The new high-tech State of Minnesota Department of Revenue Building in Saint Paul is a four-story building clad entirely in architectural precast concrete. Located near the state capitol, the 381,532 sq ft (35480 m²) facility serves the department’s 1200 employees as well as provides meeting rooms, cafeteria dining, and other space for the capitol area complex. The four-story building was framed with structural steel.

Adjacent to the building is a five-level ramp, 263,400 sq ft (24470 m²) parking structure, which furnishes parking for 944 vehicles. This structure is clad with the same architectural precast concrete as the revenue building. The two structures are connected to each other by tunnel.

The architect and engineer of record for the building and parking structure was Hammel Green and Abrahamson, Inc. of Minneapolis. After careful deliberation, they decided that architectural precast concrete would play a dominant role in cladding this building. It was also decided that to meet the aggressive schedule and to execute the project economically, a design-build method of construction would be used. In this way, a highly collaborative team approach between the owner, architect, contractor and precaster would ensure a product of optimal quality. It was deemed essential that the selection of architectural precast concrete would allow for faster design and construction with better quality control. Indeed, it was estimated that precast concrete shortened the project schedule by several months.

The new building is a beautiful addition to the area, city and state. The use of architectural precast concrete enabled the design team to match the surrounding buildings with character, detailing and aesthetic appeal. The concrete mixes recall and match the local granite and limestone buildings and materials so closely that it appears...
the building is made of stone and not concrete.

The weights of panels range from 4400 to 22,000 lbs (2000 to 10000 kg).

The total number of panels used on the project was 1408, which comprised a surface area of 113,000 sq ft (10500 m²).

Gage Brothers Concrete Products, Inc. fabricated the precast panels at their plant in Sioux Falls, South Dakota. Panel production began in early 1998. The panels were shipped a distance of about 250 miles (400 km) to the project site by truck-trailer in the summer of 1998 where they were erected in only three months. The precaster was responsible for the produc-
The architectural precast panels for the parking structure were supplied by Hanson Spancrete Midwest, Inc., from their plant in Maple Grove, Minnesota.

Two different mix designs were used for the precast panels:
• Mix 1 used Minnesota and Georgia granite, South Dakota quartzite, and gray and white cement. It was textured in three ways: acid etched, heavy sandblast and medium sandblast.
• Mix 2 used limestones from southern Iowa and buff cement. It was textured using a very fine acid etch.

Panel sizes range from 1 ft 6 in. x 8 ft to 11 ft x 26 ft (0.46 x 2.44 m to 3.35 x 7.92 m).

The building was designed, constructed and occupied within 16 months from award of the contract. It was officially opened in October 1998.

The construction cost of the project was as follows:
• Building: $55 million ($143 per sq ft)
• Parking structure: $9.5 million ($34.50 per sq ft)

The contract for the architectural precast concrete was $2.1 million.

In retrospect, the new revenue building provides the people of Minnesota with a stately and enduring piece of architecture, a facility which is also functional and safe. The architectural precast panels were essential to the overall aesthetics of the building, allowing its forms and expression to complement the other historical buildings within the capitol area complex. The architectural precast concrete matches the look of stone at only half the cost.

Similarly, because the adjacent parking structure is clad with the same precast panels as the building, it reflects the identical style of architecture and has since become a benchmark for its type within the capitol area.

A further reason for the success of this project was the design-build concept. This allowed the special expertise of each team member to be incorporated from the beginning of the project. All in all, the end result is a building that has become a landmark and a model of success for the people of Minnesota.

CREDITS
Owner: Department of Administration, State of Minnesota, St. Paul, Minnesota
Architect: Hammel Green and Abrahamson, Inc., Minneapolis, Minnesota
Engineer of Record: Hammel Green and Abrahamson, Inc., Minneapolis, Minnesota

General Contractor: Ryan Companies US, Inc., Minneapolis, Minnesota
Precast Concrete Manufacturer (Revenue Building): Gage Brothers Concrete Products, Inc., Sioux Falls, South Dakota
Precast Concrete Manufacturer (Parking Structure): Hanson Spancrete Midwest, Inc., Maple Grove, Minnesota

Interior view of Department of Revenue Building.

Courtyard view of Department of Revenue Building.