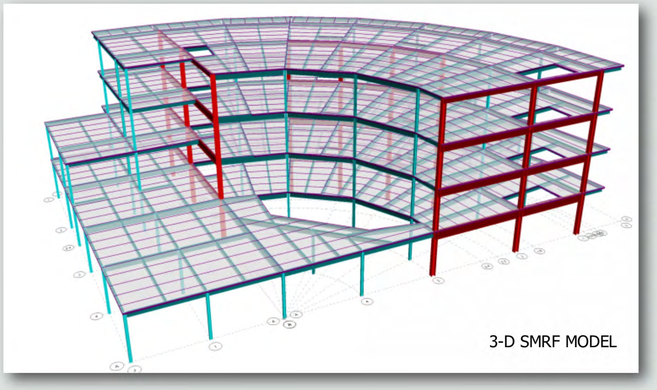
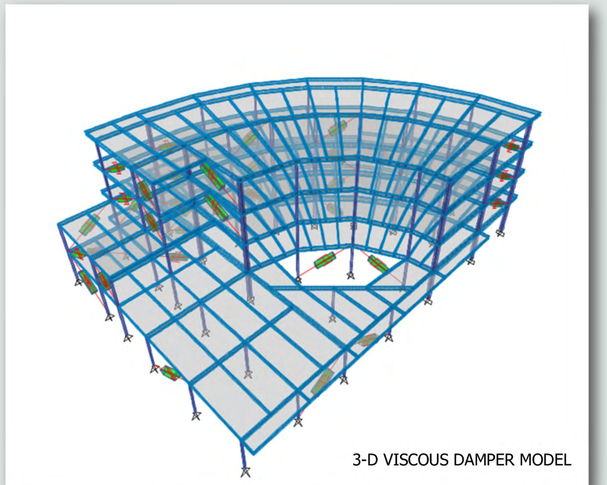
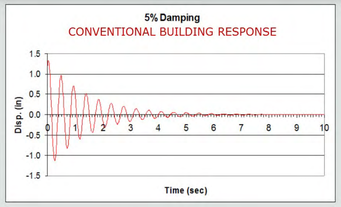
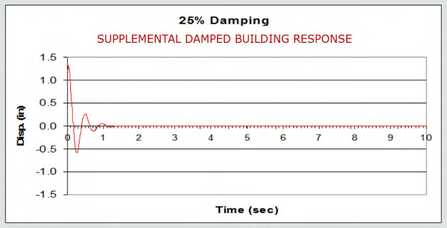
NOVA Academy Santa Ana, CA

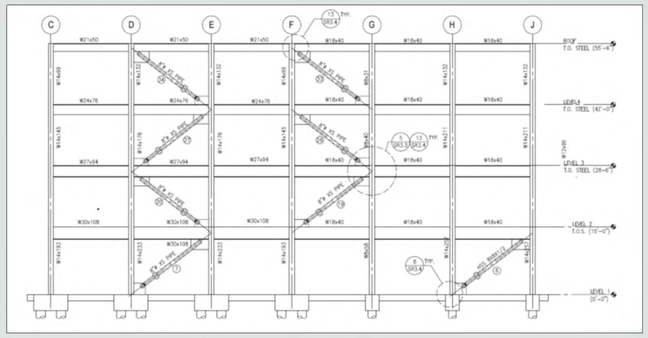
NISHKIAN CHAMBERLAIN
CONSULTING AND STRUCTURAL ENGINEERS SINCE 1919


3-D SMRF MODEL


3-D VISCOUS DAMPER MODEL

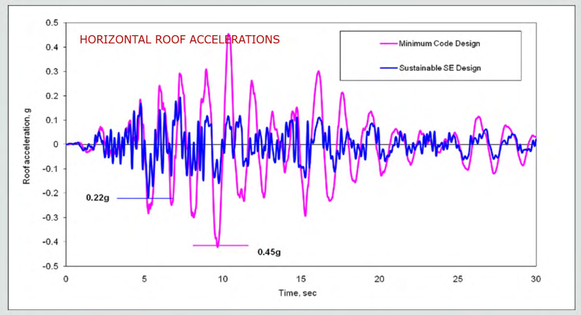






The existing four story Office building (Risk Category II), constructed in early 1980's is approximately 39,000 SF with a quarter circle footprint. The lateral force resisting system consisted of non-ductile Pre-Northridge steel moment frames. The 50-foot-deep cast-in-place piles provide foundation support.

Repurposing the building for a School, required seismic upgrades to meet a Risk Category III. The <u>seven (7) month schedule</u> for design and completion of the project before school started in August required delivering a cost-effective retrofit and renovation solution in a very short timeline with no allowance for schedule impacts. After consideration of several options, we utilized viscous dampers as a non-traditional approach to improve the building's performance while mitigating foundation work.



A performance based design approach was utilized as an alternate means of compliance with the City of Santa Ana Department of Building and Safety to seismically retrofit the building in compliance with the requirements of the ASCE 41-13 Standard, Seismic Evaluation and Retrofit of Existing Buildings and CBC, Section 3417, Earthquake Evaluation and Design for Retrofit of Existing Buildings.

PROJECT INFORMATION:

STRUCT. ENGR.:	NISHKIAN CHAMBERLAIN, INC.
CONSULTANT:	EQCGLOBAL
OWNER:	NOVA ACADEMY
ARCHITECT:	BERLINER ARCHITECTS
CONTRACTOR:	OLTMANS CONSTRUCTION CO.

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