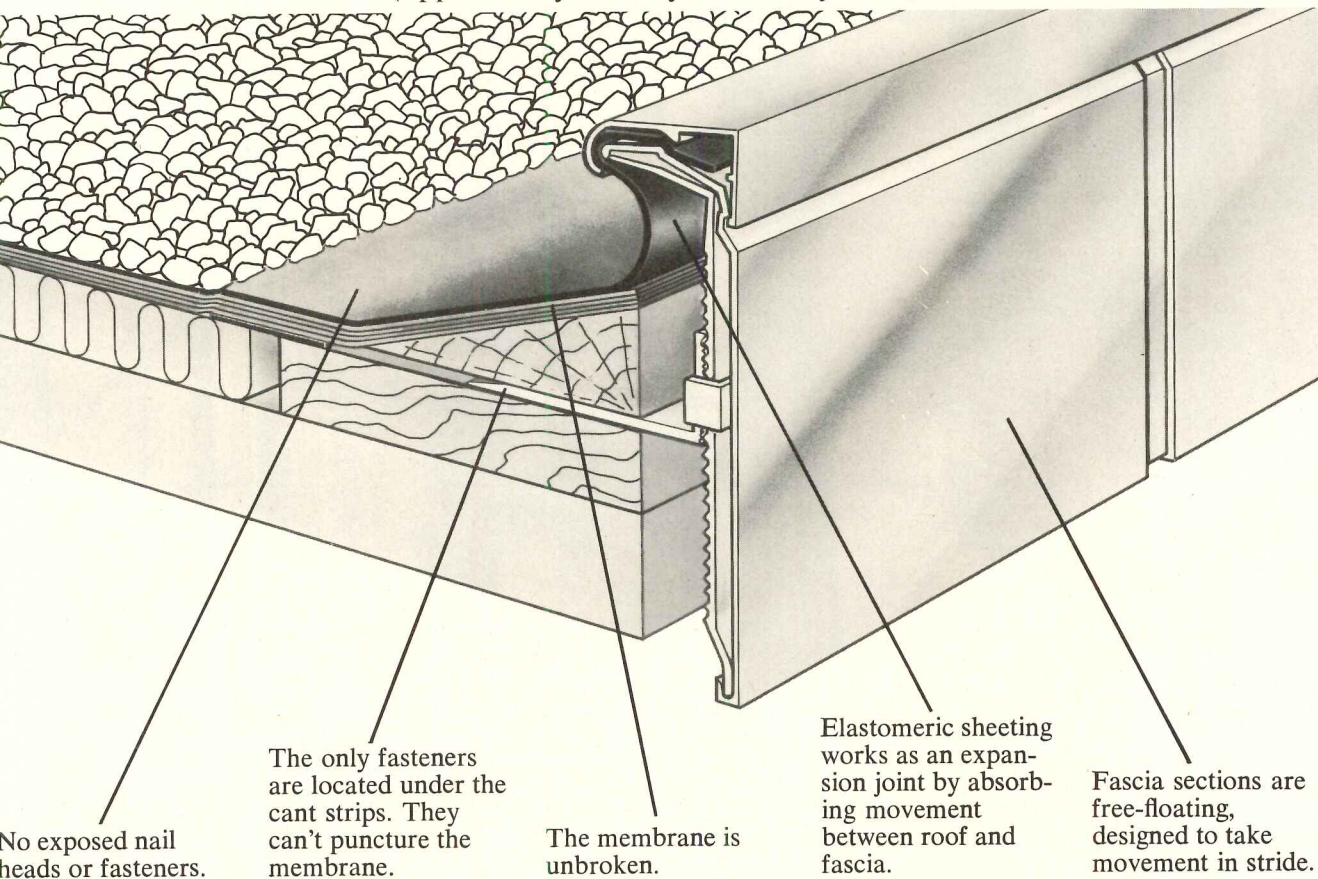
Tremline's reinforced elastomeric sheeting functions as an expansion joint. It provides a flexible watershed dam from the metal fascia to the roof membrane.



# One beautiful way to preserve it.

Tremline: the trouble-free roof edging system.

A patented system, Tremline has more than seven years of proven performance and meets insurance wind requirements (approved by Factory Mutual Systems).



No exposed nail heads or fasteners.

The only fasteners are located under the cant strips. They can't puncture the membrane.

The membrane is unbroken.

Elastomeric sheeting works as an expansion joint by absorbing movement between roof and fascia.

Fascia sections are free-floating, designed to take movement in stride.

The Tremline edging system does away with most of the problems that ruin roofs. Tremline is uniquely beautiful, too. It gives a clean line appearance to the roof edge.

The Tremline edging system is only one of the ways we can solve your weatherproofing problems. For over 45 years we've been caring for buildings with some 15 job-proven glazing and caulking sealants such as MONO<sup>®</sup>,

DYmeric<sup>®</sup>, and Lasto-Meric<sup>®</sup> plus our unique TREMproof<sup>®</sup> waterproofing systems. Your Tremco man can recommend complete waterproofing systems that are exactly right for your job.

So talk to us. Contact your Tremco rep. Or Tremco, Cleveland, Ohio 44104. Toronto, Ontario M4H 1G7.

**THE ALWITRA EDGING SYSTEMS FROM TREMCO.**

## **TREMCO**

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# Amarlite architectural products designed to protect people from

- energy loss     injury  
 forced entry problems

Newspaper headlines and TV-radio newscasts have made everyone aware of the energy crisis. To conserve energy, the architect has turned to thermal curtain wall systems.

But which one? The imaginative architects who have added the Amarlite PBS-380 positive thermal barrier system to their design tools like it because it is flexible to give added design freedom as well as energy conservation and cost savings.

- dry glaze system for low-rise (PBS-383, a similar system for high rise)
- single or double glazing
- adaptor permits reduction from 1" to 1/8" through 3/4" within one module
- variety of vertical mullion depths through exterior covers
- choice of clear anodized or Amanodic bronze or black finish
- contrast finishes between exterior and interior at no cost penalty.

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You specify entrances protecting people from injury and forced entry, when you design with Amarlite Safetyline:

- no injury at pivot stile — cylindrical design prevents opening at jamb
- no injury at lock stile — vinyl cushion protects fingers
- no forced entry — top and bottom rods unlocked only by key — inset lock cylinder defies burglar tools.

Specify Safetyline in clear anodized or Amanodic bronze or black finish. Models to meet any job requirement.

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See the Pyramids of Egypt — the only one of the 7 Wonders of the Ancient World that exists today. Or choose a trip to the area of any of the others: Hanging Gardens of Babylon, Mausoleum at Halicarnassus, Shrine of Zeus, Colossus of Rhodes, Temple of Diana at Ephesus, Pharos Lighthouse at Alexandria.

### SWEEPSTAKES RULES

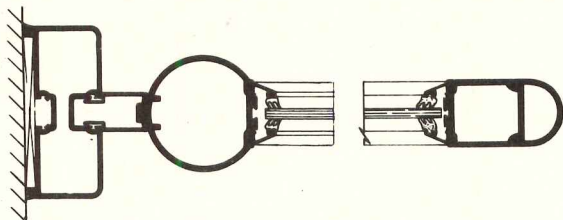
1. Fill out entry card to be eligible for Sweepstakes and free set of 7 Wonders prints.
2. Entries must be postmarked before December 31, 1975.
3. All entries eligible for Sweepstakes Drawing, January 21, 1976.
4. Winner will be notified by mail.
5. This contest is nationwide except where prohibited by law.
6. Winner will be announced February 1, 1976.



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(Left hand page) First Federal Savings and Loan: Lakeland, Fla. Architect: Perry C. Langston. General Contractor: Pritchard-Wetherington, Inc. Glass Contractor: Central Glass Co., Inc., Lakeland, Fla. Curtain Wall: PBS-380.

(Left) One of several entrances as seen from lobby of Lakeland Civic Center, Lakeland, Fla. Architects: Setliff and Regnvall. General Contractor: Biltmore Construction Co. Glass Contractor: Central Glass Co., Inc.

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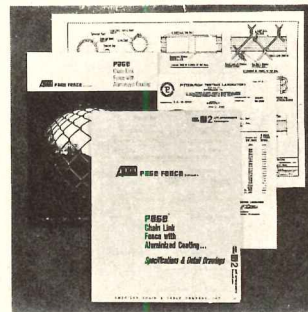
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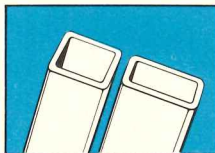


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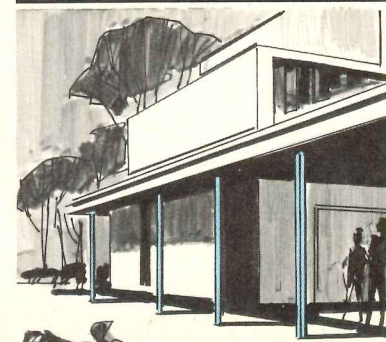
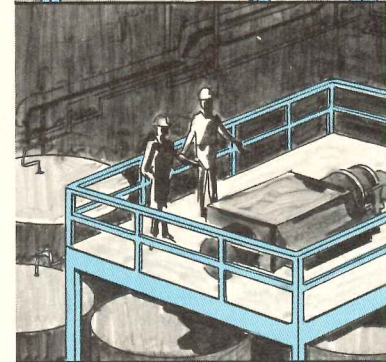
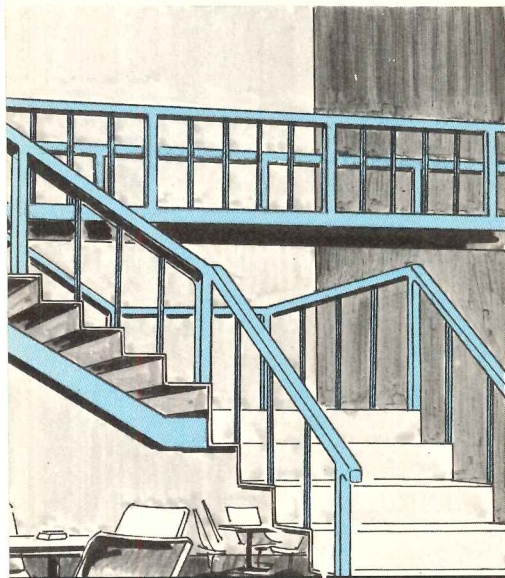
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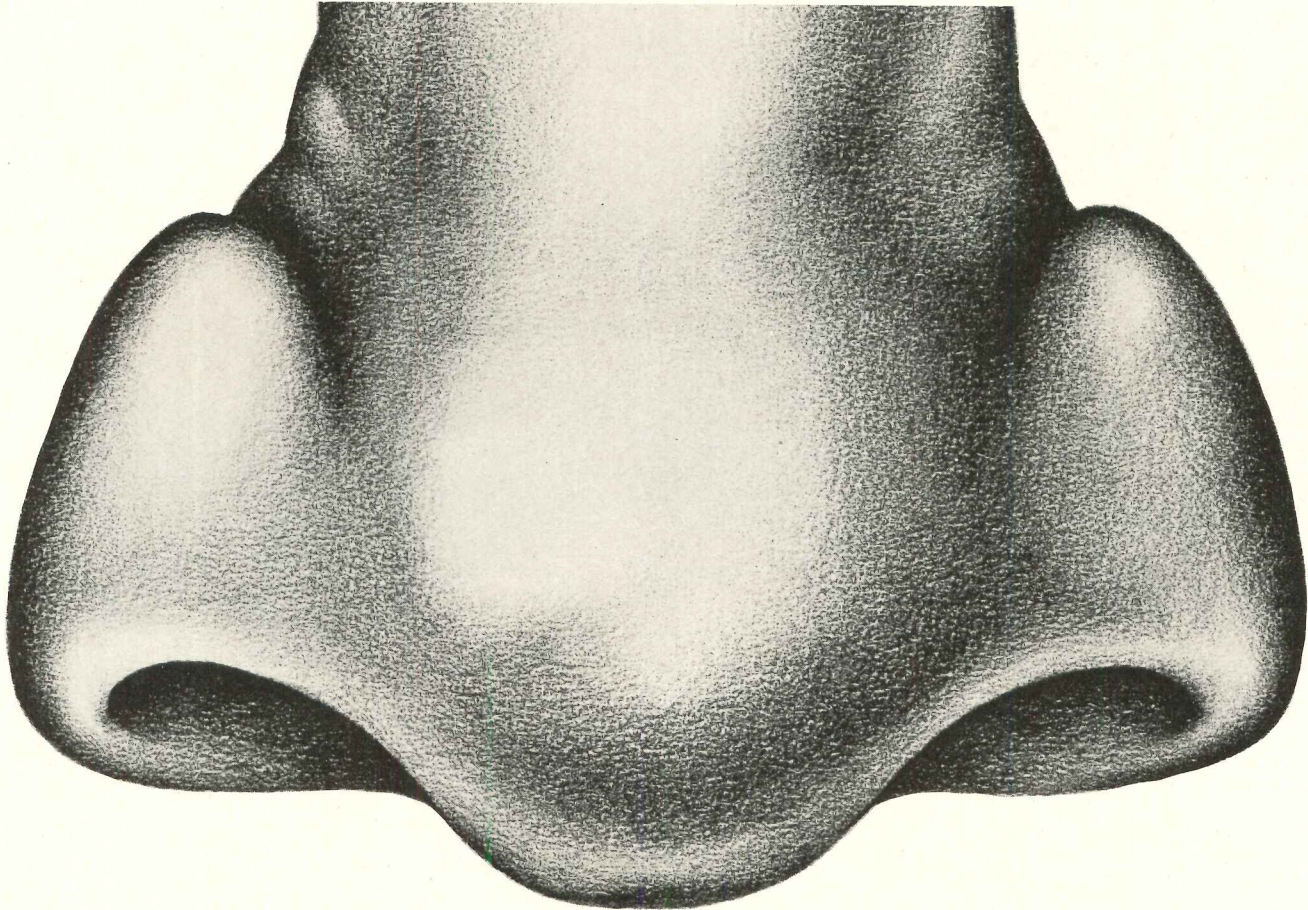
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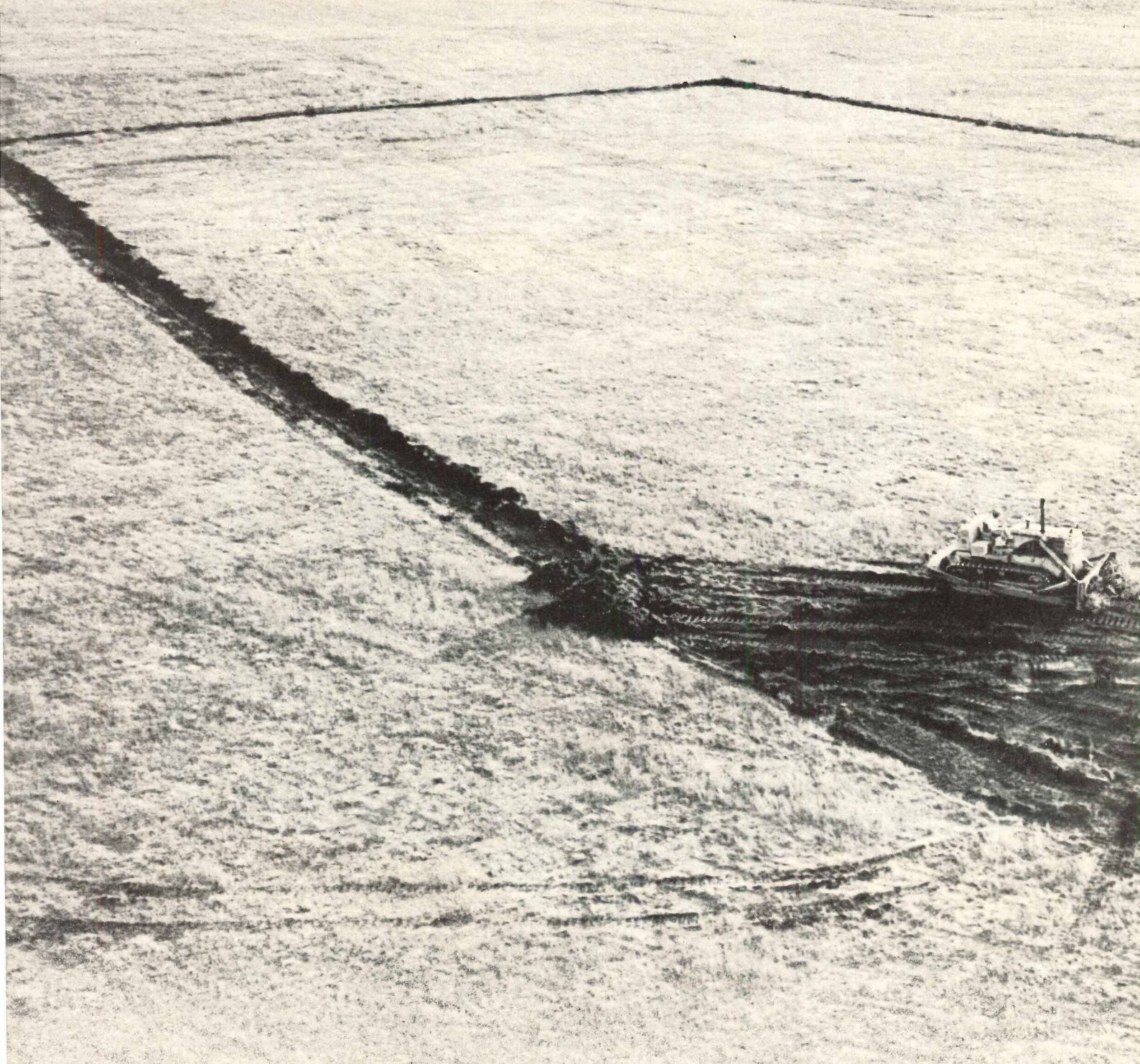
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Assume, for example, a 200,000 square foot, single-story office building in Denver, Colorado.

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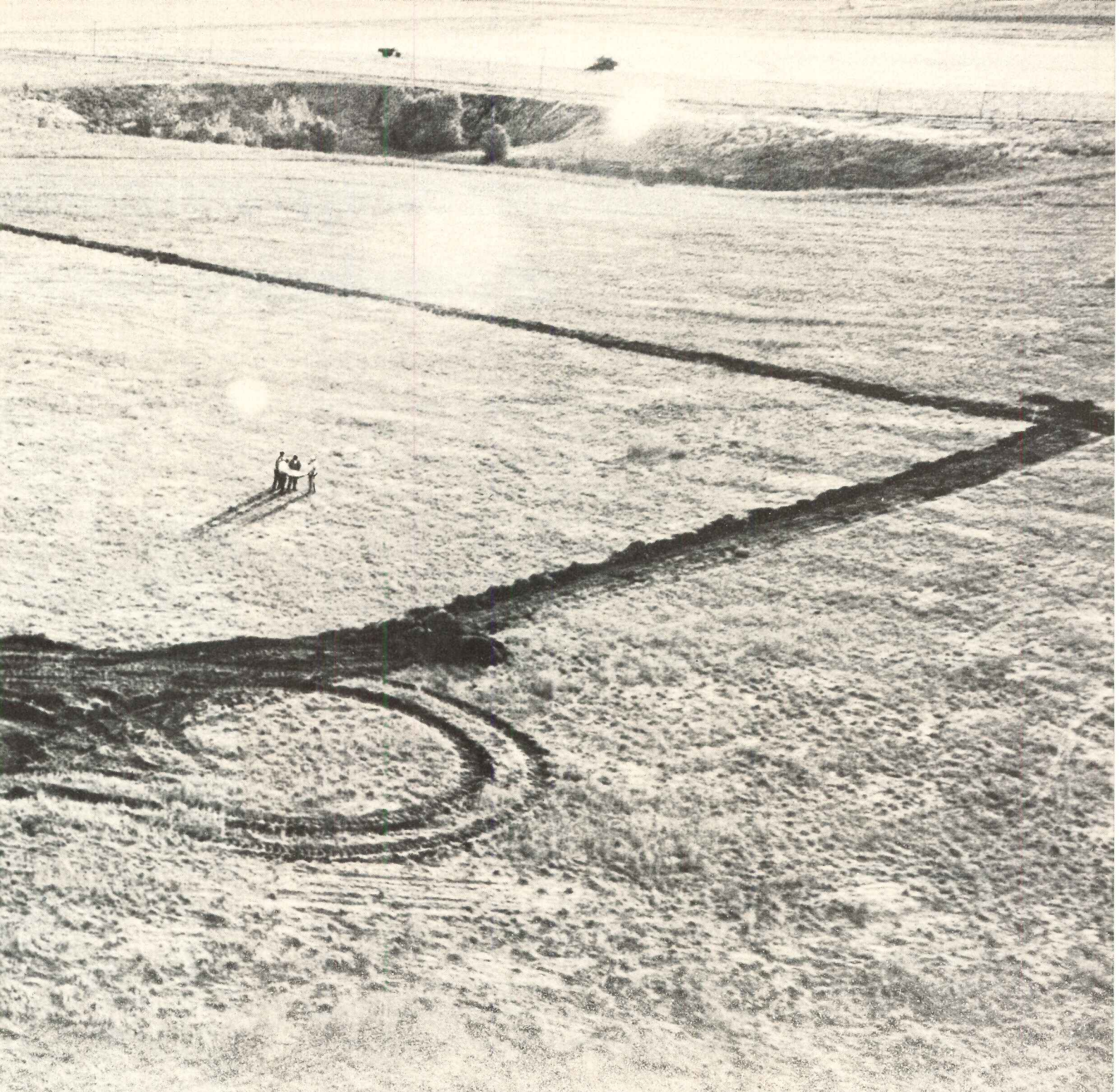
next 5 years. Net savings will add up to \$70,514 present worth value of \$40,629 based on a 10% rate—even after taking into account the initial cost of upgrading the building to a Fesco-Foam roof.

A dramatic reduction in building costs and in the energy—both made possible just by the use of Fesco-Foam.

#### What is Fesco-Foam?

It's a composite thermal roof insulation board with Fesco Board as the bottom layer—on the "people side" of the roof. The core is polyurethane foam. And the top surface is asphalt saturated felt. Fesco-Foam meets Factory Mutual standards for Class I Construction and UL Construction Nos. 1, 2 and 27. Johns-Manville recommends the use of Fesco-Foam in these UL and FM systems, as t



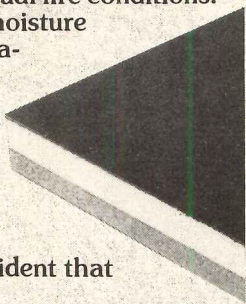


# It will save the owners of the building \$70,514 in 20 years.\*

On test results that simulate actual fire conditions. It has no joint taping, has low moisture absorption, good resistance to indentation and crushing. And because of its high thermal efficiency per inch thickness, Fesco-Foam offers economic advantages in handling and design.

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District Office near you, or contact Peter McCracken, Johns-Manville, Box 5108, Denver, Colorado 80217, (303) 770-1000.

\*Savings are based on a hypothetical building using optimum design criteria. Actual savings may vary depending on calculations.

**The single-source built-up roofing system.**



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You are invited to enter

# The international design competition of developing countries

A one-stage international architectural competition for the design of a self-help housing community in a developing nation has been announced by The International Architectural Foundation, a nonprofit corporation created by two of the world's leading architectural magazines, *ARCHITECTURAL RECORD* and *L'ARCHITECTURE D'AUJOURD'HUI*. The Foundation is strongly supportive of the United Nations Environment Programme, and its competition is a project conceived in conjunction with Habitat '76, the major UN Conference-Exposition on Human Settlements to be held in Vancouver, B.C. (Canada) May 31-June 11, 1976. Habitat '76 will be a large-scale international meeting concerned with the accelerating urban crisis in the developing countries and will include official representatives and technical experts from member states of the United Nations.

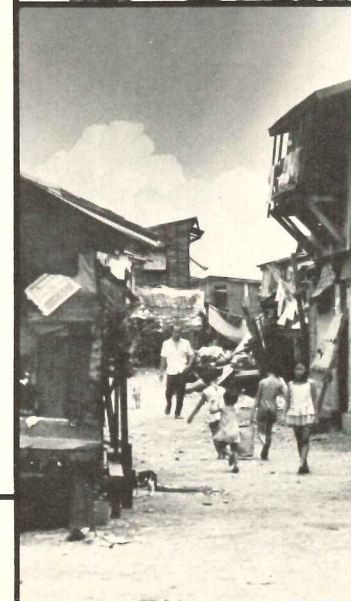
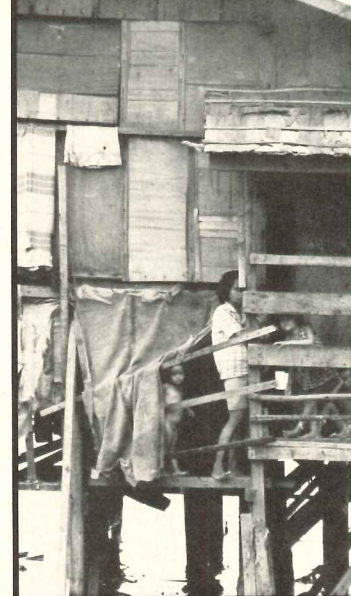
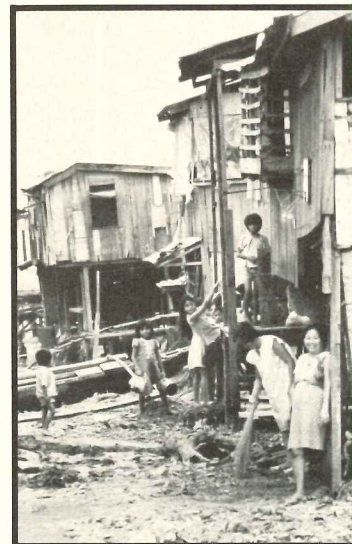
## The design problem

The site for the competition project, which will provide housing and community facilities for approximately 3,500 to 5,000 people, is located in Dagat-Dagatan, in the metropolitan area of Manila, Philippines. Typical of urban growth problems throughout much of the developing world, the area has been receiving heavy in-migration of population. Extensive studies of this area (photos, right) have produced the body of data and preparatory planning that led to the selection of this site for the competition.

In addition to the generous grants from the contributors listed on the opposite page, funds to meet all cash awards and certain other competition expenses have been guaranteed by the Philippine Government, and local public agencies have provided assurance that the project will be built and the winning architect commissioned. The competition conditions will be approved in their final form by the Philippine Institute of Architects (the local section of the International Union of Architects) and members of the jury.

The competition addresses the world-wide problem of housing in the context of rapid urbanization, and seeks solutions that will be widely applicable throughout the developing world. It assumes a high degree of self-help in the realization of the community. Advanced measures to minimize environmental impact will be specified in the competition conditions. Thus the competition deals with the entire question of human habitat and its future, and the competitors must resolve the highly practical aspects of a specific problem and a particular location.

The winning designs will be widely publicized throughout the world, particularly in the architectural press, and will be exhibited in Vancouver during Habitat '76.





# the urban environment focused on Manila

The International Design Competition is made possible by generous grants from:

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**The awards**

Awards to winning architects or design teams total \$70,000 (U.S.)  
First award \$35,000  
(plus commission to complete design subject to the Philippine laws)\*  
Second award \$15,000  
Third award \$10,000  
Discretionary awards \$10,000

*\*Possibility exists for commissioning of additional entrants because competition site is part of larger site which will eventually accommodate neighborhoods for 100,000 to 140,000 people.*

**Qualifications for entering Competition**

Anyone qualified to practice architecture in his own country, or any design team (including students) with such a qualified architect, can enter the Competition, to be conducted under the regulations of the International Union of Architects.

**How to enter**

Complete registration application at bottom of page, and remit \$25 (U.S.) payable to The International Architectural Foundation, Inc., to Gutheim/Seelig/Erickson. Documents and complete program will be mailed to you promptly. First date on which conditions will be posted: March 1, 1975. Closing date for registration: postmark May 15, 1975. Last date for designs: postmark October 15, 1975.

**Jury for the Competition**

Balkrishna Vithaldas Doshi, architect (India)  
Eric Lyons, FRIBA (Great Britain)  
Moshe Safdie, PQAA (Canada)  
Mildred F. Schmertz, AIA (U.S.A.)  
General Gaudencio V. Tobias (Philippines)  
Takamasa Yoshizaka, JAA, AIJ (Japan) *reserve*  
William Whitfield, RIBA (Great Britain) *reserve*

**Professional advisor**

Arthur Erickson, FRAIC, Vancouver, B.C., Canada

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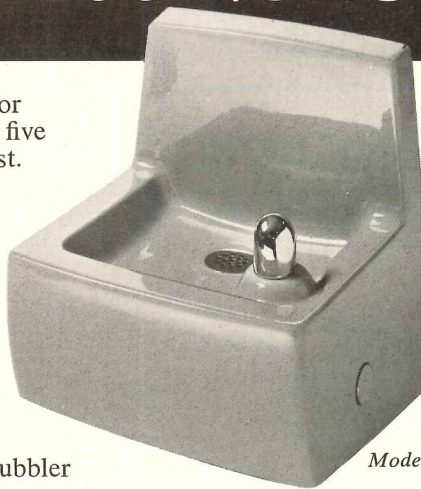
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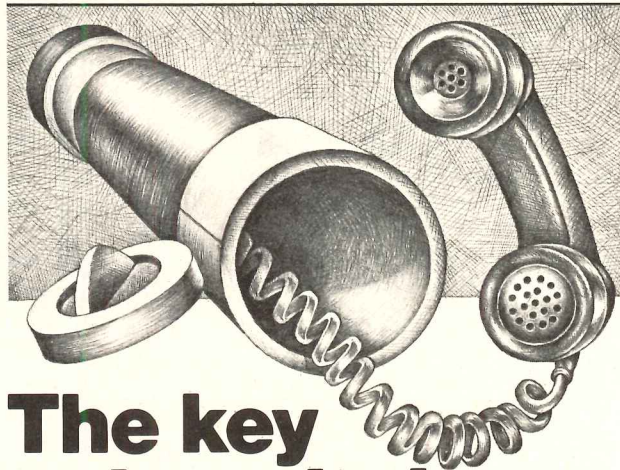
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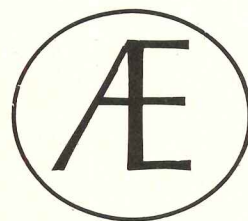
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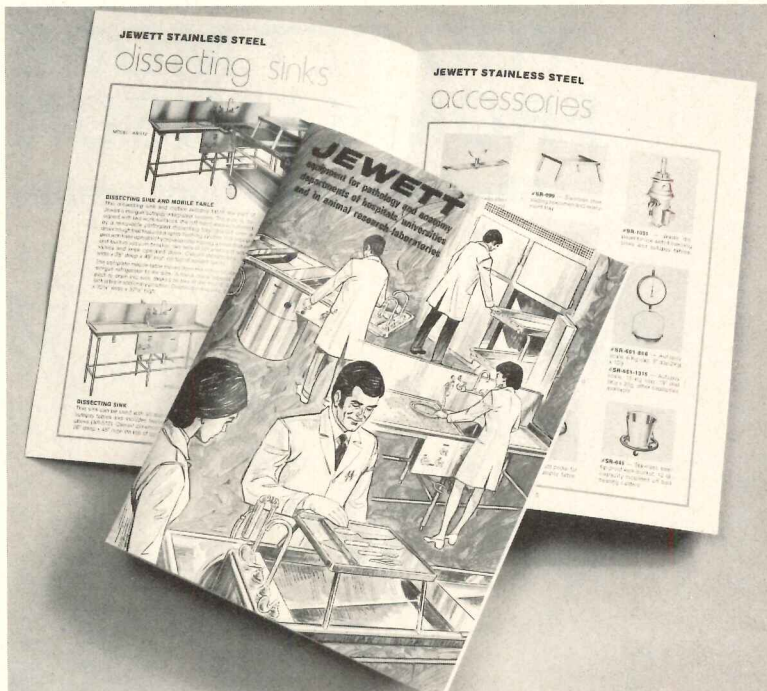
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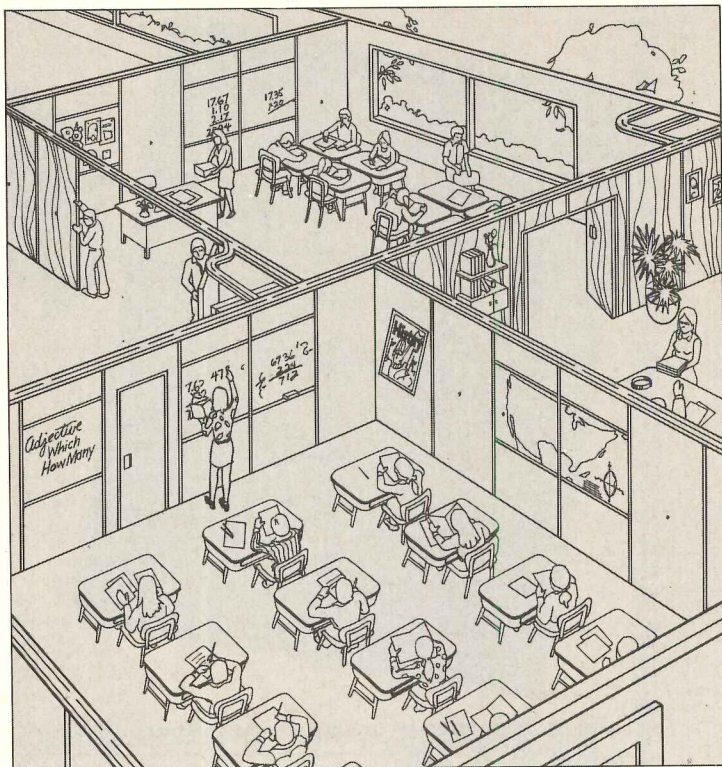
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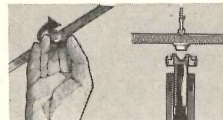
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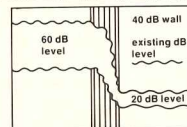
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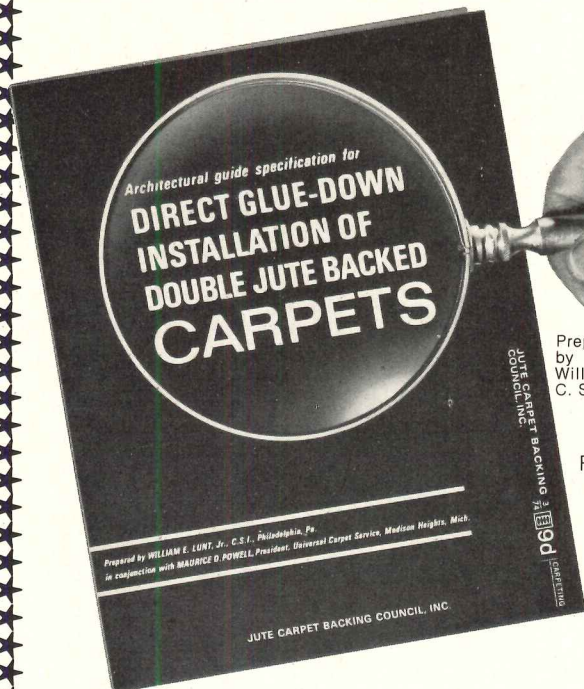
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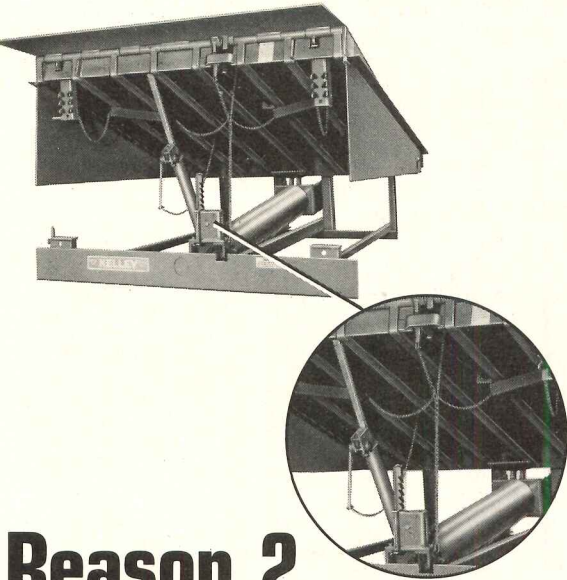
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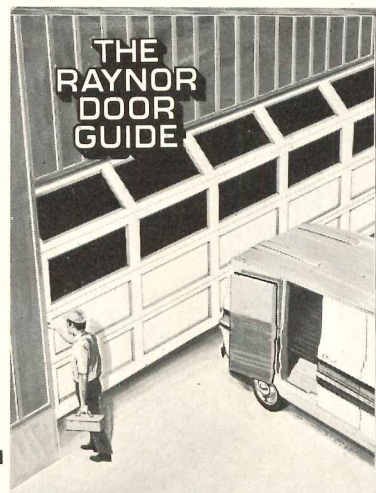
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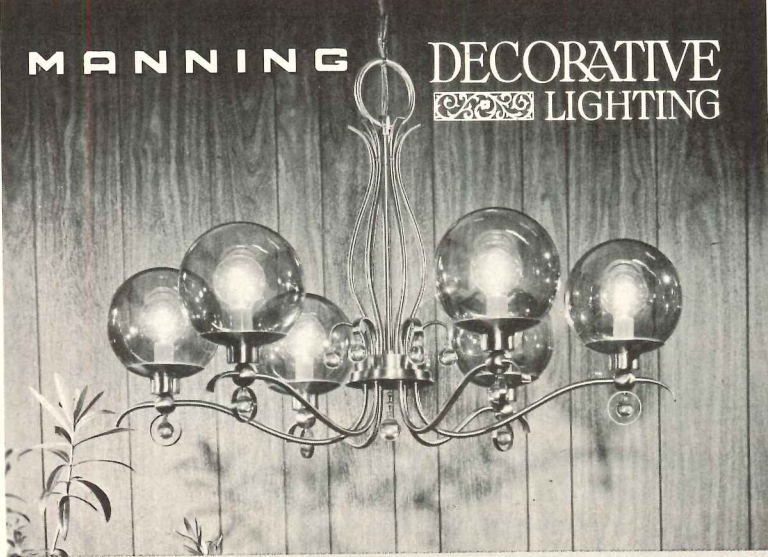
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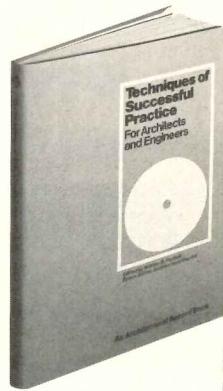
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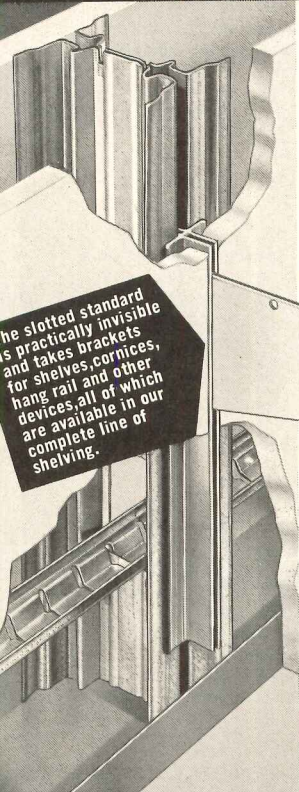
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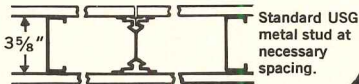




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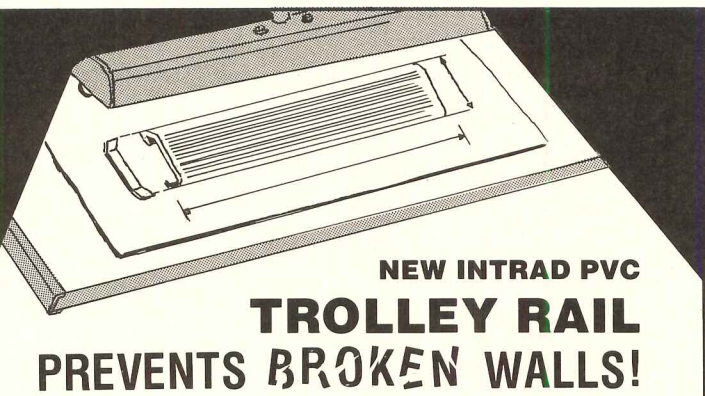
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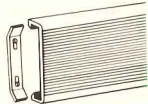
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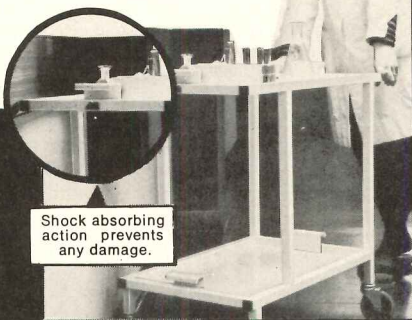
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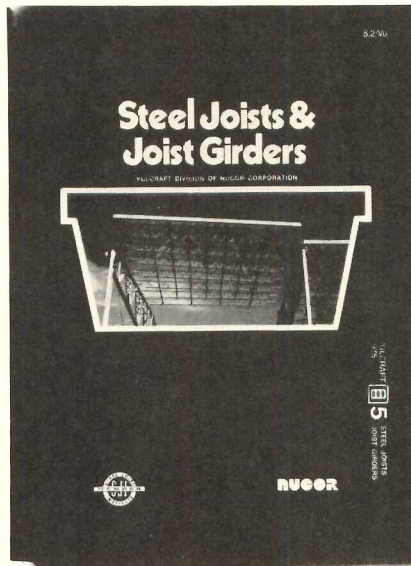
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# ADVERTISING INDEX

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- A Architectural File (green)
- I Industrial Construction File (blue)
- L Light Construction File (yellow)
- D Interior Design File (black)

**A**

Acco, Page Fence Division	170
A-L Alcan Aluminum Corp.	81
A Alliance Wall Corporation	144
All-Steel Inc., One of the C.I.T. Companies	62
A-I Aluminum Co. of America	157
Amarlite Products Div.	168-169
A-I American Colloid Co.	52-53
American Gas Association	22
A-I-L American Plywood Association	164-165
A-I American Smelting & Refining Co.	143
A American Standard, Plumbing & Heating Div.	80
A American Sterilizer Co.	178
A-I American Telephone & Telegraph Co.	42-43
A-L Andersen Corp.	76-77
Arbed-Columeta	64D-64E
Architectural Record Books	32-1, 64A, 64F, 149, 184
Arco/Polymers Inc.	140
Arkwright-Interlaken Inc.	5
A-D-I-L Armstrong Cork Co.	2nd cover-1, 2-3
Atelier International	12

**B**

A Bally Case & Cooler, Inc.	70
D Barwick Contract Carpet Systems	130-131
A-I Bell Telephone Systems	42-43
Bethlehem Steel Corp.	72-73
A-I-L Bilco Co.	74
A-I Bradley Corporation	172
Burke Rubber	32-2

**C**

Carrier Air Conditioning Co.	22
A-I-L Ceco Corp.	163
A Chester Products Inc.	150
A-I Clark Door Co., Inc.	156
A-L Closet Maid	178
Columbia Lighting Inc.	155
A-L Combustion Engineering—C-E Glass Division	54-55
Concrete Reinforcing Steel Institute	158-159
D Congoleum Industries Inc.	23
A Cornell Corporation	170
Crown Metal Mfg. Co.	185

**D**

Day-Brite Lighting Div. of Emerson Electric	15
Detex Corp.	187
A Dover Corp., Elevator Div.	65
Dunham-Bush, Inc.	30

**E**

Eastman Kodak Co.	17
A-I ECI Air-Flyte Corp.	154
Engineering For Architecture	179

**F**

A Follansbee Steel Corp.	180
--------------------------	-----

**G**

A-I-L-D GAF Corp., Floor Products Division	75
Gateway Bldg. & Erectors Div. of Imcco-Gateway Corp.	147
A-I-L General Electric Co.	6-7
General Tire & Rubber Co., Chemical/Plastics Div.	138-139
GF Business Equipment Inc.	68-69
Goodyear Tire & Rubber Co.	32
A-I Grefco Inc., Building Products Division	38

**H**

A-I Hager Hinge Company	142
A Haws Drinking Faucet Company	178
A-I Hillyard Chemical Co.	8
Wm. Hobbs Ltd.	170

**I**

A-I-L INRYCO, Inc.	18-19, 36
International Architectural Foundation	176-177
International Masonry Institute	28-29

**J**

A Jamison Door Co.	182
A Jewett Refrigeration Co., Inc.	181
J.G. Furniture Company, Inc.	141
A-I-L-D Johns-Manville Corporation—Architectural & Engineered Products Division	174-175
A-I-L-D Johns-Manville Corporation—Pre-Engineered Building Department	66-67
A Johnson Controls Inc.	46-47
Jute Carpet Backing Council, Inc.	182

**K**

A Kawneer Co.	24-25
A-I Kelley Co., Inc.	183
Kemiko Inc.	183
Kemlite Corp.	16
Kim Lighting Inc.	79
A Kwik-Wall Company	181

**L**

A-I-L Lennox Industries Inc.	56
A-I-L Libbey-Owens-Ford Co.	160-161
A Ludowici-Celadon Co.	27

**M**

Manning Co. Inc., R.A.	184
Marvin Electric Mfg. Co.	171
A-D-L Masonite	148
A Jas. H. Matthews & Co.	9
Metal Lath/Steel Framing Assoc.	145

**N**

National Electrical Contractors Association	71
A-D National Terrazzo & Mosaic Assn.	185
A-I Naturalite, Inc.	143
A-I-L Neenah Foundry Co.	184
A-I Nucor Corp., Vulcraft Division	185

**O**

A-L Olympic Stain Company	44-45
A-I-L-D Owens-Corning Fiberglass Corp.	44-45

**P**

Page Fence Division of Acco	170
A-I Pella Rolscreen Co.	64B-6
Philips, Eindhoven	64B-6
PPG Industries Inc.	152
A-L PPG Industries Inc., Commercial Glass	152

**R**

A-I Raynor Mfg. Co.	1
Ready Metal Mfg. Co.	1
A-L Red Cedar Shingle & Handsplit Shake Bureau	1
Regal Tube Co.	1
A-I-L Reynolds Metals Co.	1
A Rohm & Haas Co.	1
D R-Way Furniture Co.	1

**S**

A Safelite Industries	1
A-I Shervin-Williams Co.	1
A-I Silbrico Corp.	1
Simmons Co.—Contract Div.	20
Sloan Valve Company	4th co
Society of the Plastics Industry Inc.	1
A Soss Mfg. Co.	1
A Sport Seating Co.	1
A-L The Stanley Works	1
Steelcase Inc.	1
A Sterner Lighting Systems Inc.	1
A-L Sub-Zero Freezer Co., Inc.	1
A-I-L Symons Corp.	1

**T**

A-I Taylor Co., The Halsey W.	1
A Tepromark International Inc.	1
A Texas Instruments	1
A-I Tremco Mfg. Co.	166-1
Tyler Pipe	134-1

**U**

A-I Unistrut—GTE Sylvania	3rd co
A-I-L-D United States Gypsum Co.	1
L-D United States Plywood Corp.	1

**V**

A Vincent Brass & Aluminum Co.	1
A-D Vogel-Peterson Co.	1
A-I Vulcraft Division of Nucor Corp.	1

**W**

Wellco Carpet	1
A-I-L Weyerhaeuser Company	1
Wilson Art	1



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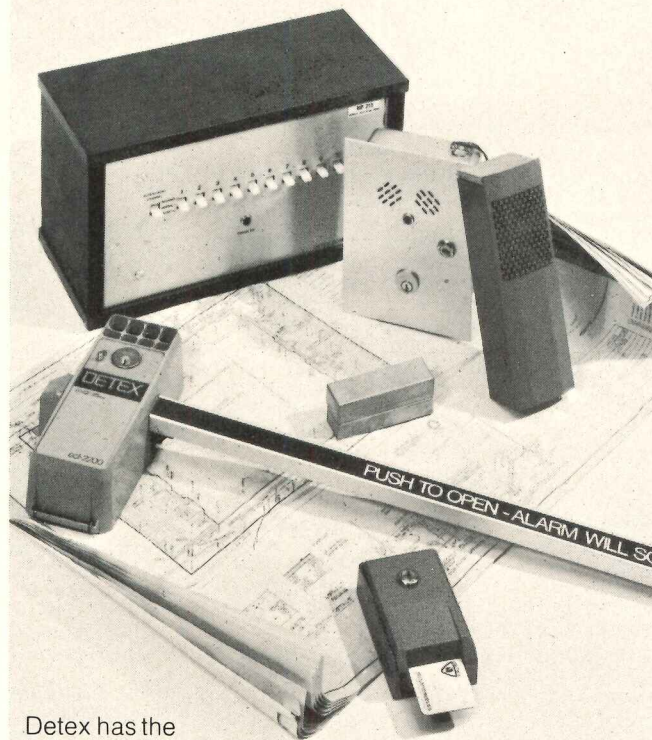
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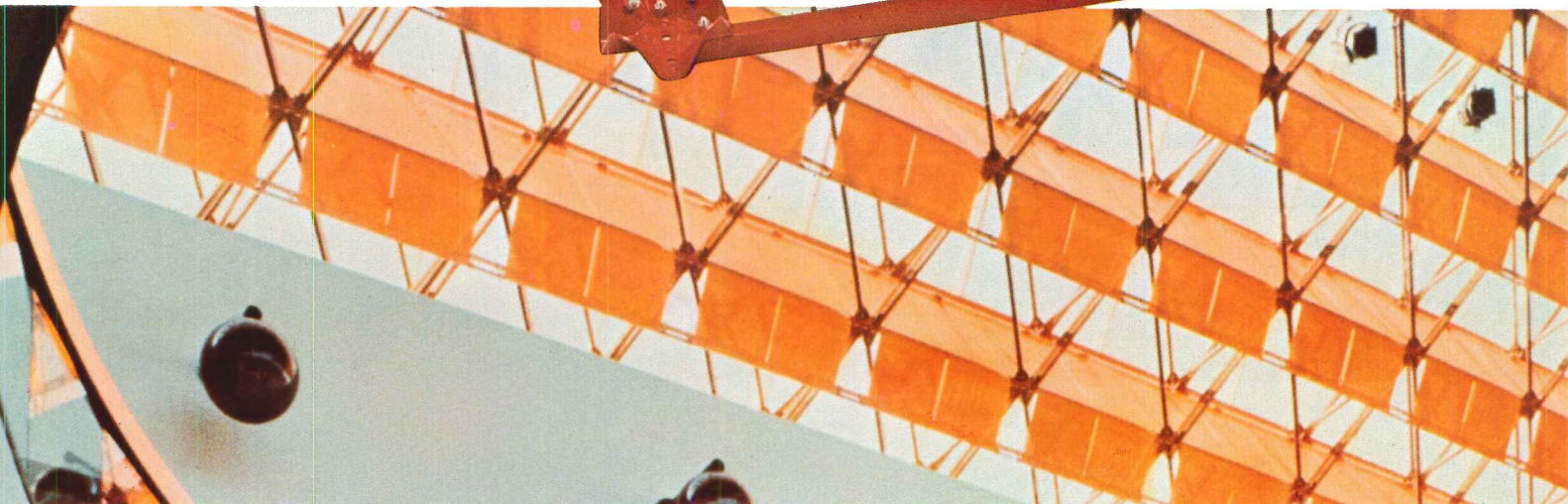
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