UNIVERSITY OF CALIFORNIA, SANTA BARBARA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO

SANTA BARBARA • SANTA CRUZ

CAMPUS DESIGN & FACILITIES

CONTRACTING SERVICES
Building 439
Santa Barbara, California 93106-1030
Telephone (805) 893-3356
Fax (805) 893-8592
Website: http://facilities.ucsb.edu

SENT VIA:
- ☐ FAX ON THIS DATE
- ☐ HAND DELIVERY ON THIS DATE
- ☒ FEDERAL EXPRESS ON THIS DATE
- ☐ UNITED PARCEL SERVICE ON THIS DATE

HOLDERS OF PLANS AND SPECIFICATIONS:

North Campus Faculty Housing – Phase I
Project No. FM 100029L/ 986305
Addendum No. FIVE

January 22, 2010

Enclosed is **ADDENDUM NO. FIVE** to the Construction Documents on the above-captioned project.

Bid date is Tuesday, February 9, 2010 at 2:30 PM to be held at:

CONTRACTING SERVICES
Facilities Management, Bldg. 439,
Door #E, Reception Counter
University of California, Santa Barbara
Santa Barbara, CA 93106-1030.

Late arrivals shall be disqualified. Please allow time for unforeseen traffic delays, securing a parking permit and potential parking problems.

Anna Galanis
Director, Contracting Services

ADDENDUM NUMBER FIVE

to the

Construction Documents

January 22, 2010

GENERAL

The following changes, additions or deletions shall be made to the following document(s) as Indicated; all other conditions shall remain the same.

I. ADVERTISEMENT

Item No.

1. Announcement to Pre-Qualified Bidders, second page, sixth paragraph, sentence beginning with, "Bid Deadline…" **CHANGE** to read in it's entirety as follows:
"Bid Deadline: Sealed bids must be received on or before 2:30PM on Tuesday, February 9, 2010. Sealed Bids will be received only at: Contracting Services, Facilities Management, Building #439, Door # Reception Counter, University of California, Santa Barbara, Santa Barbara, CA 93106-1030."

II PROJECT DIRECTORY

Item No.

1. University's Representative's Consultants:
Mechanical/Plumbing/Electrical/Structural: BORM
CHANGE address to read:
"60 Corporate Park
Irvine, California 92606
Telephone: 949/253-9510 FAX: 949/253-9098"

III SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

Item No.

1. Number 4, **CHANGE** to read in it's entirety as follows:
"Bids will be received on or before the Bid Deadline: 2:30PM, Tuesday, February 9, 2010, and only at: Contracting Services, Facilities Management, Building 439, Door E, Reception Counter, University of

California, Santa Barbara, Santa Barbara, California, 93106-1030."

IV INFORMATION AVAILABLE TO BIDDERS

Item No.

1. 5. Reports:

DELETE the following:

4) Composite 2006 – 2007 Topographic Map (Spoils Not Shown) dated October 29, 2009 and **REPLACE** in its entirety with:

4) Composite 2006 – 2007 Topographic Map w/ 2010 Spoils, prepared by Fuscoe Engineering, dated January 18, 2010, Sheet 1 of 1

2. 5. Reports: **ADD** the following:

5) Spoil Pile Screening Report Ref No. 0545-12A, prepared by Applied Environmental Technologies, Inc. (AET), 18 pages, dated January 20, 2010

6) Utility Structure Installation Composite Exhibit, Sheet 1 of 1, prepared by B. J. Palmer & Associates, Inc., dated January 15, 2010

7) AutoCad files of grading topography (compact disc)

V SPECIFICATIONS

Item No.

1. Section 01010 – Summary of Work
Part 1 – General, 1.01 Work Required by the Contract Documents, C.
ADD the following:
"1. For purposes of this Bid, assume the east most spoils pile on site is free from hazardous material. The University will assume responsibility for its disposition if it is proven to be hazardous."

2. Section 01560 – Storm Water Pollution Prevention
DELETE in its entirety and **REPLACE** with, and attached herewith:
"Section 01560 – Storm Water Pollution Prevention, (footer noted as Construction Stormwater Quality), 15 pages, dated January 22, 2010"

3. Section 01852 – LEED Requirements
DELETE in its entirety and **REPLACE** with, and attached herewith:
"Section 01852 – LEED Requirements, 20 pages, dated January 22, 2010"

4. Section 01690 – Wood Trusses, Light Metal Plate Connected, For Roof Systems Design Build, issued with Addendum 3, dated 12/01/09

DELETE: 3. LEED Submittal, in its entirety.

5. Section 06200 – Interior Finish Carpentry
Part I General, 1.1 Summary, B.
ADD the following:
"Interior materials do not require marine grade hardware. Only exterior conditions require marine environment resistance."

6. Section 06201 – Exterior Finish Carpentry
Part I General, 1.1 Summary, B.
ADD the following:
"Interior materials do not require marine grade hardware. Only exterior conditions require marine environment resistance."

7. Section 07320 – Roof Tiles
Part I General, 1.2 Submittals, 1. Warranty, 1. Warranty Period:
DELETE 30 Years and **REPLACE** with "25 years"

8. Section 08710 – Door Hardware
Part I General, 1.1 Summary, B.
ADD the following:
"Interior materials do not require marine grade hardware. Only exterior conditions require marine environment resistance."

9. Divisions 02 – 16, All Sections
DELETE: Reference to LEED Submittals, in its entirety. LEED Submittal requirements are included in Section 01852 – LEED Requirements.
CLARIFICATION: There is no requirement for chain-of custody certified lumber for this Work.

VI DRAWINGS & SPECIFICATIONS

1. **CLARIFICATION:** The ground floors for the Adaptable Units (Units 14 & 15) are the only areas that require the doors with the 10" bottom rails. All interior doors in the Adaptable Unit, first floor, shall be T.M. Cobb, "Caiman Style", customize with a 10" bottom rail.

2. **CLARIFICATION:** All cabinets have a horizontal grain run on the drawer fronts and a vertical grain run on the doors.

3. **CLARIFICATION:** The project is targeting LEED Residential Certification. The framing lumber for the project is not required to be from a certified forest.

4. **CLARIFICATION:** All habitable rooms shall have baseboards.

5. **CLARIFICATION:** Cabinets and Garages: Building 400A, 400B, 800A (Attached Housing)
   a. The cabinets and cupboards along the demising wall shall incorporate silencers, Blum Blumotion or equal.
   b. All garages shall have garage door opener, Wayne Dalton Doormaster or equal. The equal model is required to show sound data showing no tones and that it is equivalent or lower in level than the Wayne Dalton model.

6. **CLARIFICATION:** Shear Panels at Demising Walls: Building 400A, 400B, 800A (Attached Housing)
   a. Shear panels shall be placed on the outside of the wall, on the face of wall stud, beneath the drywall, as shown on detail Sketch 24. Do not place shear panels in the airspace between studs.
   b. If a second shear panel occurs (i.e. shear panel on both sides). It may replace a layer of gypsum board, so that there is one layer of gypsum board over shear panel on both sides.

7. **CLARIFICATION:** Doors: Building 400A, 400B, 800A (Attached Housing)
   a. The entry door from the garage of the plan 5 unit and the plan 4 door to the lower level bedroom/office shall have an automatic door closer that has adjustment capability so the door does not slam.

8. **CLARIFICATION:** Stairs: Building 400A, 400B, 800A (Attached Housing)
   a. Where stairs run along demising wall, there shall be no contact between stringers or treads or landings and the demising wall. The stairs shall be independently framed below (e.g. plan 5). Refer to Sketch 22 - Stringer at Demising Wall for detail.

9. **DELETE:** All references to The Olson Company and/or Ocean Walk at North Campus and **REPLACE** with North Campus Faculty Housing – Phase 1

10. **CLARIFICATION:** Where the term “self adhering waterproof membrane” appears it is meant as W. R. Grace Ultra, or equal.

11. **CLARIFICATION**: All bathroom vent fans shall be Broan Model QTRE 100S Humidity Sensing Fan, or equal.

VII LIST OF DRAWINGS

Item No.

1. **DELETE** all Civil Drawing (Provided by Fuscoe Engineering, Inc.) Sheets 1 – 24, dated 09/30/09
REPLACE with Civil Drawings (Provided by Fuscoe Engineering, Inc.)

Civil (Provided by: Fuscoe Engineering Inc.)

1	Title Sheet	1/21/10
2	General Notes	1/21/10
3	Precise Grading Plan	1/21/10
4	Precise Grading Plan	1/21/10
5	Precise Grading Plan	1/21/10
6	Precise Grading Plan	1/21/10
7	Precise Grading Plan	1/21/10
8	Precise Grading Plan	1/21/10
9	Precise Grading Plan	1/21/10
10	Storm Drain Plan	1/21/10
11	Storm Drain Plan	1/21/10
12	Storm Drain Plan	1/21/10
13	Storm Drain Plan	1/21/10
14	Storm Drain Plan	1/21/10
15	Storm Drain Plan	1/21/10
16	Storm Drain Plan	1/21/10
17	Erosion Control Plan	1/21/10
18	Dimensioned Site Plan	1/21/10
19	Signing and Striping Plan	1/21/10
20	Staging Plan	1/21/10
21	Details	1/21/10
22	Details	1/21/10
23	Details	1/21/10

2. **ADD** the following:

Civil (Provided by: Fuscoe Engineering Inc.)

25	Retaining Wall Profiles	1/21/10

3. **DELETE** all Water Improvement Plans (Provided by Penfield & Smith.) Sheets 1 – 6, dated 09/29/09
REPLACE with Water Improvement Plans (Provided by Penfield & Smith.)

Water Improvement Plans (Provided by: Penfield & Smith)

1	Title Sheet & Sheet Index	1/15/10
2	GWD Symbols, Legend, & Specifications	1/15/10
3	Atlantic Court & Atlantic Drive Plan & Profile, Line "A" & Sta. 10+00 To Sta. 12+00 Line "B"	1/15/10
4	Atlantic Drive Plan & Profile, Sta. 12+00 To Sta. 15+81 Line "B"	1/15/10
5	Water Improvement Details	1/15/10
6	Water Improvement Details	1/15/10

4. **DELETE** all Sewer Improvement Plans (Provided by Penfield & Smith.) Sheets 1 – 2, dated 09/24/09
REPLACE with Sewer Improvement Plans (Provided by Penfield & Smith.)
Sewer Improvement Plans (Provided by: Penfield & Smith)

1	Title Sheet & Index Map	1/15/10
2	Line "A" and "B" plan and profile	1/15/10

5. **ADD** the following:
Sewer Improvement Plans (Provided by: Penfield & Smith)

3	Easement Exhibit	1/15/10

6. **ADD** the following:
SKETCHES

12 Trenching dated 01-22-10

13 Setback to Slope dated 01-22-10

14 Retaining Wall dated 01-22-10

15 Retaining Wall dated 01-22-10

16 Fence Connection dated 01-22-10

17 Expansion Joint dated 01-22-10

18 Bar Bends dated 01-22-10

19 Stepped Footing W/Block Stem dated 01-22-10

20 Footing Reinforcement at Intersect. & Corners dated 01-22-10

21 Typ. Block Reinf. dated 01-22-10

22 Stringer at Demising Wall dated 01-11-10

23 Attic Access dated 01-11-10

24 Demising Wall Detail dated 01-22-10

25 Dwelling Unit Lighting Fixture Schedule dated 01-22-10

26 General Notes Continued – Mechanical Cover Sheet Part Plan, MSK-1 dated 01-22-10

27 Air Distribution Schedule – Mechanical Cover Sheet Part Plan, MSK-2 dated 01-22-10

28 Furnace Mounting Details – Mechanical Details Part Plan, MSK-3 dated 01-22-10

29 Color and Elevation Assignments, 7 pages, dated 1-22-10

VIII DRAWINGS

Item No.

1. Drawing Number AGN.1 – General Notes
General Notes, Note 29.1
ADD the following: "Per State of California Building Code, the entry doors are required to have perimeter seals and the door panel shall have an STC rating of 26"

2. Drawing Number AGN.1 – General Notes
Sound Transmission Control Notes, Note 4
ADD the following: "The ¼" thick resilient material shall be Hubbard Holdrite Silencer Series or approved equal."

3. Drawing Number AGN.1 – General Notes
Sound Transmission Control Notes
ADD the following note:
"11. When plumbing, mechanical, or electrical are installed horizontally in a double stud construction, they cannot be run in the air space between the studs, but must be routed on the stud side served."

4. Drawing Number AGN.1 – General Notes
Sound Transmission Control Notes
ADD the following note:
"12. All demising and corridor partitions and floor ceiling assemblies, including all partitions containing plumbing should contain batt insulation in the stud cavity."

5. Drawing Number AGN.1 – General Notes
Sound Transmission Control Notes
ADD the following note:
"13. At all edges of the demising wall the gypsum board layers should be held clear of the floor, ceiling or wall, and the gap filled of the outermost layer should be filled with a resilient non-hardening acoustical sealant, The gap shall be no more than1/4 inch."

6. Drawing Number A3.10, Building 100A Floor Plan
Floor Key Legend
REVISE note at typical closets, coat closets, and walk-in closets **FROM** "Wire Shelf & Pole" **TO** "MDF with white melamine finish & closet rod at 6'-0" height A.F.F."

7. Drawing Number A3.10, Building 100A Floor Plan
Pantry
ADD the following note: "Provide 6 equally spaced shelves at walk-in pantry."

8. Drawing Number A3.10, Building 100A Floor Plan
Floor Plan Key Notes
REVISE note #421 **TO** "Stucco Ceiling"

9. Drawing Number A3.10, Building 100A Floor Plan
Floor Plan Key Notes
ADD note #665: "Metal Balcony per detail 5, Sheet D4.1"

10. Drawing Number A3.10, Building 100A Floor Plan
ADD "Sketch 23 - Flush Attic Access" for attic access detail

11. Drawing Number A3.11, Building 100A, 100B & 100BX Interior Elevations
DELETE Interior Elevation #7, Bath 3

12. Drawing Number A3.60, Building 100B Floor Plan
Pantry
ADD the following note: "Provide 6 equally spaced shelves at walk-in pantry."

13. Drawing Number A3.60, Building 100B Floor Plan
Floor Key Legend
REVISE note at typical closets, coat closets, and walk-in closets **FROM** "Wire Shelf & Pole" **TO** "MDF with white melamine finish & closet rod at 6'-0" height A.F.F."

14. Drawing Number A3.60, Building 100B Floor Plan
Floor Plan Key Notes
REVISE note #421 **TO** "Stucco Ceiling"

15. Drawing Number A3.60, Building 100AB Floor Plan
Floor Plan Key Notes
ADD note #665: "Metal Balcony per detail 5, Sheet D4.1"

16. Drawing Number A3.100, Building 100BX Floor Plan
Pantry
ADD the following note: "Provide 6 equally spaced shelves at walk-in pantry."

17. Drawing Number A3.100, Building 100BX Floor Plan
Floor Plan Key Notes
REVISE note #421 **TO** "Stucco Ceiling"

18. Drawing Number A3.100, Building 100BX Floor Plan
Floor Plan Key Notes
ADD note #665: "Metal Balcony per detail 5, Sheet D4.1"

19. Drawing Number A3.100, Building 100BX Floor Plan
Floor Key Legend
REVISE note at typical closets, coat closets, and walk-in closets **FROM** "Wire Shelf & Pole" **TO** "MDF with white melamine finish & closet rod at 6'-0" height A.F.F."

20. Drawing Number A6.40, Unit 4 Floor Plan
Floor Key Legend
REVISE note at typical closets, coat closets, and walk-in closets **FROM** "Wire Shelf & Pole" **TO** "MDF with white melamine finish & closet rod at 6'-0" height A.F.F."

21. Drawing Number A6.40, Unit 4 Floor Plan
Floor Plan Key Notes
REVISE note #422 **TO** "Stucco Soffit – Refer to Building Elevation for further information"

22. Drawing Number A6.40, Unit 4 Floor Plan
Floor Plan Key Notes
ADD note #665: "Metal Balcony per detail 5, Sheet D4.1"

23. Drawing Number A6.41, Unit 4.2 Floor Plan
Floor Key Legend
REVISE note at typical closets, coat closets, and walk-in closets **FROM** "Wire Shelf & Pole" **TO** "MDF with white melamine finish & closet rod at 6'-0" height A.F.F."

24. Drawing Number A6.41, Unit 4.2 Floor Plan
Floor Plan Key Notes
REVISE note #422 **TO** "Stucco Soffit – Refer to Building Elevation for further information"

25. Drawing Number A6.41, Unit 4.2 Floor Plan
Floor Plan Key Notes
ADD note #665: "Metal Balcony per detail 5, Sheet D4.1"

26. Drawing Number A6.50, Unit 5 Floor Plan

Floor Key Legend
REVISE note at typical closets, coat closets, and walk-in closets **FROM** "Wire Shelf & Pole" **TO** "MDF with white melamine finish & closet rod at 6'-0" height A.F.F."

27. Drawing Number A6.50, Unit 5 Floor Plan
Floor Plan Key Notes
REVISE note #421 **TO** "Stucco Ceiling"

28. Drawing Number A6.50, Unit 5 Floor Plan
Floor Plan Key Notes
REVISE note #422 **TO** "Stucco Soffit – Refer to Building Elevation for further information"

29. Drawing Number A6.50, Unit 5 Floor Plan
Floor Plan Key Notes
ADD note #665: "Metal Balcony per detail 5, Sheet D4.1"

30. Drawing Number A6.51, Unit 5.2 Floor Plan
Floor Key Legend
REVISE note at typical closets, coat closets, and walk-in closets **FROM** "Wire Shelf & Pole" **TO** "MDF with white melamine finish & closet rod at 6'-0" height A.F.F."

31. Drawing Number A6.51, Unit 5.2 Floor Plan
Floor Plan Key Notes
REVISE note #421 **TO** "Stucco Ceiling"

32. Drawing Number A6.51, Unit 5.2 Floor Plan
Floor Plan Key Notes
ADD note #665: "Metal Balcony per detail 5, Sheet D4.1"

33. Drawing Number A8.00, General Requirements for Construction in a Marine Environment
DELETE all the following notes in their entirety:
Recommended adding to the Project Manual, General Requirements:
General Instructions for Construction in a Marine Environment
Special Inspection of all Metals
Recommend adding at the beginning of each applicable section in the Project Manual
Recommend adding to all Subcontractor Agreements:
General Requirements for Construction in a Marine Environment

34. Drawing Number APD1, Typical Wall Penetrations Through One and Two Hour Wall Assemblies
Detail 1,

ADD the following note:
"1. Resilient pad shall be Hubbard Holdrite Silencer Series material, or equal"

35. Drawing Number D1.1, Architectural Details
Detail 1
DELETE any detail containing fiber cement siding

36. Drawing Number D1.1, Architectural Details
Detail 2
DELETE any detail containing fiber cement siding

37. Drawing Number D5.1, Architectural Details
Detail 14
REVISE note at tub detail **FROM** "Ceramic Tile Set in Mortar Bed" **TO** "Ceramic Tile Set to be Thinset over Cementitious Backer Board."

38. Drawing Number LC-0 – Materials Schedule
Product and Material Schedule, 3.0 Site Amenities, Item Number 3.1
CHANGE Description **FROM** "Bench (with back) six (6) feet long" **TO** "Bench (backless) six (6) feet long."
CHANGE Material/Model **FROM** "Model 8 – contoured bench or equal" **TO** "Homestead Series Model 4-backless bench or equal."

IX DRAWINGS (included and attached herewith)

Item No.

1. **DELETE** all Civil Drawing (Provided by Fuscoe Engineering, Inc.) Sheets 1 – 24, dated 09/30/09
REPLACE with Civil Drawings (Provided by Fuscoe Engineering, Inc.) Civil Sheets 1-25, dated 1/21/10

Civil (Provided by: Fuscoe Engineering Inc.)

1	Title Sheet	1/21/10
2	General Notes	1/21/10
3	Precise Grading Plan	1/21/10
4	Precise Grading Plan	1/21/10
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21	Details	1/21/10
22	Details	1/21/10
23	Details	1/21/10
24	Details	1/21/10
25	Retaining Wall Profiles	1/21/10

Item No.

2. **DELETE** all Water Improvementl Plans (Provided by Penfield & Smith) Sheets 1 – 6, dated 09/29/09
REPLACE with Water Improvement Plans (Provided by Penfield & Smith Sheet 1 – 6, dated 1/15/10

Water Improvement Plans (Provided by: Penfield & Smith)

1	Title Sheet & Sheet Index	1/15/10
2	GWD Symbols, Legend, & Specifications	1/15/10
3	Atlantic Court & Atlantic Drive Plan & Profile, Line "A" & Sta. 10+00 To Sta. 12+00 Line "B"	1/15/10
4	Atlantic Drive Plan & Profile, Sta. 12+00 To Sta. 15+81 Line "B"	1/15/10
5	Water Improvement Details	1/15/10
6	Water Improvement Details	1/15/10

Item No.

3. **DELETE** all Sewer Improvement Plans (Provided by Penfield & Smith) Sheets 1 – 2, dated 09/29/09
REPLACE with Sewer Improvement Plans (Provided by Penfield & Smith, Sheets 1 -3, dated 1/15/10

Sewer Improvement Plans (Provided by: Penfield & Smith)		
1	Title Sheet & Index Map	1/15/10
2	Line "A" and "B" plan and profile	1/15/10
3	Easement Exhibit	1/15/10

X SKETCHES (included and attached herewith)

Item No.

12 Trenching dated 01-22-10

13 Setback to Slope dated 01-22-10

14 Retaining Wall dated 01-22-10

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28 Furnace Mounting Details – Mechanical Details Part Plan, MSK-3 dated 01-22-10

29 Color and Elevation Assignments, 7 pages, dated 1-22-10

END OF ADDENDUM NO. FIVE

SECTION 01560

STORMWATER POLLUTION PREVENTION

PART 1 - GENERAL

1.01 GENERAL

A. Those portions of the following Plan encompassing, and applicable to, the scope of North Campus Faculty Housing Phase I project are incorporated into the Contract Documents for the Project:

1. STORM WATER POLLUTION PREVENTION PLAN
   UNIVERSITY OF CALIFORNIA at SANTA BARBARA
   North Campus Faculty Housing Project
   Date: July 1, 2009
   Prepared By: The Bridge Group

B. The Contractor is responsible for stormwater quality within the Project site (which includes the staging area, material storage, waste management areas, construction areas, on-site parking, site entrances and exits, and anywhere Project construction disturbs soil) and the quality of stormwater leaving the Project site.

C. The Contractor is required to prevent erosion of disturbed areas during construction and ensure pollutants, including sediment, do not leave the Project site, either water-borne, air-borne, on the tires of vehicles, or by spillage from offsite hauling of soils.

D. The Contractor is responsible for properly managing all construction debris, solid and construction waste materials including litter, liquid waste including fluids from vehicles, construction materials, hazardous materials and waste, and sanitary and septic waste.

E. The requirements in this section are intended to be implemented on a year-round basis, not just during the part of year when there is a high probability of a rain event which results in stormwater runoff. The requirements and practices discussed in this Section should be implemented at the appropriate level and in a proactive manner during all seasons while construction is ongoing. These requirements are continuous and not limited to normal working hours.

F. The following terms and their definitions are used throughout this Section.
   1. Best Management Practices (BMPs) – The term BMP is used to describe the controls and activities used to prevent stormwater pollution.
   2. BMP Site Map – An 11"x17" map including, but not limited to, the following: entire construction site, site perimeter, adjacent roadways, all existing and proposed stormdrains on and near the site, site entrances/exits, building footprint, construction trailer, topography including slope, and all current

BMPs.

3. Contaminants or Pollutants – Any substance, material, or waste other than uncontaminated stormwater, including, but not limited to materials such as acids, adhesives, asphalts, concrete compounds, curing compounds, detergents, fertilizers, glues, lime, paints, pesticides and herbicides, petroleum products, plaster, roofing tar, solvents, wood preservatives, soil and any materials that may be detrimental if released to the environment.
4. Contractor – The term "Contractor" refers to the person or firm responsible for performing the work and is identified as such in the Agreement. The Contractor may use subcontractors, and the subcontractors may use sub-subcontractors to perform parts of the work. However, the Agreement is between the University and the Contractor, and the Contractor alone is responsible for completing the Project.
5. Final Stabilization – Final stabilization is achieved when all construction activities are complete, all disturbed soil areas have been properly stabilized, all stormwater regulations have been achieved, and a uniform vegetative cover with 70 percent coverage has been established.
6. General Permit - National Pollutant Discharge Elimination System (NPDES) General Permit For Storm Water Discharges Associated with Construction Activity Water Quality Order 00-08-DWQ, Waste Discharge Requirements Order No. 99-08 DWQ (National Pollution Discharge Elimination System (NPDES) Permit No. CAS000002), Resolution No. 2001-046, Modification of Water Quality Order 99-08, State Water Resources Control Board, and any amendments or revisions of these permits or orders.
7. Hazardous Materials – Materials such as paints, solvents, petroleum products, pesticides, wood preservatives, treated wood, acids, roofing tar, batteries, Fluorescent lights, light ballasts, etc.
8. Maximum Extent Practicable (MEP) – Less-effective treatment or activities may not be substituted when it is practicable to provide more effective treatment or activities.
9. Notice of Intent (NOI) – Document that must be submitted by the NPDES General Permit holder to the State of California to obtain coverage under the General Permit and be permitted to develop property one acre or larger.
10. Notice of Termination (NOT) – Document that must be submitted by the NPDES General Permit holder to the State of California once the Project is complete and has achieved Final Stabilization, which certifies that all State and local requirements have been met in accordance with Special Provisions for Construction Activity, C.7, of the General Permit.
11. Post-Construction BMPs – Permanent features designed to mitigate post project runoff impacts or pollutant discharges, including sediment, from the site after construction has been completed. These features; such as bioswales, rain gardens, roof drains connected to landscaping, permeable pavement, etc.; will be installed and maintained by the Contractor as called for in the plans during the construction of the Project.
12. Project or Project site – All areas including the staging area, material storage, waste management areas, construction areas, on-site parking, site entrances and exits, and anywhere Project construction disturbs soil.

13. Storm drain System - Stormwater conduits, stormdrain inlets and other stormdrain structures, street gutters, channels, watercourses, creeks, the Goleta Slough, the Campus Lagoon, and the Pacific Ocean.
14. Stormwater Pollution Prevention Plan (SWPPP) Sites greater than or equal to one acre – A living document that is site specific and created by the University or its designee that specifies Best Management Practices that will prevent construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters. The SWPPP will be written to comply with all requirements of the State Water Resources Control Board (SWRCB) National Pollution Discharge Elimination System (NPDES) General Permit for Construction Stormwater Discharges (General Permit), and will be modified throughout the life of the Project, as needed, to maintain compliance with the General Permit.

1.02 RELATED SECTIONS

A. Section 01010, "Summary of Work".
B. Section 01150, "Environmental Protection Requirements".
C. Section 01500, "Construction Facilities and Temporary Controls".
D. Section 01565 Hazardous Materials Procedures
E. Section 01710 Cleanup & Disposal
F. Section 02210, "Earthwork".

1.03 GENERAL CONTRACTOR SCOPE

A. Provide all material, labor, and equipment, for installation, implementation, and maintenance of all stormwater quality control measures. This work includes the following:
   1. Complying with applicable standards and regulations per Paragraph 1.04 REGULATIONS AND STANDARDS.
   2. Furnishing, placing, and installing effective measures for preventing erosion and runoff of soil, silts, gravel, hazardous chemicals, all construction materials including wastes, or other materials prohibited by the Central Coast RWQCB from leaving the site and/or entering the stormwater drainage system.
   3. Management of onsite construction materials and waste in such a manner as to prevent said materials and waste from contacting stormwater or wash water and running off site and/or into the stormdrain system.
B. Contractor shall have stormdrain pollution prevention measures in place prior to construction and follow this Specification at all times. It is the responsibility of the Contractor to be prepared for a rain event, and to be aware of weather predictions. The University is not responsible for informing the Contractor of rain predictions.
C. Contractor shall not allow any unauthorized non-stormwater to enter the stormdrain system or leave the construction site. Non-stormwater includes domestic supply water used onsite to wash painting and drywall equipment, tools, equipment, or vehicles.
D. Sanitary sewer discharge regulations are intended to provide protection of the sanitary sewer system and Goleta Sanitary District (GSD) and Goleta West

Sanitary District's (GWSD) wastewater treatment plants. In this Section, "sanitary sewer" shall include any sanitary sewer manhole, clean-out, side sewer or other connection to the GSD and GWSD wastewater treatment plants.

E. The Contractor shall immediately notify the University's Representative if there is a clogged sanitary sewer.

1.04 REGULATIONS AND STANDARDS

A. Contractor shall comply with the following applicable regulations:
   1. Clean Water Act, United States Environmental Protection Agency.
   2. The Porter-Cologne Clean Water Act, State of California.
   3. Central Coast Basin (Region 3) Water Quality Control Plan (Basin Plan).
   4. National Pollutant Discharge Elimination System (NPDES) General Permit For Storm Water Discharges Associated with Construction Activity (General Permit) Water Quality Order 00-08-DWQ, Waste Discharge Requirements Order No. 99-08 DWQ (National Pollution Discharge Elimination System (NPDES) Permit No. CAS000002), Resolution No. 2001-046, Modification of Water Quality Order 99-08, State Water Resources Control Board, and any amendments or revisions of these permits or orders. These orders are referred to as the General Permit.

B. Contractor shall comply with the following standards and guidelines on stormwater pollution prevention:
   1. University of California, Santa Barbara BMP Handbook .http://facilities.ucsb.edu/contracts/bid/view.asp?id=193
   2. California Stormwater Quality Association Handbooks – Construction, Municipal, Industrial and Commercial, and New Development and Redevelopment. These documents can be viewed and downloaded from the UCSB Environmental Health & Safety website, or at http://www.cabmphandbooks.com/.
   3. Caltrans Storm Water Quality Handbooks - This document can be viewed and downloaded from the UCSB Environmental Health & Safety website, or at http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm.

1.05 SUBMITTALS

A. The Contractor shall comply with all State Construction Stormwater Program Requirements identified in the General Permit. and the project Storm Water Pollution Prevention Plan (SWPPP), made available as Information to Bidders.
   1. In this project a SWPPP and NOI has been prepared by the University's designee. In this project, the SWPPP is included in the Bidding documents as Information to Bidders The Contractor is required to implement the site specific SWPPP developed by the University as specified in this section. This may include revisions to the SWPPP during the project as specified below (Item 7). The Contractor is responsible for fulfilling these specifications with regard to posting NOI even if provided by the University.
   2. Individuals responsible for SWPPP implementation, and permit compliance

shall be appropriately trained, and all training and qualifications shall be documented . This includes those personnel responsible for installation, inspection, maintenance, and repair of BMPs. Those responsible for overseeing, revising, and amending the SWPPP shall also document their training. Training should be both formal and informal, occur on an ongoing basis when it is appropriate and convenient, and should include training/workshops offered by the SWRCB, RWQCB, and other locally recognized agencies or professional organizations.

5. .Post a laminated copy of the SWRCB approved NOI in a visible location near the entrances/exits of the site. Include a copy of the NOI in the appropriate section of the SWPPP.

7. The SWPPP shall be revised by the Contractor as necessary to meet the following objectives:
   a. To identify Pollutant sources associated with construction activity that may affect the quality of stormwater discharges.
   b. To identify and prevent non-stormwater discharges.
   c. To identify, construct, and implement stormwater pollution prevention measures (BMPs) to reduce or eliminate pollutants in stormwater discharges from the construction site.
   d. Contractor shall amend the SWPPP whenever there is a change in construction or operations that may affect the discharge of pollutants to surface waters. The SWPPP should also be amended if it is in violation of any condition of these specifications or has not achieved the general objective of reducing pollutants in stormwater. All amendments should be dated, signed, appended to the SWPPP, and a summary sent to the University's Representative. Amendments may include, but are not limited to, the following:
      - Pollutant sources including sources of sediment that may affect the quality of stormwater discharges.
      - Authorized non-stormwater discharges.
      - Change in BMPs used on the Project site.
      - Schedule of activities that may affect the quality of stormwater discharges.
      - Maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants.
      - Contractor's stormwater personnel contact information.
      - Contractor's stormwater personnel training information.
   e. The SWPPP includes a BMP Site Map that illustrates pollution sources for construction activities and the methods that will be used for erosion and sediment control, hazardous materials management, and any other construction activities that are sources of stormwater pollution. The BMP Site Map is a map typically 11"x17" including, but not limited to, the following: entire construction site, site perimeter, adjacent roadways, all existing and proposed stormdrains on and near the site, site entrances/exits, building footprint, construction trailer, topography

including slope, all current BMPs, NOI, and the location of the Stormwater Pollution Prevention Plan (SWPPP).Refer to the UCSB BMP Handbook for a list of UCSB recommended BMPs. Refer to 3.02 IMPLEMENTATION for a list of the minimum BMPs that are required to be installed and maintained throughout the life of the Project.

f. The Contractor is required to retain records of all monitoring information, copies of all reports required by the General Permit, and records of all data used to complete the NOI for all construction activities to be covered by the General Permit. Submit all said documents and the complete SWPPP to the University's Representative once the Project has achieved Final Stabilization and the SWRCB has approved the NOT.

7. Throughout the construction period, a qualified person appointed by the Contractor is required to conduct and document inspections and evaluations as detailed in the SWPPP, including: weekly site inspections, pre-rain event inspections within 24 hours prior to a rain event, post-rain event inspections within 24 hours after a rain event, every 24 hours during an extended rain event (lasting longer than one day), and maintenance inspections.
   a. Report the results of the inspections in writing using the UCSB Construction Stormwater Inspection Form and place a copy of the report in the SWPPP. Each report must be accepted by the University's Representative. If corrective actions are identified as required in the report, once these actions have been completed by the Contractor the completed action items need to be accepted by the University's Representative. Every weekly inspection will be performed on the same day or close to the same day of the week. Submit all completed inspection sheets and SWPPP amendments from the previous week, to the University's Representative on the first day of each week. The name(s) and contact number(s) of the assigned inspection personnel provided by the University shall be listed in the SWPPP.
   b. Major observations to be made during inspections include the locations of discharges of sediment or other pollutants from the site, evaluating whether measures to reduce pollutant loadings identified in the SWPPP are adequate and properly installed and functioning in accordance with the terms of the General Permit, and whether additional control practices or corrective maintenance activities are needed.
   c. Authorized representatives of the SWRCB and the RWQCB and the University's Representative shall be allowed to enter the Project site as needed to conduct onsite inspections throughout the life of the Project.
8. The Contractor is required to certify annually that the construction activities are in compliance with the requirements of the General Permit. Complete the annual certification form and submit for review to the University's Representative 14 days prior to the deadline. After review and approval, the Contractor shall submit the annual certification form to the SWRCB before the deadline. Include a copy of the annual certification in the SWPPP.

9. When construction is complete, the Project site has achieved Final Stabilization, all construction materials and waste have been disposed of properly, the Project site is in compliance with all stormwater regulations, and the Project is deemed complete by the University's Representative, submit the completed Notice of Termination (NOT) form to the University's Representative for review and approval. Once the NOT is approved and signed by the University's Representative, the Contractor shall submit the NOT to the SWRCB. Include a copy of the State approved NOT in the SWPPP.
10. When construction is complete, the Project site has achieved Final Stabilization, all construction materials and waste have been disposed of properly, the site is in compliance with all stormwater regulations, and the Project is deemed complete by the University's Representative, submit the completed SWPPP with all necessary documents including but not limited to inspections, annual certifications, SWPPP amendments, training certificates, schedules, qualifications, BMP Site Maps, NOI, and NOT to the University's Representative.
11. The Contractor shall bear all costs associated with the updating of the SWPPP, and installation of all SWPPP measures, and the maintenance of said control measures as outlined in the SWPPP.

1.06 Environmental Enforcement

The SWRCB and the RWQCB have the authority to enforce, through codified regulations, any portions of this Section that if not implemented may violate applicable regulations. Agency enforcement may include but is not limited to: citations, orders to abate, bills for cleanup costs and administration, civil suits, and/or criminal charges. Regulating agencies will cite UCSB for all violations of the approved SWPPP which will be the Contractor's responsibility to correct, pay any fines issued, and remedy all violations as needed. The University's Representative may stop all construction activities as deemed necessary until such violations are remedied.

PART 2 - PRODUCTS

2.01 GENERAL

A. Provide products and materials as indicated in the SWPPP, including Activity and Best Management Practice sheets and Drawings.
B. Where product or material requirements are not specified in the SWPPP, comply with other applicable sections of the Specifications and obtain approval of the University's Representative.

PART 3 - EXECUTION

3.01 GENERAL

A. The Contractor will implement the SWPPP as specified herein and include a BMP Site Map and written description of pollution prevention methods. The intent of this requirement is to ensure Contractor compliance with applicable regulations for the discharge of stormwater from the Project. The Contractor will choose the best available performance-based technology and methods to

prevent stormwater pollution from construction activities to the Maximum Extent Practicable (MEP). The method(s) chosen shall be appropriate for each specific site condition.

B. The Contractor will implement the SWPPP as reviewed and approved by the University's Representative. Construction activities including clearing and grading will not begin until the SWPPP has been implemented.

C. The University's Representative and the Contractor will meet to discuss and agree upon implementation of the SWPPP.

D. The Contractor is required to maintain a standby crew for emergency work at all times during the rainy season, October 1 through May 1. Necessary materials shall be available on the Project site and stockpiled at convenient locations to facilitate rapid construction of temporary devices or to repair any damaged stormwater quality control measures when rain is imminent.

3.02 IMPLEMENTATION

A. Stormwater Quality Control Measures

Comply with all requirements and stormwater quality control measures of the SWPPP including, but not limited to, the following approved BMPs referenced in the UCSB BMP Handbook. This list is not all inclusive and the Contractor should refer to the resources listed in Paragraph 1.04 REGULATIONS AND STANDARDS of this Section for additional information. The Contractor will consult the University's Representative before implementing a BMP that is not included in the UCSB BMP Handbook. The Contractor is required to, at a minimum, implement the following applicable BMPs. The Contractor is required to include BMP specification sheets for all BMPs that are not currently listed in the UCSB BMP Handbook.

1. Best Management Practices

a. Erosion Control (EC)

Provide a description of erosion control measures, including a time schedule, to be implemented during construction to minimize erosion on disturbed areas of the Project site, and identify the controls on the BMP Site Map. Areas requiring erosion control measures are exposed soil, such as soil piles, bare soil, sloped soil, and any area of disturbed soil. All inactive soil disturbed areas on the Project site and some active areas that are not experiencing high traffic, including relatively flat areas, must be protected from erosion. Both erosion and sediment control practices are designed to be implemented as an integrated system of pollution control. Without erosion controls, sediment controls are easily overwhelmed and will not prevent pollution. Preserve existing vegetation where feasible, limit disturbance of existing vegetation, and stabilize and revegetate disturbed areas as soon as possible after grading or construction. Stabilize exposed soil to the Maximum Extent Practicable (MEP) throughout the duration of the Project.

1. The Contractor is required to implement the following applicable BMPs, or equivalent BMPs with the approval of the University's Representative:

EC – 1 Scheduling of Activities

EC – 2 Preserving Existing Vegetation

EC – 3 Temporary Soil Stabilization: Erosion Control Blanket

b. Temporary Sediment Control (TSC)

Provide a description of temporary sediment control measures that will be used on the Project site, and identify the controls on the BMP Site Map. Temporary sediment control measures generally involve intercepting sediment laden runoff, slow the flow of stormwater, and cause suspended sediment particles to drop out of suspension to ensure contaminants do not leave the Project site and enter the waters of the United States. An example of temporary sediment control measures include stormdrain inlet protection and site perimeter controls. Do not use sand bags near the Project site perimeter or near stormdrain inlets. Install sediment control BMPs at appropriate locations along the site perimeter and at all operational inlets to the stormdrain system. All new and existing roadways, curbs, and gutters must be protected from sediment-laden runoff, are considered as perimeters of the site, and will need perimeter controls installed. Sediment control BMPs should be installed and maintained according to specifications. Ensure that adequate erosion control, sediment control, and soil stabilization BMPs are available onsite throughout the life of the Project.

1. The Contractor is required to implement, at a minimum, at least one of the following applicable perimeter control BMPs, or equivalent BMPs with the approval of the University's Representative:

   TSC – 1 Cut Back Curb (Perimeter Control)

   TSC – 2 Fiber Roll (Perimeter Control)

   TSC – 3 Gravel Bag Berm (Perimeter Control)

2. The Contractor is required to implement the following applicable BMPs, or equivalent BMPs with the approval of the University's Representative:

   TSC – 4 Stormdrain Inlet Protection (Secondary Control)

   TSC – 5 Slope BMP: Fiber Roll or Gravel Bag

c. Tracking Control (TC)

All new and existing roadways, curbs, and gutters must be protected from sediment-laden runoff, are considered as perimeters of the site, and will need to be swept and vacuumed daily to ensure sediment and pollutants from construction activities are not leaving the site and potentially entering the stormdrain system. Identify and clearly mark one or two locations where vehicles will enter and exit the construction site and focus stabilizing measures at these locations. Install and maintain a stabilized entrance at all Project site entrances and exits to prevent tracking of mud and sediment off site. Vacuum and sweep sidewalks, roadways, site entrance/exit, curb, and gutter daily. Do not use kick brooms or sweeper attachments. Dispose of sweeper waste at an approved disposal facility. If construction parking is permitted on the Project site, then the area needs to be properly maintained and free of tracking and trash.

1. The Contractor is required to implement the following applicable

BMPs, or equivalent BMPs with the approval of the University's Representative:

TC – 1 Stabilized Construction Entrance: Rumble Strips

TC – 2 Sweeping and Vacuuming

d. Wind Erosion Control (WEC)

Contractor shall use best available dust suppression equipment and methods to control dust so that the dust does not cause discomfort or nuisance to occupants of the Project site neighboring property. Contractor shall control dust suppression water so that it is effective in controlling dust, but does not leave the Project site or enter the stormdrain system.

1. The Contractor is required to implement the following applicable BMP, or equivalent BMPs with the approval of the University's Representative:

   WEC – 1 Dust Control

e. Non-Stormwater Management (NSM)

Non-stormwater discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Eliminate all unauthorized non-stormwater discharges to the Maximum Extent Practicable. Assign a qualified person the responsibility for ensuring that no materials other than stormwater, free of all contaminants, are discharged. Include the name, contact information, and qualifications of said person in the SWPPP.

All workers on the Project site must be adequately trained on non-stormwater management procedures and be in compliance with procedures such as the following at all times:

- Washing in designated, contained areas only.
- Eliminating discharges to the stormdrain system by infiltrating the wash water on site.
- All washing activities must be approved by the University's Representative if there is a potential to discharge to the stormdrain system or for discharge to leave the Project site.
- Do not wash paved areas.
- Route water line flushing and water from water line repair to landscaped areas.
- Avoid dewatering discharges by using water for dust control or allow to infiltrate onsite.
- Unauthorized non-stormwater cannot be discharged without obtaining a permit from the Central Coast RWQCB.
- Send vehicles/equipment offsite to be cleaned, fuelled, and repaired as much as possible. If it cannot be avoided, the Contractor is required to follow the practices described in NSM-3 Vehicle and Equipment Practices.
- Inspect the site regularly for evidence of illicit connections, illegal dumping, or discharges.

- Discharges of stormwater and non-stormwater exposed to concrete during curing and finishing may have a high pH and may contain chemicals, metals, and fines. Properly maintain all chemicals and wastes related to concrete curing and finishing as outlined in NSM-5 Concrete Curing and NSM-6 Concrete Finishing.
- Prevent the discharge of pollutants from paving operations by following the practices described in NSM-7 Paving and Grinding Operations.
- Minimize use of hazardous materials onsite. Store and dispose of all materials properly. Do not allow hazardous materials to come in contact with stormwater which could run off site and pollute the stormdrain system.

1. The Contractor is required to implement the following applicable BMPs, or equivalent BMPs with the approval of the University's Representative:

   NSM – 1 Water Conservation
   NSM – 2 Dewatering Operations
   NSM – 3 Vehicle and Equipment Practices
   NSM – 4 Illicit Connection/Illegal Discharge Detection
   NSM – 5 Concrete Curing
   NSM – 6 Concrete Finishing
   NSM – 7 Paving and Grinding
   NSM – 8 Potable Water/Irrigation
   NSM – 9 Material Use

f. Waste Management (WM)

The Contractor is required to prevent the discharge of pollutants to stormwater from solid or liquid wastes that will be generated at the Project site. Dumpsters or disposal containers of sufficient size, number, complete with no holes or damage where waste could leak out, are watertight, and have proper covering will be provided and properly maintained by the Contractor. Littering on the Project site is prohibited. If necessary, the Contractor may provide and maintain trash receptacles at locations where workers congregate for lunch and breaks, as long as the trash receptacles have no holes or breaks where waste could leak out, are watertight, are properly covered, and are properly maintained. Construction debris and litter from work areas within the construction limits of the Project site shall be collected and placed in watertight dumpster at the end of every work day. Provide convenient, well-maintained, and properly located toilet facilities. All workers on the Project site must be adequately trained on proper material use, storage, and waste disposal. The Contractor is required to implement a comprehensive set of waste-management practices for hazardous or toxic materials including storage, handling, inventory, and clean-up procedures.

All workers on the Project site must be adequately trained on waster management procedures and be in compliance with procedures such as

the following at all times:

- Temporary material storage should be covered, have secondary containment, and be located away from vehicular traffic, the Project perimeter, and stormdrains.
- The Contractor shall provide and properly maintain an adequate number of watertight, crack free, covered containers for all trash and waste related to the construction Project. Collect construction trash daily throughout the Project and from around the perimeter of the site.
- Store dry and wet concrete materials under cover, in secondary containment, away from drainage areas and the Project perimeter. Concrete washout is only permitted in a designated and properly maintained concrete washout bin. Concrete is not allowed to be dumped or spilled anywhere onsite except in the concrete washout bin.
- Temporary sanitary facilities should be located away from watercourses, stormdrain inlets, the Project site perimeter, and traffic circulation. If there is a risk of tipping over or being blown over, the temporary sanitary facility should be secured by stakes or ties to prevent overturning. Wastewater should never be discharged or buried within or anywhere around the Project site.
- Locate stockpiles on a permeable surface a minimum of 50 feet away from concentrated flows of stormwater, stormdrain inlets, and the Project site perimeter. Do not place stockpiles on an impermeable surface. Completely cover all stockpiles with a tarp or some type of cover; anchor the cover to ensure the stockpile is completely covered at all times.
- Spills of oil, petroleum products, substances listed under 40 CFR Parts 11, 117, and 302, and sanitary wastes should be contained and cleaned up immediately. Practice spill prevention procedures at all times including proper material handling and storage. Provide stockpiles of cleanup materials at key locations throughout the Project site.

1. The Contractor is required to implement the following applicable BMPs, or equivalent BMPs with the approval of the University's Representative:

   WM – 1 Material Delivery and Storage
   WM – 2 Trash Containment
   WM – 3 Temporary Concrete Washout and Waste Management
   WM – 4 Sanitary Waste Management
   WM – 5 Stockpile Management
   WM – 6 Spill Prevention and Control
   WM – 7 Hazardous Waste Management
   WM – 8 Contaminated Soil Management

B. Monitoring and Maintenance

Throughout the life of the Project and especially during the rainy season, all

protective devices shall be in place at the end of each working day including those protective devices removed during the day's activities. Please note: no protective devices shall be removed during a rain event.

1. Do not move or modify stormwater quality control devices without the approval of the University's Representative.
2. All removable protective devices indicated on the SWPPP shall be in place at the end of each day and especially any time rain is predicted in the Santa Barbara area.
3. After a rain event, manage and repair all stormwater quality control devices to ensure they are in good working condition. Equipment, materials, and workers must be available for rapid response to failures and emergencies. All corrective maintenance to BMPs shall be performed as soon as possible, depending upon worker safety.

C. Water Main and Sanitary Sewer Line Break Contingency Plan

If working on or near a water main line or sanitary sewer line, the Contractor shall have a written emergency response plan that states procedures for responding to a break and release of supply water or waste water to the stormdrain system. The Contractor shall meet the following requirements:

1. Water Main Work
   a. Determine the direction of water flow if the main were to break.
   b. Divert water from entering the storm drain system and contain when possible.
   c. If there is a water main break, pump the water that is collected or diverted to a sanitary sewer, based on the approval of the University Representative.
   d. Put in place, before digging, sediment control structures upstream of drain inlets and at drain inlets.
   e. If a break occurs contact the University's Representative or inspector of record immediately. Include in the Plan the phone number of the University's Representative.
2. Sanitary Sewer Line Work
   a. Determine where the sewage will flow if the work could cause a blockage.
   b. Contain any sewage spill from entering the storm drain system.
   c. If a sewage blockage occurs, pump it to a sanitary sewer, and do not allow it to flow into the stormdrain system.
   d. If a sewage blockage or spill occurs contact the University's Representative or inspector of record immediately. Include in the Plan the phone number of the University's Representative contact.
3. Excavation Work

   This Paragraph applies to Contractors that excavate in the vicinity of sanitary sewer lines and cause or discover a sewage spill, leak or blockage.

   a. Immediately notify the University's Representative. Include in the Plan the phone number of the University's Representative.

D. Good Housekeeping Practices

The Contractor shall implement the following applicable good housekeeping practices:

1. Store materials that have the potential to be transported to the stormdrain system by stormwater runoff or spillage away from areas of heavy traffic and under cover in a contained area or in sealed waterproof containers.
2. Use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution.
3. Secure opened bags of powdered materials (if any) that could contribute to stormwater pollution and visible dust emissions.
4. Pick up litter, construction debris, and other waste generated by Project activities daily from the Project site and adjacent areas, including the sidewalk area, gutter, street pavement, and stormdrains impacted by the Project. All wastes shall be stored in watertight covered containers, disposed of, or recycled immediately.
5. Clean sidewalks, driveways, or other paved areas within and around the construction site to eliminate or prevent mud-tracking conditions. Dispose of sweepings in a place that will not pollute the stormdrain system. If wash-water is used in the interior of the site ensure it does not leave the site perimeter or enter a stormdrain inlet. The discharge of wash-water to the stormdrain system is prohibited.
6. Inspect vehicles and equipment arriving on-site for leaking fluids, and promptly repair leaking vehicles and equipment. Use drip pans to catch leaks until repairs are made.
7. Avoid spills by handling materials carefully. Keep a stockpile of appropriate spill clean-up materials, such as rags or absorbent materials, readily accessible on site. Clean up all spills of materials brought on site for Project activities.
8. Train employees regularly on good housekeeping practices and procedures. Assign responsibility to specific employees for inspecting good housekeeping and responding to spills.

F. Personnel Training

1. The Contractor shall train its employees working on the site on the requirements contained in this Section. Training should be both formal and informal, occur on an ongoing basis when it is appropriate and convenient, and should include training/workshops offered by the SWRCB, RWQCB, and other locally recognized agencies or professional organizations.
2. The Contractor shall document this training in writing. The University's Representative for the site will request to see the training materials and records at the onset of work. All training records will be appended to the SWPPP.
3. The Contractor shall inform all subcontractors (if any) of the water pollution prevention requirements contained in this specification and include appropriate subcontract provisions to ensure that these requirements are met.

3.03 Final Stabilization

A. All disturbed areas of the construction site must be stabilized before the Project is deemed complete. Final Stabilization for the purposes of submitting a NOT is satisfied when all disturbing soil activities are completed, all construction materials and waste have been disposed of properly, the site is in compliance with all stormwater regulations, and a uniform vegetative cover with 70 percent coverage has been established.

D. When construction is complete, the Project site has achieved Final Stabilization, all construction materials and waste have been disposed of properly, the site is in compliance with all stormwater regulations, and the Project is deemed complete by the University's Representative, if the stormwater protections are no longer required and upon obtaining approval from the University's Representative and the University's Representative, remove the protections and restore the site or structure to the required condition.

END OF SECTION 01560

SECTION 01852

LEED REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes general requirements and procedures for compliance with certain United States Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) prerequisites and credits needed for the Project to obtain LEED Silver certification based on the LEED for Homes Residential Green Building Rating System, Version 2008.

1.2 DEFINITIONS

A. LEED: Leadership in Energy & Environmental Design for Homes

B. Regional Materials: Materials that have been extracted, processed, and manufactured within 500 miles of Project site.

C. Recycled Content Materials: Materials that include at least 25% postconsumer or 50% preconsumer (postindustrial) recycled content.
1. "Post-consumer" material is defined as waste material generated by households or by commercial, industrial, and institutional facilities in their role as end users of the product, which can no longer be used for its intended purpose.
2. "Pre-consumer" material is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it.
3. In the case of cabinets, counters and trim, recycled content materials must also contain no added urea formaldehyde resins.

D. Reclaimed Content Materials: Materials that have been recovered from a demolition site. Includes post-consumer materials only and not materials left over from construction activities.

E. Framing Order Waste Factor: The percentage of framing material purchased for a project that is planned to be waste (i.e., the percentage of framing material ordered in excess of the estimated material needed for construction. This number can be calculated based on total material [board feet of wood] or total cost.

1.3 SUBMITTALS

A. Construction Materials Cost Data: The Contractor shall provide a Construction Materials Cost Data Report summarizing the total cost of all construction materials used for Project. Costs exclude labor, overhead, and profit. Include breakout of material costs by Specifications Division.

B Erosion and Sedimentation Control Plan: The contractor shall provide an Erosion and Sedimentation Control Plan detailing implementation of the following measures at the site:
1. Stockpile and protect disturbed topsoil from erosion (for reuse).
2. Control the path and velocity of runoff with silt fencing or comparable measures.
3. Protect on-site storm sewer inlets, streams, and lakes with straw bales, silt fencing, silt stacks, rock filters or comparable measures.
4. Provide swales to divert surface water from hillsides.

5. If soils in a sloped area (i.e., 25%, or 4:1 slope) are disturbed during construction, use tiers, erosion blankets, compost blankets, filter stocks and berms, or comparable approach to keep soil stabilized.

C. Framing Waste Reduction Calculations: The contractor shall provide an estimate of the total amount of framing lumber needed (by board feet or cost), taking into account the home design and any advanced framing measures being incorporated.

D. LEED Environmentally Preferable Products Action Plans: Provide preliminary submittals within 30 days of date established for the notice to proceed indicating how the following requirements will be met:
1. Credit MR 2.1: Notice to be submitted to all wood suppliers containing the following elements:
   a. Statement that the builder's preference is to purchase products containing tropical wood only if it is FSC-certified.
   b. A request for the country of manufacture of each product supplied.
   c. A request for a list of FSC-certified tropical wood products the vendor can supply.
2. Credit MR 2.2: List of proposed materials with recycled content. Indicate each material's cost, post-consumer recycled content, and pre-consumer recycled content.
3. Credit MR 2.2: List of proposed regional materials. Identify each regional material, including its source, cost, and the fraction by weight that is considered regional.
4. Credit MR 2.2: List of proposed reclaimed content materials. Identify each reclaimed content material, including its source, cost, and fraction by weight that is considered reclaimed.

E. LEED Documentation: Make available the following documentation:
1. Credit MR 2.2: Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content. Include statement indicating costs for each product having recycled content.
2. Credit MR 2.2: Product data for regional materials indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.
   a. Include statement indicating distance from manufacturer to Project for each regionally manufactured material.
   b. Include statement indicating location of and distance from Project to point of extraction, harvest, or recovery for each raw material used in regionally extracted and manufactured materials.
3. Credit MR 2.2: Product data indicating location of material recovery for reclaimed materials. Include statement indicating cost for each reclaimed material.
   a. Include statement indicating distance from reclamation site to Project for each reclaimed material.
4. Credit MR 2.2: Product data for adhesives and sealants used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D.
5. Credit MR 2.2: Product data for paints and coatings used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D.
6. Credit MR 2.2: Product data for carpet and floor systems inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D.
7. Credit MR 2.2: Product data for all insulation used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D.

8. Credit MR 2.2: Product data for products containing composite wood or agrifiber products or wood glues indicating that they do not contain urea-formaldehyde resin.
9. Credit MR 3.2:
   a. Construction Waste Monthly Reports including total volume hauled and total weight hauled by each waste hauler (SEE SECTION 01505 – CONSTRUCTION WASTE MANAGEMENT).
   b. Construction Waste Final Report at the end of construction including the haul tickets for each waste removal from the site and the Contractor's cost of disposing of all construction waste materials (SEE SECTION 01505 – CONSTRUCTION WASTE MANAGEMENT).
10. Credit EQ 8.1:
   a. Construction indoor-air-quality management plan including provision for sealing all permanent ducts and vents upon installation to minimize contamination during construction. Remove any seals after all phases of construction are complete.
   b. Product data for temporary filtration media.
   c. Product data for filtration media used during occupancy.
   d. Construction Documentation: Six photographs at three different times during the construction period, along with a brief description of the indoor air quality approach employed, documenting implementation of the indoor-air-quality management measures, such as protection of ducts and on-site stored or installed absorptive materials.
11. Credit EQ 8.3:
   a. Signed statement describing the building air flush-out procedures including the dates when flush-out was begun and completed and statement that filtration media was replaced or cleaned as necessary after flush-out.
   b. Product data for filtration media used during flush-out and during occupancy.

F. Product manufacturers' manuals for all installed equipment, fixtures and appliances.

F. LEED Progress Reports: Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with LEED action plans.

PART 2 PRODUCTS

2.1 LOW-EMITTING MATERIALS

A. Credit MR 2.2: For field applications that are inside the weatherproofing system, use adhesives and sealants that meet South Coast Air Quality Management District Rule #1168 and do not exceed the following VOC limits when calculated according to 40 CFR 59, Subpart D:
1. Indoor Carpet Adhesives: 50 g/L.
2. Carpet Pad Adhesives: 50 g/L.
3. Wood Flooring Adhesives: 100 g/L.
4. Rubber Floor Adhesives: 60 g/L.
5. Subfloor Adhesives: 50 g/L.
6. VCT and Asphalt Adhesives: 50 g/L.
7. Drywall and Panel Adhesives: 50 g/L.
8. Cove Base Adhesives: 50 g/L.
9. Multipurpose Construction Adhesives: 70 g/L.
10. Structural Glazing Adhesives: 100 g/L.
11. PVC Welding: 510 g/L.
12. CPVC Welding: 490 g/L.
13. ABS Welding: 325 g/L.
14. Plastic Cement Welding: 250 g/L.

15. Adhesive Primer for Plastic: 550 g/L.
16. Contact Adhesive: 80 g/L.
17. Special Purpose Contact Adhesive (contact adhesive that is used to bond melamine covered board, metal, unsupported vinyl, Teflon, ultra-high molecular weight polyethylene, rubber or wood veneer 1/16 inch or less in thickness to any surface): 250 g/L.
18. Structural Wood Member Adhesive: 140 g/L.
19. Sheet-Applied Rubber Lining operations: 850 g/L.
20. Top and Trim Adhesive: 250 g/L.
21. Metal to Metal Applications: 30 g/L.
22. Plastic Foams: 50 g/L.
23. Porous Materials (Except Wood): 50 g/L.
24. Fiberglass: 80 g/L.
25. Architectural Sealants: 250 g/L.
26. Non-Membrane Roof Sealants: 300 g/L.
27. Roadway Sealants: 250 g/L.
28. Single-Ply Roof Membrane Sealants: 450 g/L.
29. Other Sealants: 420 g/L.
30. Architectural Nonporous Sealant Primers: 250 g/L.
31. Architectural Porous Sealant Primers: 775 g/L.
32. Other Sealant Primers: 750 g/L.

B. Credit MR 2.2: For field applications that include interior walls and ceilings, use architectural paints, coatings and primers that meet Green Seal Standard GS-11 (Paints), 1st Edition, and do not exceed the following VOC limits when calculated according to 40 CFR 59, Subpart D:
1. Flats: 50 g/L
2. Nonflats: 150 g/L.

C. Credit MR 2.2: For field applications that include interior ferrous metal substrates, use anticorrosive or antirust paints that meet Green Seal Standard GC-03 (Anti-Corrosive Paints), 2nd Edition, and do not exceed the following VOC limits when calculated according to 40 CFR 59, Subpart D: 250 g/L

D. Credit MR 2.2: For field applications that are inside the weatherproofing system, use coatings that meet South Coast Air Quality Management District Rule 1113 (Architectural Coatings), and do not exceed the following VOC limits when calculated according to 40 CFR 59, Subpart D:
1. Clear Wood Finishes, Varnishes: 350 g/L.
2. Clear Wood Finishes, Lacquers: 550 g/L.
3. Floor Coatings: 100 g/L.
4. Shellacs, Clear: 730 g/L.
5. Shellacs, Pigmented: 550 g/L.
6. Stains: 250 g/L.
7. Waterproofing Sealers: 250 g/L.
8. Sanding Sealers: 275 g/L.
9. All other Sealers: 200 g/L.
10. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
11. Restricted Components: Paints and coatings shall not contain acrolein, acrylonitrile, antimony, benzene, butyl benzyl phthalate, cadmium, di (2-ethylhexyl) phthalate, di-n-butyl phthalate, di-n-octyl phthalate, 1,2-dichlorobenzene, diethyl phthalate, diethyl phthalate, dimethyl phthalate, ethylbenzene, formaldehyde, hexavalent chromium, isophorone, lead, mercury, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride, naphthalene, toluene (methylbenzene), 1,1,1-trichloroethane, or vinyl chloride.

E. Credit MR 2.2: Do not use composite wood or agrifiber products or adhesives that contain urea-formaldehyde resin.

PART 3 EXECUTION

3.1 FRAMING WASTE MANAGEMENT

A. The Contractor shall limit the overall pre-construction estimated framing waste factor to 10% or less.

3.2 DURABILITY MANAGEMENT

A. The Contractor shall perform the following with respect to durability:
1. Prior to construction, complete the Durability Risk Evaluation Form (Attachment 1) including the identification of all low, moderate, and high-risk durability issues for the building enclosure and site. Submit a Durability Management Plan which identifies specific strategies to respond to those issues. Complete the Durability Inspection Checklist Template (Attachment 1b) listing the strategies incorporated into the project to meet the medium and high risks identified on the Evaluation Form.
2. During construction, verify installation of the durability strategies identified in the Durability Inspection Checklist Template (Attachment 1b).

B. The Contractor shall incorporate the following moisture control measures as part of the Durability Management Plan:
1. Tubs and showers: Use nonpaper-faced backerboard on walls.
2. Kitchens, bathrooms and laundry rooms: Use water-resistant flooring; do not install carpet.
3. Entryways (within 3 feet of exterior door): Use water-resistant flooring; do not install carpet.
4. Tank water heaters in or over living spaces: Install drain and drain pan.
5. Clothes washer in or over living space: Install drain and drain pan, or install accessible single-throw supply valve.
6. Conventional clothes dryers: Exhaust directly to outdoors.

3.3 CONSTRUCTION WASTE MANAGEMENT

A. The Contractor shall divert from the landfill a minimum of 75% (by weight) of the total construction waste – less hazardous materials and demolition or land-clearing debris – generated during construction of the project.

3.4 INDOOR-AIR-QUALITY MANAGEMENT

A. Credit EQ 8.1: Upon installation, Contractor shall seal all permanent ducts and vents to minimize contamination during construction. Remove any seals after all phases of construction are complete.

B. Credit EQ 8.3: Prior to occupancy but after all phases of construction are complete, perform a building flush-out according to the following guidelines:
1. Flush the entire home, keeping all interior doors open.
2. Flush for 48 total hours; the hours may be nonconsecutive, if necessary.
3. Keep all windows open and run a fan continuously or flush the home with all HVAC fans and exhaust fans operating continuously at the highest flow rate.
4. Use additional fans to circulate air within the home.
5. Replace or clean HVAC air filter after flush-out, if necessary.

3.5 ENERGY STAR FOR HOMES PERFORMANCE

A. Credit EA 1: All units must adhere to the EPA ENERGY STAR Thermal Bypass Checklist/CEC Quality Insulation Installation merged protocols (Attachment 2) and pass a Quality Insulation Installation verification and Thermal Bypass verification to be administered by a certified third party HERS Rater.

B. Credit EAc1: Ductwork leakage must adhere to the requirements in the Guidelines for California ENERGY STAR Qualified Homes guidelines requirements (Attachment 2b).

END OF SECTION

ATTACHMENT 1

LEED for Homes
Durability Evaluation Form
(for prerequisite ID 2.1)

Builder Name:	
Project Team Leader:	
Home Address (Street/City/State):	***Faculty Housing, Goleta, California***

Home

Building type:	Floor Area:	Structure type:
Project type:	# of Bedrooms:	Exterior roofing:
Number of stories:	Number of full bathrooms:	Garage:

Site

EPA Radon Zone: ***2***

Terrain / topography:

Predominant landscaping:

Common regional pests:

Other significant features:

Additional comments:

Type of soil:

Depth of soil to bedrock:

Depth of ground water below structure:

Proximity to bodies of water?

Above FEMA 100-year floodplain?

Climate

IECC 2004 Climate Zone: ***3***

Heating degree days (HDD):

Cooling degree days (CDD):

Annual rainfall (inches/yr):

Annual maximum wind speed (mph):

Avg annual solar radiation (kWh/m^2/day):

Natural disaster risks:

- ☐ hurricanes
- ☐ tornados
- ☐ earthquakes
- ☐ floods
- ☐ wildfires
- ☐ blizzards

Issues

Issue Type	Risk Level	Issue Type	Risk Level
Exterior water:	***medium***	Pests:	
Interior moisture:		Heat loss:	
Air infiltration:		Ultraviolet radiation:	
Interstitial condensation:		Other: _____	

ATTACHMENT 1b

Durability Inspection Checklist Template

(for prerequisite ID 2.1 & 2.2 and credit ID 2.3)

Builder Name:	
Project Team Leader:	
Home Address:	***Faculty Housing, Goleta, California***

For each risk type below, list the durability strategies used in the home to help mitigate those risks. For each of the high and moderate risk areas indicated in the Risk Evaluation Form, please include at least three strategies. Where necessary, add additional rows. Refer to the Example Durability Strategies page for sample strategies that may be applicable.

Have the builder or trade indicate where the strategy is included in the drawings, specification, or scopes of work, and then sign-off that the durability strategies were incorporated into the home. If ID 2.3 is being pursued, have the Green Rater sign-off that the strategies were verified in the home.

Durability Strategies by Issue Type	Location in Drawings, Specifications, and/or Scopes of Work	Sign-off by Responsible Party (Initial below)	
		Prerequisite ID 2.2 (Builder/Trade)	Credit ID 2.3 (Green Rater)
Exterior Water / Moisture			
Interior Water / Moisture			
Air Infiltration			
Interstitial Condensation			
Pests			
Heat Loss			

ATTACHMENT 1b

Durability Inspection Checklist Template

(for prerequisite ID 2.1 & 2.2 and credit ID 2.3)

Builder Name:	
Project Team Leader:	
Home Address:	***Faculty Housing, Goleta, California***

Ultraviolet Radiation			
Natural Disasters			
Other			

Builder Declaration for ID prerequisite 2.1 & 2.2

I hereby declare and affirm to USGBC that I have evaluated this project's durability risks, completed the Durability Risk Evaluation Form, and incorporated appropriate durability measures into the design to adequately address the moderate and high risks. The construction drawings and specifications have been updated accordingly, and the the measures were verified to be completed appropriately.

Name: _____

Title: _____

Signature: _____

Date: _____

CALIFORNIA ENERGY STAR HOMES PROGRAM

High Quality Insulation Installation and Thermal Bypass Checklist Procedures

1 Purpose and Scope

The High Quality Insulation Installation and Thermal Bypass Checklist Procedure is a procedure for verifying the quality of insulation and thermal barrier installation in low-rise residential buildings that is required for participation in the *California Energy Star Homes* program. This procedure is to be followed by the insulation installer and a qualified HERS rater. Compliance with this procedure on the part of the insulation installer and HERS rater also fulfills the requirements for *Building Energy Efficiency Standards* (*Standards*) compliance credit specified in the *Residential Alternative Calculation Method Approval Manual*, Appendix RH, and earns credit towards meeting the California Energy Star Homes participation criteria for energy savings 15% beyond the *Standards*, as calculated using California Energy Commission approved compliance software.

2 Terminology

Air Barrier — An air barrier is needed in all thermal envelope assemblies to prevent air movement. Insulation, other than foam, is not designed to stop air movement. For insulation installed horizontally, such as in an attic, the insulation must be in substantial contact with the assembly air barrier (usually the ceiling drywall) on one side for it to perform at its rated R-value. A wall or ceiling covering that has multiple leakage sites (such as 1 x 6 tongue and grove board ceilings) can not serve as an air barrier.

Air-tight — Thermal envelope assemblies (such as wall assemblies) shall be built to minimize air movement. Air movement can move unwanted heat and moisture through or into the assembly. For these procedures air-tight shall be defined as an assembly or air barrier with all openings greater than 1/8 inch caulked, or sealed with expansive or minimally expansive foam.

Excessive Compression — Batt insulation may be compressed up to 50% at obstructions such as plumbing vents and in non-standard cavities, but compression of more than 50% in any dimension is excessive and shall not be allowed. Where obstructions would cause the insulation to be compressed greater than 50% insulation shall be cut to fit around the obstruction.

Delaminated — Batts are often split or delaminated to fit around an obstruction. For example when an electrical wire runs through a wall cavity the insulation must still fill the area both in front of the wire and the area behind the wire. This is typically accomplished by delaminating the batt from one end and placing one side of the batt behind the wire and the other in front of the wire. The location of the delamination must coincide with the location of the obstruction. For example if the wire is one third of the distance from the front of the cavity the batt should be delaminated so that two thirds of the batt goes behind the wire and one third in front of the wire.

Draft Stops — Draft stops are installed to prevent air movement between wall cavities, other interstitial cavities - and the attic. They are typically constructed of dimensional lumber blocking, drywall or plywood. Draft stops become part of the attic air barrier and shall be air-tight. Fire blocks constructed of porous insulation materials cannot serve as draft stops since they are not air-tight.

Friction Fit	Friction fit batts are commonly used. Friction fit batts have enough side-to-side frictional force to hold the batt in place without any other means of attachment.
Gaps	A gap is an uninsulated area at the edge of or between batts. Gaps in insulation are avoidable and are not permitted.
Hard Covers	Hard covers shall be installed above areas where there is a drop ceiling. For example a home with 10 ft ceilings may have an entry closet with a ceiling lowered to 8 ft. A hard cover (usually a piece of plywood) is installed at the 10 ft. level above the entry closet. Hard covers become part of the ceiling air barrier and shall be air-tight.
Inset Stapling	In windy areas installers often staple the flanges of faced batts to the sides of the stud in order to assure that the insulation remains in place until covered with drywall, particularly on the wall between the house and the garage where there isn't any exterior sheathing to help keep the insulation in place. The void created by the flange inset shall not extend more than two inches from the stud on each side.
Net Free-Area	The net free-area of a vent cover is equal to the total vent opening less the interference to air flow caused by the screen or louver. Screened or louvered vent opening covers are typically marked by the manufacturer with the "net free-area." For example a 22.5 in. by 3.5 in. eave vent screen with a total area of 78.75 square inches may have a net free-area of only 45 square inches.
Voids	When batt insulation is pushed too far into a wall stud cavity a void is created between the front of the batt and the drywall. Batts shall be fully lofted and fill the cavity front-to-back. Small voids less than ¾ in. deep on the front or back of a batt shall be allowed as long as the total void area is not over 10% of the batt surface area. This definition shall not preclude the practice of inset stapling as long as the void created by the flange inset meets the specification in the definition of inset stapling. Improper spraying or blowing of insulation in ceilings and wall cavities can result in areas with insufficient insulation not meeting the specified installed density and R-value. Wall and cathedral ceiling cavity areas where cellulose insulation has fallen away shall be filled with insulation. Depressions in netting or material supporting blown insulation in walls and cathedral ceilings shall be filled with insulation.

3 Raised Floors and Floors Over Garages

- Batts shall be correctly sized to fit snugly at the sides and ends, but not be so large as to buckle.
- Batts shall be cut to fit properly without gaps. Insulation shall not be doubled-over or compressed.
- Insulation shall be in contact with the subfloor air barrier. An air barrier shall be installed at any exposed edges of insulation. Cantilevered floor framing shall be completely filled with insulation or insulation shall be in contact with the subfloor. (thermal bypass checklist)
- Batts shall be cut to butt-fit around wiring and plumbing, or be split (delaminated) so that one layer can fit behind the wiring or plumbing, and one layer fit in front.
- If the insulation is faced, the facing shall be placed toward the living space and be in contact with the underside of the floor sheathing. Continuous support shall be provided to keep the facing in contact with the floor sheathing. Filling the entire cavity with insulation and providing support with netting at the bottom of the framing is one acceptable method.
- Insulation shall be properly supported to avoid gaps, voids, and compression. (thermal bypass checklist)

4 Wall Insulation

4.1. Batt Installation

- Wall stud cavities shall be caulked or foamed to provide a substantially air-tight envelope to the outdoors, attic, garage and crawl space. Special attention shall be paid to plumbing and wiring penetrations through the top plates, electrical boxes that penetrate the sheathing, and the sheathing seal to the bottom plate. Special attention shall be paid to installation of air-tight framing behind fireplace walls, staircase framing at exterior walls, the intersection of porch roofs and exteriors walls and the intersection of gypsum shaft walls and structural framing between duplex and multi-family dwelling units. (thermal bypass checklist)
- Installation shall uniformly fill the cavity side-to-side, top-to-bottom, and front-to-back.
- The batt shall be friction fitted into the cavity unless another support method is used
- Batt insulation shall be installed to fill the cavity and be in contact with the sheathing on the back and the wallboard on the front - no gaps or voids.
- Batts with flanges that are inset stapled to the side of the stud must be flush with the face of the cavity (or protrude beyond) except for the portion that is less than two inches from the edge of the stud.
- Non-standard-width cavities shall be filled with batt insulation snuggly fitted into the space without excessive compression.
- Batt insulation shall be cut to butt-fit around wiring and plumbing, or be split (delaminated) so that one layer can fit behind the wiring or plumbing, and one layer fit in front.

4.2 Narrow-Framed Cavities

- Non-standard width cavities shall be filled by batt insulation cut to snuggly fit into the space.
- Narrow spaces (two inches or less) at windows, between studs at the building's corners, and at the intersections of partition walls shall be filled with batt insulation snuggly fitted into the space (without excessive compression), loose fill insulation, or expansive or minimally expansive foam.

4.3 Special Situations

4.3.1 Installations Prior to Exterior Sheathing or Lath

- Hard to access wall stud cavities such as corner channels, wall intersections, and behind tub/shower enclosures shall be insulated to the proper R-value. This may have to be done prior to the installation of the exterior sheathing or the stucco lath. Exterior walls surrounding tub/shower enclosures shall have an air barrier installed on the interior side of the insulation and the cavity shall be filled with insulation. (thermal bypass checklist)

4.3.2 Obstructions

- Insulation shall be cut to fit around wiring and plumbing without compression.
- Insulation shall be placed between the sheathing and the rear of electrical boxes and phone boxes.
- In cold climates, where water pipes may freeze (Climate Zones 14 and 16) pipes shall have at least two-thirds of the insulation between the water pipe and the outside. If the pipe is near the outside, as much insulation as possible shall be placed between the pipe and the outside (without excessive compression), and no insulation shall be placed between the pipe and the inside.

4.3.3 Rim Joists

- All rim-joists shall be insulated to the same R-Value as the adjacent walls.
- The insulation shall be installed without gaps or excessive compression.

4.3.4 Kneewalls and Skylight Shafts

- All kneewalls and skylight shafts shall be insulated to a minimum of R-19.
- The insulation shall be installed without gaps and with minimal compression.
- For steel-framed kneewalls and skylight shafts, external surfaces of steel studs shall be covered with batts or rigid foam unless otherwise specified on the CF-1R using correct U-factors from Joint Appendix IV, Table IV-11 (or U-factors approved by the CEC Executive Director).
- The house side of the insulation shall be in contact with the drywall or other wall finish. (thermal bypass checklist)
- The insulation shall be supported so that it will not fall down by either fitting to the framing, stapling in place with minimal compression, or using other support such as netting. (thermal bypass checklist)
- An air barrier shall be installed on the attic side of insulated kneewalls. Continuous top and bottom plates or blocking between truss members are installed. (thermal bypass checklist)

4.3.5 HVAC/Plumbing Closet

- Walls of interior closets for HVAC and/or water heating equipment, that require combustion air venting, shall be insulated to the same R-value as the exterior walls.

4.3.6 Loose Fill Wall Insulation

- Wall stud cavities shall be caulked or foamed to provide a substantially air-tight envelope to the outdoors, attic, garage and crawl space. Special attention shall be paid to plumbing and wiring penetrations through the top plates, electrical boxes that penetrate the sheathing, and the sheathing seal to the bottom plate. Special attention shall be paid to installation of air-tight framing behind fireplace walls, staircase framing at exterior walls, the intersection of porch roofs and exteriors walls and the intersection of gypsum shaft walls and structural framing between duplex and multi-family dwelling units. (thermal bypass checklist)
- Installation shall uniformly fill the cavity side-to-side, top-to-bottom, and front-to-back.
- Loose fill insulation shall be installed to fill the cavity and be in contact with the sheathing on the back and the wallboard on the front - no gaps or voids.
- Loose fill wall insulation shall be installed to fit around wiring, plumbing, and other obstructions.
- The installer shall certify on forms CF-6R and IC-1 that the manufacturer's minimum weight-per-square-foot requirement has been met.

5 Ceiling and Roof Insulation

5.1 Batt Insulation

5.1.1 General Requirements

- Batts shall be correctly sized to fit snugly at the sides and ends.
- Batts shall be installed so that they will be in contact with the air barrier.
- Where necessary, batts shall be cut to fit properly - there shall be no gaps, nor shall the insulation be doubled-over or compressed.
- When batts are cut to fit a non-standard cavity, they shall be snuggly fitted to fill the cavity without excessive compression.
- Batts shall be cut to butt-fit around wiring and plumbing, or be split (delaminated) so that one layer can fit behind the wiring or plumbing, and one layer fit in front.

- For batts that are taller than the trusses, full-width batts shall be used so that they expand to touch each other over the trusses.
- Hard covers or draft stops shall be placed over all drop ceiling areas and interior wall cavities to keep insulation in place and stop air movement. If hard covers or draft stops are missing or incomplete, they shall be completed before insulation is installed. (thermal bypass checklist)
- Required eave ventilation shall not be obstructed - the net free-ventilation area of the eave vent shall be maintained.
- Eave vent baffles shall be installed to prevent air movement under or into the batt.
- Insulation shall cover all recessed lighting fixtures. If the fixtures are not rated for insulation contact (IC) and air tight, the fixtures shall either be replaced or eliminated.
- All recessed light fixtures that penetrate the ceiling shall be IC and air tight (AT) rated and shall be sealed with a gasket or caulk between the housing and the ceiling. (thermal bypass checklist)

5.1.2 Special Situations

5.1.2.1 Rafter Ceilings

- An air space shall be maintained between the insulation and roof sheathing if required by California Building Code section 1505.3.
- Facings and insulation shall be kept away from combustion appliance flues in accordance with flue manufacturers' installation instructions or labels on the flue.

5.1.2.2 HVAC Platform

- Appropriate batt insulation shall be placed below any plywood platform or cat-walks for HVAC equipment installation and access
- Batts shall be installed so that they will be in contact with the air barrier.

5.1.2.3 Attic Access

- Rigid foam or a batt of insulation shall be permanently attached to the access door using adhesive or mechanical fastener and fit snugly in the framed opening. Access door shall be fully gasketed for an airtight fit. (thermal bypass checklist)

5.1.2.4 Whole-House Fan

- Whole-house fans shall have an insulated cover that is gasketed or sealed to the opening from either the attic side or ceiling side of the fan. (thermal bypass checklist)

5.2. Loose-Fill Ceiling Insulation

5.2.1 General Requirements

- Baffles shall be placed at eaves or soffit vents to keep insulation from blocking eave ventilation. The required net free-ventilation shall be maintained.
- Eave vent baffles shall be installed to prevent air movement under or into the loose-fill insulation
- Hard covers or draft stops shall be placed over all drop ceiling areas and interior wall cavities to keep insulation in place and stop air movement. If hard covers or draft stops are missing or incomplete, they shall be completed before insulation is completed or the entire drop area shall be filled with loose-fill insulation level with the rest of the attic. (thermal bypass checklist)
- Attic rulers appropriate to the material installed shall be evenly distributed throughout the attic to verify depth: one ruler for every 250 square feet and clearly readable from the attic access. The rulers shall be scaled to read inches of insulation and the R-value installed.

- Insulation shall be applied underneath and on both sides of obstructions such as cross-bracing and wiring.
- Insulation shall be applied all the way to the outer edge of the wall top plate.
- Insulation shall cover recessed lighting fixtures. If the fixtures are not rated for insulation contact (IC) and air tight, the fixtures shall either be replaced or eliminated.
- All recessed light fixtures that penetrate the ceiling shall be IC and air tight (AT) rated and shall be sealed with a gasket or caulk between the housing and the ceiling. (thermal bypass checklist)
- Insulation shall be kept away from combustion appliance flues in accordance with flue manufacturer's installation instructions or labels on the flue.
- Insulation shall be blown to a uniform thickness throughout the attic with all areas meeting or exceeding the insulation manufacturer's minimum requirements for depth and weight-per-square-foot.
- The installer shall certify on forms CF-6R and IC-1 that the manufacturer's minimum weight-per-square-foot requirement has been met.
- The HERS rater shall verify that the manufacturer's minimum weight-per-square-foot requirement has been met for attics insulated with loose-fill mineral-fiber insulation. Verification shall be determined using the methods of the Insulation Contractor's Association of America (ICAA) Technical Bulletin #17 except that only one sample shall be taken in the area that appears to have the least amount of insulation. The rater shall record the weight-per-square-foot of the sample on the CF-4R.
- The HERS rater shall verify that the manufacturer's minimum insulation thickness has been installed. For cellulose insulation this verification shall take into account the time that has elapsed since the insulation was installed. At the time of installation, the insulation shall be greater than or equal to the manufacturer's minimum initial insulation thickness. If the HERS rater does not verify the insulation thickness at the time of installation, and if the insulation has been in place less than seven days, the insulation thickness shall be greater than the manufacturer's minimum required thickness at the time of installation less 1/2 inch to account for settling. If the insulation has been in place for seven days or longer, the insulation thickness shall be greater than or equal to the manufacturer's minimum required settled thickness.

5.2.2 Special Situations

5.2.2.1 Kneewalls and Skylight Shafts:

- Kneewalls and skylight shafts shall be insulated to a minimum of R-19. If loose fill insulation is used it shall be properly supported with netting or other support material. An air barrier shall be installed on the attic side of insulated kneewalls. Continuous top and bottom plates or blocking between truss members shall be installed. (thermal bypass checklist)

5.2.2.2 HVAC Platform

- Pressure-fill the areas under any plywood platform or walks for HVAC equipment installation and access or verify that appropriate batt insulation has been installed.

5.2.2.3 Attic Access

- Rigid foam or a batt of insulation shall be permanently attached to the access door using adhesive or mechanical fastener and fit snugly in the framed opening. Access door shall be fully gasketed for an airtight fit. (thermal bypass checklist)

RH.521.2.4 Whole-House Fan

- Whole-house fans shall have an insulated cover that is gasketed or sealed to the opening from either the attic side or ceiling side of the fan. (thermal bypass checklist)

6 Penetrations Including Duct Shafts, Flue Shafts and Piping Shafts

- Duct shaft openings to unconditioned space shall be sealed with solid blocking and any remaining gaps shall be sealed with caulk or sealant. (thermal bypass checklist)
- Openings around flue shafts shall be fulled sealed with flashings, and any remaining gaps shall be sealed with fire-rated caulk or sealant. Combustion clearance between flue and combustible materials shall be properly closed with UL-approved metal collars. (thermal bypass checklist)
- Piping shaft openings shall be fully sealed with flashings, and any remaining gaps shall be sealed with caulk or sealant. (thermal bypass checklist)

7 Materials

- Materials shall comply with the California Building Code (including, but not limited to, Section 707) and installed to meet all applicable fire codes.
- Materials shall meet California Quality Standards for Insulating Material, Title 24, Chapter 4, Article 3, listed in the California Department of Consumer Affairs Consumer Guide and Directory of Certified Insulating Materials.
- Materials shall comply with flame spread rating and smoke density requirements of Sections 2602 and 707 of the California Building Code, Title 24, Part 2: all installations with exposed facings must use fire retardant facings which have been tested and certified not to exceed a flame spread of 25 and a smoke development rating of 450. Insulation facings that do not touch a ceiling, wall, or floor surface, and faced batts on the undersides of roofs with an air space between the ceiling and facing are considered exposed applications.
- Materials shall be installed according to manufacturer specifications and instructions.

8 Equipment

- Scales - The scales used to weigh density samples shall be accurate to within +/- 0.03 pounds. Scales shall be calibrated in accordance with manufacturer's instructions.

9 R-Value and U-Factor Specifications

See CF-1R for minimum R-value requirements.

10 Certificates

An Insulation Certificate (IC-1) signed by the insulation installer shall be provided that states that the installation is consistent with the plans and specifications for which the building permit was issued. The certificate shall also state the installing company name, insulation manufacturer's name and material identification, the installed R-value, and, in applications of loose-fill insulation, the minimum installed weight-per-square-foot (or the minimum weight per cubic foot) consistent with the manufacturer's labeled installed-design-density for the desired R-Value, and the number of inches required to achieve the desired R-Value. The insulation installer shall also complete a form CF-6R and attach a bag label or a manufacturer's coverage chart for every insulation material used. The installer shall certify on the CF-6R that all items (including both insulation quality and thermal bypass checklist items) have been met.

10 Certificate Availability

The Insulation Certificate (IC-1) and Installation Certificate (CF-6R, with insulation material bag labels or coverage charts attached), signed by the insulation installer, shall be available on the building site for

each of the HERS rater's verification inspections. Note: The HERS rater cannot verify compliance credit without these completed forms.

CF-6R & CF-4R Insulation Installation Quality and Thermal Barrier Checklist Certificate
(this is a listing of key information on these forms)

Site Address_____ Permit _____

☐ Installation meets all applicable requirements as specified in the High Quality Insulation Installation and Thermal Bypass Checklist Procedures

(CF-6R only)

☐ Insulation certificate, (IC-1) signed by the installer stating: insulation manufacturer's name, material identification, installed R-values, and for loose-fill insulation: minimum weight per square foot and minimum inches

☐ Installation Certificate, (CF-6R) signed by the installer certifying that the installation meets all applicable requirements as specified in the High Quality Insulation Installation and Thermal Bypass Checklist Procedures

(CF-4R only)

1. FLOOR

☐ All floor joist cavity insulation installed to uniformly fit the cavity side-to-side and end-to-end

☐ Insulation in contact with the subfloor . Air barrier installed at any exposed edges of insulation. Cantilevered floor framing completely filled with insulation or insulation in contact with subfloor. (thermal bypass checklist)

☐ Insulation properly supported to avoid gaps, voids, and compression

☐ Insulation in contact with the air-barrier (thermal bypass checklist)

2. WALLS

☐ Wall stud cavities caulked or foamed to provide an air tight envelope (thermal bypass checklist)

☐ Wall stud cavity insulation uniformly fills the cavity side-to-side, top-to-bottom, and front-to-back

☐ No gaps

☐ No voids over 3/4" deep or more than 10% of the batt surface area.

☐ Hard to access wall stud cavities such as; corner channels, wall intersections, and behind tub/shower enclosures insulated to proper R-Value. Exterior walls surrounding tub/shower enclosures have an air barrier installed on the interior side of the insulation and the cavity is filled with insulation. (thermal bypass checklist)

☐ Small spaces filled

☐ Rim-joists insulated

☐ Loose fill wall insulation meets or exceeds manufacturer's minimum weight-per-square-foot requirement. (CF-6R only)

☐ Insulation in contact with the air-barrier (thermal bypass checklist)

☐ Installation of air-tight framing behind fireplace walls, staircase framing at exterior walls, the intersection of porch roofs and exteriors walls and the intersection of gypsum shaft walls and

structural framing between duplex and multi-family dwelling units. (thermal bypass checklist)

3. ROOF/CEILING PREPARATION

- ☐ All draft stops in place to form a continuous ceiling and wall air barrier (thermal barrier checklist)
- ☐ All drops covered with hard covers (thermal barrier checklist)
- ☐ All draft stops and hard covers caulked or foamed to provide an air tight envelope (thermal barrier checklist)
- ☐ All recessed light fixtures IC and air tight (AT) rated and sealed with a gasket or caulk between the housing and the ceiling (thermal barrier checklist)
- ☐ Floor cavities on multiple-story buildings have air tight draft stops to all adjoining attics (thermal barrier checklist)
- ☐ Eave vents prepared for blown insulation - maintain net free-ventilation area
- ☐ Kneewalls insulated or prepared for blown insulation. An air barrier installed on the attic side of insulated kneewalls. Continuous top and bottom plates or blocking between truss members are installed. (thermal bypass checklist)
- ☐ Area under equipment platforms and cat-walks insulated or accessible for blown insulation
- ☐ Attic rulers installed

4. ROOF/CEILING BATTS

- ☐ No gaps
- ☐ No voids over ¾ in. deep or more than 10% of the batt surface area.
- ☐ Insulation in contact with the air-barrier (thermal barrier checklist)
- ☐ Recessed light fixtures covered
- ☐ Net free-ventilation area maintained at eave vents
- ☐ Attic access insulated with permanently attached insulation, fit snugly in the framed opening, and fully gasketed for an airtight fit. (thermal bypass checklist)
- ☐ Whole-house fans have an insulated cover that is gasketed or sealed to the opening from either the attic side or ceiling side of the fan. (thermal bypass checklist)

5. ROOF/CEILING LOOSE-FILL

- ☐ Insulation uniformly covers the entire ceiling (or roof) area from the outside of all exterior walls.
- ☐ Baffles installed at eaves vents or soffit vents - maintain net free-ventilation area of eave vent
- ☐ Attic access insulated with permanently attached insulation, fit snugly in the framed opening, and fully gasketed for an airtight fit. (thermal bypass checklist)
- ☐ Whole-house fans have an insulated cover that is gasketed or sealed to the opening from either the attic side or ceiling side of the fan. (thermal bypass checklist)
- ☐ Recessed light fixtures covered
- ☐ Insulation at proper depth – insulation rulers visible and indicating proper depth and R-value
- ☐ Loose-fill insulation meets or exceeds manufacturer's minimum weight and thickness requirements for

the target R-value. Target R-value _____ Manufacturer's minimum required weight for the target R-value _____ (pounds-per-square-foot). Manufacturer's minimum required thickness at time of installation _____ Manufacturer's minimum required settled thickness _____ Note: In order to receive compliance credit the HERS rater shall verify that the manufacturer's minimum weight and thickness has been achieved for the target R-value. (CF-6R only)

☐ Loose-fill mineral fiber insulation meets or exceeds manufacturer's minimum weight and thickness requirement for the target R-value. Target R-value _____ Manufacturer's minimum required weight for the target R-value _____ (pounds-per-square foot). Sample weight _____ (pounds per square foot). (CF-4R only)

☐ Manufacturer's minimum required thickness at time of installation _____ (inches) Manufacturer's minimum required settled thickness _____ (inches). Number of days since loose-fill insulation was installed _____ (days). At the time of installation, the insulation shall be greater than or equal to the manufacturer's minimum initial insulation thickness. If the HERS rater does not verify the insulation at the time of installation, and if the loose-fill insulation has been in place less than seven days the thickness shall be greater than the manufacturer's minimum required thickness at the time of installation less 1/2 inch to account for settling. If the insulation has been in place for seven days or longer the insulation thickness shall be greater than or equal to the manufacturer's minimum required settled thickness. Minimum thickness measured _____ (inches). (CF-4R only)

6. PENETRATIONS INCLUDING DUCT SHAFTS, FLUE SHAFTS AND PIPING SHAFTS

☐ Duct shaft openings to unconditioned space sealed with solid blocking and any remaining gaps sealed with caulk or sealant. (thermal bypass checklist)

☐ Openings around flue shafts sealed with flashings and any remaining gaps sealed with fire-rated caulk or sealant. Combustion clearance between flue and combustible materials properly closed with UL-approved metal collars. (thermal bypass checklist)

☐ Piping shaft openings fully sealed with flashings and any remaining gaps sealed with caulk or sealant. (thermal bypass checklist)

DECLARATION

I hereby certify that the installation meets all applicable requirements as specified in the High Quality Insulation Installation and Thermal Bypass Checklist Procedures, including both insulation quality and thermal bypass checklist items.

_____	_____	_____
Item #s	Signature, Date	Title, Company Name
_____	_____	_____
Item #s	Signature, Date	Title, Company Name
_____	_____	_____
Item #s	Signature, Date	Title, Company Name

Guidelines for California ENERGY STAR® Qualified Homes

All ENERGY STAR Qualified Homes built in California must be 15% more energy efficient than the California energy code under which they were permitted. Homes built under 2001 T-24 code had until December 31, 2006 to complete construction. All homes completed on or after January 1, 2007 must be 15% more energy efficient than the latest T-24 code (2005 T-24).

Homes that were enrolled in a utility rebate program by December 31, 2005 had until January 1, 2007 to be qualified using the old ENERGY STAR guidelines. All homes enrolled in a program after January 1, 2006 must be qualified using the new guidelines and **have** a Thermal Bypass Checklist inspection. However, for the period January 1, 2007 to June 30, 2007, homes in this category will not be denied the ENERGY STAR label due to non-compliance with requirements of this additional inspection. As of July 1, 2007, these homes **must pass** the Thermal Bypass Inspection to earn the ENERGY STAR label.

The current ENERGY STAR Qualified Homes guidelines require that homes be 15% more energy efficient than the code under which they are permitted and be inspected by a CEC certified third party HERS rater. Sampling is allowed and shall follow the CEC HERS protocols. The ENERGY STAR Qualified Homes guidelines requirements also include:

- Verification of adherence to the EPA ENERGY STAR Thermal Bypass Checklist/CEC Quality Installation Insulation merged protocols.
- All cooling equipment shall be sized according to the latest editions of the ACCA Manuals J and S, ASHRAE 2001 Handbook of Fundamentals, or the equivalent computation procedure.
    - Maximum oversizing of air conditioners is 15%.
    - Equipment oversizing calculations shall use 99.0% and 1.0% outdoor design temperatures as published in the ASHRAE Handbook of Fundamentals for most representative city. However, a prevailing outdoor design temperature used by the local HVAC industry that can be documented with available weather data is an acceptable alternative. The Indoor temperature shall be 75°F for cooling and 70°F for heating.
    - Infiltration rate shall be selected as tight.
    - Indoor and outdoor coils shall be matched in accordance with ARI standards.
- Ductwork leakage must be less than 6 cfm to outdoors per 100 square feet of conditioned space, though duct leakage tests can be waived if ducts and equipment are located in conditioned space and the home's envelope leakage is less than 0.25 CFM 50 per square foot of building envelope. (Meeting T-24 tight duct standard of 6% or less leakage of total air flow satisfies this requirement.)

Please note that the additional requirements bulleted above **can be utilized to achieve the 15% performance margin**. EPA also recommends, but does not require, that ductwork be located in conditioned space with a minimum of R-4 insulation to prevent condensation and moisture problems.

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ENGINEERS
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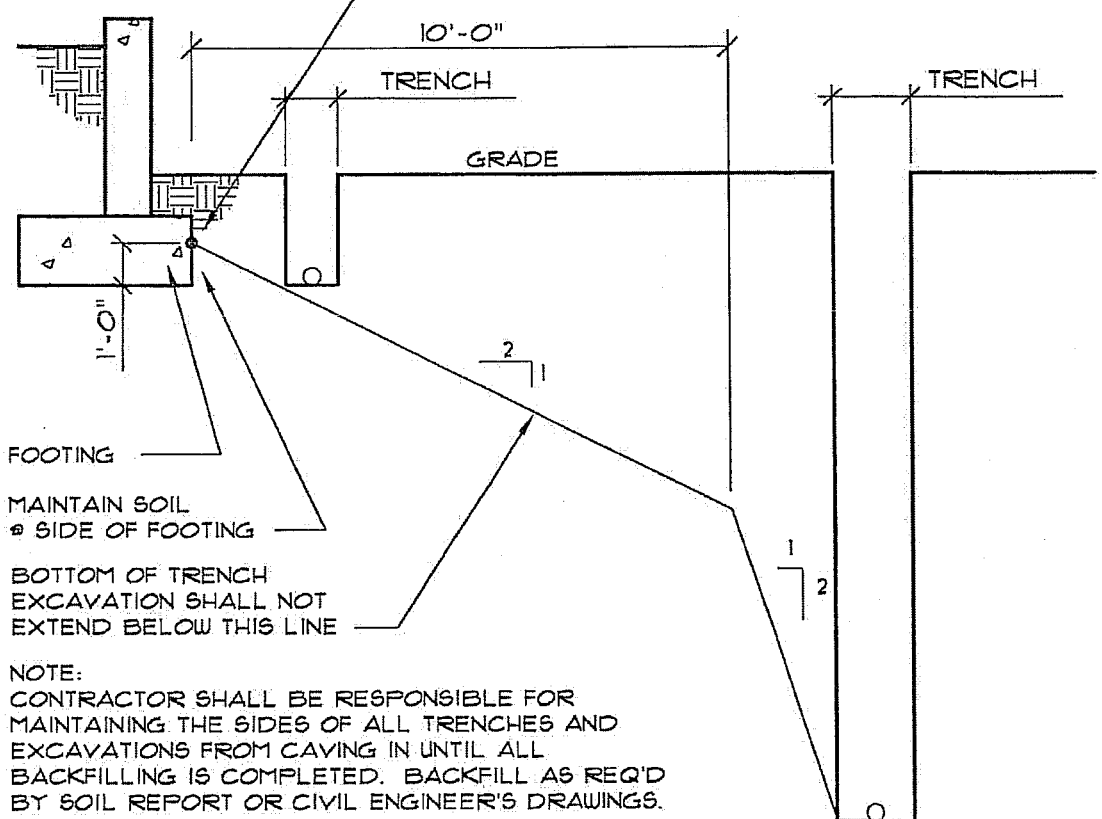
CORPORATE OFFICE:
60 Corporate Park Irvine,
California 92606
(949) 253-9510 Telephone
(949) 253-9098 Facsimile

SHEET INFORMATION
PROJECT NO : 13873
REF. SHEET NO : SW2

TITLE

SKETCH NO.



NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SIDES OF ALL TRENCHES AND EXCAVATIONS FROM CAVING IN UNTIL ALL BACKFILLING IS COMPLETED. BACKFILL AS REQ'D BY SOIL REPORT OR CIVIL ENGINEER'S DRAWINGS.

TRENCHING

SCALE: NTS
@ 06-28-95 BAI
BAI NO. : RSETBK02

12

01-22-10

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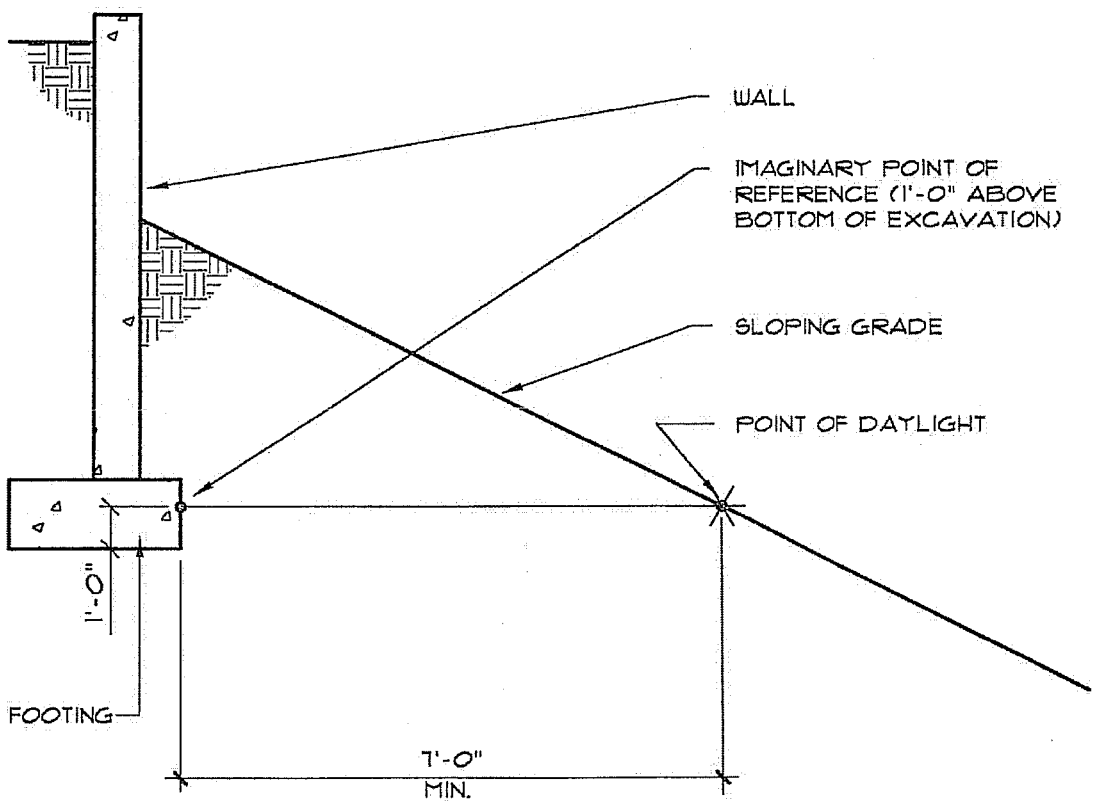
SHEET INFORMATION
PROJECT NO - 13823
REF. SHEET NO : SW2

TITLE

SKETCH NO.



SETBACK TO SLOPE

SCALE: NTS
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BAI NO. : RSETBK01

13

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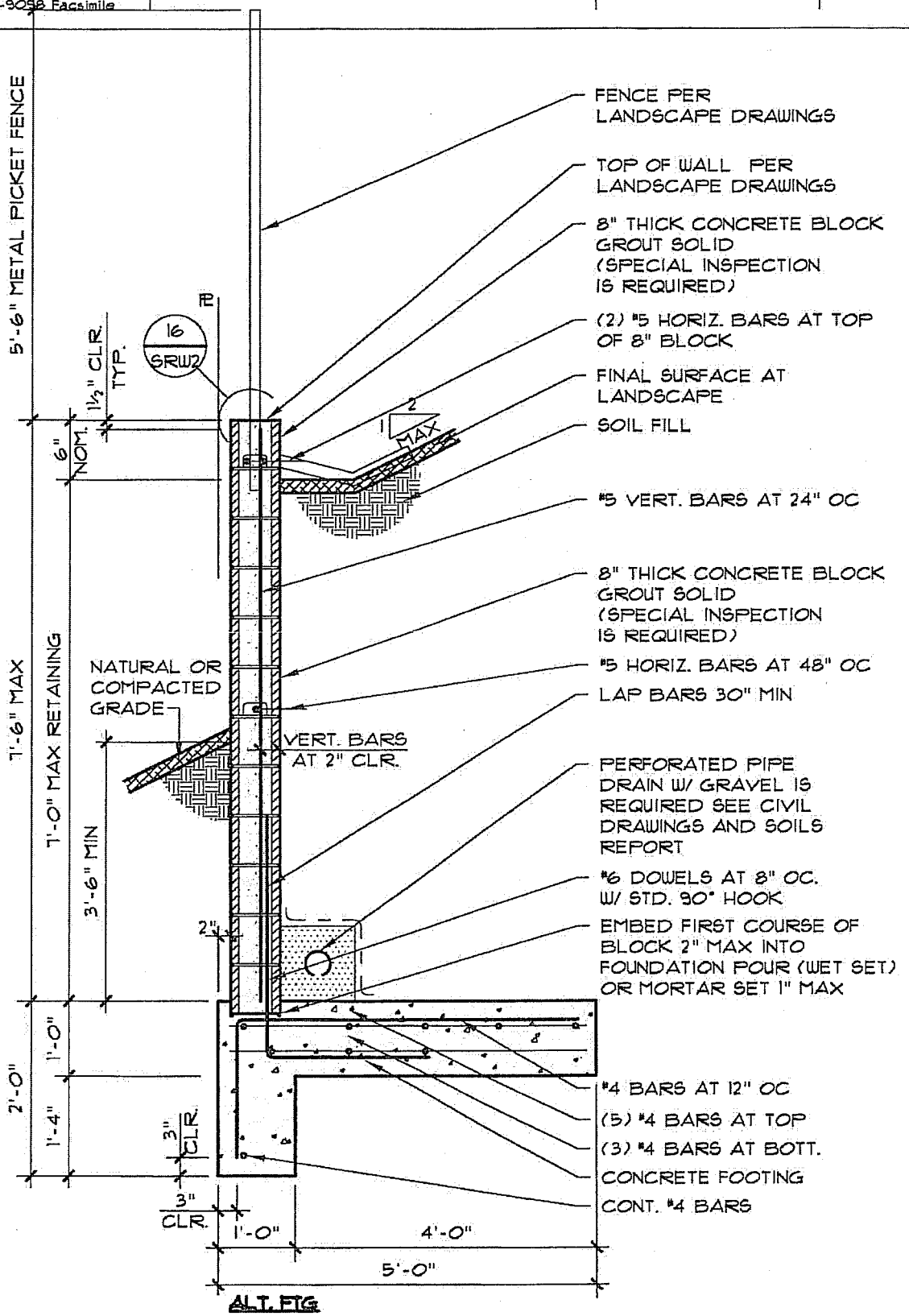
(949) 253-9058 Facsimile

SHEET INFORMATION
PROJECT NO : 13823
REF. SHEET NO : SW2

TITLE

SKETCH NO



RETAINING WALL

SCALE: 1/2" = 1'-0"
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BAI NO. : X13823-201M

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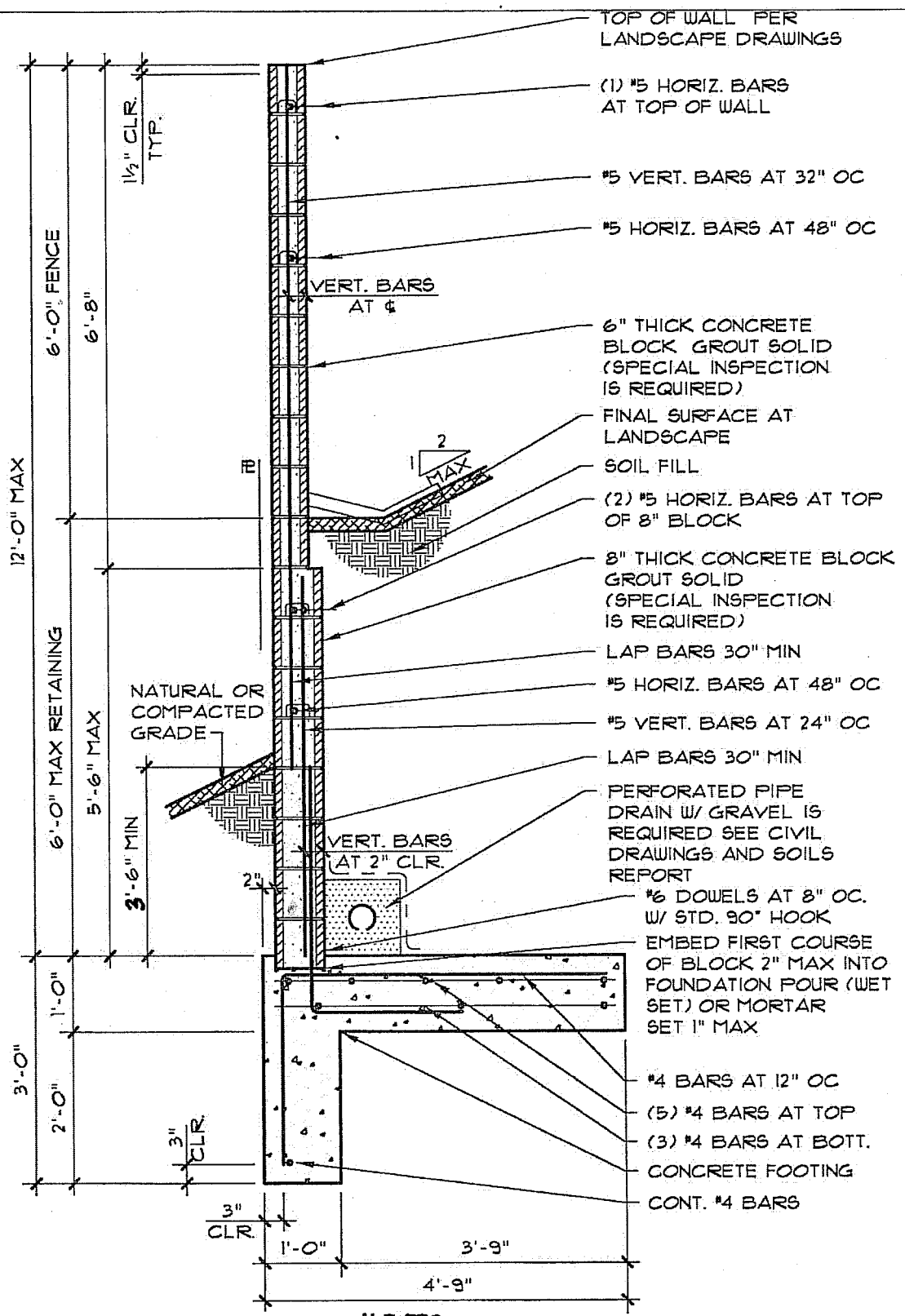
SHEET INFORMATION
PROJECT NO : 13823
REF. SHEET NO : SW2

TITLE

SKETCH NO.



ALT. FTG

RETAINING WALL

SCALE: 1/2" = 1'-0"
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BAI NO. : X13823-204M

15

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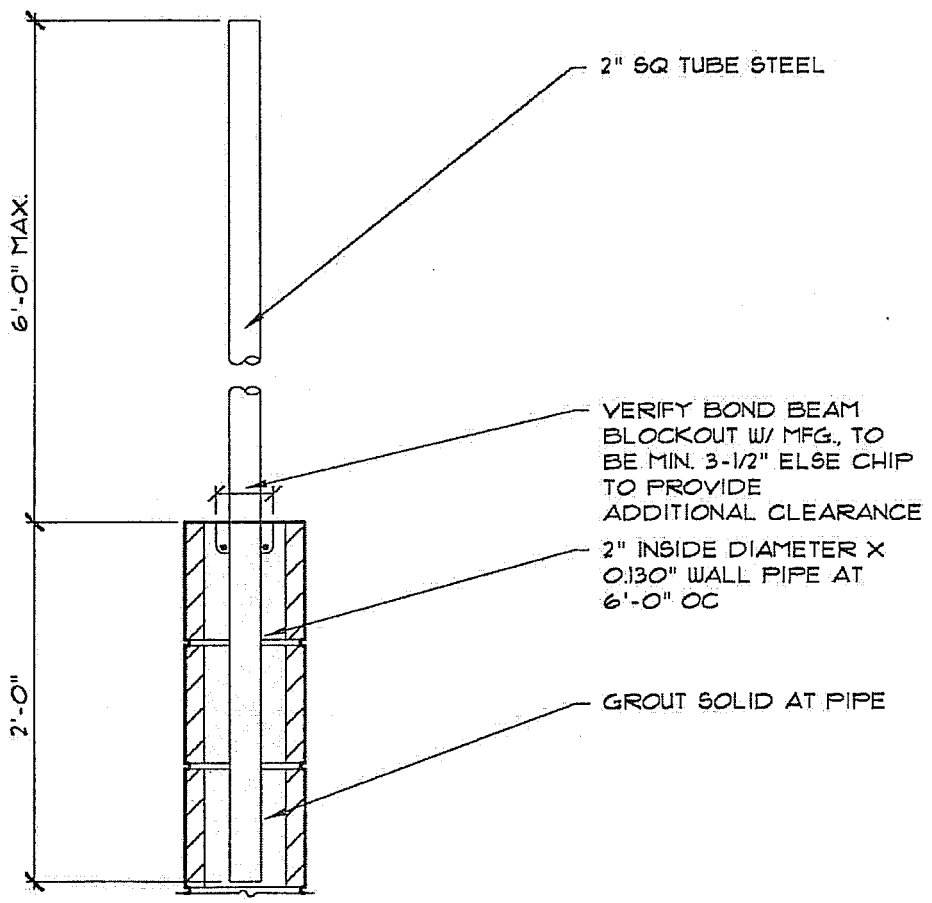
SHEET INFORMATION
PROJECT NO : 13823
REF. SHEET NO : SU12

TITLE

SKETCH NO



FENCE CONNECTION

SCALE: 1" = 1'-0"
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BAI NO. : RM15003

16

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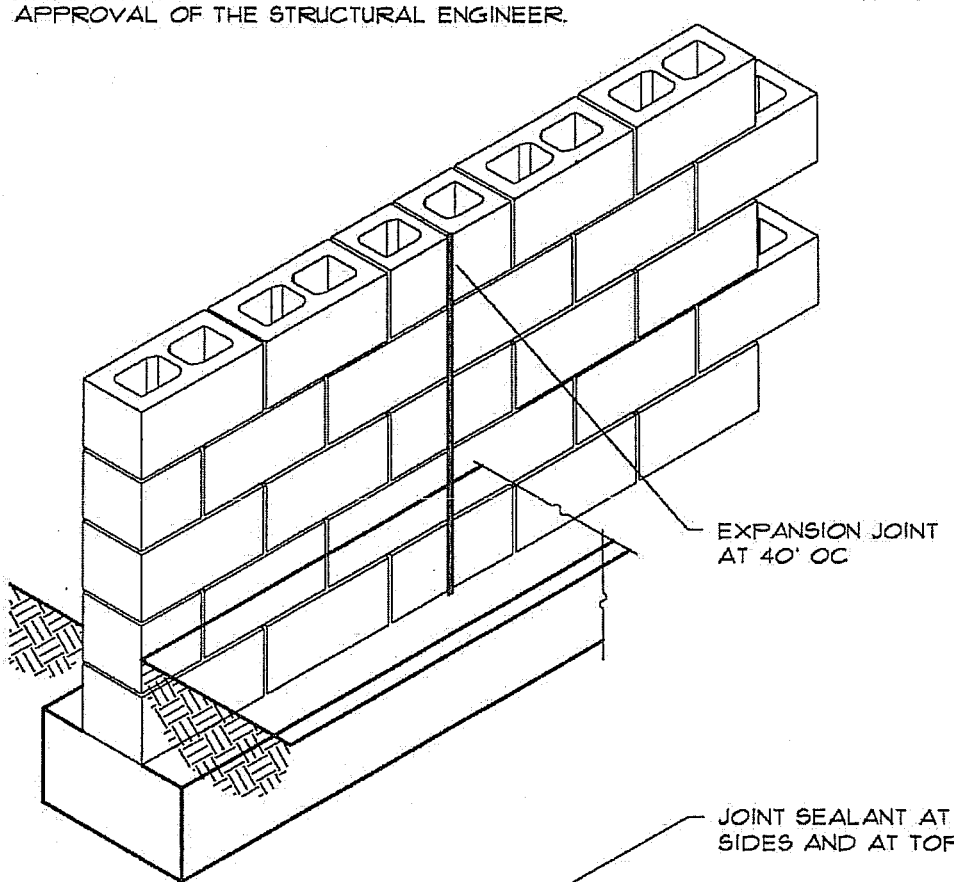
SHEET INFORMATION
PROJECT NO : 13823
REF. SHEET NO : SW2

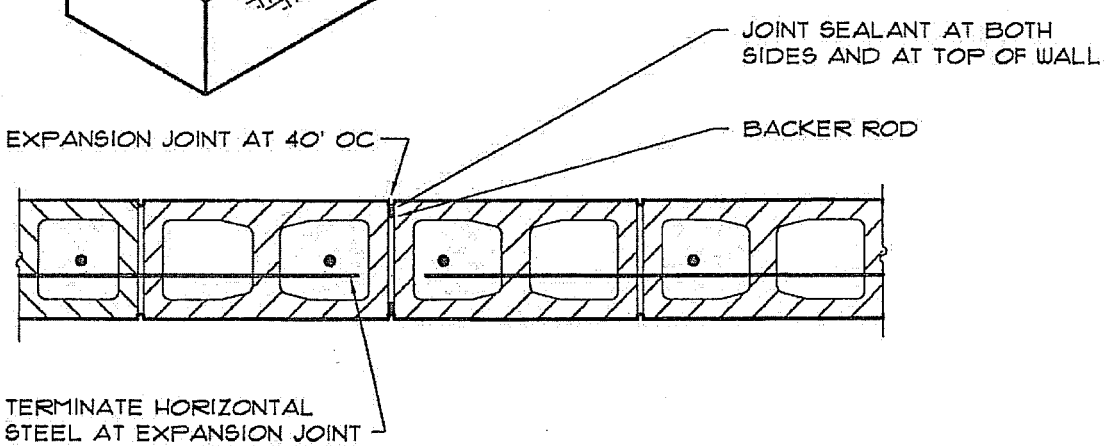
TITLE

SKETCH NO.

NOTE:

1. JOINT SEALANT SHALL BE SEALTIGHT CM-60$_{TM}$, A TWO PART POLYSULFIDE SEALANT, MANUFACTURED BY W.R. MEADOWS, INC., ELGIN, ILLINOIS 1-800-342-5976.
2. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALTERNATIVES MAY BE USED ONLY WITH SPECIFIC APPROVAL OF THE STRUCTURAL ENGINEER.





EXPANSION JOINT

SCALE: 1" = 1'-0"
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BAI NO. : RGEN0030

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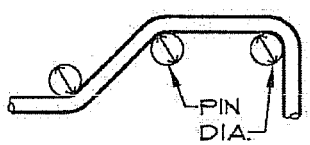
SHEET INFORMATION
PROJECT NO : 13823
REF. SHEET NO : SW2

TITLE

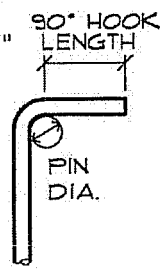
SKETCH NO.

STANDARD HOOK DIMENSIONS

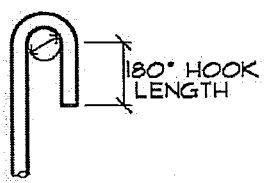
BAR SIZE US	BAR SIZE METRIC	MIN. PIN DIA.	MIN. 90° HOOK LENGTH	MIN. 135° HOOK LENGTH
#3	10mm	2-1/4"	4-1/2"	2-1/2"
#4	13mm	3"	6"	2-1/2"
#5	16mm	3-3/4"	7-1/2"	2-1/2"
#6	19mm	4-1/2"	9"	3"
#7	22mm	5-1/4"	10-1/2"	3-1/2"
#8	25mm	6"	12"	4"



TYPICAL BENDS



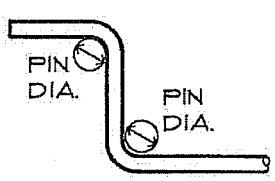
STANDARD
90° HOOK



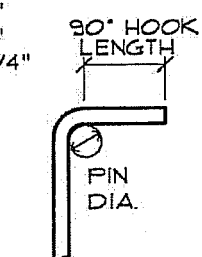
STANDARD
180° HOOK

TIE AND STIRRUP HOOK DIMENSIONS

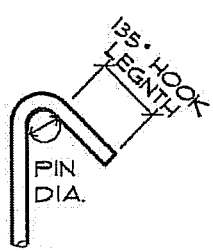
BAR SIZE US	BAR SIZE METRIC	MIN. PIN DIA.	MIN. 90° HOOK LENGTH	MIN. 135° HOOK LENGTH
#3	10mm	1-1/2"	3"	3"
#4	13mm	2"	3"	3"
#5	16mm	2-1/2"	3-3/4"	3-3/4"



TYPICAL BEND



TIE & STIRRUP
90° HOOK



TIE & STIRRUP
135° HOOK

BAR BENDS

SCALE: 1" = 1'-0"
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BAI NO: FBEND503

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SHEET INFORMATION
PROJECT NO : 13823
REF. SHEET NO : SW2

TITLE

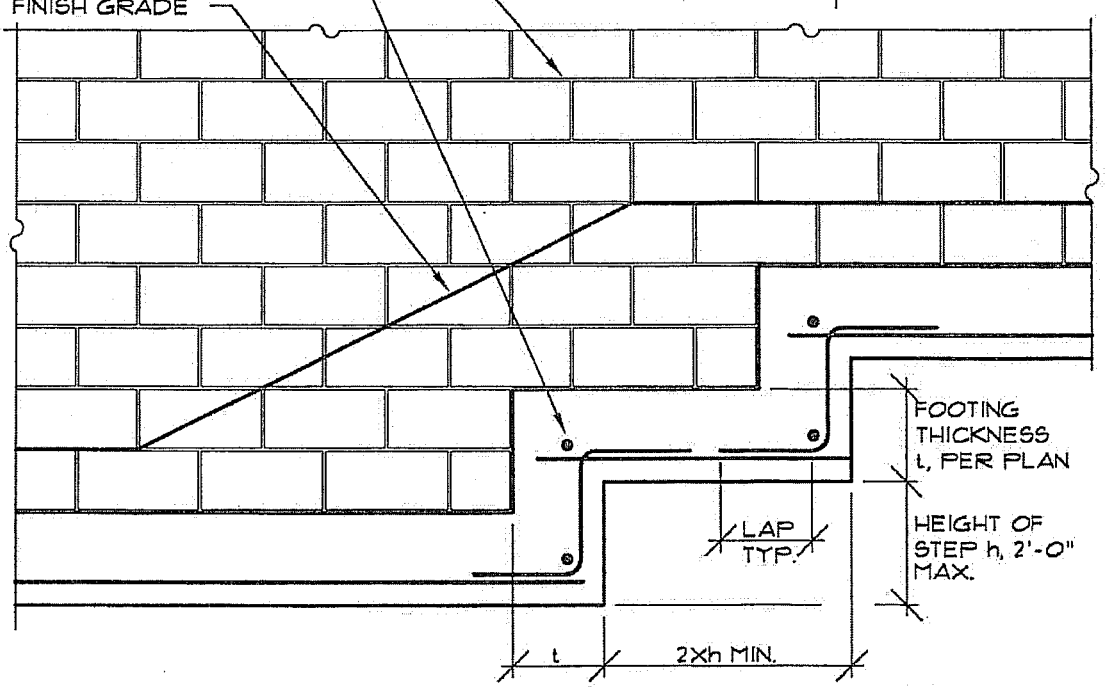
SKETCH NO.

NOTE: TOP OF BLOCK WALL NOT SHOWN

TRANSVERSE BAR ⌀ BEND, TO MATCH SIZE OF BOTTOM STEEL, TYP.

FINISH GRADE

BAR SIZE	LAP SPLICE
#4	20"
#5	25"
#6	30"



STEPPED FOOTING W/ BLOCK STEM

SCALE: ½" = 1'-0"
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BAI NO. : RGEN0002

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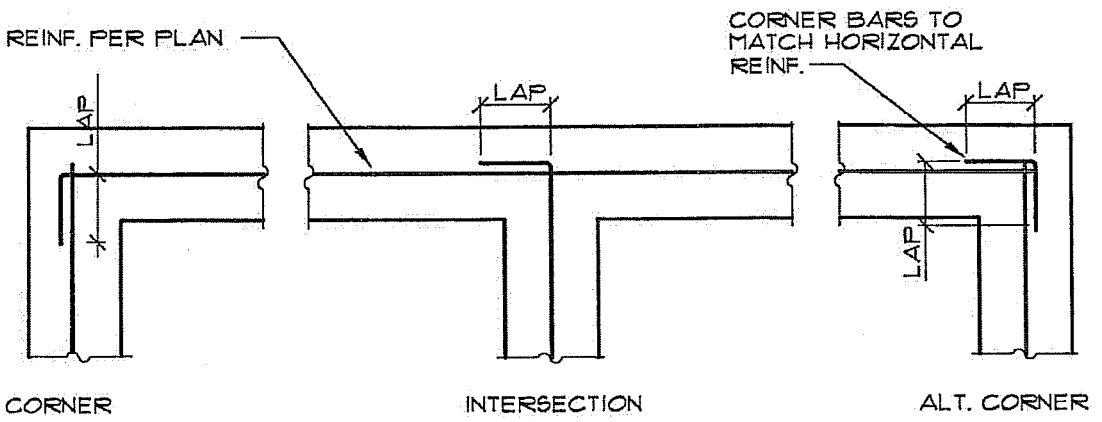
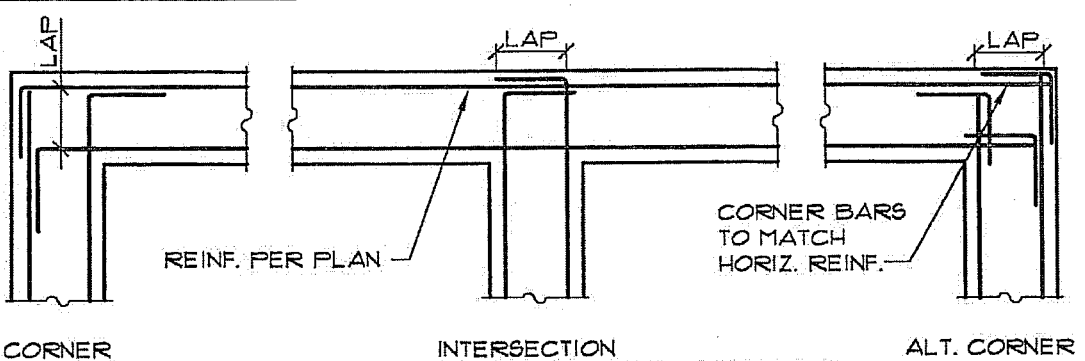
SHEET INFORMATION
PROJECT NO : 13823
REF. SHEET NO : SW2

TITLE

SKETCH NO.



PLAN VIEW, SINGLE BAR



PLAN VIEW, MULTIPLE BARS

US BAR SIZE	LAP
#4	20"
#5	25"
#6	30"

FOOTING REINFORCEMENT AT INTERSECT. & CORNERS

SCALE: NONE
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BAI NO. : RGEN0001

20

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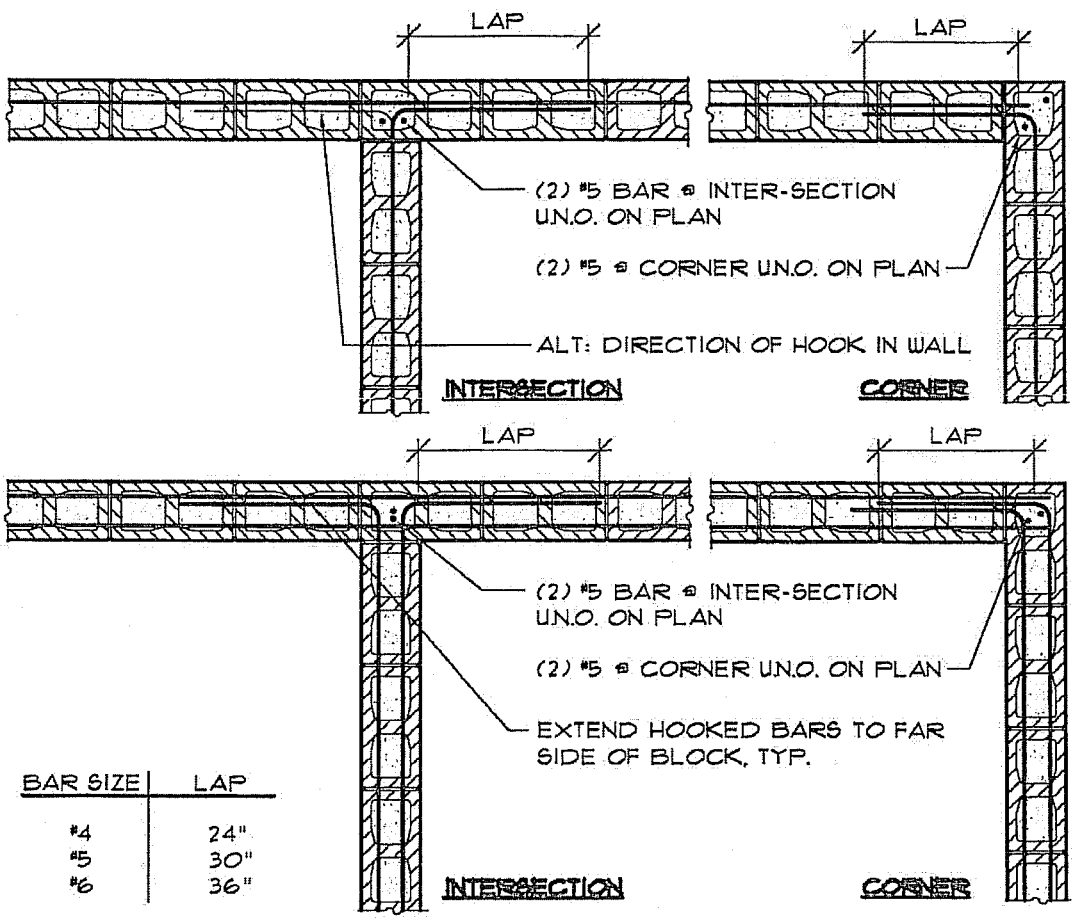
(949) 253-9098 Facsimile

SHEET INFORMATION
PROJECT NO : 13823
REF. SHEET NO : S117

TITLE

SKETCH NO



BAR SIZE	LAP
#4	24"
#5	30"
#6	36"

TYP. BLOCK REINF

SCALE: ½" = 1'-0"
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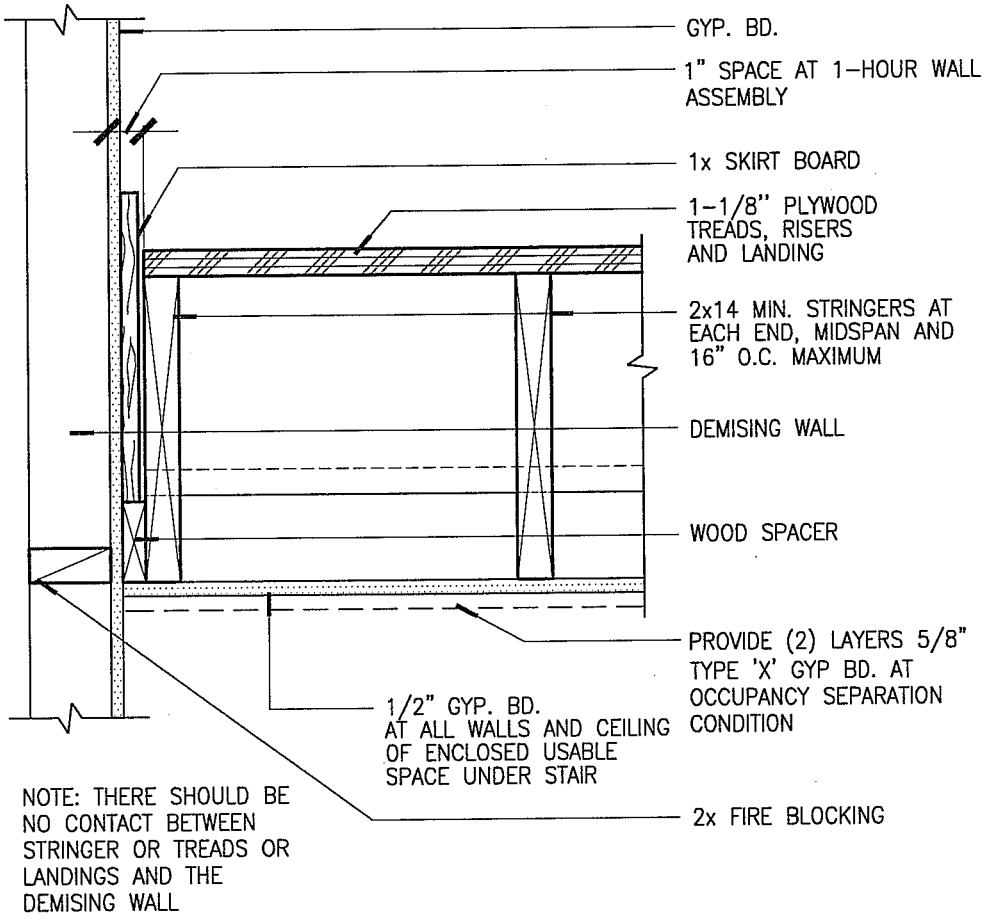
BAI NO. : RGEN0013

21

01-22-10



STRINGER AT DEMISING WALL

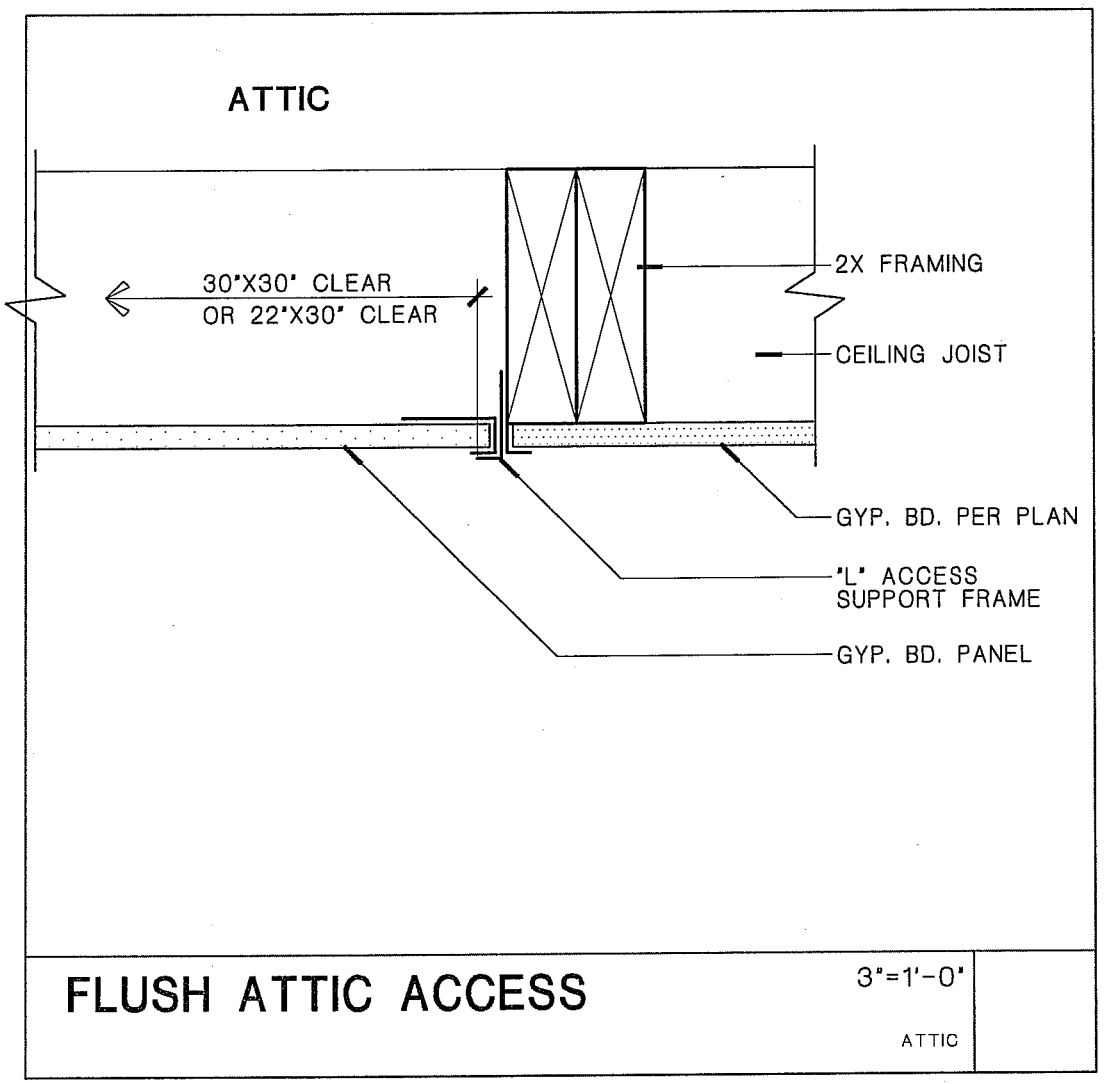
1 1/2"=1'-0"

ST-STRINGER

SKETCH No. 22

STRINGER AT DEMISING WALL

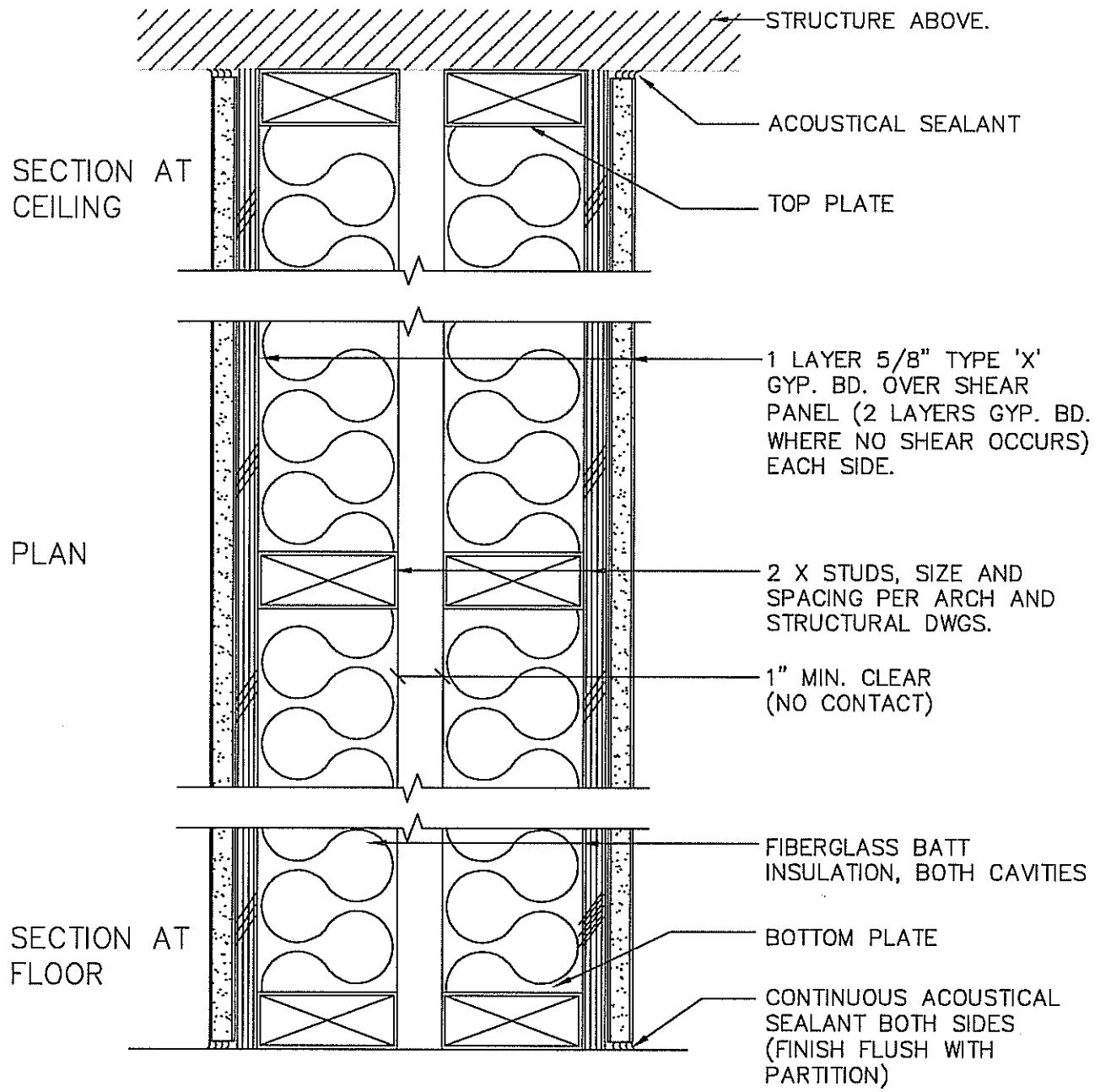
DATE 01-11-10



SKETCH
No. 23

ATTIC ACCESS

DATE
01-11-10



NOTES

1. NO MECHANICAL TIES BETWEEN OPPOSITE SIDE OF PARTITION.
2. KEYHOLES FOR CONDUIT SHALL BE CUT IN WOOD STUDS IN SIDE SERVED.
3. ATTACH PLYWOOD TO STUDS UNDER GYP. BOARD AS REQUIRED BY STRUCTURAL.

ACOUSTICAL DESIGN INFORMATION ONLY

DEMISING WALL DETAIL

VENEKLASEN ASSOCIATES
CONSULTANTS IN ACOUSTICS
1711 SIXTEENTH STREET, SANTA MONICA, CA. 90404 (310) 450-1733

SKETCH No. 24

E:\E-DRIVE\ARCH\TENANT\P-5A 07-10-96 15:00

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ENGINEERS
CORPORATE OFFICE:
60 Corporate Park
Irvine, California 92606
(949) 263-4038

PROJECT:
NORTH CAMPUS FACULTY HOUSING – PHASE 1

OWNER/DEVELOPER:
University of California, Santa Barbara

ARCHITECT:
William Hezmalhalch Architects

SHEET INFORMATION

PROJECT NO :	13873
REF. SHEET NO :	E003
DRAWN BY :	BORM
ENGINEER :	HUSSEIN BOUDIAB
SCALE :	NONE
ISSUED FOR:	ADDENDUM 5
DATE	01-14-2010

TITLE
DWELLING UNIT LIGHTING FIXTURE SCHEDULE

SKETCH NO.
SKE-1

Sketch #25
01-22-10

DWELLING UNIT LIGHTING FIXTURE SCHEDULE

FIXTURE SYMBOL	FIXTURE DESCRIPTION	LAMPS			VOLTS	MOUNTING	MOUNTING HEIGHT	MANUFACTURER/CATALOG #
		NO.	WATTS	TYPE				
	LIGHT FIXTURE OVER BATHROOM PULLMAN. BRUSHED NICKEL FINISH. GLASS SHADES.	2	13	GU-24	120	WALL	-	SELECTED AND SPCIFIED BY ARCHITECT
	6" DIA. HORIZONTAL CFL FLUORESCENT DOWNLIGHTING WITH ALZAK CLEAR DIFFUSER, ELECTRONIC BALLAST, AND IC HOUSE.	1	26	CFL	120	RECESSED	9'-0"	SELECTED AND SPCIFIED BY ARCHITECT
	FLUORESCENT DOWNLIGHTING WITH WHITE DIFFUSER, ELECTRONIC BALLAST, AND IC HOUSE.	1	26	TTT	120	RECESSED	9'-0"	SELECTED AND SPCIFIED BY ARCHITECT
VR	WET LISTED FLUORESCENT DOWNLIGHTING WITH WHITE DIFFUSER, ELECTRONIC BALLAST, AND IC HOUSE.	1	26	TTT	120	RECESSED	9'-0"	SELECTED AND SPCIFIED BY ARCHITECT
	ROUND WHITE DRUM SHAPED CLOUD FIXTURE.	1	22	TT	120	SURFACE	9'-0"	SELECTED AND SPCIFIED BY ARCHITECT
	FLUORESCENT DOWNLIGHTING WITH ALZAK CLEAR DIFFUSER, ELECTRONIC BALLAST, AND IC HOUSE.	1	26	TTT	120	RECESSED	9'-0"	SELECTED AND SPCIFIED BY ARCHITECT
	FLUORESCENT STRIP LIGHT WITH ELECTRONIC BALLAST AND ≤10% THD INSTANT-START	1	32	T8 / 35K	120	SURFACE	9'-0"	SELECTED AND SPCIFIED BY ARCHITECT
P	MINKA - MIRADOR 12" HIGH OUTDOOR FLUORESCENT WALL LIGHT FIXTURE (17264) WITH ELECTRONIC BALLAST AND BUILT IN PHOTOCELL	1	13	27K	120	WALL	+7'-0"	SELECTED AND SPCIFIED BY ARCHITECT

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Ocean Walk at UCSB
ADDENDUM 5

SHEET INFORMATION	
PROJECT NO :	13823
REF. SHEET NO :	M001
DRAWN BY :	BLH
ENGINEER :	BLH
SCALE :	NTS

TITLE
MECHANICAL COVER SHEET PART PLAN

SKETCH NO.
MSK-1

GENERAL NOTES CONTINUED

28. PIPE INSULATION MATERIAL SHALL BE PROVIDED AS FOLLOWS:

A. CHILLED WATER, HEATING HOT WATER: FOR CONCEALED, EXPOSED SPACES INSIDE – KNAUF IC–SS–1 INSULATION U=0.25 AT 42°F(ASTM C 335), RIGID MOLDED ONE PIECE FIBERGLASS INSULATION WITH ALL–SERVICE JACKET AND SELF–SEALING LAP, WITH BUTTSTRIP FOR EACH SECTION; WHITE PVC ZESTON JACKETS FOR FITTINGS, CONNECTIONS, FLANGES AND VALVES; INSULATE ALL JOINTS WITH OWENS–CORNING INDOOR VAPOR BARRIER FINISH; ALL PRODUCTS TO HAVE A 25 FLAME SPREAD / 50 SMOKE DEVELOPED RATING WHEN TESTED IN ACCORDANCE WITH ASTM E 64, NFPA 255, UL723.

B. REFRIGERANT AND CONDENSATE PIPING: TUBULAR FLEXIBLE BLANKET TYPE CONFORMING TO ASTM C534. MINIMUM SERVICE TEMPERATURE OF – 40°F, MAXIMUM SERVICE TEMPERATURE OF 200°F; "R" VALUE OF 0.28 AT 75°F AS PER ASTM C177 OR C518. PROVIDE PIPING INSULATION BY RUBATEK, INSULATE ALL REFRIGERANT AND CONDENSATE PIPING.

29. DUCT INSULATION MATERIAL SHALL BE PROVIDED AS FOLLOWS:

A. SHALL BE INSTALLED IN COMPLIANCE WITH CHAPTER 6 OF THE UNIFORM MECHANICAL CODE AND TITLE 24, INSULATE ALL JOINTS, FITTINGS AND FLANGES. DUCT INSULATION MATERIALS SHALL BE AS FOLLOWS:

B. DUCT WRAP: KNAUF AH–SS–5 WRAP, 1–1/2", 3/4# PCF INSULATION, U=0.27 AT 50 F (ASTM C 177), WITH FSK VAPOR BARRIER AND 2" STAPLING FLANGE; ALL PRODUCTS TO HAVE A 25 FLAME / 50 SMOKE DEVELOPED RATING WHEN TESTED IN ACCORDANCE WITH ASTM E 84, NFPA 255, UL723.

30. COORDINATE REQUIREMENTS FOR FACP SERVICE. DISCONNECT/RECONNECT BY BUILDING OWNER'S FACP CONTRACTOR; COST OF WORK BY FACP CONTRACTOR NOT IN CONTRACT.

31. SEPARATE HEALTH DEPARTMENT SUBMITTAL TO BE PROVIDED UNDER SEPARATE CONTRACT FOR EACH FOOD ESTABLISHMENT.

32. DOORS TO AIR–CONDITIONED ROOMS WITHOUT RETURN AND TRANSFER PROVISIONS SHALL BE UNDERCUT BY 1". THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT.

33. FLEXIBLE DUCTS SHALL BE SILENTFLEX II OR EQUAL. SUPPLY DUCT SHALL BE 10' LENGTH ON TERMINATION TO DIFFUSER. RETURN DUCT SHALL BE MIN. 10' LENGTH WITH MIN. ONE BEND.

SKETCH #26
01-22-10

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Ocean Walk at UCSB
ADDENDUM 5

SHEET INFORMATION	
PROJECT NO :	13823
REF. SHEET NO :	M001
DRAWN BY :	BLH
ENGINEER :	BLH
SCALE :	NTS

TITLE
MECHANICAL COVER SHEET PART PLAN
SKETCH NO.
MSK-2

AIR DISTRIBUTION SCHEDULE

EQUIP. NO.	MANUFACTURER & MODEL NUMBER	DUCT CONNECTION	FACE SIZE INCH	TYPE	SERVICE	REMARKS
CD-1	TITUS MCD 4-WAY	ROUND NECK	12 X 12	CEILING 4-WAY DIFFUSER	SUPPLY AIR	PROVIDE FACTORY AG-99 OPPOSED BLADE DAMPER FOR BALANCING. SELECT DIFFUSER TO NO GREATER THAN NC20.
CD-2	TITUS MCD 1-WAY	ROUND NECK	12 X 12	CEILING 1-WAY DIFFUSER	SUPPLY AIR	PROVIDE FACTORY AG-99 OPPOSED BLADE DAMPER FOR BALANCING. SELECT DIFFUSER TO NO GREATER THAN NC20.
CD-3	TITUS MCD 2-WAY	ROUND NECK	12 X 12	CEILING 2-WAY DIFFUSER	SUPPLY AIR	PROVIDE FACTORY AG-99 OPPOSED BLADE DAMPER FOR BALANCING. SELECT DIFFUSER TO NO GREATER THAN NC20.
CD-4	TITUS MCD 3-WAY	ROUND NECK	12 X 12	CEILING 3-WAY DIFFUSER	SUPPLY AIR	PROVIDE FACTORY AG-99 OPPOSED BLADE DAMPER FOR BALANCING. SELECT DIFFUSER TO NO GREATER THAN NC20.
RR-1	TITUS 23 RS	ROUND NECK	24 X 24	CEILING RETURN REGISTER	RETURN AIR	PROVIDE FACTORY OPPOSED BLADE DAMPER FOR BALANCING. SELECT DIFFUSER TO NO GREATER THAN NC20.
WG-1	TITUS 300	PER DRAWINGS	PER DRAWINGS	WALL GRILLE	SUPPLY AIR	PROVIDE FACTORY OPPOSED BLADE DAMPER FOR BALANCING. SELECT DIFFUSER TO NO GREATER THAN NC20.

HVAC EQUIPMENT SCHEDULE

EQUIP. NO.	MANUFACTURER & MODEL NUMBER	GAS CONSUMPTION CFH	GAS CONNECTION SIZE INCH NPT	HEATING CAPACITY MBTU	AFUE%	NOMINAL AIR FLOW CFM	ELECTRICAL CONNECTION	APPROXIMATE UNIT WEIGHT LBS	DIMENSIONS L X W X H INCHES	REMARKS
F-1	CARRIER 58CVX060-16	84	1/2"	66	80	1210	9.6A/115V/1PH/60HZ	166	34 X 18 X 24	HORIZONTAL CONFIGURATION. PROVIDE ONE (1) SET OF REPLACEMENT FILTER UPON COMPLETION.
F-2	CARRIER 58CVX110-20	105	1/2"	85	80	1475	8.1A/115V/1PH/60HZ	178	34 X 21 X 24	HORIZONTAL CONFIGURATION. PROVIDE ONE (1) SET OF REPLACEMENT FILTER UPON COMPLETION.
F-3	CARRIER 58CVX135-22	126	1/2"	101	80	1915	14.9/115V/1PH/60HZ	195	34 X 25 X 24	HORIZONTAL CONFIGURATION. PROVIDE ONE (1) SET OF REPLACEMENT FILTER UPON COMPLETION.
F-4	CARRIER 58CVX070-12	63	1/2"	81	80	1180	9.4A/115V/1PH/60HZ	140	34 X 15 X 24	HORIZONTAL CONFIGURATION. PROVIDE ONE (1) SET OF REPLACEMENT FILTER UPON COMPLETION.
F-5	CARRIER 58HYC100-20	100	1/2"	95	93.5	1510	12.8A/115V/1PH/60HZ	209	40 X 21 X 29	HORIZONTAL CONFIGURATION. PROVIDE ONE (1) SET OF REPLACEMENT FILTER UPON COMPLETION.
F-6	CARRIER 58HYC120-20	120	1/2"	112	93.8	1900	12.8A/115V/1PH/60HZ	234	40 X 25 X 29	HORIZONTAL CONFIGURATION. PROVIDE ONE (1) SET OF REPLACEMENT FILTER UPON COMPLETION.
EF-1	COOK GC-152					1410	10.9W/115V/1PH/60HZ	77	16 X 15 X 9	PROVIDE FACTORY HANGING VIBRATION ISOLATOR. SCONE LEVEL SHALL BE LESS THAN 15 SCONES.
EF-2	COOK GC-230					2810	17.2W/115V/1PH/60HZ	96	17 X 13 X 12	PROVIDE FACTORY HANGING VIBRATION ISOLATOR. SCONE LEVEL SHALL BE LESS THAN 15 SCONES.
DEF-1	FANTECH DEF-4XL					1314	10.9W/115V/1PH/60HZ	LESS THAN 20	9 X 13 X 13	COMPLETE WITH FACTORY FAN INDICATOR PANEL MOUNTED NEAR DIFFER.

SKETCH #27

01-22-10

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Ocean Walk at UCSB
ADDENDUM 5

SHEET INFORMATION	
PROJECT NO :	13823
REF. SHEET NO :	M400
DRAWN BY :	BLH
ENGINEER :	BLH
SCALE :	NTS

TITLE
MECHANICAL DETAILS PART PLAN

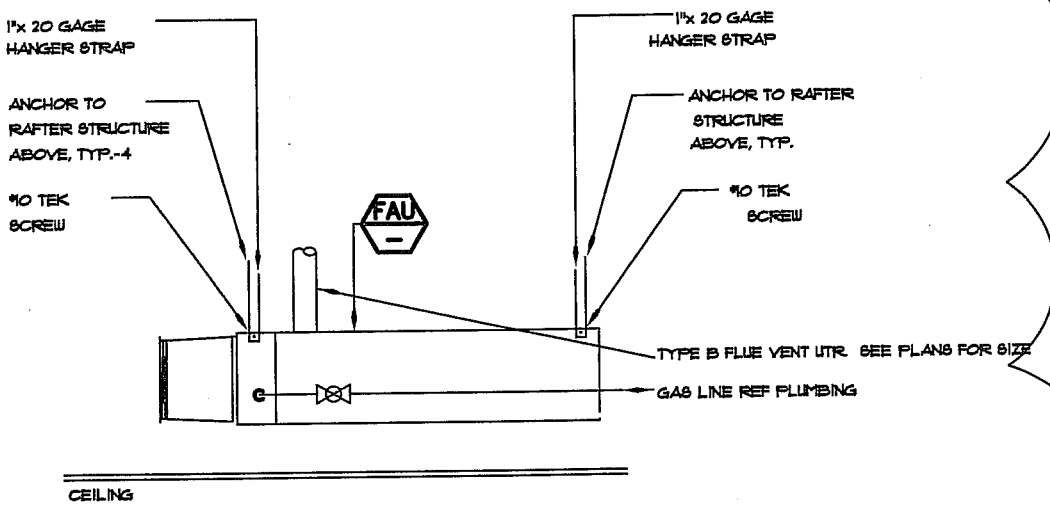
SKETCH NO.
MSK-3

FLEXIBLE DUCT NOTES:
1. FLEXIBLE DUCTS SHALL CONSIST OF AN EXTERIOR REINFORCED LAMINATED VAPOR BARRIER, FIBER GLASS INSULATION (PER CEC STANDARDS), ENCAPSULATED SPRING STEEL WIRE HELIX AND IMPERVIOUS, SMOOTH, NON-PERFORATED INTERIOR VINYL LINER. INDIVIDUAL LENGTH OF FLEXIBLE DUCT SHALL CONTAIN FACTORY FABRICATED STEEL CONNECTION COLLARS.
2. FLEXIBLE DUCTS SHALL BE SUPPORTED AT OR NEAR MID-LENGTH WITH 2" WIDE 26 GA. STEEL HANGER COLLAR ATTACHED TO THE STRUCTURE WITH AN APPROVED DUCT HANGER. INSTALLATION SHALL MINIMIZE SHARP RADIUS TURNS OR OFFSETS. THE MAXIMUM LENGTH WILL BE SEVEN (7) FEET AND CAN BE USED AT THE TERMINAL ENDS ONLY, EXCEPT THAT FLEXIBLE DUCTS PROPERLY INSTALLED MAY BE USED TO CROSS SEISMIC JOINTS WITHOUT OFFSETS.

CEILING DIFFUSER DETAILS

SCALE: NTS

4



NOTES:
1. PER CMC 2007 904.11.3. PROVIDE PERMANENT 120V OUTLET AND LIGHTING FIXTURE AT OR NEAR FURNACE, CONTROLLED BY A SWITCH AT THE ENTRANCE TO THE PASSAGEWAY.
2. PER CMC 2007 904.11.3. PROVIDE CONTINUOUS 24" WIDE (MIN) FLOOR FROM ATTIC ACCESS TO SERVICE PLATFORM.
3. PER CMC 2007 904.11.4. PROVIDE MIN. 30" WIDE X 30" DEEP SERVICE PLATFORM IN FRONT OF THE SERVICE SIDE OF THE FURNACE.

FURNACE MOUNTING DETAILS

SCALE: NTS

5

SKETCH #28
01-22-16

WILLIAM HEZMALHALCH
ARCHITECTS INC.

January 22, 2010

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
NORTH CAMPUS FACULTY HOUSING – PHASE 1
Santa Barbara, California

Project #208145.02

COLOR AND ELEVATION ASSIGNMENTS

BUILDING #	BUILDING TYPE	ELEVATION	COLOR SCHEME
1	100	A	1
2	100	B	2
3	100	A	6
4	100R	B	3
5	100	A	4
6	100R	B	5
7	400	A	2
8	400R	B	6
9	400	A	5
10	800	A	4
11	800	A	3
12	100XR	B	4
13	100XR	B	5

Color Designer: Donna Aldrich

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1-22-10 SKETCH 29 1 OF 7

WILLIAM HEZMALHALCH
ARCHITECTS INC.

March 27, 2009

THE OLSON COMPANY
OCEAN WALK at NORTH CAMPUS
Faculty Housing, Santa Barbara, California

Project #2008145

EXTERIOR COLOR & MATERIALS

[1]***SCHEME 1*** *of 6*
(Previously Scheme 8)

Residence Buildings Only

MATERIAL	COLOR	MANUFACTURER
ROOFING @ 'A' ELEVATIONS: Concrete 'S' Tile	3680 LOS PADRES BLEND	EAGLE
METAL BIRD STOP @ 'S' TILE *(Factory Finish)*	TERRA COTTA	EAGLE
ROOFING @ 'B' ELEVATIONS: Concrete Slate Tile	4680 LOS PADRES BLEND	EAGLE
1/2 ROUND GUTTERS / ROUND DOWNSPOUTS *(Factory Finish)*	MUSKET	IMS
VINYL WINDOW FRAMES *(Factory Finish)*	TAN	MILGARD
[1]**BRICK**	CORNWALL	MCNEAR
[1]**MANUFACTURED STONE**	CUSTOM #1176 [2]COASTAL REEF	ELDORADO
[1]**MORTAR @ BRICK & MANUFACTURED STONE**	LIGHT KHAKI	ORCO
GARGAE DOORS *(Factory Finish)*	TAUPE	WAYNE DALTON
[1]**STUCCO COLOR #1** *(16/20 Sand Finish)*	A 858	OMEGA
[1]**STUCCO COLOR #2**	SW 0012 EMPIRE GOLD	SHERWIN WILLIAMS
[1]**STUCCO COLOR #3**	SW 7737 MEADOW TRAIL	SHERWIN WILLIAMS
TRIM COLOR #1 *(applied to):* Barge Boards, Eaves, Fascia, Front Doors, Rafter Tails, Wood Trim	SW 7040 SMOKEHOUSE	SHERWIN WILLIAMS
TRIM COLOR #2 *(applied to):* Metal Canopies, Stucco Trim	SW 7038 TONY TAUPE	SHERWIN WILLIAMS
METAL @ BALCONIES	SW 7020 BLACK FOX	SHERWIN WILLIAMS

Color Designer: Donna Aldrich

REVISIONS:

REVISION NO.	DATE	DESCRIPTION
1	5/11/09	Revisions to schemes per client meeting. Masonry specifications added.
2	10/9/09	Manufactured stone name revised per Eldorado.

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1-22-10

SKETCH 29 2 OF 7

WILLIAM HEZMALHALCH
ARCHITECTS INC.

March 27, 2009

THE OLSON COMPANY
OCEAN WALK at NORTH CAMPUS
Faculty Housing, Santa Barbara, California

Project #2008145

EXTERIOR COLOR & MATERIALS

[1]***SCHEME 2*** *of 6*
(Previously Scheme 3)

Residence Buildings Only

MATERIAL	COLOR	MANUFACTURER
[1]**ROOFING @ 'A' ELEVATIONS:** Concrete 'S' Tile	SCC 8831 WINSLOW BLEND	EAGLE
METAL BIRD STOP @ 'S' TILE *(Factory Finish)*	TERRA COTTA	EAGLE
[1]**ROOFING @ 'B' ELEVATIONS:** Concrete Slate Tile	4553 SANDSTONE FLASHED (Eagle will make this Northern California color for this project)	EAGLE
1/2 ROUND GUTTERS / ROUND DOWNSPOUTS *(Factory Finish)*	MUSKET	IMS
VINYL WINDOW FRAMES *(Factory Finish)*	TAN	MILGARD
[1]**BRICK**	CORNWALL	MCNEAR
[1]**MANUFACTURED STONE**	CUSTOM #1176 [2]COASTAL REEF	ELDORADO
[1]**MORTAR @ BRICK & MANUFACTURED STONE**	LIGHT KHAKI	ORCO
GARGAE DOORS *(Factory Finish)*	TAUPE	WAYNE DALTON
[1]**STUCCO COLOR #1** *(16/20 Sand Finish)*	2 1/4 1020	OMEGA
[1]**STUCCO COLOR #2**	SW 2823 ROOKWOOD CLAY	SHERWIN WILLIAMS
[1]**STUCCO COLOR #3**	SW 7705 WHEAT PENNY	SHERWIN WILLIAMS
[1]**TRIM COLOR #1** *(applied to):* Barge Boards, Eaves, Fascia, Front Doors, Rafter Tails, Wood Trim	SW 7040 SMOKEHOUSE	SHERWIN WILLIAMS
TRIM COLOR #2 *(applied to):* Metal Canopies, Stucco Trim	SW 7038 TONY TAUPE	SHERWIN WILLIAMS
METAL @ BALCONIES	SW 7020 BLACK FOX	SHERWIN WILLIAMS

Color Designer: Donna Aldrich

REVISIONS:

REVISION NO.	*DATE*	*DESCRIPTION*
1	5/11/09	Revisions to schemes per client meeting. Masonry specifications added.
2	10/9/09	Manufactured stone name revised per Eldorado.

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SKETCH 29 3 OF 7

WILLIAM HEZMALHALCH
ARCHITECTS INC.

March 27, 2009

THE OLSON COMPANY
OCEAN WALK at NORTH CAMPUS
Faculty Housing, Santa Barbara, California

Project #2008145

EXTERIOR COLOR & MATERIALS

[1]***SCHEME 3*** *of 6*
(Previously Scheme 2)

Residence Buildings Only

MATERIAL	COLOR	MANUFACTURER
ROOFING @ 'A' ELEVATIONS: Concrete 'S' Tile	SCC 8831 WINSLOW BLEND	EAGLE
METAL BIRD STOP @ 'S' TILE *(Factory Finish)*	TERRA COTTA	EAGLE
ROOFING @ 'B' ELEVATIONS: Concrete Slate Tile	4553 SANDSTONE FLASHED (Eagle will make this Northern California color for this project)	EAGLE
1/2 ROUND GUTTERS / ROUND DOWNSPOUTS *(Factory Finish)*	MUSKET	IMS
VINYL WINDOW FRAMES *(Factory Finish)*	TAN	MILGARD
[1]**BRICK**	CORNWALL	MCNEAR
[1]**MANUFACTURED STONE**	CUSTOM #1176 [2]COASTAL REEF	ELDORADO
[1]**MORTAR @ BRICK & MANUFACTURED STONE**	LIGHT KHAKI	ORCO
GARGAE DOORS *(Factory Finish)*	TAUPE	WAYNE DALTON
[1]**STUCCO COLOR #1** *(16/20 Sand Finish)*	3/4 1758	OMEGA
[1]**STUCCO COLOR #2**	SW 6129 RESTRAINED GOLD	SHERWIN WILLIAMS
[1]**STUCCO COLOR #3**	SW 7688 SUNDEW	SHERWIN WILLIAMS
[1]**TRIM COLOR #1** *(applied to):* Barge Boards, Eaves, Fascia, Front Doors, Rafter Tails, Wood Trim	SW 7040 SMOKEHOUSE	SHERWIN WILLIAMS
TRIM COLOR #2 *(applied to):* Metal Canopies, Stucco Trim	SW 7038 TONY TAUPE	SHERWIN WILLIAMS
METAL @ BALCONIES	SW 7020 BLACK FOX	SHERWIN WILLIAMS

Color Designer: Donna Aldrich

REVISIONS:

REVISION NO.	*DATE*	*DESCRIPTION*
1	5/11/09	Revisions to schemes per client meeting. Masonry specifications added.
2	10/9/09	Manufactured stone name revised per Eldorado.

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March 27, 2009

THE OLSON COMPANY
OCEAN WALK at NORTH CAMPUS
Faculty Housing, Santa Barbara, California

Project #2008145

EXTERIOR COLOR & MATERIALS

[1]***SCHEME 4*** *of 6*
(Previously Scheme 6)

Residence Buildings Only

MATERIAL	COLOR	MANUFACTURER
ROOFING @ 'A' ELEVATIONS: Concrete 'S' Tile	3680 LOS PADRES BLEND	EAGLE
METAL BIRD STOP @ 'S' TILE *(Factory Finish)*	TERRA COTTA	EAGLE
ROOFING @ 'B' ELEVATIONS: Concrete Slate Tile	4680 LOS PADRES BLEND	EAGLE
1/2 ROUND GUTTERS / ROUND DOWNSPOUTS *(Factory Finish)*	MUSKET	IMS
VINYL WINDOW FRAMES *(Factory Finish)*	TAN	MILGARD
[1]**BRICK**	CORNWALL	MCNEAR
[1]**MANUFACTURED STONE**	CUSTOM #1176 [2]COASTAL REEF	ELDORADO
[1]**MORTAR @ BRICK & MANUFACTURED STONE**	LIGHT KHAKI	ORCO
GARGAE DOORS *(Factory Finish)*	TAUPE	WAYNE DALTON
[1]**STUCCO COLOR #1** *(16/20 Sand Finish)*	2 1/4 1020	OMEGA
[1]**STUCCO COLOR #2**	SW 7737 MEADOW TRAIL	SHERWIN WILLIAMS
[1]**STUCCO COLOR #3**	SW 6124 CARDBOARD	SHERWIN WILLIAMS
TRIM COLOR #1 *(applied to):* Barge Boards, Eaves, Fascia, Front Doors, Rafter Tails, Wood Trim	SW 7040 SMOKEHOUSE	SHERWIN WILLIAMS
TRIM COLOR #2 *(applied to):* Metal Canopies, Stucco Trim	SW 7038 TONY TAUPE	SHERWIN WILLIAMS
METAL @ BALCONIES	SW 7020 BLACK FOX	SHERWIN WILLIAMS

Color Designer: Donna Aldrich

REVISIONS:

REVISION NO.	*DATE*	*DESCRIPTION*
1	5/11/09	Revisions to schemes per client meeting. Masonry specifications added.
2	10/9/09	Manufactured stone name revised per Eldorado.

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L-22-10

SKETCH 29 5 OF 7

WILLIAM HEZMALHALCH
ARCHITECTS INC.

March 27, 2009

THE OLSON COMPANY
OCEAN WALK at NORTH CAMPUS
Faculty Housing, Santa Barbara, California

Project #2008145

EXTERIOR COLOR & MATERIALS

[1]***SCHEME 5*** *of 6*

Residence Buildings Only

MATERIAL	COLOR	MANUFACTURER
[1]**ROOFING @ 'A' ELEVATIONS:** Concrete 'S' Tile	SCC 8831 WINSLOW BLEND	EAGLE
METAL BIRD STOP @ 'S' TILE *(Factory Finish)*	TERRA COTTA	EAGLE
[1]**ROOFING @ 'B' ELEVATIONS:** Concrete Slate Tile	4553 SANDSTONE FLASHED (Eagle will make this Northern California color for this project)	EAGLE
1/2 ROUND GUTTERS / ROUND DOWNSPOUTS *(Factory Finish)*	MUSKET	IMS
VINYL WINDOW FRAMES *(Factory Finish)*	TAN	MILGARD
[1]**BRICK**	CORNWALL	MCNEAR
[1]**MANUFACTURED STONE**	CUSTOM #1176 [2]COASTAL REEF	ELDORADO
[1]**MORTAR @ BRICK & MANUFACTURED STONE**	LIGHT KHAKI	ORCO
GARGAE DOORS *(Factory Finish)*	TAUPE	WAYNE DALTON
[1]**STUCCO COLOR #1** *(16/20 Sand Finish)*	1 3/8 A 258	OMEGA
[1]**STUCCO COLOR #2**	SW 6061 TANBARK	SHERWIN WILLIAMS
[1]**STUCCO COLOR #3**	SW 6116 TATAMI TAN	SHERWIN WILLIAMS
[1]**TRIM COLOR #1** *(applied to):* Barge Boards, Eaves, Fascia, Front Doors, Rafter Tails, Wood Trim	SW 7040 SMOKEHOUSE	SHERWIN WILLIAMS
TRIM COLOR #2 *(applied to):* Metal Canopies, Stucco Trim	SW 7038 TONY TAUPE	SHERWIN WILLIAMS
METAL @ BALCONIES	SW 7020 BLACK FOX	SHERWIN WILLIAMS

Color Designer: Donna Aldrich

REVISIONS:

REVISION NO.	*DATE*	*DESCRIPTION*
1	5/11/09	Revisions to schemes per client meeting. Masonry specifications added.
2	10/9/09	Manufactured stone name revised per Eldorado.

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THE OLSON COMPANY
OCEAN WALK at NORTH CAMPUS
Faculty Housing, Santa Barbara, California

Project #2008145

EXTERIOR COLOR & MATERIALS

[1]***SCHEME 6*** *of 6*
(Previously Scheme 4)

Residence Buildings Only

MATERIAL	COLOR	MANUFACTURER
[1]**ROOFING @ 'A' ELEVATIONS:** Concrete 'S' Tile	3680 LOS PADRES BLEND	EAGLE
METAL BIRD STOP @ 'S' TILE *(Factory Finish)*	TERRA COTTA	EAGLE
[1]**ROOFING @ 'B' ELEVATIONS:** Concrete Slate Tile	4680 LOS PADRES BLEND	EAGLE
1/2 ROUND GUTTERS / ROUND DOWNSPOUTS *(Factory Finish)*	MUSKET	IMS
VINYL WINDOW FRAMES *(Factory Finish)*	TAN	MILGARD
[1]**BRICK**	CORNWALL	MCNEAR
[1]**MANUFACTURED STONE**	CUSTOM #1176 [2]COASTAL REEF	ELDORADO
[1]**MORTAR @ BRICK & MANUFACTURED STONE**	LIGHT KHAKI	ORCO
GARGAE DOORS *(Factory Finish)*	TAUPE	WAYNE DALTON
[1]**STUCCO COLOR #1** *(16/20 Sand Finish)*	3/4 A 519	OMEGA
[1]**STUCCO COLOR #2**	SW 6117 SMOKEY TOPAZ	SHERWIN WILLIAMS
[1]**STUCCO COLOR #3**	SW 7737 MEADOW TRAIL	SHERWIN WILLIAMS
[1]**TRIM COLOR #1** *(applied to):* Barge Boards, Eaves, Fascia, Front Doors, Rafter Tails, Wood Trim	SW 7040 SMOKEHOUSE	SHERWIN WILLIAMS
TRIM COLOR #2 *(applied to):* Metal Canopies, Stucco Trim	SW 7038 TONY TAUPE	SHERWIN WILLIAMS
METAL @ BALCONIES	SW 7020 BLACK FOX	SHERWIN WILLIAMS

Color Designer: Donna Aldrich

REVISIONS:

REVISION NO.	*DATE*	*DESCRIPTION*
1	5/11/09	Revisions to schemes per client meeting. Masonry specifications added.
2	10/9/09	Manufactured stone name revised per Eldorado.

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