

114-A-4

Program of Special Tests and Inspections
For compliance with Chapter 17 of the BOCA National Building Code/1999

Project: University of Southern Maine - Community Education Center

Location: 88 Bedford Street, Portland, Maine

Owner: University of Southern Maine System c/o University of Southern Maine

Owner's Address: 25 Bedford Street, Portland, ME

Architect of Record: Einhorn Yaffe Prescott

Structural Engineer of Record (SER): LeMessurier Consultants

This program of special tests and inspection is submitted as a condition for issuance of the building permit in accordance with Chapter 17 of the BOCA National Building Code/1999.

The following firms, agencies, or individuals (hereinafter referred to collectively as agents) except for the Geotechnical Engineer, will perform the tests and inspections under the direction of the SER. (The Geotechnical Engineer is responsible for directing the testing and inspection of controlled structural fill and in-situ bearing stratum for footings.

<u>Abbreviation</u>	<u>Agent</u>
SER	Structural Engineer of Record listed above
AR	Architect of Record listed above
OIAF	Owner's Inspection Agency - Field
OIAP	Owner's Inspection Agency - Plant
GE	Geotechnical Engineer
FQP	Fabricator's Quality Control Program
CQP	Contractor's Quality Control Program
NR	Not Required
NA	Not Applicable

The abbreviations will be used on the attached pages to identify which agent is performing the particular tests or inspections.

Inspections and tests defined by these documents relate to work of permanent construction only. Temporary work or construction procedures such as shoring, scaffolding, trench supports, safety rails and nets, etc., are not included.

The following categories of special tests and inspections, if checked, are included in the program for special tests and inspections for this project. The specific tests and inspections required for each checked category are listed on the page noted opposite the category.

<u>Category</u>	<u>Page</u>	<u>Category</u>	<u>Page</u>
<input checked="" type="checkbox"/> Steel Construction	<u>3</u>	<input checked="" type="checkbox"/> Controlled Structural Fill (Prepared Fill)	<u>6</u>
<input checked="" type="checkbox"/> Cast-in-place Concrete Construction	<u>4</u>	<input type="checkbox"/> Pile Foundations	---
<input type="checkbox"/> Precast Concrete Construction	---	<input type="checkbox"/> Pier Foundations	---
<input type="checkbox"/> Masonry Construction	---	<input checked="" type="checkbox"/> Curtain Walls (Wall Panels & Veneers)	<u>7</u>
<input type="checkbox"/> Wood Construction	---	<input checked="" type="checkbox"/> Light Gage Metal Framing	<u>8</u>
<input checked="" type="checkbox"/> In-situ Bearing Strata for Footings	<u>5</u>	<input checked="" type="checkbox"/> Spray Fireproofing	<u>9</u>

The following items of construction, if checked, are specified in the plans or specifications on a performance basis. Their structural design will be reviewed by the SER and their construction is included in the Program for Tests and Inspections on the attached sheets:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Curtain Walls | <input type="checkbox"/> Metal Buildings |
| <input type="checkbox"/> Precast Concrete Components | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Post-tensioning Steel | <input type="checkbox"/> _____ |
| <input checked="" type="checkbox"/> Structural Steel Connections | <input type="checkbox"/> _____ |

The following items are excluded from this Program of Special Tests and Inspections, since they are designed by other structural engineers not under the control of the SER, and the SER was not retained to provide performance specifications for their design. Said structural engineers must provide a Program of Special Tests and Inspections for their respective designs.

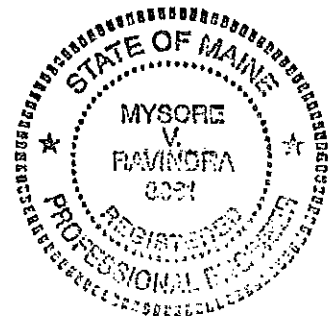
Prepared by the Structural Engineer of Record:

Name: Mysore V. Ravindra
Please print

Signature: *M. V. Ravindra*

Firm: LeMessurier Consultants, Inc.

Date: March 9, 2004



Registration Seal

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Schedule of Special Tests and Inspections

Steel Construction 1705.3 (See 1705.3.1 for exception)

Item	Agent	Scope
1. Fabricator Certification/ Quality Control Procedures (1705.2)	SER OIAP	Review each Fabricator's quality control procedures.
2. Fabricator Inspection (1705.3)	FQP OIAP SER	Inspect in-plant fabrication. Review FQP methods. Review FQP methods.
3. Material Certification	OIAP, FQP, SER	Review for conformance to the specifications.
4. Bolting - Shop	OIAP, FQP	Test and inspect bolted connections. Verify bolt size and grade. Test sample HS bolts.
Bolting - Field	OIAF, CQP	Test and inspect bolted connections. Verify bolt size and grade. Test sample HS bolts.
5. Welding - Shop	OIAP, FQP	Check welder qualifications. Inspect fillet welds and test full and partial penetration shop welds. (Seismic per 1705.3.3.2)
Welding - Field	OIAF, CQP	Check welder qualifications. Inspect fillet welds and test full and partial penetration field welds. (Seismic per 1705.3.3.2)
6. Shear Connectors	OIAF, CQP	Inspect for size and placement. Hammer-test. Visually inspect weld.
7. Structural framing, details and assemblies	OIAP, FQP, OIAF	Inspect for size, grade of steel, camber, installation and connection details.
8. Open Web Steel Joists	OIAF, CQP	Inspect for size, placement, bridging, bearing and connection to structure. Visually inspect all welds of a minimum of 5% of the joists, randomly selected.
9. Metal Decking	OIAF, CQP	Verify gage, width, and type. Inspect placement, laps, welds, sidelap attachment and screws or other mechanical fasteners. Check welder qualifications.
10. Corrosion Protection	OIAP, FQP, OIAF, CQP	Inspect galvanized surfaces. Check galvanizing certificates. Inspect surface preparation, paint thickness. Inspect paint damage.
11. Anchor Bolts	OIAF, CQP	Inspect size, type, geometry, projection, washers, nuts, nut engagement, tightness.
12. Other		

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Cast-in-Place Concrete Construction 1705.4

Item	Agent	Scope
1. Mix Design ACI 318 Chapter 5	SER	Review mix designs.
2. Materials Certification	SER	Review materials, admixtures, curing methods.
3. Batching Plant	OIAF	Review Plant quality control procedures and batching and mixing methods.
4. Reinforcement Installation	OIAF, CQP	Inspect reinforcing for grade size, quantity, location, condition, cover, supports. Inspect mechanical splices and grouted dowels.
5. Formwork Geometry	OIAF, CQP	Inspect form dimensions, tightness. Inspect surfaces and tie type and layout for architectural concrete.
6. Concrete Placement	OIAF	Observe concrete placement, consolidation, finishing. Verify cold-weather and hot-weather procedures. Perform slump, density and air-content tests at point of discharge. Prepare strength test cylinders. Review mix designations, time of batching, water added in field.
7. Evaluation of Concrete Strength	OIAF	Concrete cylinders. Perform verification testing as directed.
8. Curing and Protection	OIAF, CQP	Observe methods of moisture retention, concrete temperature, form removal.
9. Welding reinforcing steel	SER, CQP	Verify bar weldability.
	OIAF	Observe preheat, electrodes, procedures.
10. Other		

Note: Above not applicable to non-structural slabs on ground, minor footings (1705.4).

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In-Situ Bearing Strata for Footings and Foundation Mats 1705.7.1

Item	Agent	Scope
1. Bearing strata	GE	Inspect strata for conformance to the contract drawings, specifications, and/or geotechnical report.
2. Bearing surfaces	GE	Inspect bearing surfaces for conformance to the required soil bearing capacity. Inspect water control, surface protection methods.
3. Other		

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Spray Fireproofing 1705.12

Item	Agent	Scope
1. Quality Control Procedures	AR	Review Quality Control Procedures.
2. National Certification	AR	Review for conformance to Contract Documents.
3. Surface Preparation (1705.12.1)	CQP OIAF	Verify surface is prepared in accordance with Fire Resistance design.
4. Thickness (1705.12.3)	CQP OIAF	Verify minimum thickness in accordance with approved Fire Resistance design.

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Controlled Structural Fill (Prepared Fill) 1705.7.2

Item	Agent	Scope
1. Fill Material	OIAF or GE	Test material for conformance to specifications or geotechnical report. Perform laboratory compaction tests in accordance with the specifications to determine optimum water content and maximum dry density.
2. Installation of controlled structural fill (1705.7.1 and .2)	OIAF or GE	Provide full-time inspection of the installation, in accordance with the specifications and BOCA 1705.7.1 and .2.
3. Density of fill (1705.7.3)	OIAF or GE	Perform field density tests of the in-place fill in accordance with the specifications and BOCA 1705.7.3.
4. Other		

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Curtain Walls (Wall Panels and Veneers) 1705.10

Item	Agent	Scope
1. Light Gage Metal Framing for Panels	FQP OIAP SER	Refer to <i>Light Gage Metal Framing</i> .
2. Proprietary Light Weight Curtain Walls Systems	SER CQP OIAP	Review manufacturer's fabrication methods and quality control procedures. Review material certification, and inspect fabrication of structural framing, details, connections, and fasteners for conformance to SER approved submittals and the Contract Documents.
3. Masonry Veneers	SER CQP OIAP	Perform structural tests and inspections as listed under category <i>Masonry Construction</i> . Verify that relieving angles, ties to the backup structure and other structural supports are installed in conformance with the contract documents and SER approved submittals.
4. Other		