TESTING AND SPECIAL INSPECTION

GENERAL

These provisions shall govern the quality, workmanship and requirements for materials covered. Materials of construction and tests shall conform to the applicable standards listed.

DEFINITIONS

Quality control. Inspection provided by the Contractor by a qualified person of material and work performed by the Contractor.

Quality assurance. Inspection provided by the Owner by a qualified person of material, work and Quality Control documents or procedures.

Special inspection, continuous. The full-time observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed.

Special inspection, periodic. The part-time or intermittent observation of work requiring special inspection by an approved special inspector who is present in the area where the work has been or is being performed and at the completion of the work.

SPECIAL INSPECTIONS

The owner shall employ one or more special inspectors to provide inspections during construction on the types of work listed here. The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection.

Report requirement. The inspector of record and special inspector shall furnish inspection reports to the building official, and to the registered design professional in responsible charge. Reports shall indicate that work inspected was done in conformance to approved construction documents. Discrepancies shall be brought to the immediate attention of the contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the building official and to the registered design professional in responsible charge prior to the completion of that phase of the work. A final report documenting required special inspections and correction of any discrepancies noted in the inspections shall be submitted at a point in time agreed upon by the permit applicant and the building official prior to the start of work.

Inspection of fabricators. Where fabrication of structural load-bearing members and assemblies is being performed on the premises of a fabricator's shop, the special inspector shall verify that the fabricator maintains detailed fabrication and quality control procedures that provide a basis for inspection control of the workmanship and the fabricator's ability to conform to approved construction documents and referenced standards. The special inspector shall review the procedures for the completeness and adequacy relative to the code requirements for the fabricator's scope of work.

Steel construction. The special inspections for steel elements of buildings and structures shall be as required by Table S1.

Exceptions:

1. Special inspection of the steel fabrication process shall not be required where the fabricator does not perform any welding, thermal cutting or heating operation of any kind as part of the fabrication process. In such case, the fabricator shall be required to submit a detailed procedure for material control that demonstrates the fabricator's ability to maintain suitable records and procedures such that, at any time during the fabrication process, the material specification, grade and mill test reports for the main stress-carrying elements are capable of being determined.
2. The special inspector need not be continuously present during welding of the following items, provided the materials, welding procedures and qualifications of welders are verified prior to the start of the work; periodic inspections are made of the work in progress; and a visual inspection of all welds is made prior to completion or prior to shipment of shop welding.

   2.1. Single-pass fillet welds not exceeding 5/16 inch in size.

TABLE S1

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	CBC REFERENCE
1. Material verification of structural steel:				
a. Identification markings to conform to AWS specification in the approved construction documents.	--	--	ASTM A6 or ASTM A568	1708.4
b. Manufacturers' certified mill test reports.	--	--	ASTM A6 or ASTM A568	
2. Material verification of weld filler materials:				
a. Identification markings to conform to ASTM specification in the approved construction documents.	--	--	AISC 360, Section A3.5	--
b. Manufacturer's certificate of compliance required.	--	--	--	--
3. Inspection of welding: a. Structural steel:	--	--		
1) Complete and partial penetration groove welds.	X	--	AWS D1.1	1704.3.1
2) Multipass fillet welds.	X	--		
3) Single-pass fillet welds > 5/16"	X	--		
4) Single-pass fillet welds ≤ 5/16"	--	X		

For SI: 1 inch = 25.4 mm.

Welding. Welding inspection shall be in compliance with AWS D1.1. The basis for welding inspector qualification shall be AWS D1.1.

Inspection of welding. Inspection of all shop and field-welding operations, including the installation of automatic end-welded stud shear connectors, shall be made by a qualified welding inspector approved by the enforcement agency. Such inspector shall be a person trained and thoroughly experienced in inspecting welding operations. The inspector's ability to distinguish between sound and unsound welding shall be reliably established. The minimum requirements for a qualified inspector shall be as those for an AWS-certified welding inspector (CWI), as defined in the provisions of the AWS QC1. All welding inspectors shall be as approved by the enforcement agency.

The ability of each welder to produce sound welds of all types required by the work shall be established by welder qualification satisfactory to the enforcement agency.

Welding inspection of structural welding shall conform to the requirements of AWS D1.1, except as modified by this section.

Welding inspection of cold-formed steel members shall conform to the requirements of AWS D1.3.

The welding inspector shall make a systematic record of all welds. This record shall include in addition to other required records:

1. Identification marks of welders.
2. List of defective welds.
3. Manner of correction of defects.

The welding inspector shall check the material, equipment, details of construction and procedure, as well as the welder. The inspector shall also check the ability of the welder. The inspector shall verify that the installation procedure for automatic end-welded stud shear connectors is in accordance with the requirements of AWS D1.1 and the approved plans and specifications. The inspector shall furnish the architect, structural engineer and the enforcement agency with a verified report that the welding is proper and has been done in conformity with AWS D1.1 and the approved plans and specifications. The inspector shall use all means necessary to determine the quality of the weld. The inspector may use gamma ray, magnaflux, trepanning, sonics or any other aid to visual inspection which the inspector may deem necessary to be assured of the adequacy of the welding.

Details. The special inspector shall perform an inspection of the steel frame to verify compliance with the details shown on the approved construction documents, such as bracing, stiffening, member locations and proper application of joint details at each connection.

Non-shrink grout

The special inspector shall take test specimens and continuously inspect the placement of non-shrink/expansive grout.

Adhesive anchors

The special inspector shall continuously inspect adhesive anchor installations.

GENERAL NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION. ANY CONFLICTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER.
2. CONTRACTOR SHALL PROVIDE SAMPLE SCREEN PANELS TO THE CITY OF MILPITAS FOR INSPECTION PRIOR TO FABRICATING REMAINING PANELS. FABRICATION MAY NOT BE COMPLETED WITHOUT APPROVAL FROM THE CITY.
3. CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID DAMAGING EXISTING CONCRETE AND REINFORCING DURING CONSTRUCTION. SHOULD ANY DAMAGE OCCUR, CONTRACTOR SHALL SUBMIT A PROPOSED REPAIR PROCEDURE TO THE CITY OF MILPITAS PRIOR TO BEGINNING ANY REPAIR WORK.

FINISHING NOTES:

ALL SCREEN PANELS, FRAMING AND ATTACHMENTS SHALL BE POWDER COATED AS NOTED IN THE PROJECT SPECIFICATIONS.

ABBREVIATIONS

@	AT	LS	LAG SCREW(S)
ø	DIAMETER	LL	LIVE LOAD
#	NUMBER	LLBB	LONG LEGS BACK TO BACK
		LLH	LONG LEG HORIZONTAL
AB	ANCHOR BOLT	LLV	LONG LEG VERTICAL
APPROX	APPROXIMATE(LY)	LOC	LOCATION
ARCH.	ARCHITECT(URAL)	LONGIT	LONGITUDINAL
		LW	LIGHT WEIGHT
BF	BOUNDARY FASTENING OR BRACED FRAME	MB	MACHINE BOLT(S)
BLK	BLOCK	MAX	MAXIMUM
BLKG	BLOCKING	MECH	MECHANICAL
BLDG	BUILDING	MFR	MANUFACTURER
BM	BEAM	MIN	MINIMUM
BN	BOUNDARY NAILING	MISC	MISCELLANEOUS
BOT	BOTTOM		
BOF	BOTTOM OF FOOTING	(N)	NEW
		NIC	NOT IN CONTRACT
℄	CENTER LINE	No.	NUMBER
CBC	CALIFORNIA BLDG CODE	NOM	NOMINAL
CIDH	CAST IN DRILLED HOLE	NS	NEAR SIDE
CJ	CONSTRUCTION JOINT	NTS	NOT TO SCALE
CJP	COMPLETE JT PENETRATION		
CLR	CLEAR	OC	ON CENTER
CLG	CEILING	OD	OUTSIDE DIAMETER
CMP	CORRUGATED METAL PIPE	OH	OPPOSITE HAND
CMU	CONCRETE MASONRY UNIT	OWSJ	OPEN WEB STEEL JOIST
COL	COLUMN		
CONC	CONCRETE	℘	METAL PLATE
CONN	CONNECTION	PDF	POWDER DRIVEN FASTENER
CONST	CONSTRUCTION	PTDF	PRESS. TREATED DOUG. FIR
CONT	CONTINUOUS	PLY	PLYWOOD
CSK	COUNTERSINK	PJP	PARTIAL JOINT PENETRATION
		PQR	PROCEDURE QUALIFYING REPORT
DBL	DOUBLE	PSF	POUNDS PER SQUARE FOOT
DCW	DEMAND CRITICAL WELD	PSI	POUNDS PER SQUARE INCH
DET	DETAIL	PT	POINT OR POST TENSION
DF	DOUGLAS FIR		
DIAG	DIAGONAL	RAD OR R	RADIUS
DN	DOWN	RCP	REINF CONC PIPE
DO	DITTO	REINF	REINFORCED, REINFORCING
DWG	DRAWING	REQ'D	REQUIRED
		REV	REVISION
(E)	EXISTING	RS	ROUGH SAWN
EA	EACH		
EF	EDGE FASTENING	S.A.D.	SEE ARCH. DRAWINGS
EL	ELEVATION	SFRS	SEISMIC FORCE RESISTING SYSTEM
ELEV	ELEVATOR	SHT	SHEET
EN	EDGE NAILING	SHTG	SHEATHING
EQ	EQUAL	SIM	SIMILAR
EW	EACH WAY	SM	SHEETMETAL
		SMS	SHEET METAL SCREW
FIN	FINISH(ED)	SPEC(S)	SPECIFICATION(S)
FND	FOUNDATION	SQ	SQUARE
FOC	FACE OF CONCRETE	STD	STANDARD
FOM	FACE OF MASONRY	STL	STEEL
FOS	FACE OF STUD(S)	STS	SELF TAPPING SCREW
FS	FAR SIDE	SYM	SYMMETRICAL
FTG	FOOTING		
Ga	GAUGE	TBR	TO BE REMOVED
GALV	GALVANIZED	T.O.	TOP OF
GL	GLUED LAMINATED BEAM	TOF	TOP OF FOOTING
		T.O.P.	TOP OF PLATE
HDR	HEADER	TOS	TOP OF SLAB OR STEEL
HEX	HEXAGONAL	T.O.W.	TOP OF WALL
HGR	HANGER	TYP	TYPICAL
HORIZ	HORIZONTAL		
HSB	HIGH STRENGTH BOLT	U.N.O.	UNLESS NOTED OTHERWISE
HSS	HOLLOW STRUCT SECTION		
HT	HEIGHT	VERT	VERTICAL
IBC	INTERNATIONAL BLDG CODE	W/	WITH
ID	INSIDE DIAMETER	WF	WIDE FLANGE
INSP	INSPECTION/INSPECTOR	WP	WATERPROOF OR WORK POINT
		WPS	WELDING PROCEDURE SPECIFICATIONS
JT	JOINT	WT	WEIGHT

DRAWING INDEX

S1 GENERAL INFORMATION

S1.1 PRODUCT SPECIFICATIONS

S2 PARTIAL 2ND FLOOR, 3RD FLOOR AND 4TH FLOOR PLANS

S3 2ND AND 3RD FLOOR SCREEN SECTIONS AND DETAILS

S4 4TH FLOOR SCREEN SECTIONS AND DETAILS

SYMBOLS

1. (1 / S1) SECTION LETTER OR DETAIL NUMBER; SHEET NUMBER WHERE SECTION OR DETAIL IS SHOWN
2. INDICATES EXISTING CONCRETE
3. ±20'-0" INDICATES TOP OF SLAB/WALL ELEVATION
4. ± INDICATES AN APPROXIMATE DIMENSION OR ELEVATION. THE CONTRACTOR IS TO VERIFY INFORMATION AS REQUIRED TO COMPLETE CONSTRUCTION
5. (1) INDICATES SCREEN PANEL ELEVATION

PROJECT DATA

1. PLANS AND CALCULATIONS FOR THE STRUCTURAL DESIGN WERE BASED UPON:
   - THE 2007 CALIFORNIA BUILDING CODE.
2. DESIGN LOADS ARE AS FOLLOWS:

   LATERAL

   WIND — PER ASCE 7-05 — 85 MPH BASIC WIND SPEED (3 SECOND GUST); WIND IMPORTANCE FACTOR, I = 1.0; EXPOSURE CATEGORY B

   SEISMIC — PER ASCE 7-05 — OCCUPANCY CATEGORY II; SEISMIC IMPORTANCE FACTOR, I = 1.0; SITE CLASS D; S_S = 1.51, S_1 = 0.60; S_{DS} = 1.01, S_{D1} = 0.60; SEISMIC DESIGN CATEGORY D; F_P = 0.484g (STRENGTH DESIGN) FOR DESIGN OF SCREENS

SCOPE OF WORK:

NEW SCREENS AT SECOND, THIRD AND FOURTH (ROOF) LEVELS AT THE EAST SIDE OF THE GARAGE.

ONLY THE MOST CURRENT WET SIGNED DOCUMENTS CONSTITUTE THE PROFESSIONAL WORK OF BIGGS CARDOSA ASSOCIATES, INC. IF THERE ARE ANY DIFFERENCES BETWEEN THE MOST CURRENT WET SIGNED DOCUMENTS AND ANY OTHER DOCUMENTS, THE MOST CURRENT WET SIGNED DOCUMENTS SHALL GOVERN. BIGGS CARDOSA ASSOCIATES, INC. IS NOT RESPONSIBLE FOR ANY MODIFICATIONS MADE TO OUR DOCUMENTS BY ANYONE OTHER THAN THE ENGINEER OF RECORD FOR BIGGS CARDOSA ASSOCIATES, INC.

100% CONTRACT DOCUMENTS/NOT FOR CONSTRUCTION (6/17/10)

S1 - GENERAL INFORMATION

Designer's Name & Address:

BIGGS CARDOSA ASSOCIATES INC

STRUCTURAL ENGINEERS

865 The Alameda
San Jose, California 95126
408-296-5515

Designer's Stamp: REGISTERED PROFESSIONAL ENGINEER MARK A. CARDOSA No. S2279 Exp. 3/31/12 STRUCTURAL STATE OF CALIFORNIA

Record Drawings

Project Engineer: ________ Date: ________

Designer: ________ Date: ________

Public Works Inspector: ________ Date: ________

Public Improvements Initially Accepted by the City Council on: ________

Drawn By: RLQ Date: ________

Checked By: MJL Date: ________

Designed By: KAD Date: ________

Revisions

Num.	Description	Engr. Aprv.	Date
	50% CONTRACT DOCUMENTS		10.27.09
	90% CONTRACT DOCUMENTS		1.4.10
	100% CONTRACT DOCUMENTS		6.21.10

CITY OF MILPITAS
ENGINEERING DIVISION

PARKING GARAGE SCREENING AND SECURITY FENCE

CIP # 8161

RECOMMENDED FOR BIDDING BY: ________ DATE: ________
Steve Erickson, CIP Manager

APPROVED FOR BIDDING BY: ________ DATE: ________
Greg Armendariz, Public Works Director/City Engineer

PROJECT NO. 8161

DRAWING NO. 2009170S1

E.P. NO.

SCALE: AS SHOWN

SHEET 1 OF 5