









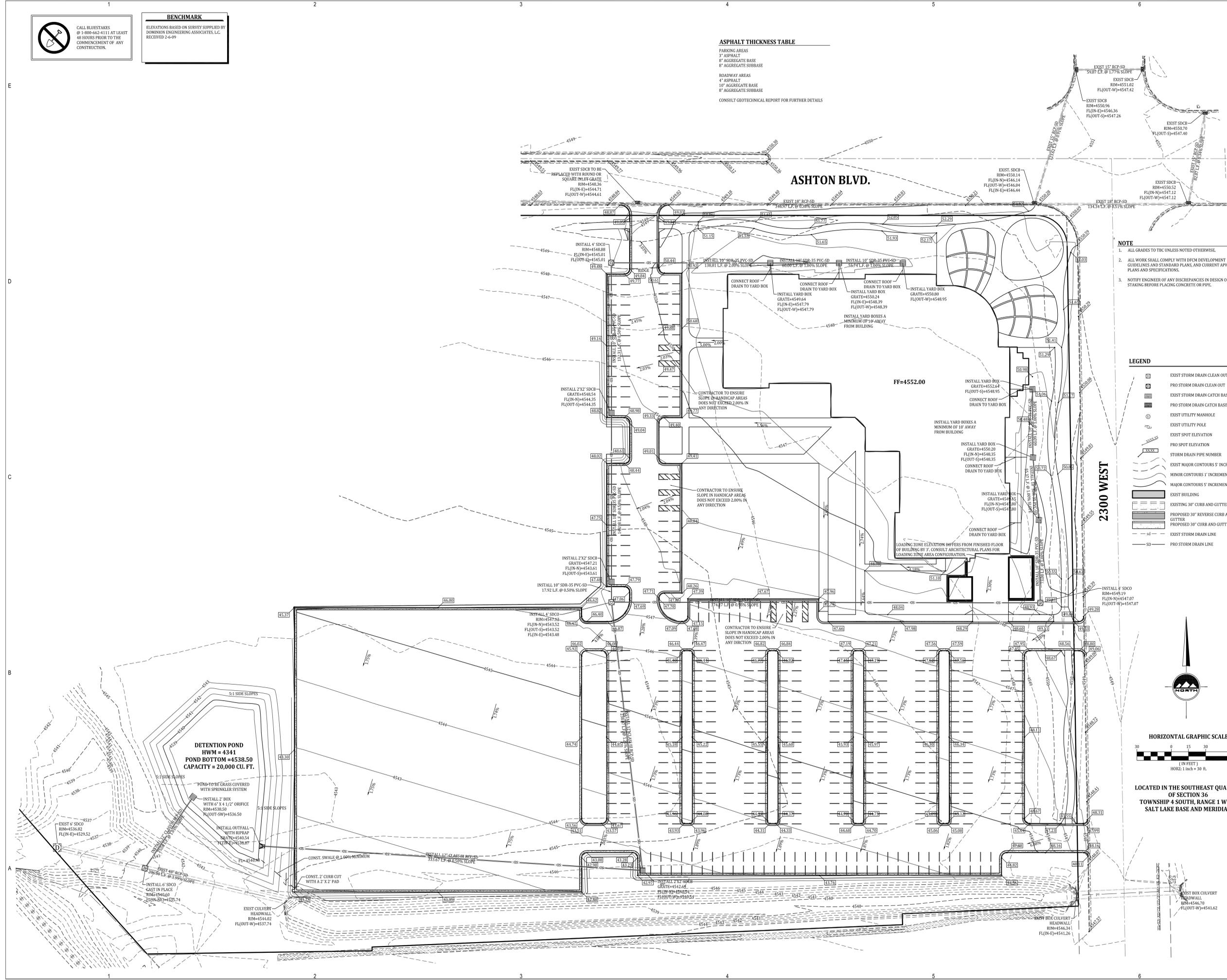


**BENCHMARK**  
ELEVATIONS BASED ON SURVEY SUPPLIED BY  
DOMINION ENGINEERING ASSOCIATES, L.C.  
RECEIVED 2-6-09

**ASPHALT THICKNESS TABLE**

PARKING AREAS	3" ASPHALT
	8" AGGREGATE BASE
	8" AGGREGATE SUBBASE
ROADWAY AREAS	4" ASPHALT
	10" AGGREGATE BASE
	8" AGGREGATE SUBBASE

CONSULT GEOTECHNICAL REPORT FOR FURTHER DETAILS



**NOTE**

1. ALL GRADES TO TIC UNLESS NOTED OTHERWISE.
2. ALL WORK SHALL COMPLY WITH DCM DEVELOPMENT GUIDELINES AND STANDARD PLANS, AND CURRENT APWA PLANS AND SPECIFICATIONS.
3. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING CONCRETE OR PIPE.

**LEGEND**

	EXIST STORM DRAIN CLEAN OUT
	PRO STORM DRAIN CLEAN OUT
	EXIST STORM DRAIN CATCH BASIN
	PRO STORM DRAIN CATCH BASIN
	EXIST UTILITY MANHOLE
	EXIST UTILITY POLE
	EXIST SPOT ELEVATION
	PRO SPOT ELEVATION
	STORM DRAIN PIPE NUMBER
	EXIST MAJOR CONTOURS 5' INCREMENT
	MAJOR CONTOURS 5' INCREMENT
	EXIST BUILDING
	EXISTING 30" CURB AND GUTTER
	PROPOSED 30" REVERSE CURB AND GUTTER
	PROPOSED 30" CURB AND GUTTER
	EXIST STORM DRAIN LINE
	PRO STORM DRAIN LINE

**HFS Architects**  
INTERIORS  
PLANNING

1484 South State Street Salt  
Lake City, Utah 84115 801-  
596-0691/F: 596-0693  
www.hfsa.com

CONSULTANT

**VAN BOERUM  
& FRANK  
ASSOCIATES INC.**  
CONSULTING ENGINEERS

Salt Lake City - Logan - St. George - Temple - Pocatello  
330 South 300 East 801.530.3148 T  
Salt Lake City, UT 84111 801.530.3150 F  
VBFA Project Number: 8166



**NORTHERN UTAH  
COUNTY BUILDING**

**MOUNTAINLAND APPLIED  
TECHNOLOGY COLLEGE**

**UTAH COLLEGE  
OF APPLIED  
TECHNOLOGY**

2300 WEST & ASHTON BLVD.  
LEHI, UT 84043

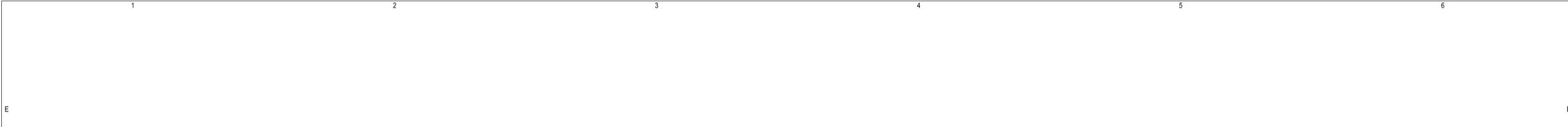
MARK	DATE	DESCRIPTION

DATE: MAY 29, 2009  
DFCM PROJECT NO: 07039260  
HFS PROJECT NO: 0813.01  
CAD DRAWING FILE NO: U1444  
DRAWN BY: CDR, BAP  
CHECKED BY: RLS, BWS, MAP  
DESIGNED BY: BWS  
DRAWING TYPE: CIVIL  
ARCHITECTURAL PHASE: BID SET

**GRADING AND  
DRAINAGE PLAN**

**C101**  
SHEET OF

P:\1144\DESIGN\Production Drawings\GRD\DRN\PLAN\ANG. ENSDCA\_6/1/2009 15:38:49 PM.lsp



**1. PURPOSE/SCOPE**  
THIS STORM WATER POLLUTION PLAN HAS BEEN PREPARED FOR THE MOUNTAINLAND APPLIED TECHNOLOGY COLLEGE. THE PURPOSE OF THE PLAN IS TO PROVIDE THE CONTRACTOR AND OWNER WITH DIRECTION HOW TO PREVENT THE DISCHARGE OF THE RECEIVING WATERS DOWNSTREAM FROM THE SITE. THE BEST MANAGEMENT PRACTICES (BMP'S) HEREIN ARE NOT NECESSARILY COMPREHENSIVE OR EXCLUSIVE, AND IT SHALL BE THE RESPONSIBILITY OF THE OWNER AND CONTRACTOR TO EMPLOY WHATEVER MEANS NECESSARY, INCLUDING BUT NOT LIMITED TO THE PROVISIONS OF THIS PLAN, TO PREVENT THE RECEIVING WATERS FROM POLLUTANTS. BMP'S IMPLEMENTED NOT OTHERWISE COVERED IN THIS SWPPP SHALL BE ADDED TO SWPPP BY AMENDMENT.

THIS STORM WATER POLLUTION PREVENTION PLAN HAS BEEN DEVELOPED TO COMPLY WITH STATE AND LOCAL BEST MANAGEMENT PRACTICES AND REGULATORY REQUIREMENTS. THE PLAN, IF PROPERLY IMPLEMENTED, SHOULD RESULT IN DISCHARGE OF WATER TO THE ENVIRONMENT WITHOUT THE VIOLATION OF WATER QUALITY STANDARDS.

THE CONTRACTOR'S AND OWNER'S PERSONNEL WHOSE ACTIVITIES COULD AFFECT THE STORM RUNOFF FROM THIS SITE SHALL BE EDUCATED AND TRAINED WITH THE NECESSARY INFORMATION TO ENABLE THEM TO CONDUCT THEIR WORK IN SUCH A MANNER AS TO COMPLY WITH THIS PLAN, AND WITH LOCAL, COUNTY, STATE, AND FEDERAL REGULATIONS REGARDING STORM WATER POLLUTION PREVENTION.

A SIGNED COPY OF THIS PLAN SHALL BE KEPT ON SITE DURING ALL PHASES OF CONSTRUCTION, OR AT A DESIGNATED PLACE OFF SITE WHEN PERSONNEL ARE NOT ON SITE.

**2. OWNER'S CERTIFICATION**  
I CERTIFY UNDER PENALTY OF LAW THAT THE DOCUMENT AND REFERENCES WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL, PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

OWNER'S REPRESENTATIVE NAME AND COMPANY: \_\_\_\_\_ DATE: \_\_\_\_\_  
OWNER'S REPRESENTATIVE TITLE: \_\_\_\_\_ ENVIRONMENTAL PROTECTION AGENCY, DENVER, COLORADO (900)759-4572

**3. SITE CONTACT INFORMATION:**  
OWNER'S REPRESENTATIVE: \_\_\_\_\_ ENVIRONMENTAL PROTECTION AGENCY, DENVER, COLORADO (900)759-4572  
STATE OF UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER QUALITY 288 NORTH 1450 WEST P.O. BOX 144070 SALT LAKE CITY, UTAH 84114 (801)538-6951

**4. REFERENCES**  
4.1 SWPPP DOCUMENTS: THE FOLLOWING SHEETS ARE PART OF THE SWPPP AND MUST BE KEPT WITH THIS SHEET ON-SITE AS PART OF THE SHEET C-1: GRADING AND DRAINAGE PLAN; DRAINAGE PATTERNS, DISCHARGE POINT, PERMANENT EROSION AND SEDIMENT CONTROLS, PERMANENT DETENTION BASIN SHEET C-4 - EROSION AND SEDIMENT CONTROL PLAN; LIMITS OF DISTURBANCE, TEMPORARY EROSION AND SEDIMENT CONTROLS, BMP SITE PLAN AND DETAILS SHEET L-1 - LANDSCAPE PLAN; PERMANENT LANDSCAPING UPDES PERMIT (COPY TO BE KEPT WITH SWPPP ON-SITE)

4.2 SUPPLEMENTARY INFO: THE FOLLOWING REFERENCES ARE FOR INFORMATION AND ARE NOT PART OF THE SWPPP: <http://www.waterquality.utah.gov/updes/stormwater.htm> - STATE REQUIREMENTS FOR UPDES PERMIT

**5. REVISIONS AND AMENDMENTS:**  
5.1 FIRST APPRAISAL: THIS PLAN IS DESIGNED AS A FIRST APPRAISAL OF NECESSARY MEANS TO PROTECT THE WATERS OF THE STATE FROM POTENTIAL POLLUTION. IT IS THE RESPONSIBILITY OF THE OWNER/OPERATOR TO ADD AND MAINTAIN BEST MANAGEMENT PRACTICES (BMP'S) AS NECESSARY, MODIFY THOSE SHOWN AS APPROPRIATE, AND RELATE TO THE PROJECT THOSE FOUND TO BE UNNECESSARY. FEDERAL AND STATE LAW ALLOWS THESE UPDATES TO BE MADE BY THE OWNER/OPERATOR ON-SITE AND RECORDED BY THE OWNER/OPERATOR ON THE COPY OF THE SWPPP KEPT ON-SITE.

5.2 WHEN TO AMEND: THIS PLAN SHALL BE AMENDED WHENEVER:  
A) THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE THAT HAS A SUBSTANTIAL EFFECT ON THE DISCHARGE OF POLLUTANTS TO THE WATERS OF THE STATE  
B) INSPECTIONS OR INVESTIGATIONS BY OFFICIALS INDICATE THAT THE PLAN IS INEFFECTIVE IN ELIMINATING, MINIMIZING, OR CONTROLLING THE DISCHARGE OF POLLUTANTS ASSOCIATED WITH CONSTRUCTION ACTIVITY  
C) THERE IS A NEW CONTRACTOR OR SUBCONTRACTOR THAT IMPLEMENTS A MEASURE OF THE STORM WATER POLLUTION PREVENTION PLAN  
D) THERE IS A CHANGE IN STATE OR FEDERAL REGULATIONS THAT APPLIES TO THIS SWPPP  
E) BMP'S NOT REFERENCED IN PLAN ARE USED ON-SITE.

5.3 TRACKING AMENDMENTS: AMENDMENTS AND REVISIONS TO THIS PLAN SHALL BE NOTED IN THE REVISION BLOCK ON THE TITLE BLOCK (ON THE RIGHT SIDE OF EACH SHEET). INCLUDING TYPE OF CHANGES AND DATE OF CHANGES. CHANGES SHALL BE MARKED WITH REVISION CLOUDS ON PLAN SHEETS WITH REVED REFERENCES TO REVISION NUMBERS. AFTER CHANGES ARE MADE, OWNER, ENGINEER, AND CONTRACTOR SHALL SIGN AMENDED PLAN WHICH IS THEN THE PLAN TO BE KEPT ON SITE. SUPERSEDED PLAN SHALL BE FILED BY OWNER OR CONTRACTOR WITH INSPECTION REPORTS.

5.4 NOTICE OF INTENT (NO.I): A NOTICE OF INTENT (NO.I) SHALL BE FILED WITH THE STATE OF UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER QUALITY BEFORE THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. THE NOTICE OF A CHANGE IN OWNERSHIP, A NEW NOTICE OF INTENT SHALL BE FILED WITH THE SAME AGENCY. A COPY OF THE UPDES PERMIT SHALL BE PROVIDED TO THE CITY.

5.5 DEVIATIONS FROM PLANS: ANY DEVIATIONS FROM THE PLANS AS SHOWN DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF AN ENGINEER FOR EVALUATION AS TO WHETHER THE CHANGES AFFECT THE STORM WATER POLLUTION PREVENTION PLAN.

5.6 PARTIAL TRANSFER OF OWNERSHIP: IF OWNERSHIP OF A PORTION OF THE PROJECT IS TRANSFERRED TO ANOTHER BEFORE FILING OF THE NOTICE OF TERMINATION (N.O.T), LIABILITY FOR STORM WATER POLLUTION PREVENTION FOR THE PARCEL SHALL BE TRANSFERRED TO THE NEW OWNER BY CONTRACT. THE NEW OWNER SHALL BE RESPONSIBLE TO CONDUCT OPERATIONS IN SUCH A MANNER AS TO NOT INTERFERE WITH THIS PLAN, AND IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.

**6. PROJECT MANAGEMENT**  
6.1 REVISION COPY: A REVISION COPY OF THIS SWPPP SHALL BE MAINTAINED ON SITE AT ALL TIMES, OR SHALL BE AVAILABLE OFF SITE AT A LOCATION POSTED ON SITE WHEN PERSONNEL ARE NOT PRESENT ON SITE. A NOTICE MUST BE POSTED CONSPICUOUSLY AT THE PROJECT ENTRANCE SHOWING:  
1) A COPY OF THE NOTICE OF INTENT (NO.I)  
2) CURRENT LOCATION OF THE SIGNED SWPPP  
3) CURRENT CONTACT PERSON AND TELEPHONE NUMBER FOR SCHEDULING TIMES TO REVIEW THE SWPPP.

6.2 PHASING OF CONSTRUCTION: THE PROJECT HAS BEEN PLANNED AS ONE PHASE.

6.3 TRAINING: CONTRACTOR WILL PROVIDE ON-SITE TRAINING TO KEY PERSONNEL RESPONSIBLE FOR COMPLIANCE WITH THE SWPPP. THE CONTRACTOR'S SUPERINTENDENT AND PROJECT MANAGER WILL BE FAMILIARIZED WITH THE MAJOR ELEMENTS OF THE PLAN. CONSTRUCTION WORKERS AND OTHERS AT THE SITE WILL BE GIVEN APPROPRIATE TRAINING INFORMATION AT THE CONCLUSION OF SITE SAFETY MEETINGS OR ON AN AS-NEEDED BASIS. THE OWNER SHALL APPOINT AN EROSION AND SEDIMENT CONTROL LEAD AT THE PRECONSTRUCTION CONFERENCE WHO WILL TAKE AN ACTIVE ROLE IN APPLYING THE PROVISIONS OF THIS PLAN ON-SITE.

6.4 PRECONSTRUCTION CONFERENCE: ONE OR MORE PRECONSTRUCTION MEETINGS WILL BE HELD WITH AN EXPLICIT AGENDA ITEM ADDRESSING THE SWPPP.

6.5 COORDINATION WITH UTILITIES AND OTHER CONTRACTORS: ALL CONTRACTORS PROVIDING SERVICES ON THE PROJECT WHICH MAY CAUSE STORM WATER POLLUTION WILL BE GIVEN A COPY OF THE SWPPP AND APPROPRIATE TRAINING REGARDING STORM WATER POLLUTION PREVENTION.

6.6 SUBCONTRACTOR OVERSIGHT: SUBCONTRACTOR OVERSIGHT TO ENSURE COMPLIANCE WITH THE SWPPP WILL BE PROVIDED BY THE PRIME CONTRACTOR'S SUPERINTENDENT OR PROJECT MANAGER. INFORMAL, ON-THE-JOB TAILGATE TRAINING WILL BE THE FIRST LEVEL OF COMMUNICATION FOLLOWED BY ON-SITE OBSERVATION OF TRAINING COMPLIANCE. NONCOMPLIANCE WITH SWPPP POLICIES WILL TRIGGER A MORE INTENSIVE TRAINING SESSION TO CORRECT THE PROBLEMS. CHRONIC NON-COMPLIANCE WITH SWPPP POLICIES MAY REQUIRE THE INTERVENTION OF LOCAL AND/OR STATE REGULATORY PERSONNEL.

**7. CONTRACTOR'S CERTIFICATION**  
THE GENERAL CONTRACTOR AND ANY SUBCONTRACTORS WHOSE WORK MAY AFFECT THE STORM WATER DISCHARGE AND/OR BMP'S IN THIS PLAN ARE REQUIRED TO CERTIFY THE FOLLOWING:  
WE, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW THAT WE UNDERSTAND AND WILL COMPLY WITH THE STORM WATER POLLUTION PREVENTION PLAN AND WITH LOCAL, STATE, AND FEDERAL REGULATIONS FOR THE PROTECTION OF STORM WATER DISCHARGE. WE UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE AS PART OF THIS CERTIFICATION.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_ COMPANY: \_\_\_\_\_ RESPONSIBLE FOR: \_\_\_\_\_

**8. CONSTRUCTION ENVIRONMENTAL SUMMARY**  
8.1 DESCRIPTION OF PROJECT: THE PURPOSE OF THIS PROJECT IS TO CONSTRUCT A SITE SUITABLE FOR THE EDUCATIONAL NEEDS OF THE COLLEGE AND SHALL CONSIST OF ASPHALT PARKING LOTS WITH CURB AND GUTTER, A STORM DRAIN SYSTEM, A DETENTION BASIN, AND LANDSCAPED AREAS.  
8.2 NATURE OF WORK: CONSTRUCTION OF THE FINISHED SITE WILL INCLUDE THE FOLLOWING EARTH-DISTURBING ACTIVITIES: OFFSITE TRENCH WORK AND LINEAR UTILITY CONSTRUCTION, MASS EXCAVATION AND PLACEMENT OF FILL TO GRADE BUILDING PAD AND DETENTION BASIN, SITE UTILITY WORK WITHIN THE RIGHT OF WAY, ASPHALT AND CONCRETE PAVING, LANDSCAPING, VERTICAL CONSTRUCTION OF COLLEGE INCLUDING FOOTING AND FOUNDATION EXCAVATION.  
8.3 SITE INFORMATION: PROPOSED CONSTRUCTION: EDUCATIONAL FACILITY TOTAL PROJECT AREA: 7.59 ACRES TOTAL DISTURBED AREA: 7.59 ACRES TOTAL VOLUME OF CUT/FILL: 6,052/17,450 CU-YD TOTAL PROPOSED IMPERVIOUS AREA BEFORE/AFTER CONSTRUCTION: 0.00/5.15 ACRES WEIGHTED RUNOFF COEFFICIENT BEFORE/AFTER CONSTRUCTION: 0.015/0.66  
8.4 EXISTING SITE TOPOGRAPHY: SITE GENTLY SLOPES TO SOUTHWEST CORNER (900)759-4572  
8.5 EXISTING VEGETATION TYPE AND CONDITION: NATIVE GRASSES AND WEEDS  
8.6 EXISTING SOIL CHARACTERISTICS: 8-12 INCHES TOPSOIL OVERLYING SILT AND SANDY CLAY.  
8.7 EXISTING WATER QUALITY: THE EXISTING GROUND WATER QUALITY IS ASSUMED TO BE TYPICAL OF THAT WHICH IS SAFE FOR DRINKING. THE EXISTING STORM RUNOFF WATER QUALITY IS ASSUMED TO BE TYPICAL OF SUBURBAN RESIDENTIAL DEVELOPMENTS.  
8.8 RECEIVING WATERS FOR EXISTING AND PROPOSED RUNOFF: CHANNEL TO SOUTH DRAINS TO CULVERT WHERE THE IS IN TAKE PLACE SEED GRADING PLAN. CULVERT DRAINS TO OPEN CHANNEL TO THE WEST AND DRAINS TOWARD THE JORDAN RIVER.  
8.9 CRITICAL AREAS ON OR NEAR SITE: RUNOFF TO THE EXISTING DRAINAGE CHANNEL TO SOUTH AND TO EXISTING ROADS SHALL BE GUARDED AGAINST POLLUTION. EXISTING STREETS TO THE NORTH AND EAST SHALL BE KEPT CLEAN FROM CONSTRUCTION DEBRIS, MUD, AND DUST.  
8.10 POTENTIAL EROSION PROBLEMS EXISTING OR ANTICIPATED: SLOPES NEAR THE CHANNEL TO THE SOUTH MAY NEED TO BE PROTECTED. PROPOSED BERMS AND SLOPES AND STORM DRAIN OUTFALLS POST POTENTIAL EROSION PROBLEMS IF UNPROTECTED.  
8.11 POTENTIAL POLLUTION SOURCES: EXPOSED SOILS THAT COULD BECOME WATERBORNE OR AIRBORNE, VEHICLES COULD TRACK MATERIAL OFFSITE, CONCRETE WASHOUT CULVERT FROM STORM DRAIN SYSTEM, CHEMICALS AND MATERIALS STORED OR USED ON-SITE COULD BE SPILLED, SANITARY WASTE COULD BE IMPROPERLY DISPOSED OF.  
8.12 CONSTRUCTION SEQUENCING/MAJOR SOIL DISTURBING ACTIVITIES: SEE SWPPP IMPLEMENTATION SEQUENCE BELOW AND EROSION AND SEDIMENT CONTROL PLAN. THE MEASURES SHOWN BELOW AND THE EROSION AND SEDIMENT CONTROL PLAN, ARE NOT EXCLUSIVE AND CANNOT ALL BE APPLIED SIMULTANEOUSLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EMPLOY THE CORRECT BEST MANAGEMENT PRACTICES FOR EACH CONSTRUCTION STAGE, AND TO MAINTAIN THE BMP'S FOR AS LONG AS THEY ARE APPROPRIATE.  
8.13 ENGINEERING CALCULATIONS: SEE STORM WATER ANALYSIS REPORT FOR CALCULATIONS OF STORM WATER FLOW AND DETENTION FOR PERMANENT DRAINAGE FACILITIES.

**9. CLEARING LIMITS**  
9.1 MINIMIZE SITE CLEARING: SEE EROSION AND SEDIMENT CONTROL PLAN FOR ANTICIPATED CLEARING LIMITS. WHEREVER POSSIBLE, LIMIT CLEARING ONLY TO AREAS OF ACTIVE WORK, PER SWPPP SEQUENCING DIAGRAM BELOW.  
9.2 MARK CLEARING LIMITS: PRIOR TO BEGINNING EARTH DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRADING, ALL CLEARING LIMITS, EXISTENCES, SETBACKS, SENSITIVE AREAS AND THEIR BUFFERS, TREES AND TRIMMAGE CORSES WILL BE CLEARLY MARKED TO PREVENT ENVIRONMENTAL DAMAGE BOTH ON AND OFF SITE. CONTRACTOR SHALL ERECT FENCES AS NECESSARY TO ENFORCE THE MARKED CLEARING LIMITS.  
9.3 BUFFER ZONES: SPECIAL CONSIDERATION WILL BE GIVEN TO THE BOUNDARY OF THE SITE ALONG THE DRAINAGE TO THE SOUTH. EXISTING VEGETATION SHALL BE PRESERVED ALONG THE SLOPE TO PREVENT EROSION AND TO PROVIDE A BUFFER ZONE FOR THE CHANNEL.  
9.4 PRESERVATION OF TREES: EXISTING TREES SHALL BE PRESERVED WHEREVER DESIRABLE.

**10. CONSTRUCTION ACCESS**  
10.1 TEMPORARY ACCESS: SEE EROSION AND SEDIMENT CONTROL PLAN FOR ANTICIPATED CONSTRUCTION ENTRANCE LOCATION. CONTRACTOR MAY FIELD ADJUST AS NECESSARY AND RECORD LOCATION ON DRAWINGS. ALL CONSTRUCTION VEHICLES EXITING THE SITE WILL BE LIMITED TO THIS ACCESS. THE ACCESS WILL BE STABILIZED WITH QUARRY SANDS, CRUSHED ROCK, OR ASPHALT TO PREVENT TRACKING SEDIMENT ONTO PAVED AREAS.  
10.2 STREET CLEANING: IF SEDIMENT IS TRANSPORTED ON TO THE STREET IT WILL BE REMOVED FROM THE STREET SURFACE ON A DAILY BASIS. SEDIMENT WILL BE SHOVELLED AND/OR SWEEP FROM THE STREET AND DISPOSED OF IN A MANNER, WHICH PREVENTS CONTAMINATION WITH STORM WATER OR SURFACE WATER (E.G., COVERED SOIL STOCKPILE). IN ADDITION, A STREET SWEEPER MAY BE USED TO MAINTAIN CLEAN ROADS ON AN AS-NEEDED BASIS. FOR OFFSITE TRENCH WORK, ALL FEASIBLE CARE SHALL BE MADE TO CONTAIN EXCAVATED MATERIAL AND BACKFILL MATERIAL, AND THE ADJACENT STREET SHALL BE SWEEP DAILY DURING WORK DAYS, AND AT OTHER TIMES AS NEEDED, TO KEEP THE TRAVELED WAY AND ADJACENT PROPERTIES AND/OR DRAINAGES CLEAN FROM MUD, DUST, SILT, AND DEBRIS.  
10.3 VEHICLE WASH-DOWN: A TEMPORARY TRUCK WHEEL WASH STATION SHALL BE CONSTRUCTED TO ENSURE CONTROL OF ADJACENT AT THE CONSTRUCTION EXIT POINT. THE WASH SYSTEM WILL BE CONSTRUCTED ON THE SITE AT A LOCATION JUST PRIOR TO WHERE TRUCKS LEAVE THE SITE ACCESS AND ENTER THE STREET. THE SYSTEM WILL CONSIST OF A CORBEL PAD LINED BELOW WITH FILTER FABRIC, AND AN ADJACENT DRAINAGE SWALE AND SEDIMENTATION BASIN TO COLLECT WASH WATER FOR SETTLEMENT OF DEBRIS. WASH WATER MAY BE REUSED AFTER SETTLING, INFILTRATED ON-SITE, OR TRANSPORTED OFF-SITE AS MUCH AS POSSIBLE PRIOR TO ENTERING THE TEMPORARY SEDIMENTATION PONDS. SEDIMENT MUST BE REMOVED FROM SEDIMENTATION PONDS AND SEDIMENT TRAPS WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%.

**11. STORM WATER DETENTION**  
11.1 TEMPORARY MEASURES: DRAINAGE SWALES, SILT FENCES, AND TEMPORARY CULVERTS WILL CHANNEL ALL RUNOFF CONTAMINATED WITH SEDIMENT OR OTHERWISE AFFECTED BY CONSTRUCTION ACTIVITIES INTO TEMPORARY SEDIMENTATION BASINS. TEMPORARY BASINS ARE SIZED TO COMPLETELY RETAIN A 2-YEAR 24-HOUR STORM BASED ON THE TRIBUTARY AREA. ALL PERIODIC STORM EVENTS OF HIGHER INTENSITY AND/OR LONGER DURATION WILL NOT BE COMPLETELY RETAINED, BUT THE SEDIMENTATION BASINS WILL PROVIDE AN OPPORTUNITY FOR SEDIMENTATION BEFORE THE WATER LEAVES THE SITE. ALL DITCHES AND OTHER WATER CONVEYANCES DRAINING ACTION TO THE SEDIMENTATION BASINS WILL BE STABILIZED WITH ROCK MATTING, OR OTHER STABILIZING METHOD WITH CHECK DAMS OR SEDIMENT TRAPS PLACED AS NEEDED TO REDUCE WATER VELOCITY AND SETTLE OUT AS MUCH SEDIMENT AS POSSIBLE PRIOR TO ENTERING THE TEMPORARY SEDIMENTATION PONDS. SEDIMENT MUST BE REMOVED FROM SEDIMENTATION PONDS AND SEDIMENT TRAPS WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%.  
11.2 PERMANENT STORM DRAIN SYSTEM: ONCE THE STORM DRAIN IMPROVEMENTS ARE IN PLACE WATER WILL BE CHANNELLED TO A PERMANENT DETENTION BASIN SIZED ACCORDING TO THE GRADING AND DRAINAGE PLAN. THE OUTLET FROM THE DETENTION BASIN SHALL BE PROTECTED PER PROJECT DETAILS TO CAUSE FLOW TO FUNCTION AS A SEDIMENTATION BASIN UNTIL LAND IS STABILIZED. TEMPORARY AND/OR PERMANENT DRAINAGE SWALES MAY ALSO BE USED TO CAPTURE CONTAMINATED RUNOFF, AND SHALL BE PROTECTED AND MAINTAINED AS DESCRIBED IN SECTION 11.1.

**12. SEDIMENT CONTROL**  
12.1 DUST CONTROL: SOILS, GRAVELS, ETC., WHETHER STOCKPILED OR PLACED, SHALL BE KEPT COVERED AND/OR ADEQUATELY MOIST TO PREVENT AIRBORNE DUST FROM LEAVING THE SITE.  
12.2 RUNOFF INTERCEPTION: BEFORE BEING DISCHARGED FROM THE CONSTRUCTION SITE, SEDIMENT-CONTAMINATED STORM WATER WILL BE PROCESSED IN THE STORM WATER TREATMENT SYSTEM INCLUDING SEDIMENT TRAPS AND/OR SEDIMENTATION BASINS. CLEAN WATER BYPASSING THE SITE WILL BE ROUTED DIRECTLY TO THE RECEIVING SYSTEM.  
12.3 SEQUENCING: SEDIMENT PONDS AND TRAPS, VEGETATED BUFFER STRIPS, SEDIMENT BARRIERS OR FILTERS, DIKES, AND OTHER BMP'S INTENDED TO TREAT SEDIMENT ON SITE WILL BE INSTALLED BEFORE OTHER LAND-DISTURBING ACTIVITIES TAKE PLACE. SEE SWPPP SEQUENCING DIAGRAM BELOW. SILT FENCES AND TEMPORARY DRAINAGE SWALES SHALL BE PLACED PER EROSION AND SEDIMENT CONTROL PLAN, AND ELSEWHERE AS APPROPRIATE. THESE BMP'S SHALL BE MAINTAINED UNTIL STABILIZATION OF DISTURBED AREAS IS COMPLETE.  
12.4 OTHER POSSIBLY HELPFUL BMP'S: DIVERSION DIKE, STRAW BALE BARRIER, BRUSH BARRIER, SILT FENCE, VEGETATIVE STRIP, ROCK CHECK DAM.

**13. SOIL STABILIZATION**  
13.1 TOPSOIL COLLECTION: DURING TOPSOIL SHALL BE HARVESTED FROM AN AREA IS TO BE DISTURBED, AND STOCKPILED ON-SITE. TOPSOIL SHALL THEN BE SPREAD WHERE FINISH GRADE IS ACHIEVED IN ORDER TO ENHANCE REVEGETATION. AS AN ALTERNATIVE TO STORING STOCKPILES SOIL, NEW TOPSOIL MAY BE IMPORTED POST CONSTRUCTION, PROVIDED ALL UNPAVED AREAS NOT OTHERWISE LANDSCAPED ARE TREATED FOR REVEGETATION.  
13.2 MULCHING AND EROSION CONTROL MATS: ONCE DISTURBED LAND HAS BEEN WORKED TO FINISH GRADE, OR IS TO BE LEFT UNWORKED FOR MORE THAN 14 CALENDAR DAYS, THE LAND SHALL BE STABILIZED BY ONE OF THE FOLLOWING METHODS, TO BE DETERMINED AT A MINIMUM BY THE GRADE CONTRACTOR LISTED. THE OWNER/OPERATOR MAY TO APPLY A MORE STRINGENT PROTECTION THAN REQUIRED BY THE GRADE, AS APPROPRIATE TO THE NEEDS OF THE SITE:  
1) GRADE LESS THAN 10% SLOPE: LINES OF TRACKS PERPENDICULAR TO FLOW DIRECTION  
2) GRADE BETWEEN 10% AND 3:1 (3:30): TRACKING AND MULCHING - STRAW, HYDROSEED, OR OTHER  
3) GRADE STEEPER THAN 3:1 (3:30): EROSION CONTROL MATS  
FOR LOCATIONS WHERE SOIL AND/OR SLOPE CONDITIONS WILL MAKE IT DIFFICULT FOR VEGETATION TO REESTABLISH WITHIN SIX MONTHS, A BONDED FIBER MATRIX SHALL BE EMPLOYED TO SEED AND STABILIZE DISTURBED LAND.  
13.3 TEMPORARY NATIVE SEEDING AREAS OF SITE NOT TO BE IMMEDIATELY BUILT OUT SHALL BE REVEGETATED AFTER CONSTRUCTION UNTIL RESPECTIVE CONSTRUCTION BEGINS. NATIVE SEEDS SHALL BE USED WHERE NECESSARY, WITH STABILIZE ACCORDING TO SECTION 13.2 - MULCHING AND EROSION CONTROL MATS.  
13.4 TEMPORARY NATIVE SEEDING: PLANT FILL SLOPES ADJACENT TO EXISTING WATERS WITH NATIVE GRASS MIXTURE UPON COMPLETION OF GRADING AND BEFORE TEMPORARY IRRIGATION TILL ESTABLISHED.  
13.5 PERMANENT LANDSCAPING: DETENTION BASIN TO BE LANDSCAPED INCLUDING TUBE - SOIL OR SEED. OTHER AREAS TO BE LANDSCAPED PER LANDSCAPE PLAN. LANDSCAPING SHALL BE IRRIGATED AND MAINTAINED BY CONTRACTOR UNTIL THE MAT. IS ACCEPTED AND OWNERSHIP IS TRANSFERRED.  
13.6 MAINTENANCE OF EXISTING VEGETATION: EXISTING AND NEW VEGETATION WILL BE MAINTAINED TO THE MAXIMUM EXTENT PRACTICABLE TO PREVENT THE CONTAMINATION OF STORM WATER WITH SEDIMENT. VEGETATED AREAS BEGINNING TO SHOW SIGNS OF EROSION OR SOIL TRANSPORT SHALL BE REPAIRED AND STABILIZED PER SECTION 13.2 - MULCHING AND EROSION CONTROL MATS.  
13.7 SOIL COVERING: ALL SLOPES AS WELL AS DRAINAGE DITCHES, SWALES, AND EXPOSED FLAT SURFACES AS DEEMED NECESSARY BY THE EROSION AND SEDIMENT CONTROL LEAD SHALL BE COVERED PRIOR TO THE ONSET OF THE RAINY SEASON OR ANY ANTICIPATED STORM EVENT. THE PRIMARY STABILIZATION METHOD USED WILL BE COVERING SOILS WITH AN APPROVED MATTING AND/OR HYDROSEEDING. AREAS OF THE PROJECT, WHICH HAVE NOT BEEN PROPERLY STABILIZED BY VEGETATION BY THE ONSET OF THE WET SEASON, WILL BE COVERED WITH TRANSPARENT PLASTIC SHEETING BEFORE ANY ANTICIPATED STORM EVENT TO PREVENT SEDIMENT TRANSPORT. PLASTIC SHEETING WILL ALSO BE USED AS AN EMERGENCY BMP TO COVER PREVIOUSLY STABILIZED AREAS, WHICH BEGAIN TO ERODE. LOGS, STRAW AND MULCH COVERS ARE NOT TO BE USED AS THEY MAY BE WASHED INTO DRAINAGE STRUCTURES.  
13.8 STOCKPILE COVERING: ALL TEMPORARY SOIL STOCKPILES WILL BE BERMED AROUND OR COVERED WITH PLASTIC PRIOR TO ANTICIPATED RAINFALL EVENTS. LONG-TERM STOCKPILES WILL BE COMPACTED AND HYDROSEEDED PRIOR TO THE ONSET OF WET WEATHER.  
13.9 TEMPORARY SLOPE DRAINS: CONCENTRATED FLOWS AT TOPS OF SLOPES SHALL BE CONVEYED TO THE BOTTOM OF THE SLOPE VIA TEMPORARY SLOPE DRAINS, COMPOSED OF BERMED INLETS, FLEXIBLE PIPING, AND STABILIZED OUTFLETS. IN SOME CASES UNSTABLE SLOPES WILL BE TEMPORARILY COVERED WITH PLASTIC TO PREVENT EROSION AND TO PROTECT WATER QUALITY. WHEN SOIL IS DISTURBED DOWNSTREAM OF THE SLOPE, THE SLOPE DRAINAGE MUST BE COVERED ABOVE THE DISTURBED SOIL TO PREVENT EROSION BY PILING IT DIRECTLY TO THE NEAREST DRAIN OR STABILIZED AREA.  
13.10 OTHER POSSIBLY HELPFUL BMP'S: BENCHING, CHANNEL STABILIZATION, CULVERTS

**14. SLOPE PROTECTION**  
14.1 GENERAL PRACTICES: CUT AND FILL SLOPES ON THIS PROJECT HAVE BEEN DESIGNED AND WILL BE CONSTRUCTED SO AS TO MINIMIZE EROSION. SOIL TYPES HAVE BEEN ANALYZED AND CONSIDERED FOR THEIR POTENTIAL TO ERODE. SLOPE RUNOFF TECHNIQUES SHALL BE REDUCED BY TERRACING. CREATING DIVERSIONS AND SURFACE CONTOURING. UNCONTAMINATED RUN-OFF WATER FROM OFF-SITE WILL BE INTERCEPTED AT THE TOP OF THE SLOPE AND DIVERTED AROUND THE ACTIVE CONSTRUCTION AREA. DOWN SLOPE FLOWS WILL BE CONTAINED IN PIPES, SILT DRAINAGE AREAS, AND/OR STABILIZED CHANNELS.  
14.2 SURFACE DRAINS, LEVEL SURFACING, BENCHING, GRADIENT TERRACES, INTERCEPTOR DIKE AND SWALL, GRASS-LINED CHANNELS, PIPE SLOPE DRAIN.

**15. DRAIN INLET PROTECTION**  
15.1 EXISTING STORM DRAINS: EXISTING STORM DRAIN INLETS WILL BE PROTECTED FROM STORM WATER FROM ENTERING WITHOUT FIRST BEING FILTERED AND PREVENTED FROM SEDIMENT. INLET PROTECTION MEASURES SHOWN ON EROSION AND SEDIMENT CONTROL PLAN ARE NOT NECESSARILY PRECISE AND COMPREHENSIVE, AND ARE INTENDED TO GUIDE THE CONTRACTOR HOW TO PROTECT INLETS.  
15.2 NEWLY CONSTRUCTED STORM DRAINS: ALL STORM DRAIN INLETS MADE OPERABLE DURING CONSTRUCTION WILL BE PROTECTED TO PREVENT STORM WATER FROM ENTERING WITHOUT FIRST BEING FILTERED OR TREATED TO REMOVE SEDIMENT. INLET PROTECTION WILL NEED TO BE MODIFIED THROUGHOUT THE COURSE OF CONSTRUCTION AS CONDITIONS AROUND THE INLET CHANGE. I.E. METHOD OF PROTECTION SHALL BE APPROPRIATE TO WHETHER OR NOT ADJACENT PAVEMENT IS IN PLACE. SEE DETAILS FOR SPECIFIC INSTRUCTION.  
15.3 TEMPORARILY MODIFIED ATTACHMENT STRUCTURES: CATCH BASINS, MANHOLES, VAULTS AND SWALES SHALL BE MODIFIED ON A TEMPORARY BASIS AS NECESSARY SO THAT CONTAMINATED WATER CAN BE INTERCEPTED BEFORE LEAVING THE SITE. ONE POSSIBLE METHOD IS TO TEMPORARILY BLOCK AN OUTLET STRUCTURE AND INSTALL A PUMP TO TRANSFER THE STORM WATER INTOFLOW TO A SETBACK, INFILTRATION, OR TREATMENT SYSTEM. AUTOMATIC FLOW LEVEL CONTROLLERS ARE SUGGESTED TO PREVENT THE PUMP FROM RUNNING DRY AND TO CONSERVE POWER USE. BASIN OUTLET STRUCTURES ARE TO BE MODIFIED TO INCLUDE A STANDPIPE ENCASED IN GRAVEL TO ENCOURAGE SEDIMENTATION IN BASIN BEFORE FLOWS EXIT THE BASIN.

**16. STORM WATER OUTFLET PROTECTION**  
16.1 FILTER STRIP: TEMPORARY SEDIMENTATION POND OVERFLOWS SHALL DISCHARGE ACROSS EROSION CONTROL MAT OR RIP RAP, AND PERMANENT DETENTION BASINS SHALL DISCHARGE ACROSS RIP RAP, ALLOWING SEDIMENT AND OTHER CONTAMINANTS TO BE INTERCEPTED BEFORE REACHING RECEIVING WATERS, AND TO PROTECT DISCHARGE FROM EROSION.  
16.2 OUTFLET PROTECTION: ADEQUATE ENERGY DISSIPATION, EROSION CONTROL, AND SOIL STABILIZATION MEASURES (E.G., ROCK OR OTHER ENERGY DISSIPATION TECHNIQUES) WILL BE PROVIDED FOR ALL POINT SOURCE DISCHARGES OF STORM WATER, INCLUDING RUN-ON DISCHARGES AND OUTFLETS FROM ON-SITE DISCHARGES.  
16.3 SPILL PREVENTION AND CONTROL: NON-SEEDING POLLUTANTS THAT MAY BE PRESENT DURING CONSTRUCTION ACTIVITIES INCLUDE: PETROLEUM PRODUCTS INCLUDING FUEL, LUBRICANTS, HYDRAULIC FLUIDS, AND FORD OILS POLYMER USED FOR SOIL STABILIZATION WATER TREATMENT CHEMICALS (COAGULANT, ACID, SODIUM BICARBONATE) CONCRETE PAINTS FERTILIZERS TRASH & LITTER SANITARY WASTE THESE MATERIALS, AND OTHER MATERIALS USED DURING CONSTRUCTION WITH THE POTENTIAL TO IMPACT STORM WATER, WILL BE STORED, MANAGED, USED, AND DISPOSED OF IN A MANNER THAT MINIMIZES THE POTENTIAL FOR RELEASES TO THE ENVIRONMENT AND ESPECIALLY INTO STORM WATER.  
16.4 GENERAL MATERIALS HANDLING PRACTICES: HAZARDOUS MATERIALS SHALL BE HANDLED IN ACCORDANCE WITH ALL APPLICABLE LAWS. HAZARDOUS MATERIALS SHALL BE KEPT OFF-SITE OR SHALL BE KEPT IN AN IMPROVISED CONTAINED AREA AND COVERED OR APPROPRIATELY THAT SPILLS WILL NOT RUN OFF OR SEEP INTO THE GROUND. POTENTIAL POLLUTANTS WILL BE STORED AND USED IN A MANNER CONSISTENT WITH THE MANUFACTURER'S INSTRUCTIONS IN A SECURE LOCATION. TO THE EXTENT PRACTICABLE, MATERIAL STORAGE AREAS SHOULD NOT BE LOCATED NEAR STORM DRAIN INLETS AND SHOULD BE EQUIPPED WITH COVERS, BOOMS, OR SECONDARY CONTAINMENT TO PREVENT STORM WATER FROM CONTACTING STORED MATERIALS. CHEMICALS THAT ARE NOT COMPATIBLE (SUCH AS SODIUM BICARBONATE AND HYDROCHLORIC ACID) SHALL BE STORED IN SEPARATED AREAS SO THAT CONTAMINATION CANNOT COMBINE AND REACT. MATERIALS STORAGE WILL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS. MATERIALS NO LONGER REQUIRED FOR CONSTRUCTION WILL BE REMOVED FROM THE SITE AS SOON AS PRACTICABLE.  
16.5 VEHICLES AND EQUIPMENT: FIX LEAKS OF FUEL, OIL, ETC. IMMEDIATELY. PERFORM REFUELING AND SERVICING OFF SITE WHENEVER POSSIBLE. FOR ON-SITE SERVICING OR REPAIRING, PROVIDE AN IMPROVISED CONTAINED AREA SUCH THAT SPILLS WILL NOT RUN OFF TO THE STORM DRAINAGE SYSTEM OR SEEP INTO THE GROUND. CONDUCT MAINTENANCE UNDER COVER IF POSSIBLE. MATERIALS SPILLED DURING MAINTENANCE OPERATIONS WILL BE CLEANED UP IMMEDIATELY AND PROPERLY DISPOSED OF.

**17. SPILL PREVENTION AND CONTROL**  
17.1 NON-SEEDING POLLUTANTS: NON-SEEDING POLLUTANTS THAT MAY BE PRESENT DURING CONSTRUCTION ACTIVITIES INCLUDE: PETROLEUM PRODUCTS INCLUDING FUEL, LUBRICANTS, HYDRAULIC FLUIDS, AND FORD OILS POLYMER USED FOR SOIL STABILIZATION WATER TREATMENT CHEMICALS (COAGULANT, ACID, SODIUM BICARBONATE) CONCRETE PAINTS FERTILIZERS TRASH & LITTER SANITARY WASTE THESE MATERIALS, AND OTHER MATERIALS USED DURING CONSTRUCTION WITH THE POTENTIAL TO IMPACT STORM WATER, WILL BE STORED, MANAGED, USED, AND DISPOSED OF IN A MANNER THAT MINIMIZES THE POTENTIAL FOR RELEASES TO THE ENVIRONMENT AND ESPECIALLY INTO STORM WATER.  
17.2 GENERAL MATERIALS HANDLING PRACTICES: HAZARDOUS MATERIALS SHALL BE HANDLED IN ACCORDANCE WITH ALL APPLICABLE LAWS. HAZARDOUS MATERIALS SHALL BE KEPT OFF-SITE OR SHALL BE KEPT IN AN IMPROVISED CONTAINED AREA AND COVERED OR APPROPRIATELY THAT SPILLS WILL NOT RUN OFF OR SEEP INTO THE GROUND. POTENTIAL POLLUTANTS WILL BE STORED AND USED IN A MANNER CONSISTENT WITH THE MANUFACTURER'S INSTRUCTIONS IN A SECURE LOCATION. TO THE EXTENT PRACTICABLE, MATERIAL STORAGE AREAS SHOULD NOT BE LOCATED NEAR STORM DRAIN INLETS AND SHOULD BE EQUIPPED WITH COVERS, BOOMS, OR SECONDARY CONTAINMENT TO PREVENT STORM WATER FROM CONTACTING STORED MATERIALS. CHEMICALS THAT ARE NOT COMPATIBLE (SUCH AS SODIUM BICARBONATE AND HYDROCHLORIC ACID) SHALL BE STORED IN SEPARATED AREAS SO THAT CONTAMINATION CANNOT COMBINE AND REACT. MATERIALS STORAGE WILL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS. MATERIALS NO LONGER REQUIRED FOR CONSTRUCTION WILL BE REMOVED FROM THE SITE AS SOON AS PRACTICABLE.  
17.3 VEHICLES AND EQUIPMENT: FIX LEAKS OF FUEL, OIL, ETC. IMMEDIATELY. PERFORM REFUELING AND SERVICING OFF SITE WHENEVER POSSIBLE. FOR ON-SITE SERVICING OR REPAIRING, PROVIDE AN IMPROVISED CONTAINED AREA SUCH THAT SPILLS WILL NOT RUN OFF TO THE STORM DRAINAGE SYSTEM OR SEEP INTO THE GROUND. CONDUCT MAINTENANCE UNDER COVER IF POSSIBLE. MATERIALS SPILLED DURING MAINTENANCE OPERATIONS WILL BE CLEANED UP IMMEDIATELY AND PROPERLY DISPOSED OF.

**18. BMP MAINTENANCE & INSPECTION**  
18.1 MAINTENANCE: ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMP'S WILL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL MAINTENANCE AND REPAIR WILL BE CONDUCTED IN ACCORDANCE WITH BMP'S. THE PROJECT IS SUBJECT TO INSPECTION BY STATE, AND FEDERAL OFFICIALS AT ANY TIME TO VERIFY COMPLIANCE WITH THE SWPPP AND WITH APPLICABLE ORDINANCES.  
18.2 OWNER'S INSPECTION SCHEDULE: IN ADDITION, THE OWNER SHALL PROVIDE INSPECTION OF THE SITE BY QUALIFIED PERSONNEL AS DESCRIBED BELOW TO VERIFY COMPLIANCE WITH THIS SWPPP:  
A) AT LEAST ONCE EVERY FOURTEEN CALENDAR DAYS FOR SITES NOT FINALLY STABILIZED.  
B) PRIOR TO ANTICIPATED STORM EVENTS THAT COULD RESULT IN SUBSTANTIAL RUNOFF.  
C) WITHIN 24 HOURS AFTER A STORM THAT RESULTS IN 0.5 IN. RUNOFF OR GREATER.  
D) AT LEAST ONCE EACH MONTH WHEN RUNOFF IS UNLIKELY OR WHERE STAYS HAVE BEEN STABILIZED UNTIL N.O.T. IS FILED.  
18.3 INSPECTION CRITERIA: POINTS, AREAS, BMP'S AND ACTIVITIES TO BE INSPECTED: DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ACCEPT AS TO WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE. PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING.  
18.4 INSPECTION INDUCED PLAN REVISIONS: BASED ON THE RESULTS OF THE INSPECTION, THE SITE DESCRIPTION IDENTIFIED IN THE PLAN AND POLLUTION PREVENTION MEASURES IDENTIFIED IN THE PLAN SHALL BE REVISIONED AS APPROPRIATE, BUT IN NO CASE LATER THAN 7 CALENDAR DAYS FOLLOWING THE INSPECTION. SUCH MODIFICATIONS SHALL PROVIDE FOR TIMELY IMPLEMENTATION OF ANY CHANGES TO THE PLAN WITHIN 7 CALENDAR DAYS FOLLOWING THE INSPECTION.  
18.5 INSPECTION REPORT: A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATIVE TO THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (INCLUDING THE LOCATION (S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE AND IF OF ANY CONTROL DEVICE THAT FAILED TO OPERATE AS DESIGNED OR PROVIDED INADEQUATE FOR A PARTICULAR LOCATION), AND ACTIONS TAKEN SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN ON-SITE DURING CONSTRUCTION, AND FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED. SUCH REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE, WHERE A REPORT DOES NOT IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE, THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN AND THIS PERMIT. THIS REPORT SHALL BE SIGNED BY THE CONTRACTOR, INSPECTOR, AND OWNER'S REPRESENTATIVE. EXAMPLE INSPECTION FORMS CAN BE OBTAINED ON THE LAST TWO PAGES OF THE STATE SWPPP TEMPLATE AT <http://www.waterquality.utah.gov/updes/swppp6209>

**19. RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.  
19.2 RECORD KEEPING: THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (NO.I) AND ANY OTHER APPLICABLE RECORDS FOR THREE YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION. A RECORD OF DATES OF MAJOR GRADING ACTIVITIES, TEMPORARY CESSATIONS OF CONSTRUCTION ACTIVITIES, AND INITIATION OF STABILIZATION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT WITH THE INSPECTION REPORTS.

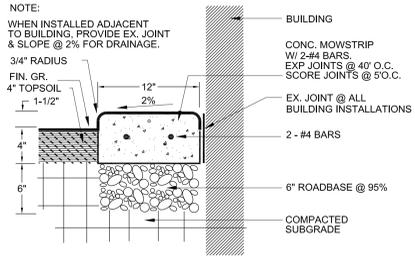
**19.2 RECORD KEEPING:** THE OWNER SHALL RETAIN COPIES OF INSPECTION REPORTS, THE SWPPP, THE STATE NOTICE OF INTENT (



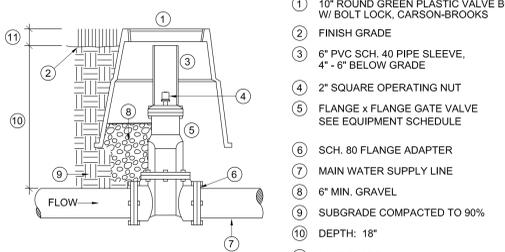




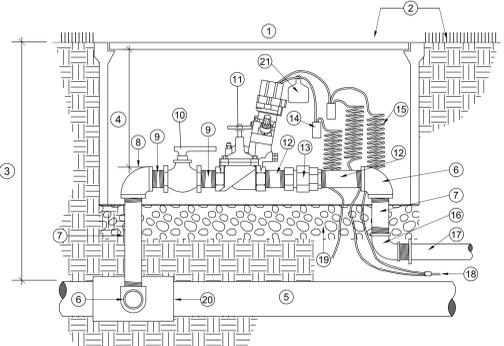




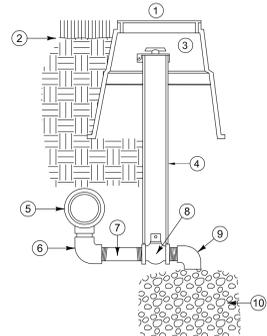
**MOWSTRIP**  
Not to Scale



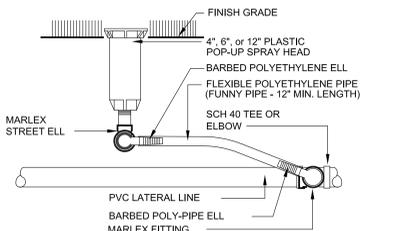
**GATE VALVE**  
Not to Scale



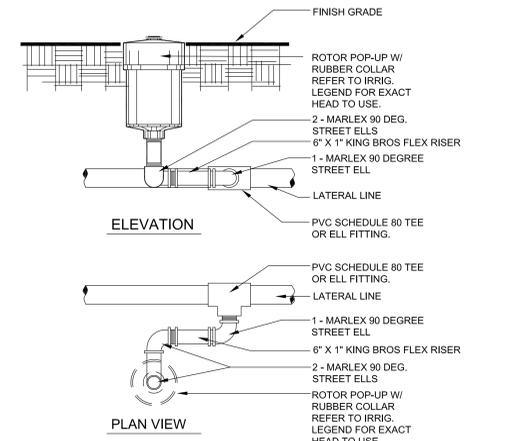
**CONTROL VALVE ASSEMBLY**  
Not to Scale



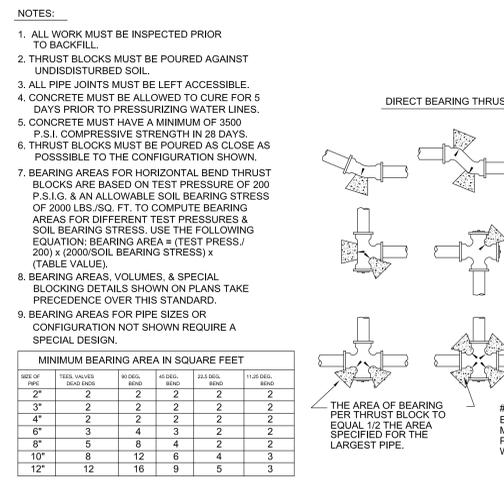
**MANUAL DRAIN VALVE ASSEMBLY**  
Not to Scale



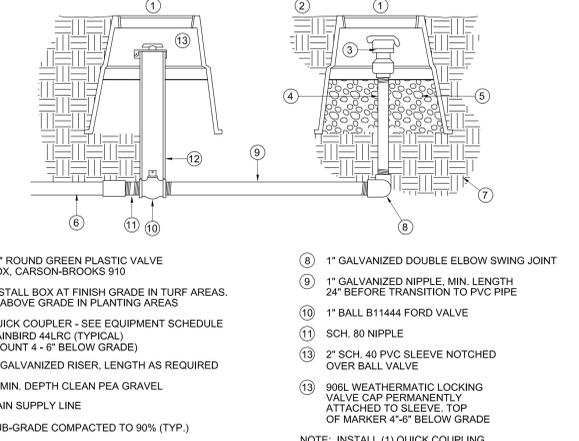
**SWING JOINT - SPRAY HEAD**  
Not to Scale



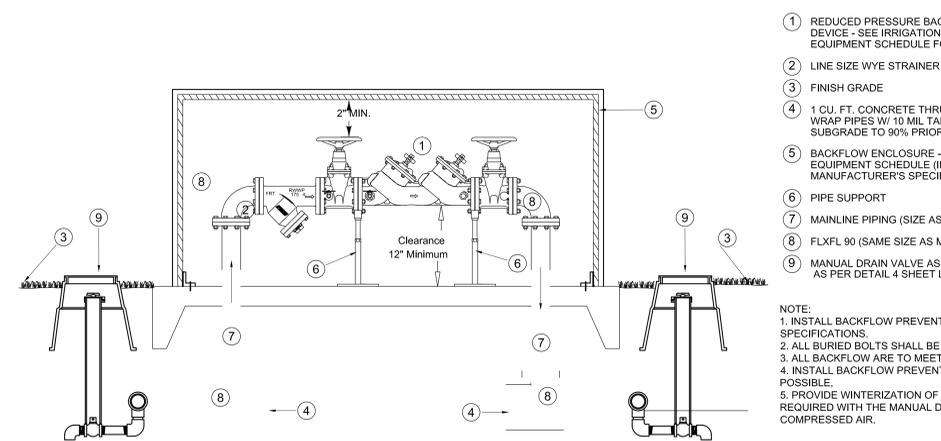
**SWING JOINT - ROTOR HEAD**  
Not to Scale



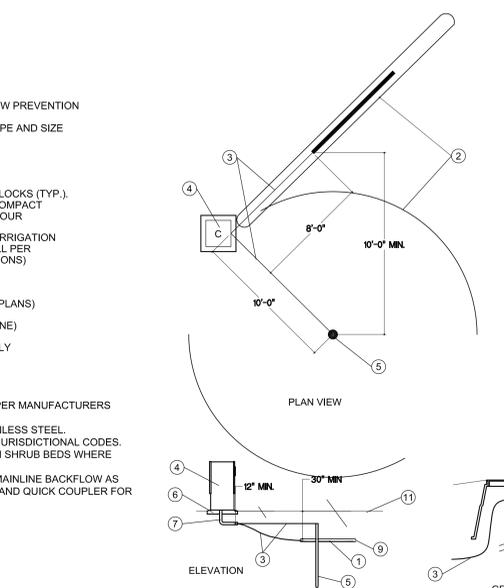
**THRUST BLOCKING DETAIL**  
Not to Scale



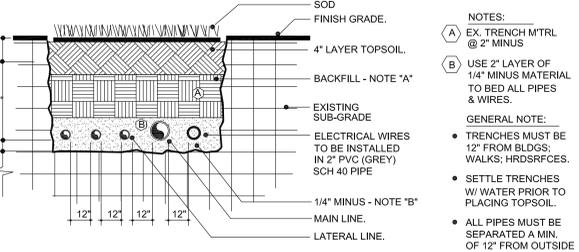
**QUICK COUPLING VALVE ASSEMBLY**  
Not to Scale



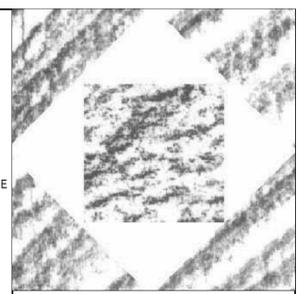
**BACKFLOW PREVENTION ASSEMBLY**  
Not to Scale



**GROUNDING ROD & PLATE**  
Not to Scale



**TRENCHING DETAIL**  
Not to Scale



**HFS Architects**  
ARCHITECTURE  
INTERIORS  
PLANNING  
1484 South State Street Salt Lake City, Utah 84115 801-596-0691 F: 596-0693 www.hfsa.com



**NORTHERN UTAH COUNTY BUILDING**  
**MOUNTAINLAND APPLIED TECHNOLOGY COLLEGE**  
**UTAH COLLEGE OF APPLIED TECHNOLOGY**

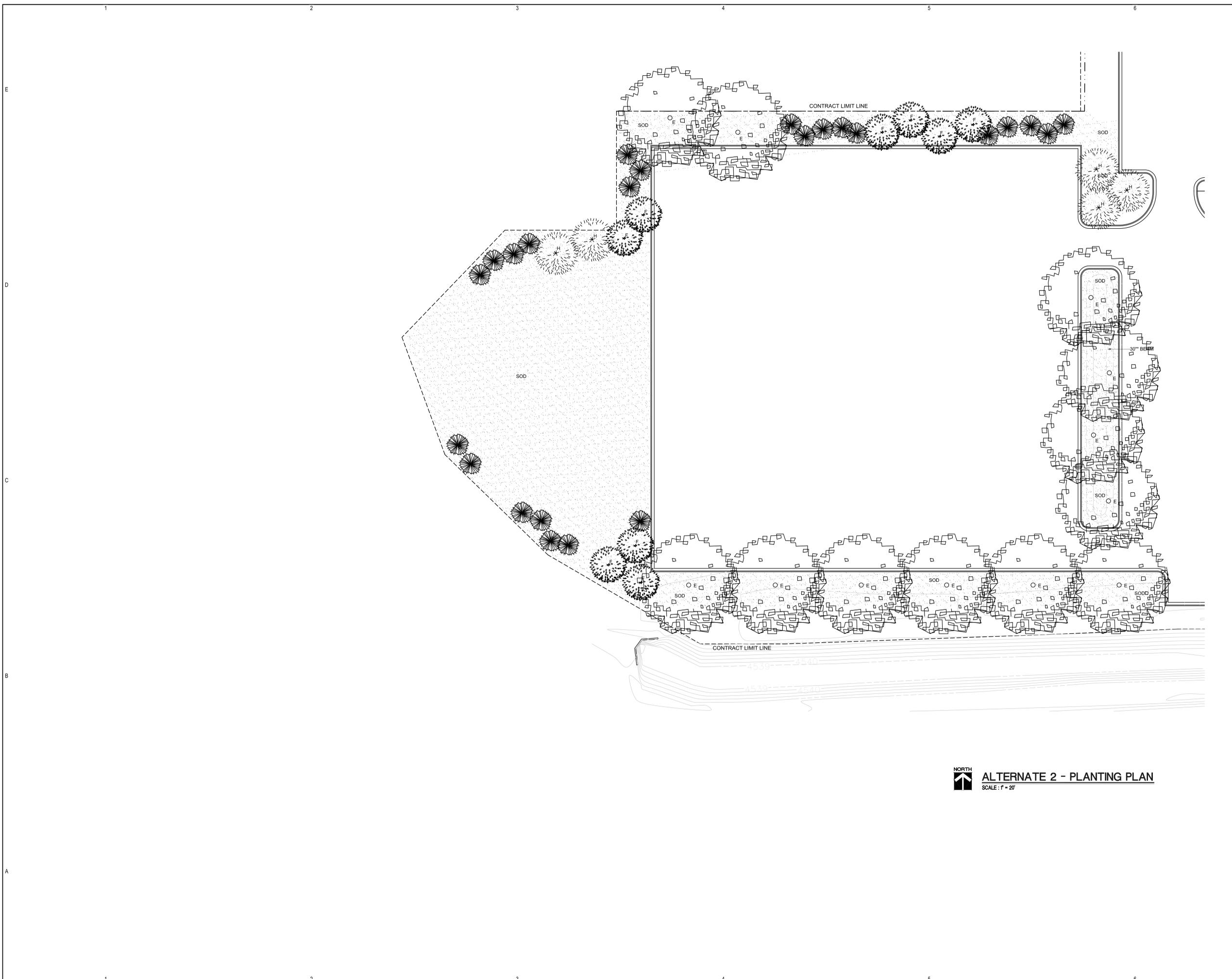
2300 WEST & ASHTON BLVD.  
LEHI, UT 84043

MARK	DATE	DESCRIPTION

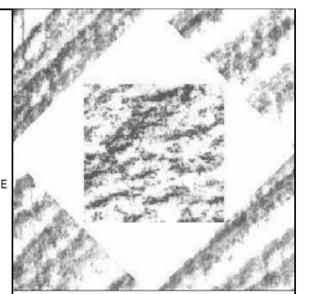
DATE:	MAY 29 2009
DFCM PROJECT NO:	07039260
HFSA PROJECT NO:	0813.01
CAD DRAWING FILE NO:	
DRAWN BY:	BRENT
CHECKED BY:	BRENT
DESIGNED BY:	BRENT
DRAWING TYPE:	
ARCHITECTURAL PHASE:	BID SET

**LANDSCAPE DETAILS**

**L3.1**  
SHEET OF



**NORTH**  
**ALTERNATE 2 - PLANTING PLAN**  
 SCALE: 1" = 20'



**HFS Architects**  
 ARCHITECTURE  
 INTERIORS  
 PLANNING  
 1484 South State Street Salt  
 Lake City, Utah 84115 801-  
 596-0691 F: 596-0693  
 www.hfsa.com

CONSULTANT  
  
 brent morris associates ■ landscape architects  
 105710-5301

**NORTHERN UTAH  
 COUNTY BUILDING**

**MOUNTAINLAND APPLIED  
 TECHNOLOGY COLLEGE**

**UTAH COLLEGE  
 OF APPLIED  
 TECHNOLOGY**

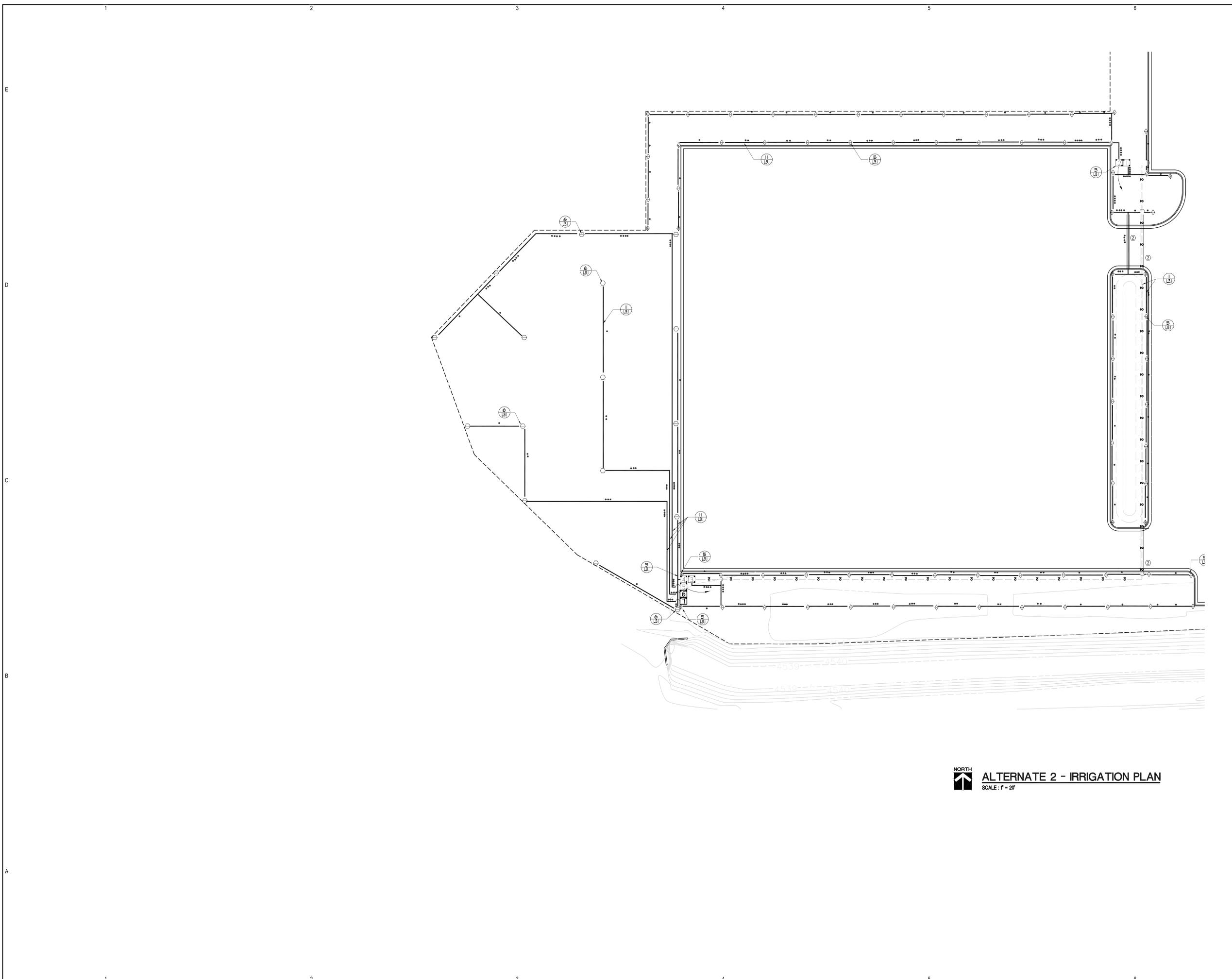
2300 WEST & ASHTON BLVD.  
 LEHI, UT 84043

MARK	DATE	DESCRIPTION

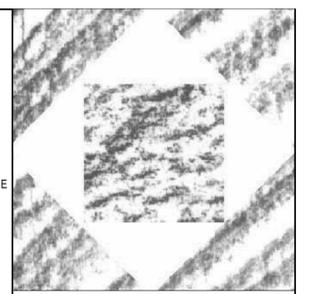
DATE: MAY 29 2009  
 DFCM PROJECT NO: 07039260  
 HFSA PROJECT NO: 0813.01  
 CAD DRAWING FILE NO:  
 DRAWN BY: BRENT  
 CHECKED BY: BRENT  
 DESIGNED BY: BRENT  
 DRAWING TYPE:  
 ARCHITECTURAL PHASE: BID SET

SHEET TITLE  
**ALTERNATE #2  
 PLANTING  
 PLAN**

**LA2.1**  
 SHEET OF



**NORTH**  
**ALTERNATE 2 - IRRIGATION PLAN**  
 SCALE: 1" = 20'



**HFS Architects**  
 ARCHITECTURE  
 INTERIORS  
 PLANNING  
 1484 South State Street Salt  
 Lake City, Utah 84115 801-  
 596-0691 F: 596-0693  
 www.hfsa.com

CONSULTANT  
  
 brent morris associates ■ landscape architects  
 105710-5301  
 874 licensed and 1000 hrs. exp. 801-544-0000 fax 801-544-0000 and bma@bma.com

NORTHERN UTAH  
 COUNTY BUILDING  
  
 MOUNTAINLAND APPLIED  
 TECHNOLOGY COLLEGE  
  
 UTAH COLLEGE  
 OF APPLIED  
 TECHNOLOGY  
  
 2300 WEST & ASHTON BLVD.  
 LEHI, UT 84043

MARK	DATE	DESCRIPTION

DATE: MAY 29 2009  
 DFCM PROJECT NO: 07039260  
 HFSA PROJECT NO: 0813.01  
 CAD DRAWING FILE NO:  
 DRAWN BY: BRENT  
 CHECKED BY: BRENT  
 DESIGNED BY: BRENT  
 DRAWING TYPE:  
 ARCHITECTURAL PHASE: BID SET

SHEET TITLE  
**ALTERNATE #2  
 IRRIGATION  
 PLAN**  
**LA2.2**  
 SHEET OF

I. Design Criteria

- A. Governing Building Code: 2006 International Building Code (IBC)
B. Floor Live Loading: 1. Office: 80 psf Live Load + 20 psf Partition Load
2. Exit Facilities & Corridors: 100 psf Live Load
3. Mechanical Rooms: 125 psf Live Load
C. Roof Live Loading: 1. Roof Live Load: 20 psf
2. Roof Snow Load: 33 psf + Drift per IBC
a. Ground Snow Load, P\_g: 43 psf
b. Snow Exposure Factor, C\_e: 1.0
c. Importance Factor, I\_g: 1.1
d. Thermal Factor, C\_t: 1.0
D. Earthquake: 1. Occupancy Category: III
2. Seismic Design Category: D
3. Spectral Response Accelerations: S\_s = 1.137 g, S\_1 = 0.25 g, S\_0.1 = 0.1 g
4. Soil Site Class: D
5. Basic Seismic-Force-Resisting System: Buckling Restrained Braced Frame
R = 7, C\_d = 5.5, C\_b = 2
6. Importance Factor, I\_e: 1.25
7. Design Base Shear: 780 kips
8. Analysis Procedure: Response Spectrum (Dynamic)

- E. Wind: 1. Basic Wind Speed (3-second gust): 90 mph
2. Importance Factor, I\_w: 1.15
3. Exposure: C
4. Internal Pressure Coefficient, GC\_p: 0.18
5. Topographic Factor, K\_z: 1.0

- F. Foundation: 1. Subsurface Conditions: Soils report and log of borings was obtained by the Owner for the Engineer's use in the design of the foundation, and is not a part of the Contract Documents. This report and log of borings is available for the Contractor's information, but is not a warranty of the subsurface conditions. The Contractor may use the report at his own risk.
2. Soils Report by Gordon Spilker Huber Geotechnical Consultants, Inc. dated April 9, 2008
3. Soil Bearing Pressure: 3500 psf, on Compacted Fill
4. Minimum thickness of Compacted Fill varies based on load
5. Coefficient of Friction: 0.4 (natural soils), .45 (granular fill)
G. Classification for Fire Rated Construction: 1. For the purpose of determining fire-resistive assemblies, open-web steel framing members shall be considered unrestrained. All other steel floor and roof framing members shall be considered restrained.
2. Diagonal members in vertical braced frames shall be considered as secondary members for fire proofing protection

II. Earthwork

- A. Clearing: The entire building area shall be scraped to remove the top 4 inches of soil, including all vegetation and debris.
B. Remove material from below footings and replace it with compacted structural fill where indicated. Remove an area that is the width of the footing plus one additional foot for each foot of fill thickness.
C. Slabs on grade: Underlay with a vapor barrier and at least three feet of non-expansive, low permeability structural fill
D. Proof rolling: The natural undisturbed soil below all footings shall be proof rolled prior to placing concrete. Remove all soft spots and replace with compacted structural fill.
E. Compacted structural fill: All fill material shall be a well-graded granular material with a maximum size less than 4 inches and not more than 10 percent passing a No. 200 sieve. It shall be compacted to 95 percent of the maximum laboratory density as determined by ASTM D1557. All fill shall be tested (See Specifications and the Quality Assurance section of the GSN).

III. Concrete

- A. Materials shall comply with the Standards specified in American Concrete Institute (ACI) 318-05, "Building Code Requirements for Structural Concrete".
1. Compressive strengths of concrete at 28 days shall be as follows:
a. Footings/Foundations: 4000 psi
b. Slabs on Grade: 3000 psi
c. Normalweight concrete over Steel Deck: 3000 psi
d. All other Site Cast Concrete: 4000 psi
2. Concrete Density (Maximum Air Dry Weight):
a. Normal weight concrete shall be approximately 145 to 155 pounds per cubic foot.
3. Reinforcement steel:
a. ASTM A615 Grade 60, f\_y = 60,000 psi min. unless noted otherwise.
4. Admixtures:
a. Air-entraining admixtures, comply with ASTM C 260 (when used).
(1) When air content of a trowel finished floor slab exceeds 3%, there is an increased risk for delaminations and blistering to occur. When this situation is present, the contractor shall pay special attention to the finishing procedures to help minimize such risks. Refer to ACI 302.1R-96 "Guide for Concrete Floor and Slab Construction" for proper finishing guidelines.
b. Calcium chloride shall not be added to the concrete mix.
5. Type III cement complying with ASTM C-150 shall be used for all concrete
6. Only one grade or type of concrete shall be poured on the site at any given time.
B. Formwork shall comply with ACI Standards Publication 347 and the project specifications. The contractor shall be responsible for the design, detailing, care, placement and removal of the formwork and shores.
C. Concrete cover requirements for deformed bar reinforcing steel shall comply with ACI 318, "Building Code Requirements for Structural Concrete":
1. Cast-in-place Concrete: Clear Cover
a. Cast against and permanently exposed to earth: 3"
b. Formed concrete exposed to earth or weather: #6 thru #18 bars: 2", #5 and smaller bars: 1.1/2"
c. Concrete not exposed to weather or in contact with ground: Slabs, Walls, Joists, #11 bars and smaller: 3/4"
D. Construction Joints and Control Joints:
1. Provide a continuous 2 X 4 keyway or a surface intentionally roughened to a full amplitude of approximately 1/4" in all wall footings. Adjust the keyway as necessary to provide for proper bar placement. A continuous keyway shall not be used for concrete shear wall to footing connections, unless specifically indicated. Refer to project plans, schedules and details for the shear wall to footing connection requirements.
2. All horizontal and vertical construction joints shall have a continuous 2 X 4 keyway along the joint or joints shall be intentionally roughened to a full amplitude of approximately 1/4", unless noted otherwise.
3. Provide reinforcement dowels to match the member reinforcement across the joint except for shear walls, unless noted otherwise. For dowels across construction joints and wall to footing connections of concrete shear walls, refer to specific project plans, schedules, and details.
4. Construction joints in suspended concrete pours shall be made at the center of spans.
5. Slabs on grade shall have construction or control joints spaced not to exceed 30 times the slab thickness in any direction. All discontinuous control or construction joints shall be reinforced with 2 - #4 x 48". See structural details. Construction joints shall not exceed a distance of 125'-0" o.c. in any direction.

- 6. Control joints shall be installed in slabs on grade so the length to width ratio of the slab is no more than 1.25:1. Control joints shall be completed within 12 hours of concrete placement. Control joints may be installed by:
a. Saw cut a depth of 1/4 the thickness of the slab
b. Tooled joints a depth of 1/4 the thickness of the slab
7. Control joints in visually exposed walls, unless noted otherwise: (Joints shall line up with masonry and architectural joints, see drawings)
a. Vertical control joints at 10'-0" on center
b. Reinforcing shall be continuous through control and construction joints, unless noted otherwise.
c. Control joints in concrete foundation walls shall line up with masonry control joints.

- E. Detailing: All reinforcing, including WWF, shall be detailed, bolstered & supported to comply with ACI 315, "Details and Detailing of Concrete Reinforcement" and the Concrete Reinforcing Steel Institute (CRSI) recommendations. Reinforcing bars shall not be welded unless specifically shown on drawings.
1. Lap splice lengths shall be detailed to comply with the "Reinforcing Bar Lap Splice Schedule" contained within the contract drawings. Splices may be made with mechanical splices capable of 125% tension capacity of the bar being spliced. Mechanical splices shall be the positive connecting type coupler. They shall be covered by a current ICC Code Evaluation Report. Use "ladder" splice sleeves with ferrous filler, "Lentron" taper threaded rebar splices, "Bar-Lock" lockshear bolt coupling sleeves, or approved equivalent. If mechanical splices are used, splices or couplers on adjacent bars shall be staggered a minimum of 24" apart along the longitudinal axis of the reinforcing bars.
2. All embedments and dowels shall be securely tied to formwork or to adjacent reinforcing prior to the placement of concrete.
3. Use chairs or other support devices recommended by the CRSI to support and tie reinforcement bars and WWF prior to placing concrete. WWF shall be continuously supported at 36" o.c. maximum.
4. Provide corner bars at intersecting wall corners using the same bar size and spacing as the horizontal wall reinforcing. Unless noted otherwise, corner bar lap lengths shall conform with reinforcing bar lap splice lengths as noted above.
5. All vertical reinforcing shall be doweled to footings, or to the structure below. Dowels shall be the same size and at the same spacing as the vertical reinforcing scheduled (or detailed) for the element above. Lap splice lengths shall comply as noted above or as shown in the drawings. Dowels extending into footings shall terminate with a 90 degree standard ACI hook and shall extend to within 4" of the bottom of the footing. Footing dowels (#8 bars and smaller) with hooks need not extend more than 20" into footings.
6. Horizontal wall reinforcing shall terminate at ends of walls and openings into the far end of the jamb column with a 90-degree standard ACI hook, unless shown otherwise. Lap horizontal bar splices as noted above or as shown in the drawings. Horizontal wall reinforcing shall be continuous through construction and control joints. Splices in horizontal reinforcement shall be staggered, so the splices shall not overlap. Splices in two curtains where used shall not occur in the same location, splice lags shall not overlap.
7. Wall Openings 8" to 36" wide: Place 2-#5 bars (or 1-#7 bar in 10" walls and thinner) around all openings 8" or larger in any direction, and extend the reinforcing bars a minimum of 24" beyond the corner of the openings, unless noted otherwise. Where 24" is not available, extend bars as far beyond the opening as possible and terminate them with a 90 degree standard ACI hook.
8. Wall Openings 36" wide and wider: Provide reinforced concrete lintels per Concrete Lintel Schedule over the top of, and 2-#5 bars (or 1-#7 bar in 10" walls and thinner) and on all sides and below every unscheduled opening, unless noted otherwise. Bars for all openings shall extend a minimum of 24" beyond the corners of the opening. Vertical bars shall extend from floor level below to the floor, or roof, level above. Where 24" extension is not possible, extend bars as far beyond the opening as possible and terminate them with a 90 degree standard ACI hook.
9. Provide 2-#5 X 4'-0" diagonal bars (or 1-#7 X 4'-0" bar in 10" walls and thinner) at the corners of all openings. Diagonal bars shall be centered on the corner of the opening. All recesses in concrete walls that interrupt reinforcing steel shall be reinforced the same as an opening.
10. Contractor shall coordinate placement of all openings, curbs, dowels, sleeves, conduits, bolts, inserts and other embedded items prior to concrete placement.
11. Column cross-ties shall have a 135 degree hook at one end and a 90 degree hook at the other. The hooks shall engage the vertical column reinforcement. The 135 degree hooks of consecutive cross-ties engaging the same vertical bars shall engage alternate vertical bars.
12. All reinforcement shall be bent cold, and shall be bent only once at the same location. All reinforcement shall be shop bent, unless otherwise permitted by the engineer.
F. Minimum Reinforcing: Wall reinforcing shall be as follows, unless noted otherwise:

Table with 3 columns: Wall Thickness, Horizontal Reinf., Vertical Reinf.
6" #4 @ 13" o.c. #4 @ 18" o.c.
8" #5 @ 15" o.c. #4 @ 16" o.c.
10" #5 @ 12" o.c. #4 @ 13" o.c.
12" #4 @ 13" o.c. Each Face #4 @ 18" o.c. Each Face
Others 0.25% of Wall Area 0.15% of Wall Area

Place steel in the center of the wall (except in walls thicker than 10" and where shown otherwise). Walls thicker than 10" shall have two curtains of reinforcing (placed near each face of the wall), unless otherwise shown on the structural drawings. Spacing shall not exceed three times the wall thickness nor 18". In addition to the above reinforcing, 2-#5 (or 1-#7 in 10" walls and thinner) x continuous horizontal bars shall be placed at the bottom of the wall (near the footing) and at each floor level, at the roof level and at the top of wall.

- G. No aluminum conduit or product containing aluminum or any other material injurious to concrete shall be embedded in concrete.
H. Unless otherwise noted, all slabs on grade shall be 4" thick.

- I. Epoxy shall be "SET-XP" by Simpson Strong-Tie Company Inc. "PE1000+" by Powers Fasteners, Inc. "HIT-RE 500-SD" by Hill Inc., or an approved equal. All epoxy shall be installed in accordance with its current ICC-ES report.

IV. Masonry

- A. Materials, unless noted otherwise:
1. Concrete Masonry Units: ASTM C 90, Lightweight, minimum unit strength of 1900 psi average or better. (f\_m = 1500 psi)
2. Solid Clay Units: ASTM C216, Grade SW, minimum unit strength of 3350 psi average or better. (f\_m = 1500 psi)
3. Mortar: Use Type "S" according to IBC Section 2103.8, and tested according to ASTM C270. Admixtures shall not be added to the mortar mix. (1800 psi minimum compressive strength).
4. Grout: Conform to IBC Table 2103.12 or ASTM C476. Provide grout according to IBC Section 2103.12 and tested according to ASTM C1019. Grout shall attain a minimum compressive strength equal to or greater than f\_m but shall not be less than 2000 psi at 28 days.
5. Reinforcing: Grade 60 reinforcing steel shall comply with ASTM A615.
6. Anchor Bolts (AB): ASTM A307 with ASTM A563 heavy hex nuts and hardened washers, Grade A, unless noted otherwise.
7. Headed Stud Anchors (HSA): Manufacture all HSAs in conformance with ASTM A108 with dimensions complying with AISC specifications.
B. Construction Requirements:
1. Mortar: Joints shall be "concave", "V-joint" or "weathered raked" for structural members unless noted otherwise on architectural drawings.
2. Masonry walls shall be constructed with running bond, unless noted otherwise.
3. Grouting Requirements: Comply with IBC Section 2104 and ACI 530.1/ASCE 6/TMS 602. Grout shall be mechanically consolidated and mechanically reconsolidated according to ACI 530.1/ASCE 6/TMS 602 Section 3.5 E.
4. Reinforcing Bars shall not be welded. Do not substitute reinforcing bars for DBAs or HSAs.
5. Masonry Veneer Attachment and Reinforcing:
a. To steel stud and wood stud walls: Veneer shall be attached to the studs Dur-O-Wal DIA 213 S seismic veneer anchors or Hohmann & Barnard DW-10 or DW-10HS seismic veneer anchors (or equal) spaced at 16" o.c. Veneer anchors shall be attached to studs with #10 corrosion resistant self drilling screws. Attach the veneer to the anchors with Dur-O-Wal Seismic Steel Plates or Hohmann & Barnard 3"R1". Byna-Tie with Seismiclips (or equal) spaced at a maximum of 16" o.c. in both directions. Anchor ties shall engage to a galvanized No. 9 gauge horizontal joint reinforcement wire in the veneer which shall be continuous and shall be placed at 16" o.c. maximum at the center of the veneer.
b. Other methods of attachment may be used after written acceptance by the architect and structural engineer.
c. Steel Lintels: Provide steel angle lintels at all openings through the masonry veneer. Provide one inch of bearing for each foot of width of opening, with a minimum bearing of six inches. See the Steel Angle Lintel Schedule for size.

- C. Detailing Requirements:
1. Standards: Reinforcing detailing shall comply with American Concrete Institute (ACI) Standard 315, "Details and Detailing of Concrete Reinforcement."
2. Reinforcement Protection (cover):
a. Joint reinforcement shall have not less than 5/8" mortar coverage from the exposed face.
b. Other reinforcement shall have a minimum coverage of one bar diameter over all the bars, but not less than 3/4". When masonry is exposed to soil, minimum coverage shall be 1-5/8".
3. Vertical steel reinforcement shall be placed and secured against displacement prior to grouting by wire positioners or other suitable devices, at intervals not exceeding 112 bar diameters, at the girt lift heights, or at bar splice locations, whichever is less. Vertical reinforcing shall be located at the center of the wall, unless noted otherwise.
4. Lap Splice Lengths: Provide a 31" lap splice length for all #5 bars.
5. Dowels: All vertical reinforcing shall be doweled to the foundation wall, footing (structure below) and to the structure above with the same size dowel, spacing (and in the same core) as the vertical wall reinforcing unless noted otherwise.

- 6. Wall Openings 24" wide and wider: Provide reinforced masonry lintels per Masonry Lintel Schedule over the top of, and 2 - #5 bars, in grouted spaces, on all sides and adjacent to every unscheduled opening, unless noted otherwise. Bars for all openings shall extend a minimum of 48 bar diameters beyond the corners of the opening. Vertical bars shall extend from floor level below to the floor, or roof, level above. Where a 48 bar diameter extension is not possible, extend bars as far beyond the opening as possible and terminate them with a 90 degree standard ACI hook.
7. Anchor bolts and headed stud anchors shall be set in a grouted cell. Anchor bolts and headed stud anchors shall have 1" grout surrounding the shank at its penetration. Grout shall be flush with the face or top of the masonry.
8. The exposed face of all embed plates shall be set flush with the face of masonry wall or column.

- D. Minimum Reinforcing: All masonry walls shall be reinforced as follows, unless shown otherwise on the drawings. Reinforcing shall be placed in grouted cells.

Table with 3 columns: Wall Thickness, Horizontal Reinf., Vertical Reinf.
6" #5 @ 48" o.c. #5 @ 32" o.c.

V. Structural Steel

- A. Material:
1. W-Shapes: ASTM A992 (F\_y = 50 ksi), except as noted otherwise.
2. All Other Shapes and Plates: ASTM A36 (F\_y = 36 ksi), except as noted otherwise.
3. Rectangular and Square Hollow Structural Sections (HSS): ASTM A500, Grade B (F\_y = 46 ksi).
4. Round HSS: ASTM A500, Grade B (F\_y = 42 ksi).
5. Deformed Bar Anchors (DBA): ASTM A496.
6. Headed Stud Anchors (HSA): ASTM A108, with dimensions complying with AISC specifications.
7. Anchor Rods: ASTM F1554, Grade 36 with ASTM A563 heavy hex nuts and ASTM F436 hardened washers, unless noted otherwise. Provide 1/2" plate washers for 1/2" dia anchor rods and 5/8" plate washers for 1-3/4" dia anchor rods.

- B. Fabrication and construction shall comply with the following Codes and Standards:
1. American Institute of Steel Construction (AISC) 360-05, "Specification for Structural Steel Buildings," dated March 9, 2005.
2. AISC 341-05, "Seismic Provisions for Structural Steel Buildings" dated March 9, 2005, including Supplement No. 1, dated November 16, 2005.
3. AISC 303-05, "Code of Standard Practice for Steel Buildings and Bridges" excluding the following: Section 3.3 (last sentence of first paragraph), Section 4.4.1, Section 4.4.2, Section 4.5, and Section 7.13.3.
a. The architectural drawings are the prime contract drawings. Consultants' drawings by other disciplines are supplementary to the architectural drawings. The structural drawings shall be used in conjunction with the architectural drawings. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in architectural, structural, and/or other consultants' drawings. Refer to VII. Special Instructions, notes VII B and VII C on this sheet.
4. AISC/RCSA 2004, "Specification for Structural Joints Using ASTM A325 or A490 Bolts"
5. American Welding Society (AWS) D1-1:04, "Structural Welding Code - Steel" (specific items do not apply when they conflict with the AISC requirements).
6. Steel Joist Institute (SJI) 1994, "Standard Specification, Load Tables and Weight Tables for Steel Joists and Joist Girders," and "Recommended Code of Standard Practice."
7. American Iron and Steel Institute (AISI) 2001, "North American Specification for the Design of Cold-Formed Steel Structural Members."

- C. Structural shapes and plates shall be fabricated from newly rolled (milled) one-piece sections without splices, unless specifically noted otherwise on the structural drawings. Connections for structural steel shall comply with the structural drawings, unless written approval is given by the structural engineer.
D. Buckling Restrained Braced Frames:
1. The initial brace yield force shall be as indicated on the frame elevations. The steel core shall have an initial yield stress of 42.0 ksi based on coupon tests ranging from 38.0 to 46.0 ksi. The adjusted brace strength in compression shall not exceed the specified yield force by more than 65%.
2. Plates 2 inches and thicker shall be supplied with Charpy V-notch testing per Project Specifications.
3. Qualification Tests shall conform to requirements of Appendix T of AISC 341.
4. BRB Manufacturer shall submit brace connection design to the architect for review by engineer. Brace connections shown in contract documents are for bidding purposes. Final BRB connections submitted by manufacturer shall be consistent with those used in the Qualification tests. The contractor shall coordinate between BRB connection and other steel fabrication.

- E. Welding:
1. Certification of Welders: All shop and field welding shall be executed by AWS certified welders who have been specifically certified for the type of work to be performed. Certification shall be considered current if dated within the past 12 months. Welders will be considered certified if they have been certified under AWS and their work records are current within every six-month period thereafter as required by AWS. Certification and records must comply with AWS Standards. Certification and appropriate records must be provided to the architect prior to beginning work.
2. Electrodes: E-70 XX or as noted otherwise. E60 XX may be used for welding steel floor and roof decks.
3. Minimum Welds: All intersecting steel shapes that are not bolted shall be connected by a fillet weld all around, unless noted otherwise. Fillet weld sizes that are not shown shall be 1/16" less than the thinnest of the connected parts for thicknesses 1/4" and larger. Fillet welds on plates less than 1/4" shall be of the same size as the thinnest of the connected parts.
4. Reinforcing Bars: Do not weld rebar except as specifically detailed in the drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for deformed bar anchors (DBAs), machine bolts, or headed stud anchors (HSAs).
5. Bolts: Do not apply any welds, including "back" welds to bolts, including anchor bolts, except as specifically detailed in the drawings.
6. It is recommended the steel erector contractor and steel fabricator contact the Quality Assurance Agency prior to beginning any of the above welds. A program of joint preparation and welding procedures should be worked out between the two parties before the welding is started so that correct welds will be made from the beginning.
7. Headed Stud Anchor (HSA) welding and Deformed Bar Anchor (DBA) welding shall conform to the manufacturer's specifications. Welding shall comply with AWS D1.1 Section 7.6 through 7.8 and Annex IX.
8. Braced Frame welding: lengths shown for fillet welds for brace-to-gusset, gusset-to-baseplate, and column-to-gusset connections are minimums, intended for establishing gusset plate dimensions. Weld end contact length at these joints, typical.
9. Demand Critical Welds: Where welds are indicated to be demand critical, use electrodes with Charpy V-notch absorbed energy equal to or greater than 20 ft-lbs at -20 degrees Fahrenheit as determined by the appropriate AWS classification test method or manufacturer certification, and 40 ft-lbs at 70 degrees Fahrenheit as determined by Appendix X of AISC 358-05 or other approved method. Acceptable electrodes include E70TG-K2, E71T-8, and E71T-1.

- F. Bolted Connections:
1. Use ASTM A325X or ASTM F1852 (with threads excluded from shear plane) bolts for all steel to steel connections, unless noted otherwise. Pretension bolts by the turn of the nut, calibrated wrench, twist-off tension-control bolt or direct tension indicator method. Alternate fastener designs as defined by AISC shall be submitted to the engineer for review and acceptability prior to installation. Provide hardened washers beneath turned element. Faying surfaces shall be clean mill scale or have a Class A coating.
2. Provide hardened washers beneath the turned element of all bolts or nuts. Provide hardened beveled washers, to compensate for the lack of parallelism, where the outer face of the bolted parts has a slope greater than one in twenty with respect to the plane normal to the bolt axis. Hardened washers or plates installed over oversized holes or slotted holes shall have a size 5/16" thick and shall conform to ASTM F436. Plates or bars installed at slotted holes shall have a size sufficient to completely cover the slot after installation.
3. Bolts, nuts and washers shall not be reused.

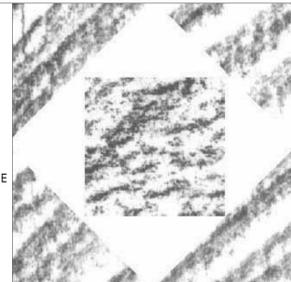
- G. Steel Lintels: Provide steel angle lintels at all openings through the masonry veneer. Provide one inch of bearing for each foot of width of opening, with a minimum bearing of six inches. See the Steel Angle Lintel Schedule for size.
H. Beam Web Stiffener Plates: Provide full-height web stiffener plates to each side of all beams above all bearing points. Stiffener plates shall be the thickness noted below unless noted otherwise and shall be welded on both sides of the stiffener plate with fillet welds (noted below) all around.
Beam Web Stiffener Thickness For beams with flange widths between Weld Size
1/4 inch thick Greater than 0" and less than 8 1/4" 3/16"
3/8 inch thick Greater than 8 1/4" and less than 12 1/4" 1/4"

Provide full-height web stiffener plates to each side of all beams above all bearing points. Stiffener plates shall be the thickness noted below unless noted otherwise and shall be welded on both sides of the stiffener plate with fillet welds (noted below) all around.
Beam Web Stiffener Thickness For beams with flange widths between Weld Size
1/4 inch thick Greater than 0" and less than 8 1/4" 3/16"
3/8 inch thick Greater than 8 1/4" and less than 12 1/4" 1/4"

- I. Composite Beams:
1. Composite beams are indicated on the framing plans with the suffix ( ). The number inside the brackets indicates number of studs for this beam. Beams shall have the studs spaced uniformly over the entire beam length.
2. Beams which have more than one number inside the symbol ( , , , ), such as (W, X, Y, Z), shall have "W" number of studs spaced evenly over the first "section of beam", "X" number of studs spaced evenly over the second "section of beam", "Y" number of studs spaced evenly over the third "section of beam", and "Z" number of studs spaced evenly over the fourth "section of beam". A "section of beam" is defined as that portion of beam located between the column and the nearest intersecting framing member or that portion of beam located between two adjacent intersecting framing members.
3. All headed stud type shear connectors shall be in conformance with ASTM A108. Dimensions shall comply with AWS. Use 3/4" diameter studs. Headed studs shall extend 1.5" minimum above the top of the steel deck after welding. Headed studs shall be applied through the metal deck to the top flange of the steel section, or welded directly to the steel section.
4. The minimum center-to-center spacing of stud connectors shall be six (6) diameters along the longitudinal axis of the supporting composite beam and four (4) diameters transverse to the longitudinal axis of the supporting composite beam. The maximum center to center spacing shall not exceed 32".
5. C= 0.00" on the plans denotes precaster dimension (upward) in inches.

- J. Open Web Steel Joists and Girders:
1. The steel joist supplier shall be responsible for the design of all open web steel joists and girders. Joists or girders with slopes greater than 1/2 inch per foot shall be designed to meet or exceed the load capacities, listed in the SJI load tables, of the joist or girder sizes indicated on the framing plan, as if the joists or girders were installed level.
2. Open web joists and girders shall be designed with deflection limits of L/240 for total load and L/360 for live load, where L is the joist span.
3. Where uplift loads due to wind are indicated, rows of bottom chord bridging shall be provided at the first bottom chord panel points per SJI Specifications. This is in addition to the bridging shown on the framing plans.
4. Provide special bearing ends to accommodate slopes from sloped joists, sloped girders or sloped bearing conditions.
5. Camber: All joists shall be cambered as specified in the SJI specifications, unless noted otherwise.
6. Field Modifications: Do not modify any joist or girder, including holes through the top and bottom chords, without the written consent and direction from the manufacturer.
7. Shop Drawings and Design Calculations: Shop drawings for all joists and girders used in the project shall be submitted for review. Prior to the fabrication of joists and girders, the open web steel joist and girder manufacturer shall prepare complete joist and girder calculations under the direct supervision of a professional engineer licensed in the State of Utah. Calculations shall be submitted for review for joists and girders designated as SPECIAL or SP and for all joists or girders with axial loads or additional concentrated loads (as noted on the drawings). Submitted calculations shall bear the seal of a professional engineer licensed in the State of Utah.
8. Steel Joist Institute (SJI) 1994, "Standard Specification, Load Tables and Weight Tables for Steel Joists and Joist Girders," and "Recommended Code of Standard Practice."
9. Verify size, weight, location and configuration of all roof top equipment with architect and mechanical engineer. Provide steel frames for support of roof top equipment as indicated on structural details in the structural drawings. Coordinate openings with the mechanical and general contractor.
10. All concentrated loads greater than 100 pounds supported by open web steel joists and girders shall be located within 5 inches of joist or girder panel point or shall be located within 5 inches reinforced with an additional web member. Refer to the "TYPICAL DETAIL AT ADDITIONAL CONCENTRATED POINT LOAD" in the structural drawings.
11. Concentrated point loads, single or multiple, totaling 100 pounds or less can be located at any point along the top or bottom chord of an open web steel joist or girder between adjacent panel points without meeting the requirements above. A limit of four concentrated 100# maximum point loads per joist or girder will be permitted on spans of 12' or greater, one concentrated 100# max. load on spans less than 12', unless specifically noted otherwise on the structural drawings.
12. Joist bridging shall never be used to support hanging loads.
13. Bracing of miscellaneous items (mechanical, electrical, plumbing, etc.) to the bottom chord of joists or girders will not be allowed in any instance. All lateral braces must connect to the top flange/top chord of the framing member above unless noted otherwise on the structural drawings.
14. A certificate of compliance shall be submitted to the building official upon completion of fabrication per IBC 2206.5.

- K. Steel Floor Deck:
1. Steel floor deck shall comply with the latest requirements of the Steel Deck Institute (SDI). Submit ICC Code Evaluation Report with load and lateral shear capacities with shop drawings.
2. Steel floor deck shall be 3" deep X 20 gauge minimum galvanized/painted composite deck shall be galvanized (G90) when used above or below mechanical equipment rooms, type "W" deck with interlocking side seams with the following properties:
Minimum S (n"/ft) = 20 Gauge 18 Gauge
Minimum I (n"/ft) = 0.534 0.767
Minimum I (n"/ft) = 0.896 1.203
Painted deck shall be coated with special paint to receive sprayed-on fire proofing, where required.
3. A 2 1/2" thick (5 1/2" overall) normalweight concrete (f\_c = 3,000 psi @ 28 days unless noted otherwise) slab shall be poured over the steel deck. Reinforce slab with 6" x 6" - W2.1/W2.1 welded wire fabric (minimum) or reinforce slab with 2 pounds per cubic yard minimum polypropylene fibrillated fiber reinforcement, as per specifications. Welded Wire Fabric shall be placed 1" to 1 1/2" below the top of the slab.
4. Steel deck with 2 1/2" thick (5 1/2" overall) lightweight concrete slab shall have a minimum diaphragm shear capacity of 1880 lbs/ft. for a 10'-0" deck span.
5. Weld deck to supporting framing members with 3/4" diameter puddle welds at the following spacing (Closer spacings may be used to develop minimum shear requirements):
a. 12" o.c. to supports perpendicular to deck corrugations (4 welds per 36" wide sheet).
b. 12" o.c. to all supports parallel to deck corrugations.
c. Stud welds may take the place of puddle welds where studs are welded through the deck to the top flange of beams.
d. All welded surfaces shall be dry before welding deck or studs to supports.
6. Attach interlocking seams with 3/16" button punch at 18" o.c. or 1 1/2" top seam weld at 36" o.c. between adjacent pieces of deck. Crimp seams before button punching or welding interlocking seams. Closer spacings may be used to develop minimum shear requirements.
7. All deck shall be 3-span continuous minimum where possible. In areas where 3-span conditions are not possible, the deck shall meet the applicable design criteria for the span condition. The contractor shall provide heavier gauge deck or provide shoring as required for one or two span conditions to meet the equivalent loading of the above deck under a three span condition.



HFS Architects ARCHITECTURE INTERIORS PLANNING
1484 South State Street Salt Lake City, Utah 84115 801-596-0631 F: 596-0633 www.hfsa.com

CONSULTANT
REAVELEY ENGINEERS + ASSOCIATES Consulting Structural Engineers



NORTHERN UTAH COUNTY BUILDING

MOUNTAINLAND APPLIED TECHNOLOGY COLLEGE

UTAH COLLEGE OF APPLIED TECHNOLOGY

2300 WEST & ASHTON BLVD. LEHI, UT 84043

Table with 3 columns: MARK, DATE, DESCRIPTION. Marked as empty.

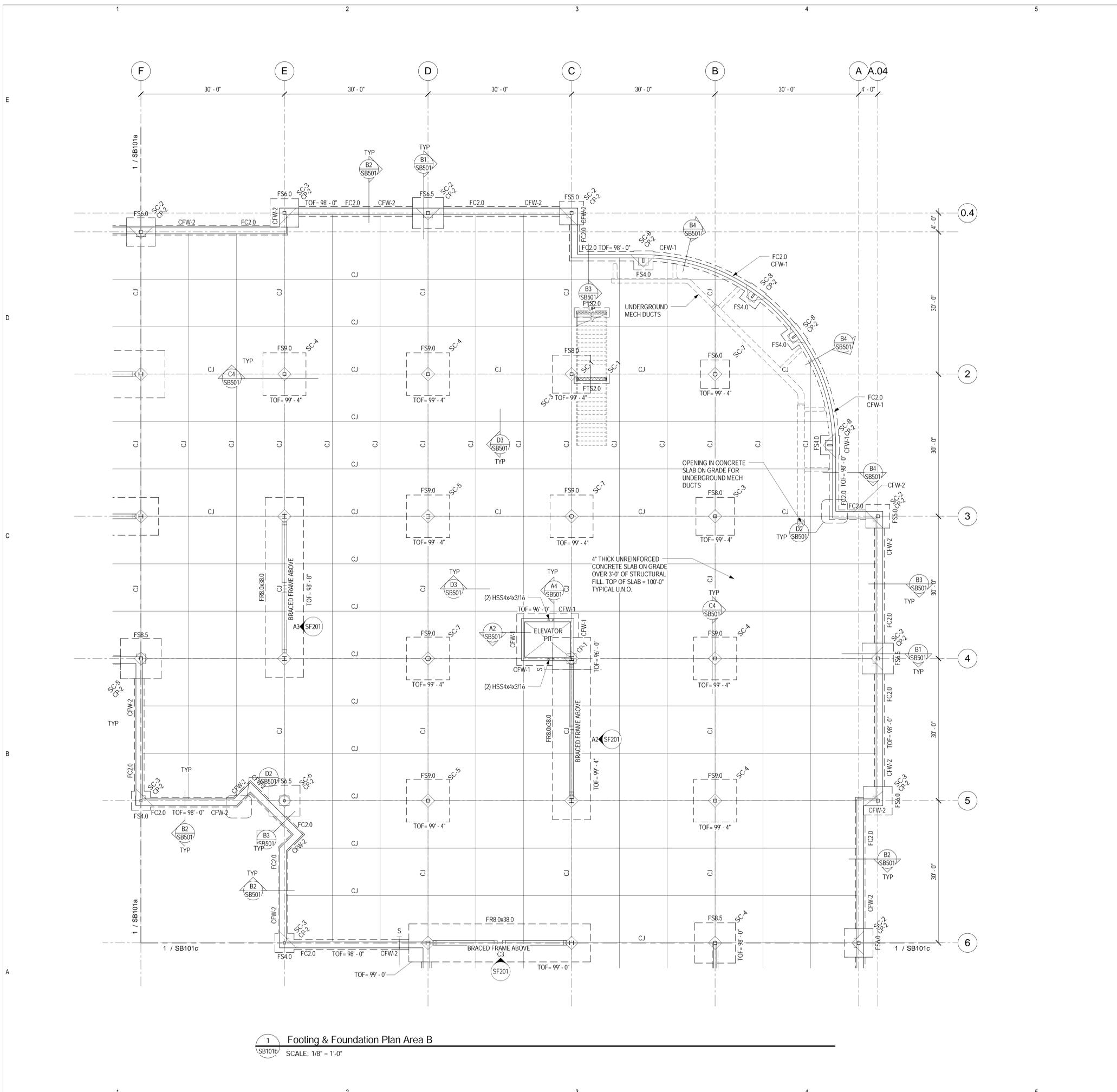
DATE: MAY 29, 2009
DCFM PROJECT NO: 07039260
HESA PROJECT NO: 0813.01
CAD DRAWING FILE NO:
DRAWN BY: CEB
CHECKED BY: MRH
DESIGNED BY: RMM
DRW TYPE: STRUCTURAL
ARCHITECTURAL PHASE: BID SET

General Structural Notes

SE001 SHEET OF



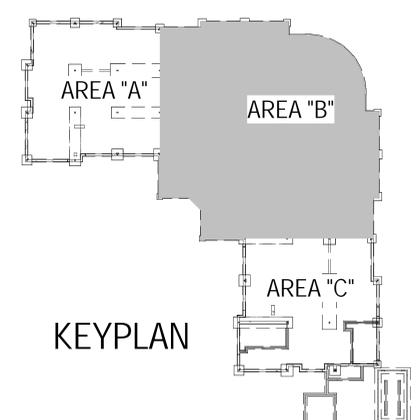




**FOOTING & FOUNDATION PLAN LEGEND**

- FOOTING STEP
- FOOTING - CONTINUOUS
- FOOTING - THICKENED SLAB
- FOOTING - SQUARE FOOTING - RECTANGULAR FOOTING - MAT FOOTING
- CONCRETE WALL, CONCRETE FOUNDATION WALL, OR CONCRETE RETAINING WALL
- CONCRETE FOUNDATION WALL - RECESSED
- CONCRETE PIER IN CONCRETE WALL, TOP OF PIER RECESSED 8" BELOW SLAB, TYP U.N.O.
- CONCRETE COLUMN
- STEEL COLUMN - TUBE
- STEEL COLUMN - WIDE FLANGE
- STEEL COLUMN - PIPE
- STEEL BRACED FRAME - ABOVE
- CHANGE IN ELEVATION
- SLAB BLOCK-OUT AT COLUMN
- SLAB CONTROL/CONSTRUCTION JOINT
- SPECIAL SLAB AREA
- RECESSED/DEPRESSED SLAB
- OPENING

- FOOTING & FOUNDATION PLAN NOTES**
1. SEE ARCHITECTURAL, CIVIL AND LANDSCAPE DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS ETC.
  2. SEE ARCHITECTURAL DRAWINGS AND FINISH SCHEDULE FOR SLAB AREAS TO RECEIVE FLOOR TILE.
  3. SEE ARCHITECTURAL DRAWINGS FOR SLAB DEPRESSIONS AND SLOPES TO DRAINS, ETC.
  4. SEE ARCHITECTURAL, CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL EXTERIOR CONCRETE RETAINING AND / OR SITE WALLS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
  5. SEE D1/SB501 FOR TYPICAL EXTERIOR CONCRETE FOOTING STEP DETAIL.
  6. SEE D2/SB501 FOR TYPICAL REINFORCEMENT AT WALL CORNERS AND INTERSECTIONS.
  7. SEE D3/SB501 FOR TYPICAL DETAIL AT SLAB JOINTS IN CONCRETE SLABS ON GRADE.
  8. SEE D4/SB501 FOR TYPICAL DETAIL AT DEPRESSED CONCRETE SLABS ON GRADE.
  9. SEE D5/SB501 FOR REINFORCEMENT AT DISCONTINUOUS CONSTRUCTION / CONTROL JOINTS IN CONCRETE SLAB ON GRADE.
  10. REFER TO GENERAL STRUCTURAL NOTES AND SEE C1/SB501 FOR COMPACTED STRUCTURAL FILL REQUIREMENTS BELOW FOOTINGS. MIN STRUCTURAL FILL VARIES BY FOOTING. SEE CONCRETE FOOTING SCHEDULE FOR DEPTH OF STRUCTURAL FILL.



1 Footing & Foundation Plan Area B  
SB101b SCALE: 1/8" = 1'-0"

**HFSArchitects**  
ARCHITECTURE  
INTERIORS  
PLANNING

1484 South State Street Salt Lake City, Utah 84115 801-596-0831 F: 596-0833 www.hfsa.com

CONSULTANT

**REAVELEY**  
ENGINEERS + ASSOCIATES  
Consulting Structural Engineers



**NORTHERN UTAH COUNTY BUILDING**

**MOUNTAINLAND APPLIED TECHNOLOGY COLLEGE**

**UTAH COLLEGE OF APPLIED TECHNOLOGY**

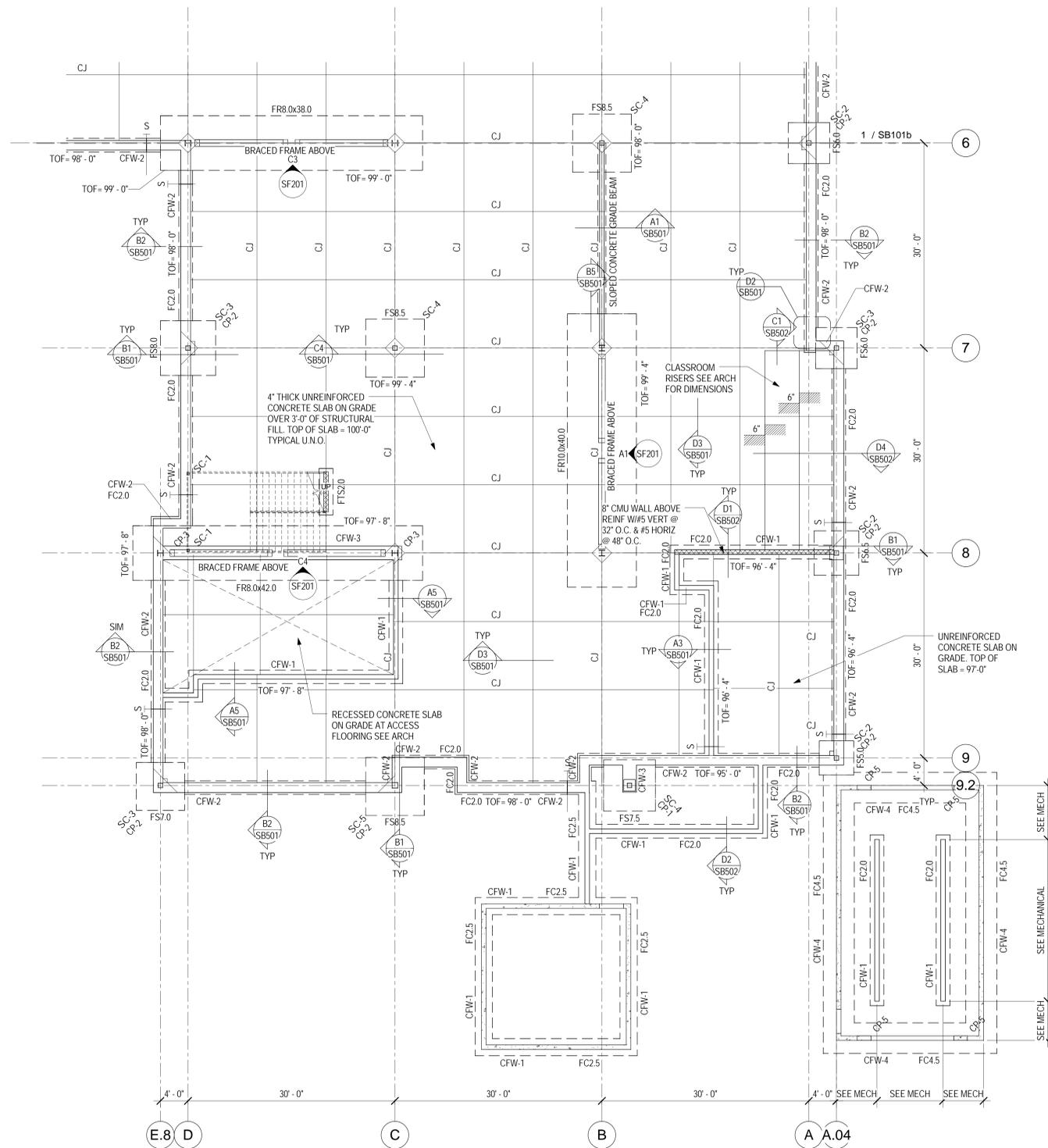
2300 WEST & ASHTON BLVD.  
LEHI, UT 84043

MARK	DATE	DESCRIPTION

DATE:	MAY 29, 2009
DFCM PROJECT NO.:	07039260
HESA PROJECT NO.:	0813.01
CAD DRAWING FILE NO.:	
DRAWN BY:	CEB
CHECKED BY:	MRH
DESIGNED BY:	RMM
DRW TYPE:	STRUCTURAL
ARCHITECTURAL PHASE:	BID SET

SHEET TITLE  
**Footing and Foundation Plan Area B**

**SB101b**  
SHEET OF

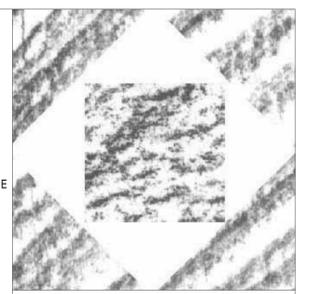
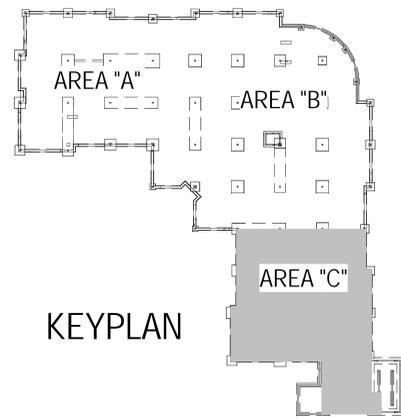


1 Footing & Foundation Plan Area C  
 SB101c SCALE: 1/8" = 1'-0"

**FOOTING & FOUNDATION PLAN LEGEND**

- FOOTING STEP
- - - FOOTING - CONTINUOUS
- - - FOOTING - THICKENED SLAB
- - - FOOTING - SQUARE FOOTING - RECTANGULAR FOOTING - MAT FOOTING
- CONCRETE WALL, CONCRETE FOUNDATION WALL, OR CONCRETE RETAINING WALL
- CONCRETE FOUNDATION WALL - RECESSED
- CONCRETE PIER IN CONCRETE WALL, TOP OF PIER RECESSED 8" BELOW SLAB, TYP. U.N.O.
- CONCRETE COLUMN
- STEEL COLUMN - TUBE
- STEEL COLUMN - WIDE FLANGE
- STEEL COLUMN - PIPE
- - - STEEL BRACED FRAME - ABOVE
- 0' CHANGE IN ELEVATION
- ◇ SLAB BLOCK-OUT AT COLUMN
- SLAB CONTROL/CONSTRUCTION JOINT
- ▨ SPECIAL SLAB AREA
- ▨ RECESSED/DEPRESSED SLAB
- ⊠ OPENING

- FOOTING & FOUNDATION PLAN NOTES**
1. SEE ARCHITECTURAL, CIVIL AND LANDSCAPE DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS ETC.
  2. SEE ARCHITECTURAL DRAWINGS AND FINISH SCHEDULE FOR SLAB AREAS TO RECEIVE FLOOR TILE.
  3. SEE ARCHITECTURAL DRAWINGS FOR SLAB DEPRESSIONS AND SLOPES TO DRAINS, ETC.
  4. SEE ARCHITECTURAL, CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL EXTERIOR CONCRETE RETAINING AND / OR SITE WALLS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
  5. SEE D1/SB501 FOR TYPICAL EXTERIOR CONCRETE FOOTING STEP DETAIL.
  6. SEE D2/SB501 FOR TYPICAL REINFORCEMENT AT WALL CORNERS AND INTERSECTIONS.
  7. SEE D3/SB501 FOR TYPICAL DETAIL AT SLAB JOINTS IN CONCRETE SLABS ON GRADE.
  8. SEE D4/SB501 FOR TYPICAL DETAIL AT DEPRESSED CONCRETE SLABS ON GRADE.
  9. SEE D5/SB501 FOR REINFORCEMENT AT DISCONTINUOUS CONSTRUCTION / CONTROL JOINTS IN CONCRETE SLAB ON GRADE.
  10. REFER TO GENERAL STRUCTURAL NOTES AND SEE C1/SB501 FOR COMPACTED STRUCTURAL FILL REQUIREMENTS BELOW FOOTINGS. MIN STRUCTURAL FILL VARIES BY FOOTING. SEE CONCRETE FOOTING SCHEDULE FOR DEPTH OF STRUCTURAL FILL.



**HFS Architects**  
 ARCHITECTURE  
 INTERIORS  
 PLANNING

1484 South State Street Salt  
 Lake City, Utah 84115 801-  
 596-0811 F: 596-0893  
 www.hfsa.com

CONSULTANT  
**REAVELEY**  
 ENGINEERS + ASSOCIATES  
 Consulting Structural Engineers



**NORTHERN UTAH  
 COUNTY BUILDING**

**MOUNTAINLAND APPLIED  
 TECHNOLOGY COLLEGE**

**UTAH COLLEGE  
 OF APPLIED  
 TECHNOLOGY**

2300 WEST & ASHTON BLVD.  
 LEHI, UT 84043

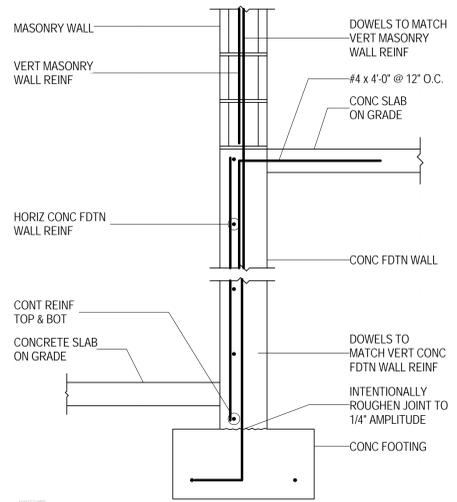
MARK	DATE	DESCRIPTION

DATE:	MAY 29, 2009
DCM PROJECT NO.:	07039260
HESA PROJECT NO.:	0813.01
CAD DRAWING FILE NO.:	
DRAWN BY:	CEB
CHECKED BY:	MRH
DESIGNED BY:	RMM
DRW TYPE:	STRUCTURAL
ARCHITECTURAL PHASE:	BID SET

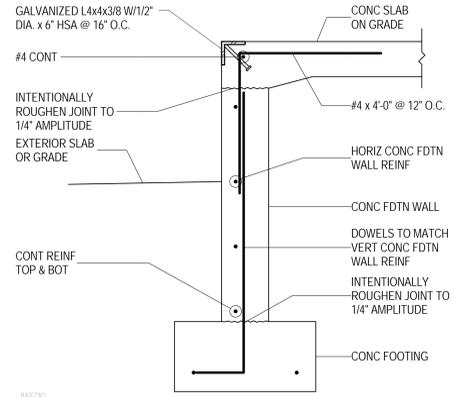
SHEET TITLE  
**Footing & Foundation  
 Plan Area C**

**SB101c**  
 SHEET OF

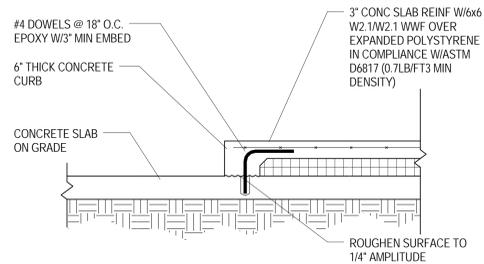




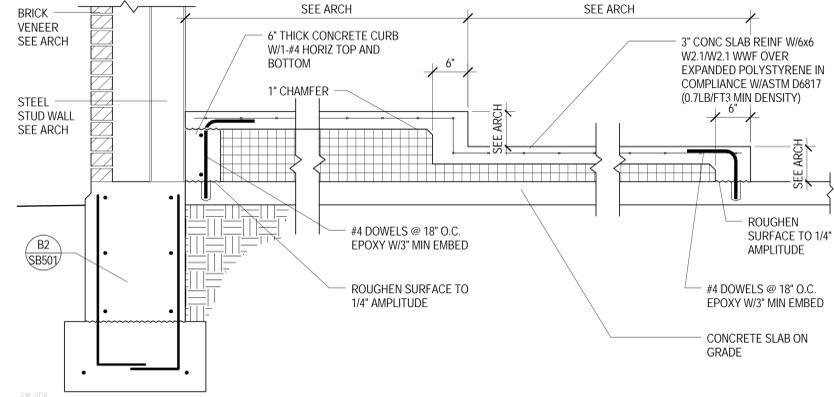
D1 TYP MASONRY WALL ON CONCRETE FOUNDATION WALL  
SB502 NO SCALE



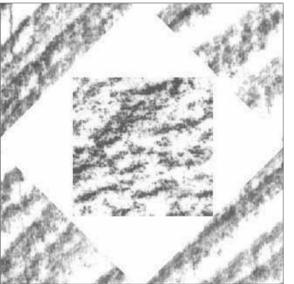
D2 TYPICAL CONCRETE FOUNDATION WALL  
SB502 NO SCALE



C1 SECTION AT CLASSROOM RISERS  
SB502 NO SCALE



D4 SECTION AT CLASSROOM RISERS  
SB502 NO SCALE



**HFS Architects**  
ARCHITECTURE  
INTERIORS  
PLANNING

1484 South State Street Salt  
Lake City, Utah 84115 801-  
596-0691 F: 596-0693  
www.hfsa.com

CONSULTANT

**REAVELEY**  
ENGINEERS + ASSOCIATES  
Consulting Structural Engineers



NORTHERN UTAH  
COUNTY BUILDING

MOUNTAINLAND APPLIED  
TECHNOLOGY COLLEGE

UTAH COLLEGE  
OF APPLIED  
TECHNOLOGY

2300 WEST & ASHTON BLVD.  
LEHI, UT 84043

MARK	DATE	DESCRIPTION

DATE: MAY 29, 2009  
DCM PROJECT NO: 07039260  
HFS PROJECT NO: 0813.01  
CAD DRAWING FILE NO:  
DRAWN BY: CEB  
CHECKED BY: MRH  
DESIGNED BY: RMM  
DRW TYPE: STRUCTURAL  
ARCHITECTURAL PHASE: BID SET

SHEET TITLE

Footing and Foundation  
Details

**SB502**  
SHEET OF

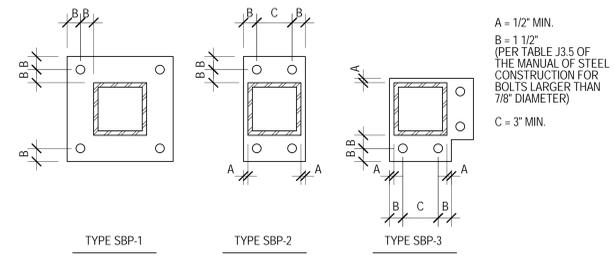
CONCRETE FOOTING SCHEDULE													
MARK	WIDTH	LENGTH	THICK	CROSSWISE REINFORCING				LENGTHWISE REINFORCING				REMARKS	STRUCTURAL FILL (THICKNESS INCHES)
				NO.	SIZE	LENGTH	SPACE	NO.	SIZE	LENGTH	SPACE		
FTS2.0	2'-0"	CONT	12"	--	NONE	REQ'D	--	3	#4	CONT	9"	THICKENED SLAB	24"
FC2.0	2'-0"	CONT	12"	--	NONE	REQ'D	--	3	#4	CONT	9"		24"
FC2.5	2'-6"	CONT	12"	--	NONE	REQ'D	--	3	#5	CONT	12"		24"
FC4.5	4'-6"	CONT	14"	--	#4	4'-0"	14"	3	#4	CONT	24"	TOP	24"
				--	#5	4'-0"	14"	4	#4	CONT	16"	BOTTOM	24"
FS4.0	4'-0"	4'-0"	13"	6	#4	3'-6"	8.4"	6	#4	3'-6"	8.4"		24"
FS5.0	5'-0"	5'-0"	14"	8	#4	4'-6"	7.8"	8	#4	4'-6"	7.8"		24"
FS6.0	6'-0"	6'-0"	16"	8	#5	5'-6"	9.4"	8	#5	5'-6"	9.4"		24"
FS6.5	6'-6"	6'-6"	19"	7	#6	6'-0"	12"	7	#6	6'-0"	12"		24"
FS7.0	7'-0"	7'-0"	19"	7	#6	6'-6"	13"	7	#6	6'-6"	13"		24"
FS7.5	7'-6"	7'-6"	20"	9	#6	7'-0"	10.5"	9	#6	7'-0"	10.5"		24"
FS8.0	8'-0"	8'-0"	21"	10	#6	7'-6"	10"	10	#6	7'-6"	10"		24"
FS8.5	8'-6"	8'-6"	23"	11	#6	8'-0"	9.6"	11	#6	8'-0"	9.6"		24"
FS9.0	9'-0"	9'-0"	24"	12	#6	8'-6"	9.3"	12	#6	8'-6"	9.3"		36"
FS9.5	9'-6"	9'-6"	25"	10	#7	9'-0"	12"	10	#7	9'-0"	12"		36"
FR8.0x38.0	8'-0"	38'-0"	30"	26	#5	7'-6"	18"	10	#7	37'-6"	10"	TOP	36"
				29	#7	7'-6"	16.07"	6	#7	37'-6"	18"	BOTTOM	
FR8.0x42.0	8'-0"	42'-0"	30"	29	#5	7'-6"	17.78"	10	#7	41'-6"	10"	TOP	36"
				32	#7	7'-6"	16.06"	10	#7	41'-6"	10"	BOTTOM	
FR10.0x40.0	10'-0"	40'-0"	32"	28	#5	9'-6"	17.55"	12	#7	39'-6"	10.4"	TOP	36"
				32	#7	9'-6"	15.3"	13	#7	39'-6"	9.5"	BOTTOM	

- NOTES:
- PLACE ALL FOOTING REINFORCING IN BOTTOM OF FOOTING WITH 3" CLEAR CONCRETE COVER UNLESS NOTED OTHERWISE.
  - TOP REINFORCING, WHERE SPECIFIED, SHALL BE PLACED IN THE TOP OF THE FOOTING WITH 2" CLEAR CONCRETE COVER.
  - SPOT FOOTINGS SHALL BE CENTERED UNDER COLUMNS AND CONTINUOUS FOOTINGS SHALL BE CENTERED UNDER WALLS, UNLESS NOTED OTHERWISE.
  - ALL FOOTINGS SHALL BE FORMED. FOOTINGS SHALL NOT BE EARTH FORMED OR OVERSIZED WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER.

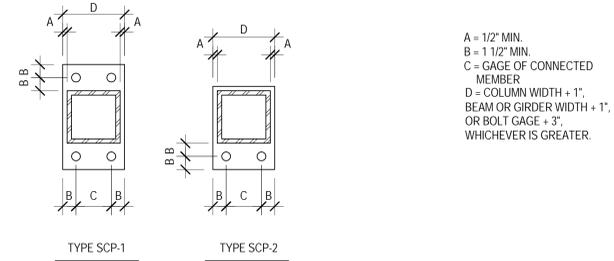
STEEL COLUMN SCHEDULE				
MARK	SIZE	STEEL BASE PLATE	STEEL CAP PLATE	REMARKS
SC-1	HSS3x3x1/4	1.1/8" THICK SBP-1.2 OR 3	5/8" THICK SCP-1 OR 2	
SC-2	HSS8x8x1/4	1.1/8" THICK SBP-1.2 OR 3	5/8" THICK SCP-1 OR 2	
SC-3	HSS8x8x5/16	1.1/8" THICK SBP-1.2 OR 3	5/8" THICK SCP-1 OR 2	
SC-4	HSS8x8x3/8	1.1/8" THICK SBP-1.2 OR 3	5/8" THICK SCP-1 OR 2	
SC-5	HSS10x10x5/16	1.1/8" THICK SBP-1.2 OR 3	5/8" THICK SCP-1 OR 2	
SC-6	HSS8.625 x 0.375	1.1/8" THICK SBP-1.2 OR 3	5/8" THICK SCP-1 OR 2	
SC-7	HSS10.75 x 0.375	1.1/8" THICK SBP-1.2 OR 3	5/8" THICK SCP-1 OR 2	
SC-8	HSS12x6x1/4	1.1/8" THICK SBP-2	5/8" THICK SCP-1 OR 2	

NOTES:

- UNLESS NOTED OTHERWISE, ALL COLUMNS SHALL BE INSTALLED W/ 3/4" DIAMETER A.B. W/ 3" (MIN) HOOKS. PROJECT ANCHOR BOLTS 3" (MIN) ABOVE THE TOP OF THE BASE PLATE. EMBEDMENT SHALL BE 9" (MIN). ALL BOLTS SHALL BE INSTALLED W/ HARDENED WASHERS BENEATH THE NUT. ANY BOLT HOLES LARGER THAN THE BOLT DIAMETER PLUS 5/16" SHALL HAVE 5/16" PLATE WASHERS INSTALLED BENEATH THE HARDENED WASHERS.
- ALL BOLTS IN CAP PLATES SHALL BE 3/4" DIA. A325N BOLTS TYPICAL U.N.O.
- COLUMN SPLICES SHALL BE LOCATED PER SPICE DETAILS, TYPICAL U.N.O.
- WELDS SHALL NOT BE MADE TO ANCHOR BOLTS.



E5 SB601 TYPICAL STEEL BASE PLATES - PLAN VIEW  
NO SCALE



D5 SB601 TYPICAL STEEL CAP PLATES - REFLECTED PLAN VIEW  
NO SCALE

CONCRETE FOUNDATION WALL SCHEDULE					
MARK	THICK	HORIZONTAL REINFORCING	VERTICAL REINFORCING	TOP & BOTTOM HORIZONTAL BARS	PLACEMENT
CFW-1	8"	#5 @ 15" O.C.	#4 @ 16" O.C.	1-#5	TYPE A
CFW-2	16"	#5 @ 15" O.C. E.F.	#4 @ 16" O.C. E.F.	2-#5	TYPE D
CFW-3	24"	SEE	DETAIL	B1/SF203	TYPE C
CFW-4	8"	#5 @ 15" O.C.	#6 @ 14" O.C.	1-#5	TYPE A

PLACEMENT TYPE

E.F. = EACH FACE  
O.F. = OUTSIDE FACE (AGAINST SOIL)  
I.F. = INSIDE FACE  
3L = THREE LAYERS

CONCRETE REINFORCING BAR LAP SPLICE SCHEDULE																
BAR SIZE Fy = 60 KSI	TENSION BARS										COMP. BARS fc = ALL					
	fc = 3000 PSI		fc = 4000 PSI		fc = 5000 PSI		fc = 6000 PSI									
	REGULAR	TOP	REGULAR	TOP	REGULAR	TOP	REGULAR	TOP								
	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS								
	A	B	A	B	A	B	A	B	A	B						
#3	17"	22"	22"	28"	15"	19"	19"	25"	13"	17"	17"	22"	12"	16"	16"	20"
#4	22"	29"	29"	38"	19"	25"	25"	33"	17"	23"	23"	29"	16"	21"	21"	27"
#5	28"	36"	36"	47"	24"	31"	31"	41"	22"	28"	28"	36"	20"	26"	26"	33"
#6	33"	43"	43"	56"	29"	37"	37"	49"	26"	34"	34"	44"	24"	31"	31"	40"
#7	48"	63"	63"	81"	42"	54"	54"	71"	38"	49"	49"	63"	34"	45"	45"	58"
#8	55"	72"	72"	93"	48"	62"	62"	81"	43"	56"	56"	72"	39"	51"	51"	66"
#9	62"	81"	81"	105"	54"	70"	70"	91"	48"	63"	63"	81"	44"	57"	57"	74"
#10	70"	91"	91"	118"	61"	79"	79"	102"	54"	71"	71"	92"	50"	64"	64"	84"
#11	78"	101"	101"	131"	67"	87"	87"	114"	60"	78"	78"	102"	55"	71"	71"	93"

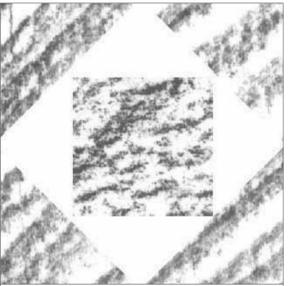
NOTES: THESE NOTES SHALL BE USED FOR ALL SPLICES, UNLESS NOTED OTHERWISE ON DRAWINGS.

- TOP BARS ARE HORIZONTAL BARS, SPLICED SO THAT 12" OR MORE OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCING BAR.
- CLASS A SPLICES MAY BE USED ONLY WHEN 50% OR LESS OF THE BARS ARE SPLICED WITHIN THE LAP SPLICE LENGTH.
- CLASS B SPLICES SHALL BE USED FOR ALL SPLICES IN SLABS, BEAMS, JOISTS, WALLS, MOMENT RESISTING COLUMNS, AND JAMB COLUMNS, UNLESS THEY MEET THE REQUIREMENTS OF NOTE #2 ABOVE.
- TIES AND STIRRUPS SHALL NOT BE SPLICED.
- A. FOR BUNDLED BARS OF THREE OR LESS, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.2.  
B. FOR BUNDLED BARS OF FOUR OR MORE, LAP LENGTHS SHALL BE MULTIPLIED BY 1.33.  
C. INDIVIDUAL BAR SPLICES WITHIN A BUNDLE SHALL NOT OVERLAP. ENTIRE BUNDLES SHALL NOT BE LAP SPLICED.
- FOR ALL LIGHTWEIGHT CONCRETE, LAP LENGTHS SHALL BE MULTIPLIED BY 1.3.
- FOR ALL EPOXY COATED BARS WITH COVER LESS THAN 3 BAR DIAMETERS OF CLEAR SPACING LESS THAN 6 BAR DIAMETERS THE LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.5. FOR ALL OTHER EPOXY BARS THE SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.2.
- THE BAR LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.5 WHEN EITHER OF THE FOLLOWING IS TRUE:  
A. CLEAR SPACING OF BARS BEING DEVELOPED IS LESS THAN ONE BAR DIAMETER, CLEAR COVER IS LESS THAN ONE BAR DIAMETER AND STIRRUPS OR TIES ALONG THE LENGTH OF THE SPLICE ARE LESS THAN THE CODE MINIMUM.  
B. CLEAR SPACING OF BARS BEING DEVELOPED IS LESS THAN 2 BAR DIAMETERS AND CLEAR COVER IS LESS THAN ONE BAR DIAMETER.

CONCRETE PIER SCHEDULE				
MARK	SIZE	REINFORCING		REMARKS
		VERTICAL	TIES	
CP-1	20"x20"	4-#7	#3 @ 8" O.C.	
CP-2	24"x24"	4-#7	#3 @ 8" O.C.	
CP-3	24"x24"	12-#6	5-#3 @ 8" O.C.	
CP-4				
CP-5	8"x24"	10-#6	#3 @ 8" O.C.	

NOTES:

- PIERS SHALL BE CENTERED UNDER ALL STEEL COLUMNS TYPICAL UNLESS NOTED OTHERWISE.



**HFS Architects**  
ARCHITECTURE  
INTERIORS  
PLANNING

1484 South State Street Salt Lake City, Utah 84115 801-596-0891 F: 596-0893 www.hfsa.com

CONSULTANT

**REAVELEY ENGINEERS + ASSOCIATES**  
Consulting Structural Engineers



NORTHERN UTAH COUNTY BUILDING

MOUNTAINLAND APPLIED TECHNOLOGY COLLEGE

UTAH COLLEGE OF APPLIED TECHNOLOGY

2300 WEST & ASHTON BLVD.  
LEHI, UT 84043

MARK	DATE	DESCRIPTION

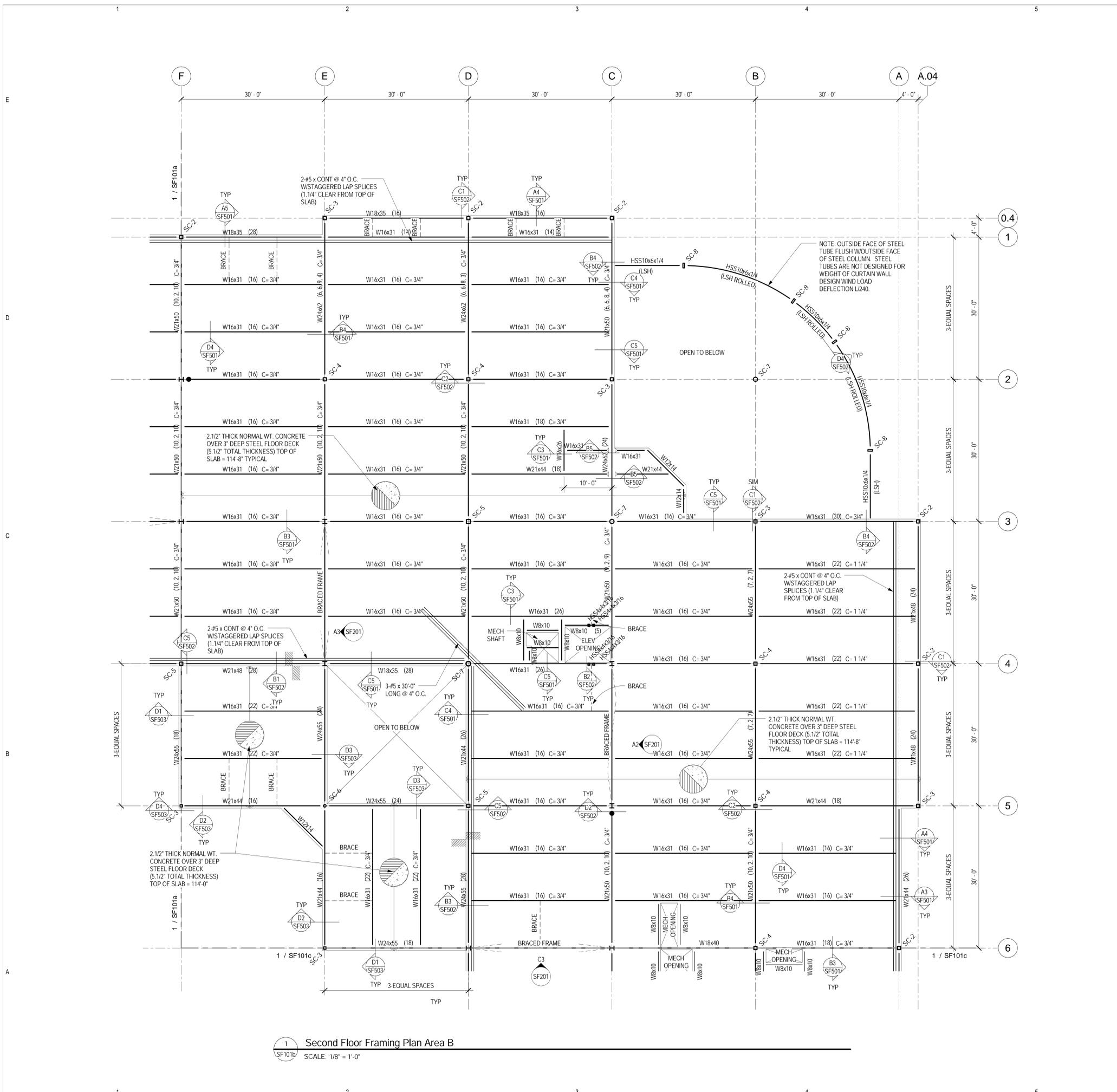
DATE: MAY 29, 2009  
DCM PROJECT NO: 07039260  
HFS PROJECT NO: 0813.01  
CAD DRAWING FILE NO:  
DRAWN BY: CEB  
CHECKED BY: MRH  
DESIGNED BY: RMM  
DRW TYPE: STRUCTURAL  
ARCHITECTURAL PHASE: BID SET

SHEET TITLE

Schedule Sheet

**SB601**  
SHEET OF

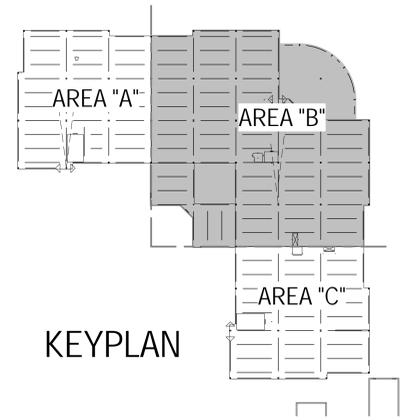




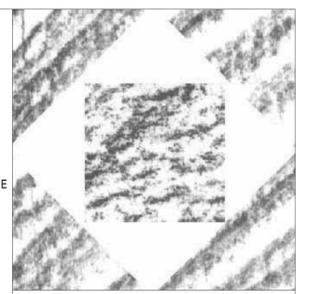
**FLOOR FRAMING PLAN LEGEND**

- STEEL COLUMN - TUBE
- ⊥ STEEL COLUMN - WIDE FLANGE
- STEEL COLUMN - PIPE
- STEEL BRACED FRAME
- ▶ MOMENT CONNECTION (SEISMIC)
- ▽ GRAVITY MOMENT CONNECTION
- COLLECTOR CONNECTION WITH SINGLE ROW OF BOLTS PER D1/SF601
- ◆ INDICATES COLLECTOR CONNECTION WITH DOUBLE ROW OF BOLTS SEE DETAIL C3/SF203
- STEEL BEAM OR GIRDER
- STEEL JOIST OR PURLIN
- - - CROSS BRIDGING
- - - HORIZONTAL BRIDGING
- 0' CHANGE IN ELEVATION
- CONCRETE ON METAL DECK
- ROOF DECK
- SPECIAL DECK AREA
- OPENING

- FLOOR FRAMING PLAN NOTES**
1. SEE GENERAL STRUCTURAL NOTE (III.D.8) AND DETAILS 17 & 18/SF501 FOR CONTROL JOINTS IN SUSPENDED SLABS OVER STEEL DECK.
  2. SEE DETAILS 1 THRU 7/SF501 FOR MISCELLANEOUS FLOOR OPENINGS.
  3. SEE GENERAL STRUCTURAL NOTE (V.J.7) FOR STEEL DECK REQUIREMENTS WHERE 3-SPAN CONDITIONS ARE NOT POSSIBLE.
  4. DO NOT RECESS CONCRETE SLAB OVER METAL DECK.
  5. CONDUIT IS NOT PERMITTED IN CONCRETE OVER METAL DECK.
  6. SEE C2/SF601 FOR TYPICAL STEEL STUD WALL OPENING SCHEDULE



1 Second Floor Framing Plan Area B  
SCALE: 1/8" = 1'-0"



**HFS Architects**  
ARCHITECTURE  
INTERIORS  
PLANNING

1484 South State Street Salt Lake City, Utah 84115 801-596-0631 F: 596-0693 www.hfsa.com

CONSULTANT  
**REAVELEY ENGINEERS + ASSOCIATES**  
Consulting Structural Engineers



NORTHERN UTAH COUNTY BUILDING

MOUNTAINLAND APPLIED TECHNOLOGY COLLEGE

UTAH COLLEGE OF APPLIED TECHNOLOGY

2300 WEST & ASHTON BLVD. LEHI, UT 84043

MARK	DATE	DESCRIPTION

DATE: MAY 29, 2009  
DCM PROJECT NO: 07039260  
HFSA PROJECT NO: 0813.01  
CAD DRAWING FILE NO:  
DRAWN BY: CEB  
CHECKED BY: MRH  
DESIGNED BY: RMM  
DRW TYPE: STRUCTURAL  
ARCHITECTURAL PHASE: BID SET

SHEET TITLE  
**Second Floor Framing Plan Area B**

**SF101b**  
SHEET OF



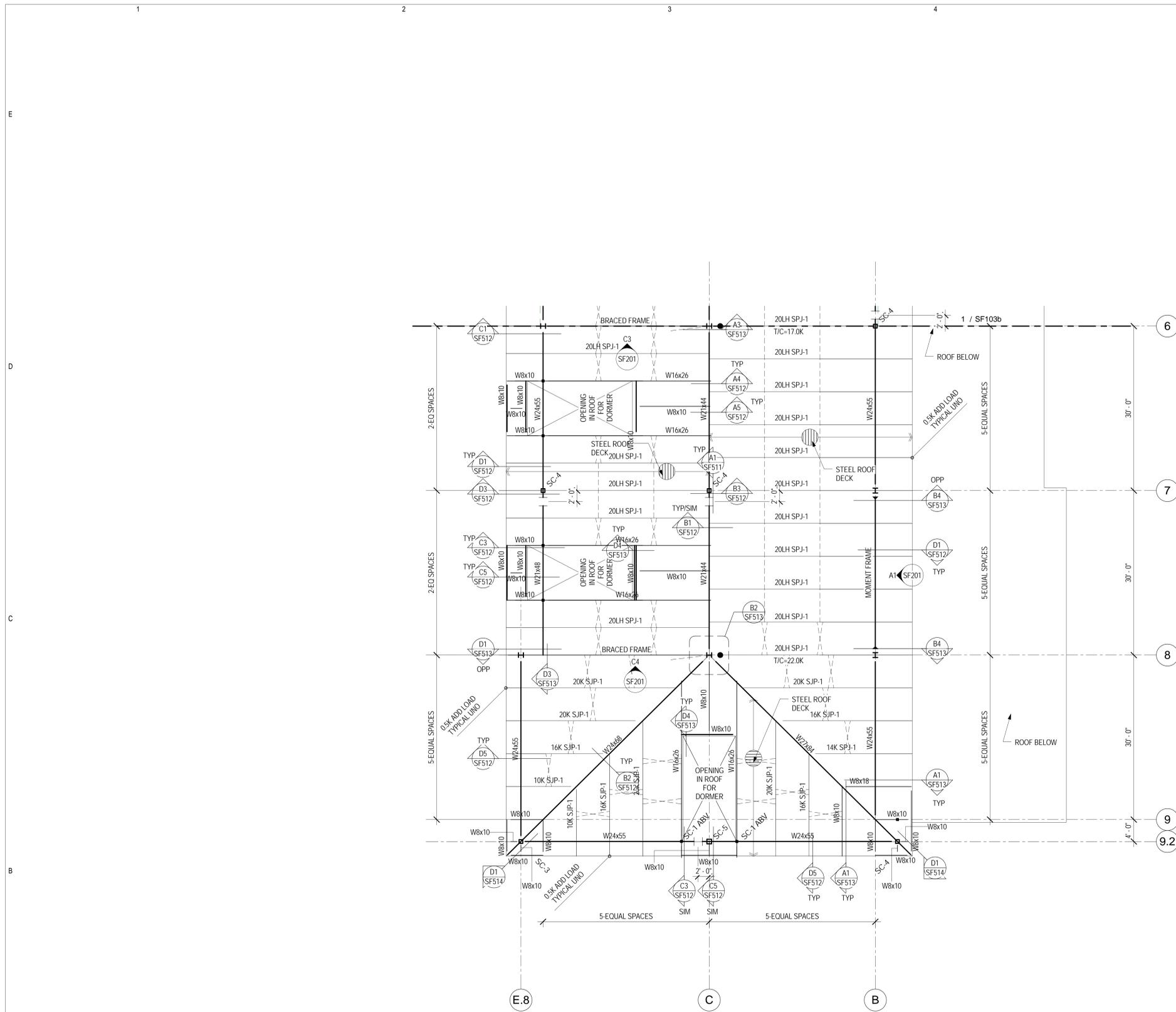












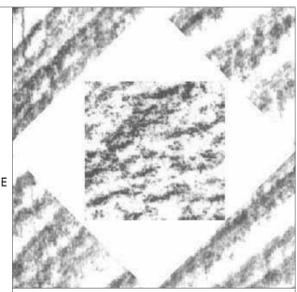
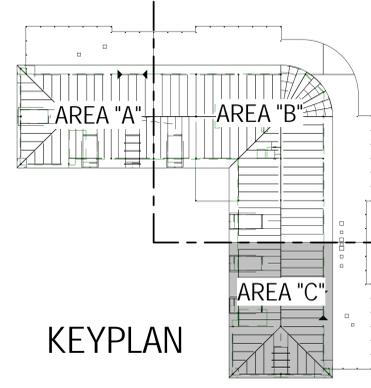
1 Roof Framing Plan Area C  
 SF103c SCALE: 1/8" = 1'-0"

### ROOF FRAMING PLAN LEGEND

- STEEL COLUMN - TUBE
- ⊥ STEEL COLUMN - WIDE FLANGE
- STEEL COLUMN - PIPE
- STEEL BRACED FRAME
- ▶ MOMENT CONNECTION
- COLLECTOR CONNECTION SEE A3/SF513.
- STEEL BEAM OR GIRDER
- STEEL JOIST OR PURLIN
- - - - CROSS BRIDGING
- - - - HORIZONTAL BRIDGING
- 0' CHANGE IN ELEVATION
- CONCRETE ON METAL DECK
- ROOF DECK
- OPENING

### ROOF FRAMING PLAN NOTES

1. VERIFY SIZE, WEIGHT, LOCATION AND CONFIGURATION OF ALL ROOF TOP EQUIPMENT WITH ARCHITECT AND MECHANICAL ENGINEER. PROVIDE STEEL FRAMES FOR SUPPORT OF ROOF TOP EQUIPMENT AS INDICATED IN DETAIL D3/SF511 COORDINATE OPENINGS WITH MECHANICAL AND ELECTRICAL AND GENERAL CONTRACTORS.
2. ALL ROOF OPENINGS SHALL BE FRAMED AS INDICATED IN DETAIL D2/SF511. FOR ROUND OPENINGS WHICH ARE LESS THAN 12" DIA. SEE DETAIL D4/SF511.
3. SEE ARCHITECTURAL FOR ROOF SLOPES AND DRAINS. SEE C1/SF511 FOR ROOF DRAIN OPENING FRAME.
4. OPEN WEB STEEL JOISTS AND JOIST GIRDERS SHALL BE DESIGNED BY THE MANUFACTURER TO SUPPORT THE MECHANICAL AND LATERAL LOADS SHOWN ON THE ROOF FRAMING PLANS IN ADDITION TO THE UNIFORM AND POINT LOADS SHOWN.
5. +/-#K ADD - INDICATES ADDITIONAL UPLIFT / DOWNWARD FORCE ON STEEL JOIST IN ADDITION TO REGULAR LOADS.
6. T/C-##K - INDICATES ADDITIONAL TOP CHORD AXIAL FORCE ON STEEL JOIST OR GIRDER IN ADDITION TO REGULAR LOADS. THIS FORCE IS A SEISMIC LRFD LOAD THAT SHALL BE CONSIDERED IN BOTH TENSION AND COMPRESSION. INCLUDES APPLICABLE OVERSTRENGTH FACTORS FROM IBC SECTION 1613 AND ASCE 7 SECTION 12.10. STEEL JOISTS AND GIRDERS WITH T/C FORCE SHALL BE DESIGNED AS COLLECTOR ELEMENTS PER IBC SECTION 1613 AND ASCE 7 SECTION 12.10 WITH STRENGTH TO RESIST APPLICABLE LOAD COMBINATIONS OF IBC SECTION 1605.4 AND ASCE 7 SECTION 12.4.
7. ALL LOADS SUPPORTED BY OPEN WEB STEEL JOISTS AND GIRDERS SHALL BE LOCATED WITHIN 6" OF JOIST OR GIRDER PANEL POINT OR THE JOIST OR GIRDER SHALL BE REINFORCED PER DETAIL D1/SF511.
8. SEE DETAIL D5/SF511 FOR SUPPORT OF HANGING MECHANICAL UNITS.
9. HORIZONTAL AND CROSS BRIDGING SHALL BE SIZED AND SUPPLIED BY THE JOIST MANUFACTURER. CONNECT TO WALLS AS INDICATED IN DETAILS.
10. WHERE SKYLIGHTS OR MECHANICAL UNITS INTERRUPT HORIZONTAL BRIDGING PROVIDE CROSS BRIDGING AT JOIST SPACES ON EACH SIDE. TYPICAL.
11. SEE C2/SF601 FOR TYPICAL STEEL STUD WALL/OPENING SCHEDULE
12. SEE C4/SF601 FOR SPECIFIC JOIST LOADING DIAGRAM (SPJ-1).
13. DESIGN ROOF JOISTS FOR A NET UPLIFT FORCE OF 0psf.



**HFS Architects**  
 ARCHITECTURE  
 INTERIORS  
 PLANNING

1484 South State Street Salt  
 Lake City, Utah 84115 801-  
 596-0811 F: 596-0893  
 www.hfsa.com

CONSULTANT  
**REAVELEY**  
 ENGINEERS + ASSOCIATES  
 Consulting Structural Engineers



NORTHERN UTAH  
 COUNTY BUILDING

MOUNTAINLAND APPLIED  
 TECHNOLOGY COLLEGE

UTAH COLLEGE  
 OF APPLIED  
 TECHNOLOGY

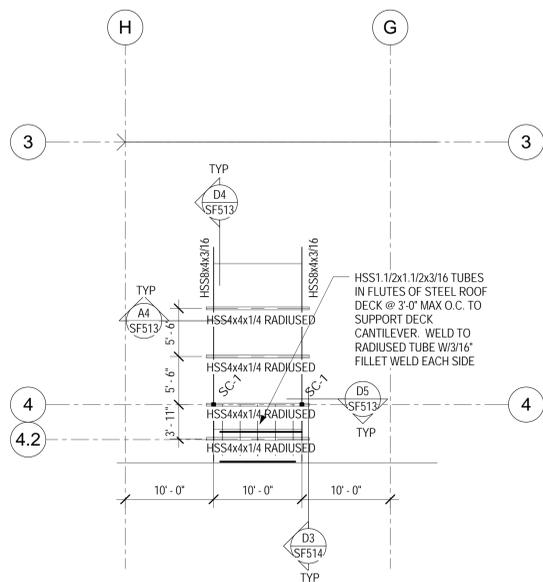
2300 WEST & ASHTON BLVD.  
 LEHI, UT 84043

MARK	DATE	DESCRIPTION

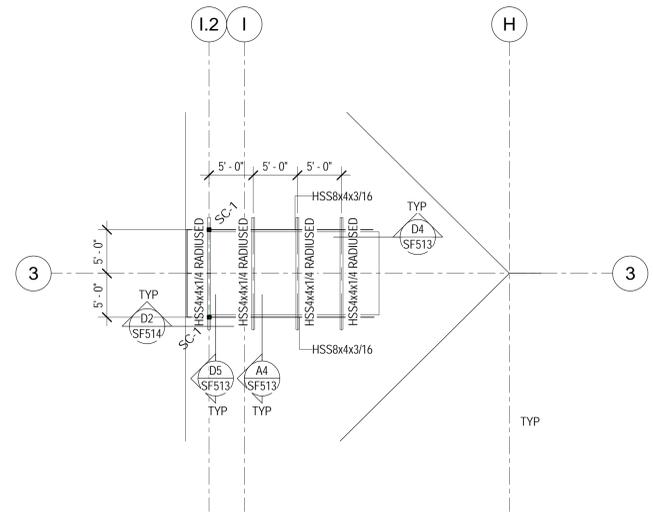
DATE: MAY 29, 2009  
 DFCM PROJECT NO.: 07039260  
 HFS PROJECT NO.: 0813.01  
 CAD DRAWING FILE NO.:  
 DRAWN BY: CEB  
 CHECKED BY: MRH  
 DESIGNED BY: RMM  
 DRW TYPE: STRUCTURAL  
 ARCHITECTURAL PHASE: BID SET

SHEET TITLE  
**Roof Framing Plan Area C**

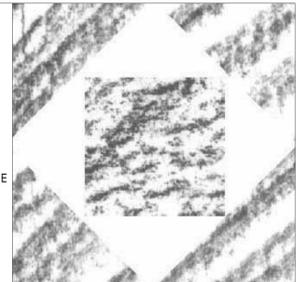
**SF103c**  
 SHEET OF



C2 Typical Dormer Roof Framing Plan A  
SCALE: 1/8" = 1'-0"



C3 Typical Dormer Roof Framing Plan B  
SCALE: 1/8" = 1'-0"



**HFS Architects**  
ARCHITECTURE  
INTERIORS  
PLANNING

1484 South State Street Salt  
Lake City, Utah 84115 801-  
596-0691 F: 596-0693  
www.hfsa.com

CONSULTANT  
**REAVELEY**  
ENGINEERS + ASSOCIATES  
Consulting Structural Engineers



NORTHERN UTAH  
COUNTY BUILDING

MOUNTAINLAND APPLIED  
TECHNOLOGY COLLEGE

UTAH COLLEGE  
OF APPLIED  
TECHNOLOGY

2300 WEST & ASHTON BLVD.  
LEHI, UT 84043

MARK	DATE	DESCRIPTION

DATE: MAY 29, 2009  
DFCM PROJECT NO: 07039260  
HFSA PROJECT NO: 0813.01  
CAD DRAWING FILE NO:  
DRAWN BY: CEB  
CHECKED BY: MRH  
DESIGNED BY: RMM  
DRW TYPE: STRUCTURAL  
ARCHITECTURAL PHASE: BID SET

SHEET TITLE  
**Dormer Roof Framing  
Plans**

**SF104**  
SHEET OF

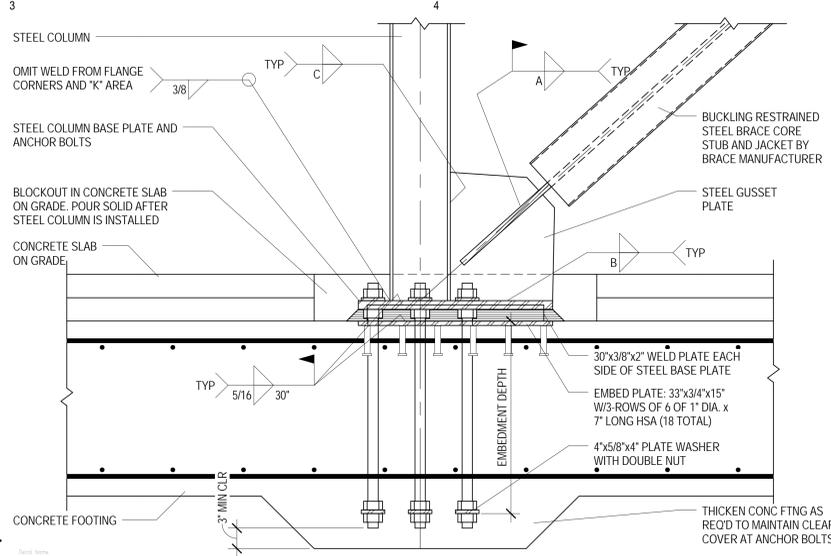


BUCKLING RESTRAINED BRACE FRAME CONNECTION SCHEDULE											
FORCE	GUSSET PLATE THICKNESS	WELDING CRITERIA									NOTES
		WELD A THICKNESS	WELD B THICKNESS	WELD C THICKNESS	WELD D THICKNESS	WELD E LENGTH	WELD A LENGTH	WELD B LENGTH	WELD C LENGTH		
0K - 120K	7/8"	5/16"	1/4"	3/8"	3/8"	20"	8"	15"	5"		
130K - 180K	7/8"	5/16"	5/16"	3/8"	3/8"	28"	11"	17"	8"		
200K - 270K	1.1/8"	5/16"	5/16"	1/2"	1/2"	34"	17"	25"	7"		
320K - 350K	1.1/4"	3/8"	3/8"	5/16"	1/2"	--	18"	17"	26"		

NOTES:  
 1. GUSSET PLATES & WELDS ARE INCLUDED FOR BIDDING PURPOSES. BRACE MANUFACTURER SHALL SUBMIT GUSSET PLATE & WELD DESIGNS TO THE ARCHITECT FOR REVIEW BY ENGINEER.  
 2. BRACE CONNECTIONS VARY BY MANUFACTURER. CONTRACTOR SHALL COORDINATE BETWEEN BRACE MANUFACTURER AND FABRICATOR.  
 3. WHERE INDICATED, MANUFACTURER'S GUSSET TO COLUMN CONNECTION SHALL MEET OR EXCEED SCHEDULED WELD STRENGTH.  
 4. BRACE MANUFACTURER SHALL PROVIDE GUSSET PLATE EDGE STIFFENERS WHERE GUSSET FREE EDGE DISTANCE EXCEEDS 24TIMES GUSSET PLATE THICKNESS.  
 5. SEE DETAILS B3/SF203 & C4/SF203 FOR PROTECTED ZONE REQUIREMENTS AT BUCKLING RESTRAINED BRACED FRAMES.

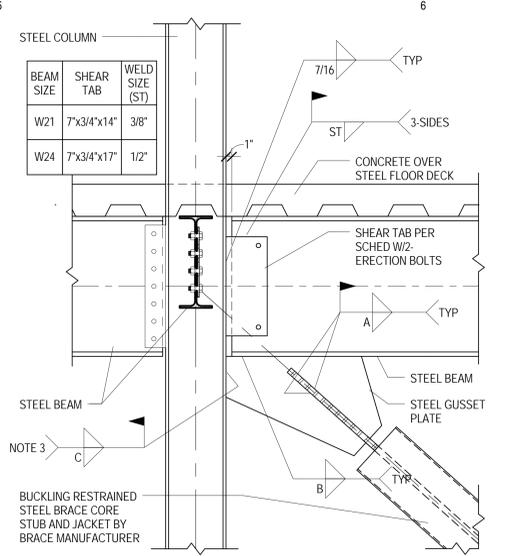
D1 BRACED FRAME CONNECTION SCHEDULE

SF202 NO SCALE



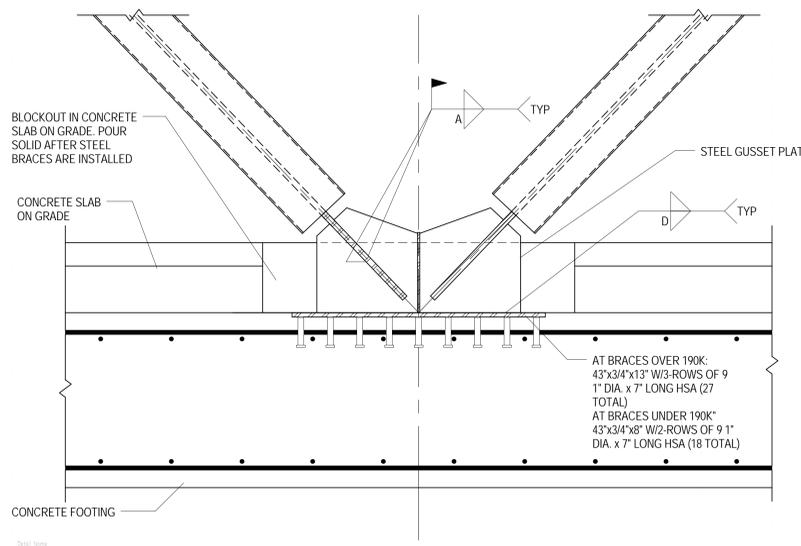
D3 TYPICAL BUCKLING RESTRAINED BRACE FRAME DETAIL

SF202 NO SCALE



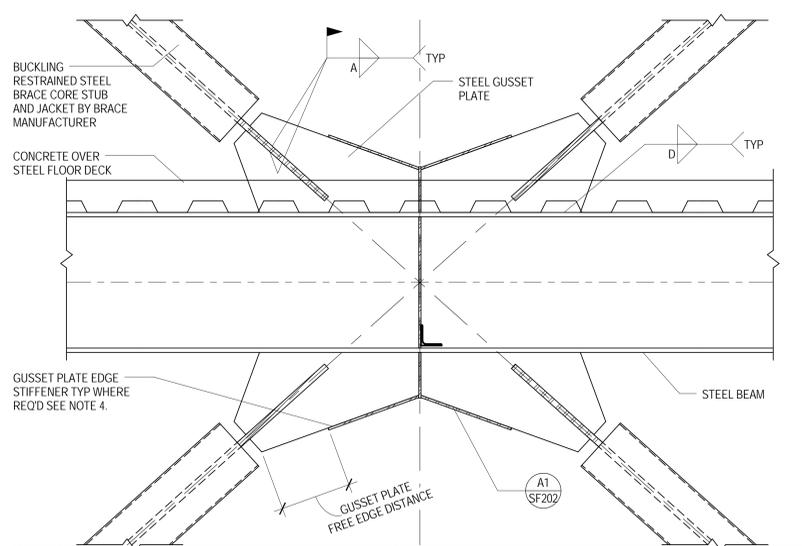
D5 TYPICAL BUCKLING RESTRAINED BRACE FRAME DETAIL

SF202 NO SCALE



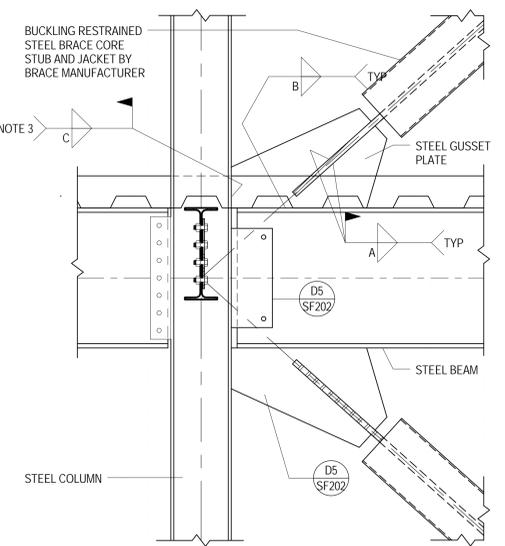
B1 TYPICAL BUCKLING RESTRAINED BRACE FRAME DETAIL

SF202 NO SCALE



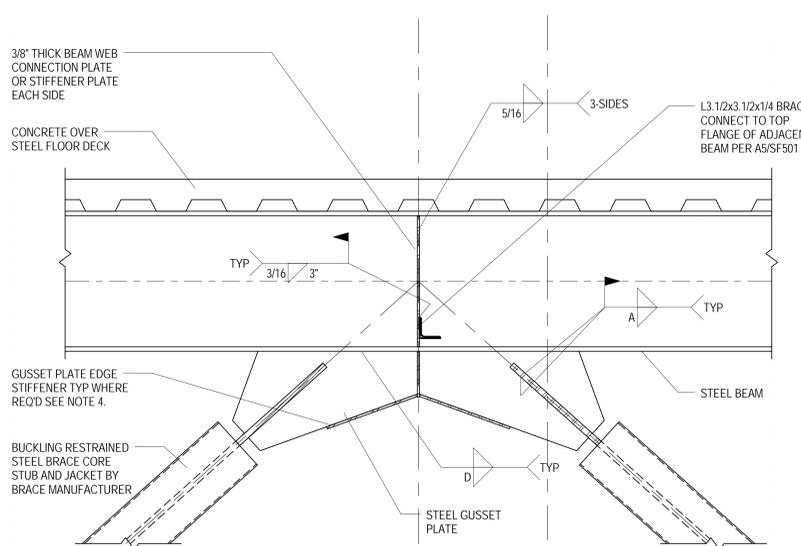
B3 BUCKLING RESTRAINED BRACED FRAME DETAIL

SF202 NO SCALE



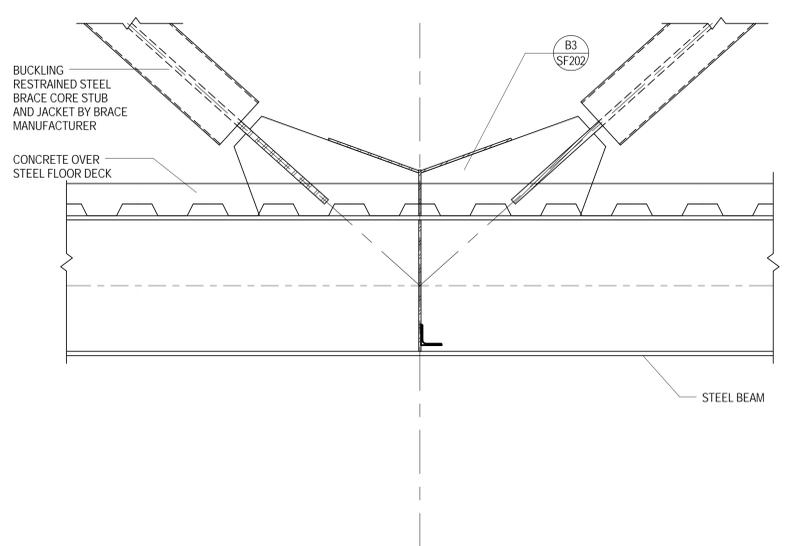
B5 TYPICAL BUCKLING RESTRAINED BRACE FRAME DETAIL

SF202 NO SCALE



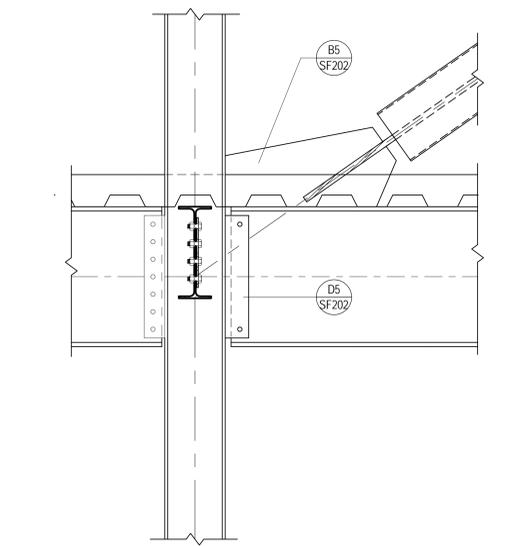
A1 TYPICAL BUCKLING RESTRAINED BRACE FRAME DETAIL

SF202 NO SCALE



A3 BUCKLING RESTRAINED BRACED FRAME DETAIL

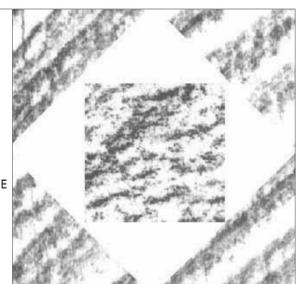
SF202 NO SCALE



A5 TYPICAL BUCKLING RESTRAINED BRACE FRAME DETAIL

SF202 NO SCALE

NOTE: SEE D1/SF202 FOR GUSSET PLATE THICKNESS AND ALL WELDING REQUIREMENTS TYPICAL.



**HFS Architects**  
 ARCHITECTURE  
 INTERIORS  
 PLANNING  
 1484 South State Street Salt Lake City, Utah 84115 801-596-0691 F: 596-0693 www.hfsa.com

CONSULTANT  
**REAVELEY ENGINEERS + ASSOCIATES**  
 Consulting Structural Engineers



**NORTHERN UTAH COUNTY BUILDING**  
**MOUNTAINLAND APPLIED TECHNOLOGY COLLEGE**  
 UTAH COLLEGE OF APPLIED TECHNOLOGY

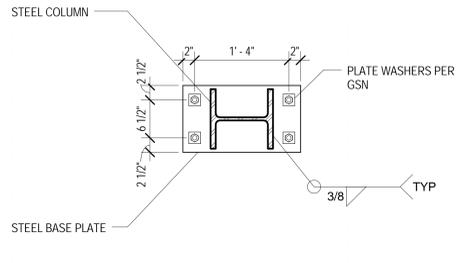
2300 WEST & ASHTON BLVD.  
 LEHI, UT 84043

MARK	DATE	DESCRIPTION

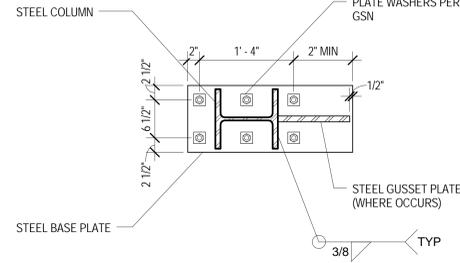
DATE: MAY 29, 2009  
 DFCM PROJECT NO: 07039260  
 HFS PROJECT NO: 0813.01  
 CAD DRAWING FILE NO:  
 DRAWN BY: CEB  
 CHECKED BY: MRH  
 DESIGNED BY: RMM  
 DRW TYPE: STRUCTURAL  
 ARCHITECTURAL PHASE: BID SET

SHEET TITLE  
**Braced Frame Schedule and Details**

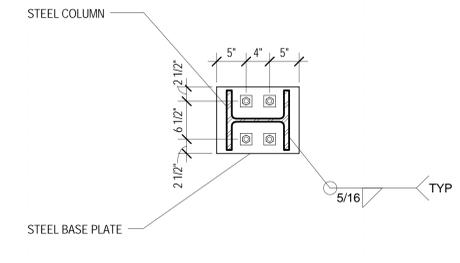
**SF202**  
 SHEET OF



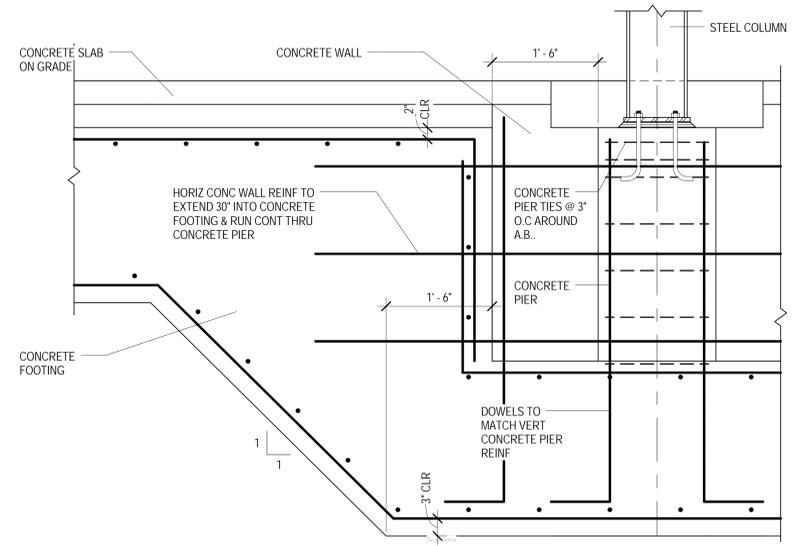
**D1 BASE PLATE DETAIL (PLAN VIEW)**  
SCALE: 1" = 1'-0"



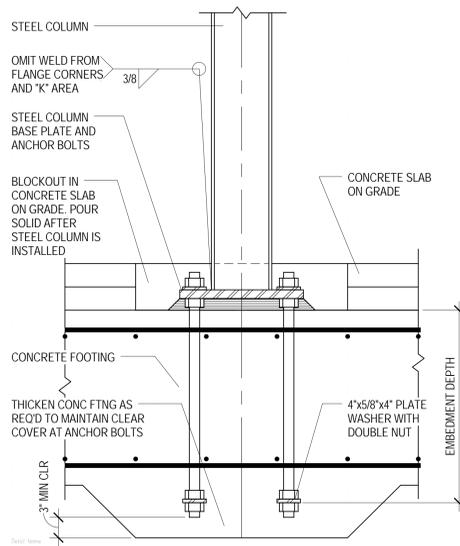
**D2 BASE PLATE DETAIL (PLAN VIEW)**  
SCALE: 1" = 1'-0"



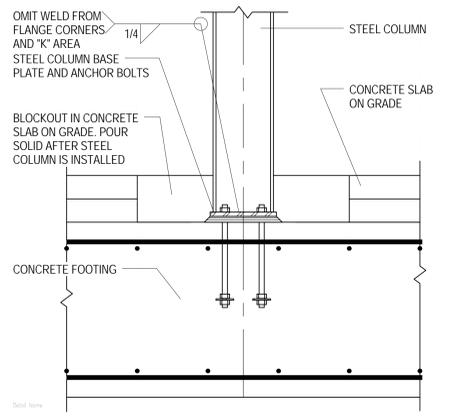
**D3 BASE PLATE DETAIL (PLAN VIEW)**  
SCALE: 1" = 1'-0"



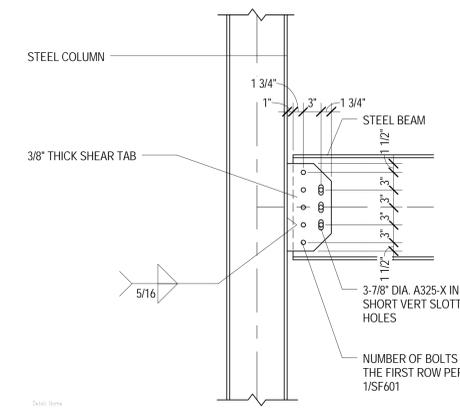
**D4 STEEL COLUMN BEARING ON CONCRETE PIER AT MAT FOOTING STEP**  
NO SCALE



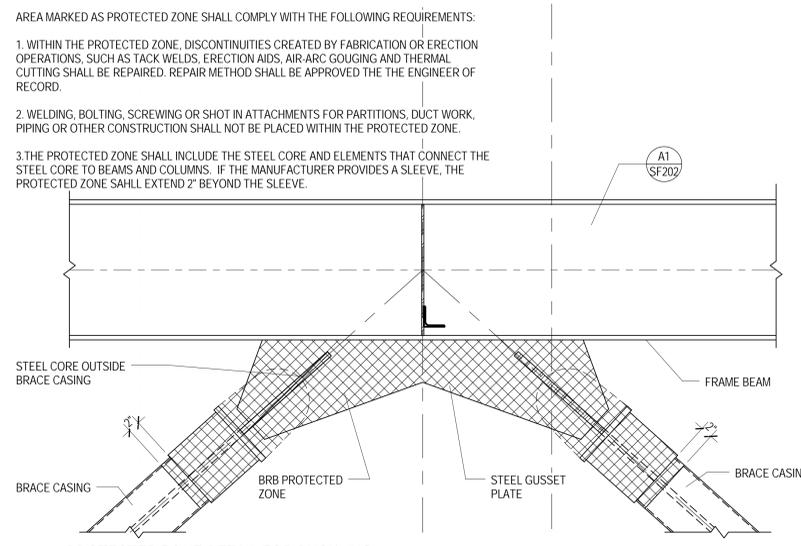
**C1 BASE PLATE DETAIL**  
NO SCALE



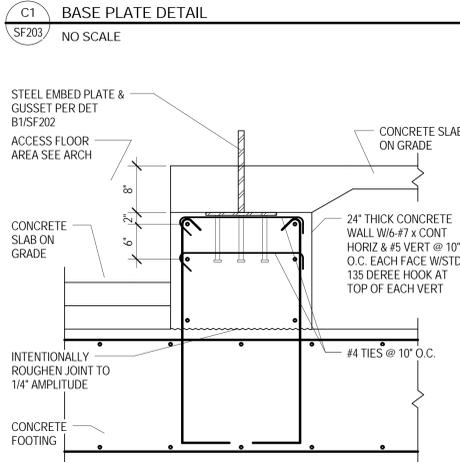
**C2 BASE PLATE DETAIL**  
NO SCALE



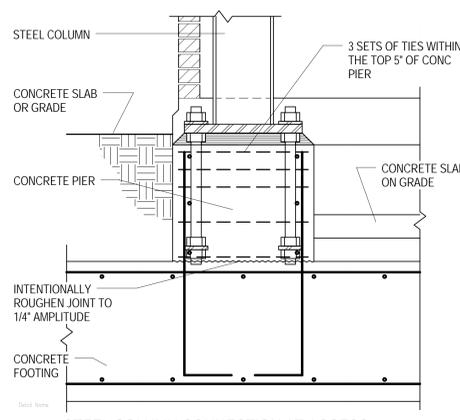
**C3 DOUBLE ROW DRAG STRUT CONNECTION DETAIL**  
NO SCALE



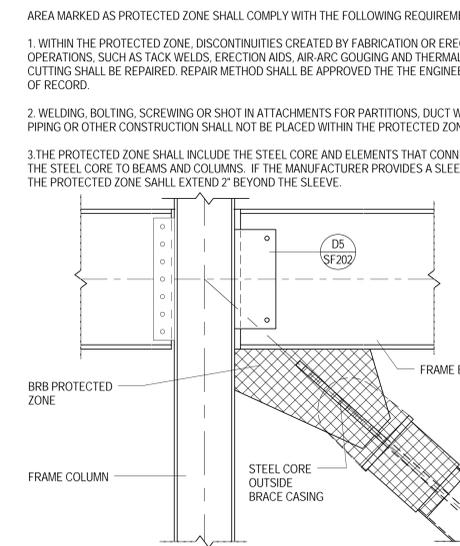
**C4 PROTECTED ZONE DETAIL FOR BUCKLING RESTRAINED BRACED FRAMES**  
NO SCALE



**B1 BRACE CONNECTION AT ACCESS FLOORING AREA**  
NO SCALE



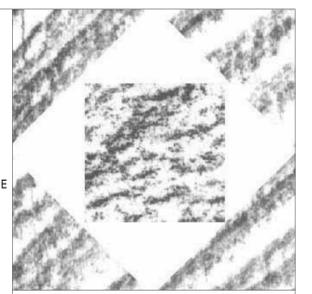
**B2 STEEL COLUMN CONNECTION AT ACCESS FLOORING**  
NO SCALE



**B3 PROTECTED ZONE DETAIL FOR BUCKLING RESTRAINED BRACED FRAMES**  
NO SCALE

- AREA MARKED AS PROTECTED ZONE SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
1. WITHIN THE PROTECTED ZONE, DISCONTINUITIES CREATED BY FABRICATION OR ERECTION OPERATIONS, SUCH AS TACK WELDS, ERECTION AIDS, AIR-ARC GOUGING AND THERMAL CUTTING SHALL BE REPAIRED. REPAIR METHOD SHALL BE APPROVED BY THE ENGINEER OF RECORD.
  2. WELDING, BOLTING, SCREWING OR SHOT IN ATTACHMENTS FOR PARTITIONS, DUCT WORK, PIPING OR OTHER CONSTRUCTION SHALL NOT BE PLACED WITHIN THE PROTECTED ZONE.
  3. THE PROTECTED ZONE SHALL INCLUDE THE STEEL CORE AND ELEMENTS THAT CONNECT THE STEEL CORE TO BEAMS AND COLUMNS. IF THE MANUFACTURER PROVIDES A SLEEVE, THE PROTECTED ZONE SHALL EXTEND 2' BEYOND THE SLEEVE.

- AREA MARKED AS PROTECTED ZONE SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
1. WITHIN THE PROTECTED ZONE, DISCONTINUITIES CREATED BY FABRICATION OR ERECTION OPERATIONS, SUCH AS TACK WELDS, ERECTION AIDS, AIR-ARC GOUGING AND THERMAL CUTTING SHALL BE REPAIRED. REPAIR METHOD SHALL BE APPROVED BY THE ENGINEER OF RECORD.
  2. WELDING, BOLTING, SCREWING OR SHOT IN ATTACHMENTS FOR PARTITIONS, DUCT WORK, PIPING OR OTHER CONSTRUCTION SHALL NOT BE PLACED WITHIN THE PROTECTED ZONE.
  3. THE PROTECTED ZONE SHALL INCLUDE THE STEEL CORE AND ELEMENTS THAT CONNECT THE STEEL CORE TO BEAMS AND COLUMNS. IF THE MANUFACTURER PROVIDES A SLEEVE, THE PROTECTED ZONE SHALL EXTEND 2' BEYOND THE SLEEVE.



**HFS Architects**  
ARCHITECTURE  
INTERIORS  
PLANNING

1484 South State Street Salt Lake City, Utah 84115 801-596-0811 F: 596-0893 www.hfsa.com

CONSULTANT  
**REAVELEY ENGINEERS + ASSOCIATES**  
Consulting Structural Engineers



**NORTHERN UTAH COUNTY BUILDING**

**MOUNTAINLAND APPLIED TECHNOLOGY COLLEGE**

**UTAH COLLEGE OF APPLIED TECHNOLOGY**

2300 WEST & ASHTON BLVD. LEHI, UT 84043

MARK	DATE	DESCRIPTION

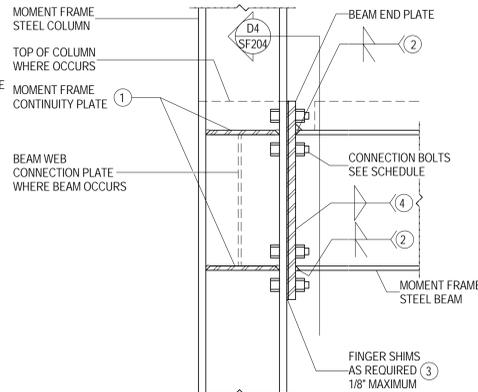
DATE:	MAY 29, 2009
DCM PROJECT NO.:	07039260
HFSA PROJECT NO.:	0813.01
CAD DRAWING FILE NO.:	
DRAWN BY:	CEB
CHECKED BY:	MRH
DESIGNED BY:	RMM
DRW TYPE:	STRUCTURAL
ARCHITECTURAL PHASE:	BID SET

SHEET TITLE  
**Braced Frame Details**

**SF203**  
SHEET OF

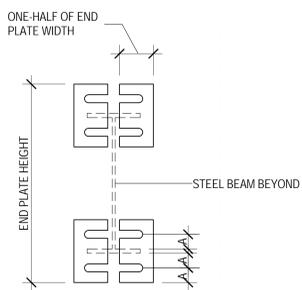
**NOTES:**

- 1 CONTINUITY PLATE THICKNESS SHALL BE AS PER SEE DETAIL B1/SF204.
- 2 FULL PENETRATION CJP GROOVE WELD. NO BACK ALLOWED. THE ROOT OF THE WELD SHALL BE ON THE BEAM WEB SIDE. THE INSIDE FACE OF THE FLANGE SHALL BE REINFORCED WITH A 5/16" FILLET WELD. WELDS ARE DEMAND CRITICAL. NO BACK COUING OF THE ROOT IS REQUIRED IN THE FLANGE ABOVE AND BELOW BEAM WEB A DISTANCE OF 1.5K. FULL DEPTH PJP GROOVE WELDS ARE PERMITTED IN THIS AREA. WELD ACCESS HOLES ARE NOT PERMITTED.
- 3 DIMENSIONS PER FINGER SHIM DETAIL. UP TO 2 SHIMS MAY BE USED TO FILL A 1/8" MAXIMUM GAP. SHIMS SHALL NOT BE INSTALLED W/ FINGERS POINTING UP SEE DETAIL D3/SF204.
- 4 TWO-SIDE FILLET WELD SHALL BE ONE-HALF THE BEAM WEB THICKNESS PLUS 1/16" (1/4" MIN. TYPICAL) EACH SIDE.
- 5 ALL MOMENT FRAME BEAMS SHALL BE BRACED AT FLOOR AND ROOF IN ACCORDANCE WITH DETAILS D1/SF512.
- 6 ALL MOMENT FRAMES SHALL BE PREPARED WITH CLASS "A" FAYING SURFACES BETWEEN THE COLUMN FLANGE AND THE END PLATE.



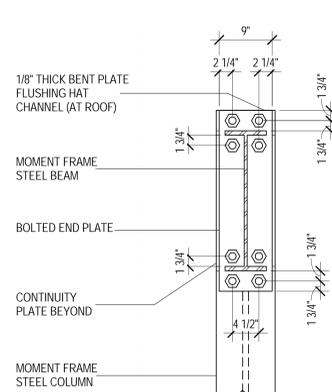
**TYPICAL UNSTIFFENED BOLTED END PLATE MOMENT FRAME CONNECTION W/ CONTINUITY PLATE (4 BOLT)**

D1  
SF204  
NO SCALE



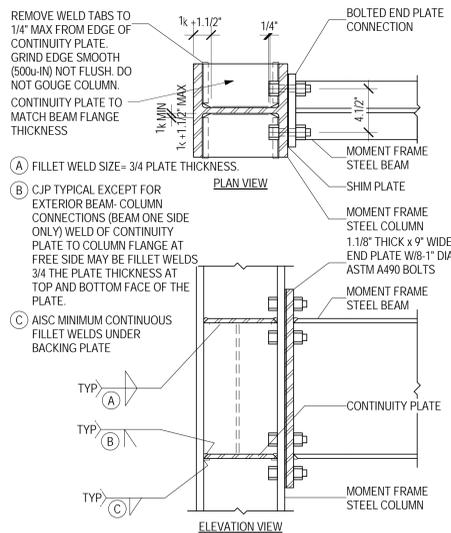
**TYPICAL FINGER SHIM PLATE ELEVATION FOR BOLTED END PLATE CONNECTIONS**

D3  
SF204  
NO SCALE



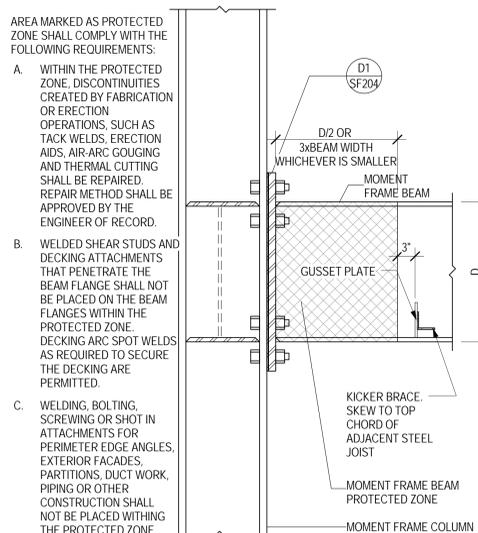
**TYPICAL MOMENT FRAME BEAM END PLATE ELEVATION (4 BOLT)**

D4  
SF204  
NO SCALE



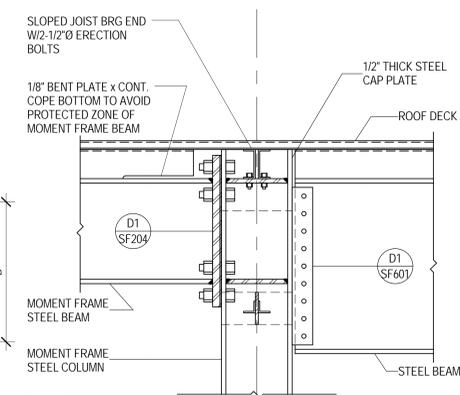
**TYPICAL CONTINUITY PLATE CONFIGURATION AND WELDING AT MOMENT FRAME COLUMN**

B1  
SF204  
NO SCALE



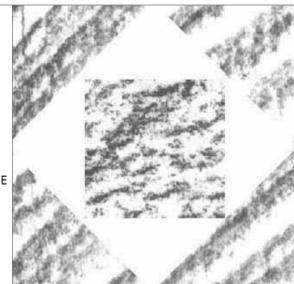
**PROTECTED ZONE DETAIL FOR BOLTED END PLATE MOMENT FRAMES**

B2  
SF204  
NO SCALE



**TYPICAL BOLTED END PLATE MOMENT FRAME DETAIL AT ROOF**

B3  
SF204  
NO SCALE



**HFS Architects**  
ARCHITECTURE  
INTERIORS  
PLANNING

1484 South State Street Salt  
Lake City, Utah 84115 801-  
596-0691 F: 596-0693  
www.hfsa.com

CONSULTANT

**REAVELEY**  
ENGINEERS + ASSOCIATES  
Consulting Structural Engineers



**NORTHERN UTAH  
COUNTY BUILDING**

**MOUNTAINLAND APPLIED  
TECHNOLOGY COLLEGE**

**UTAH COLLEGE  
OF APPLIED  
TECHNOLOGY**

2300 WEST & ASHTON BLVD.  
LEHI, UT 84043

MARK	DATE	DESCRIPTION

DATE: MAY 29, 2009  
DFCM PROJECT NO: 07039260  
HFSA PROJECT NO: 0813.01  
CAD DRAWING FILE NO:  
DRAWN BY: CEB  
CHECKED BY: MRH  
DESIGNED BY: RMM  
DRW TYPE: STRUCTURAL  
ARCHITECTURAL PHASE: BID SET

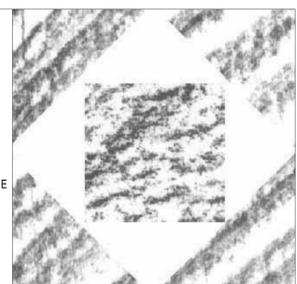
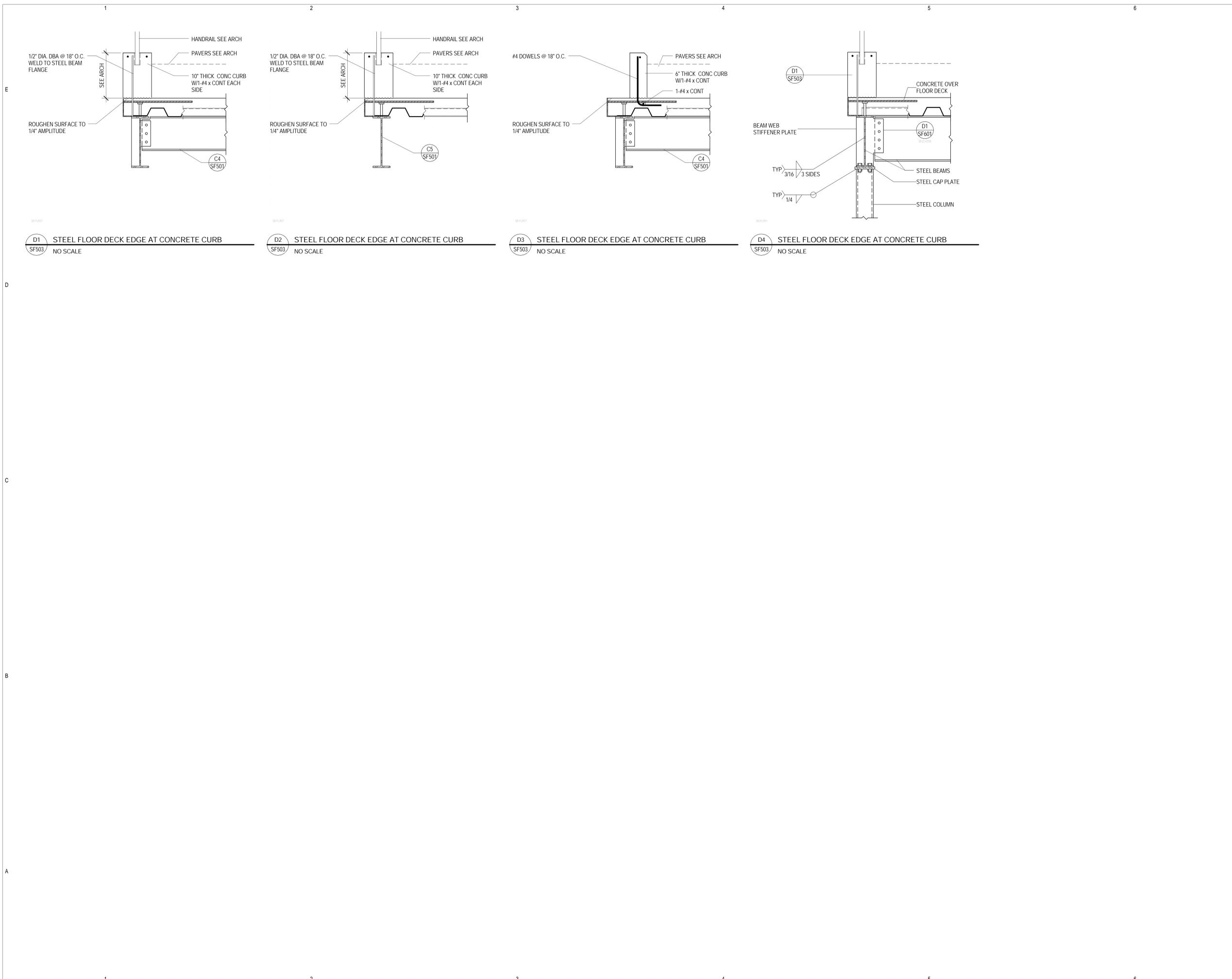
SHEET TITLE

**Bolted End Plate  
Connection Details**

**SF204**  
SHEET OF







**HFS Architects**  
ARCHITECTURE  
INTERIORS  
PLANNING

1484 South State Street Salt  
Lake City, Utah 84115 801-  
596-0691 F: 596-0693  
www.hfsa.com

CONSULTANT

**REAVELEY**  
ENGINEERS + ASSOCIATES  
Consulting Structural Engineers



NORTHERN UTAH  
COUNTY BUILDING

MOUNTAINLAND APPLIED  
TECHNOLOGY COLLEGE

UTAH COLLEGE  
OF APPLIED  
TECHNOLOGY

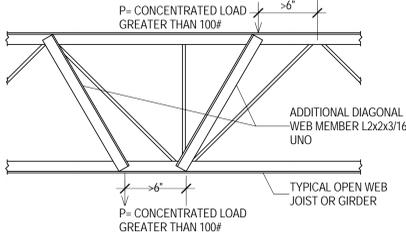
2300 WEST & ASHTON BLVD.  
LEHI, UT 84043

MARK	DATE	DESCRIPTION

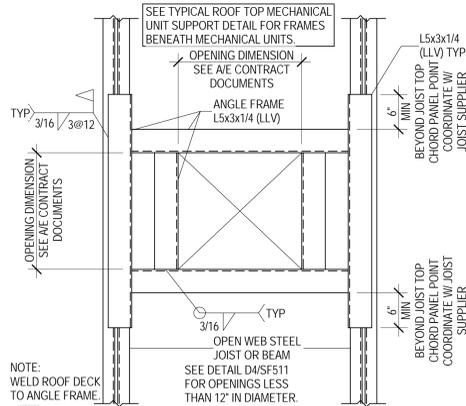
DATE: MAY 29, 2009  
 DFCM PROJECT NO: 07039260  
 HFSA PROJECT NO: 0813.01  
 CAD DRAWING FILE NO:  
 DRAWN BY: CEB  
 CHECKED BY: MRH  
 DESIGNED BY: RMM  
 DRW TYPE: STRUCTURAL  
 ARCHITECTURAL PHASE: BID SET

SHEET TITLE  
**Floor Framing Details**  
**SF503**  
 SHEET OF

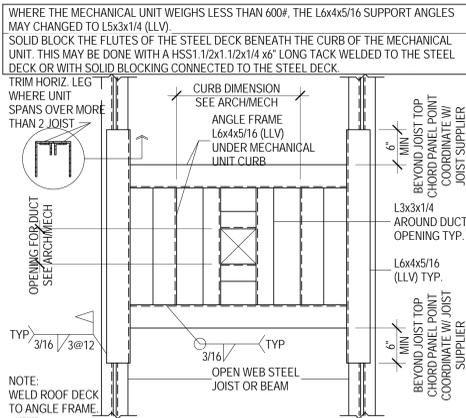
NOTE: WHEN CONCENTRATED LOADS (GREATER THAN 100#) ON OPEN WEB JOISTS OR GIRDERS ARE LOCATED MORE THAN 6 INCHES FROM THE PANEL WORKPOINTS AT EITHER THE TOP OR BOTTOM CHORD ADDITIONAL DIAGONAL WEB MEMBERS SHALL BE FURNISHED AND INSTALLED AT THE LOCATION OF THE CONCENTRATED LOAD BY THE CONTRACTOR. CONCENTRATED POINT LOADS, SINGLE OR MULTIPLE, TOTALING 100# OR LESS CAN BE LOCATED AT ANY POINT ALONG THE TOP OR BOTTOM CHORD OF AN OPEN WEB JOIST OR GIRDER BETWEEN ADJACENT PANEL POINTS WITHOUT MEETING THESE REQUIREMENTS. A LIMIT OF FOUR CONCENTRATED 100# MAX. POINT LOADS PER JOIST OR GIRDER WILL BE PERMITTED ON SPANS OF 12' & GREATER, ONE CONCENTRATED 100# MAX. LOAD ON SPANS LESS THAN 12', UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS. JOIST BRIDGING SHALL NEVER BE USED TO SUPPORT HANGING LOADS.



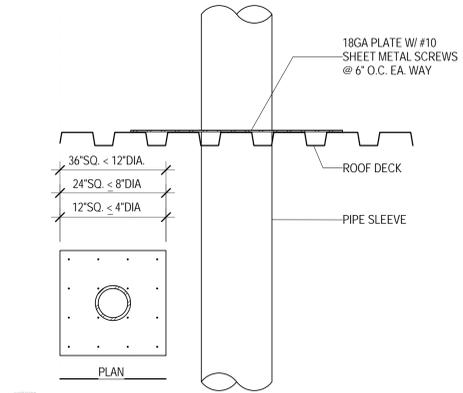
D1 TYPICAL DETAIL AT ADDITIONAL CONCENTRATED POINT LOAD  
NO SCALE



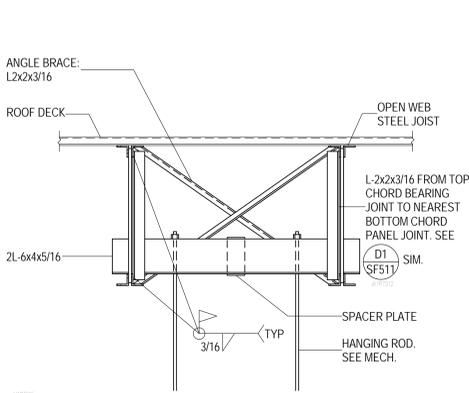
D2 TYPICAL ROOF OPENING DETAIL (PLAN VIEW)  
NO SCALE



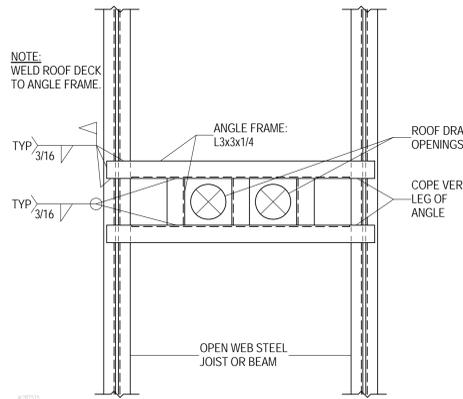
D3 TYP ROOF TOP MECHANICAL UNIT SUPPORT DETAIL (PLAN VIEW)  
NO SCALE



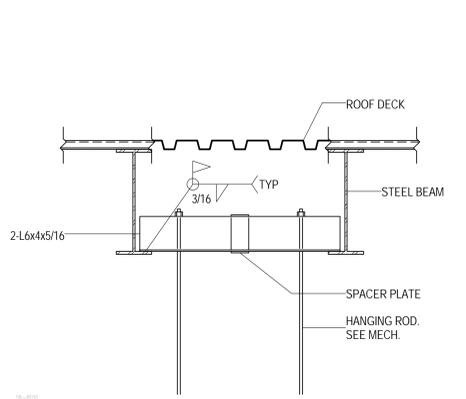
D4 TYPICAL PIPE SLEEVE HOLE THRU ROOF DECK  
NO SCALE



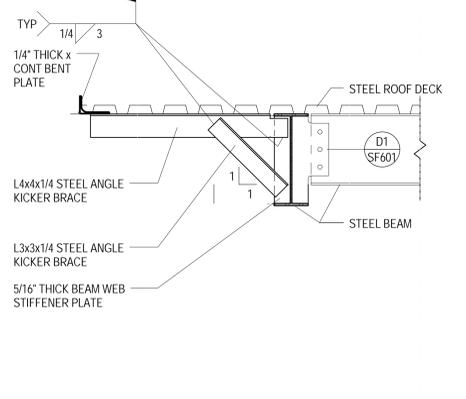
D5 TYPICAL HANGING MECHANICAL UNIT SUPPORT DETAIL  
NO SCALE



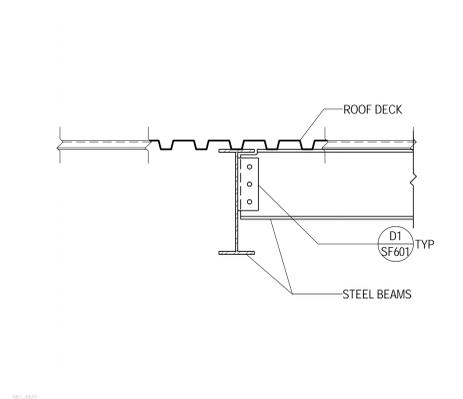
C1 TYPICAL ROOF DRAIN OPENING (PLAN VIEW)  
NO SCALE



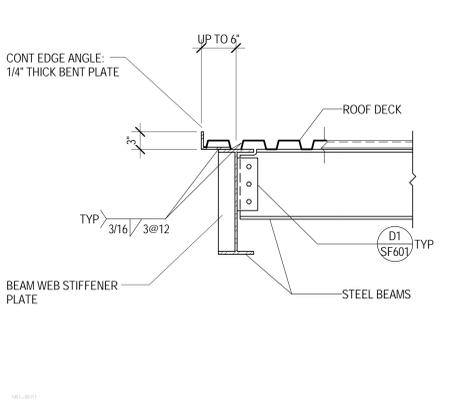
C2 TYPICAL HANGING MECHANICAL UNIT SUPPORT DETAIL  
NO SCALE



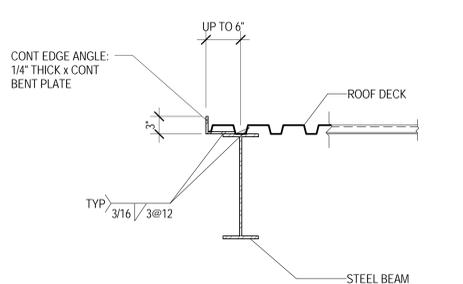
C3 STEEL ANGLE KICKER BRACE DETAIL  
NO SCALE



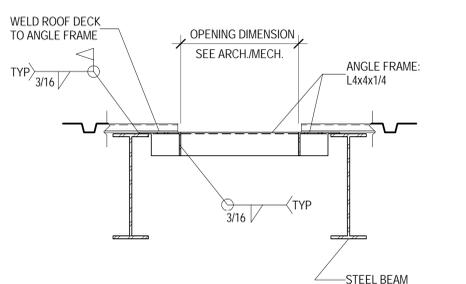
C4 TYPICAL STEEL ROOF BEAM CONNECTION - ONE SIDE  
NO SCALE



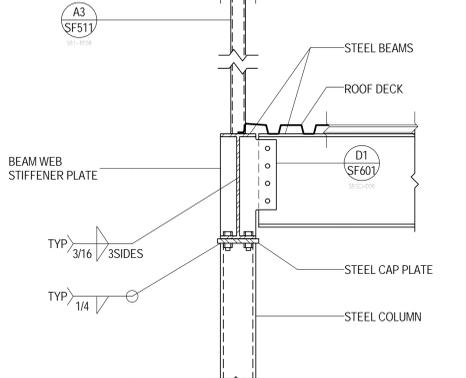
C5 TYPICAL STEEL ROOF BEAM AT ROOF EDGE DETAIL UP TO 6"  
NO SCALE



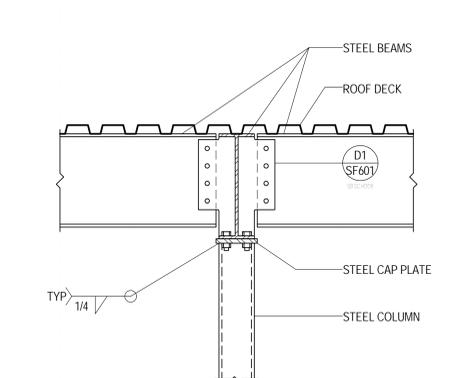
B1 TYPICAL STEEL ROOF BEAM AT ROOF EDGE DETAIL UP TO 6"  
NO SCALE



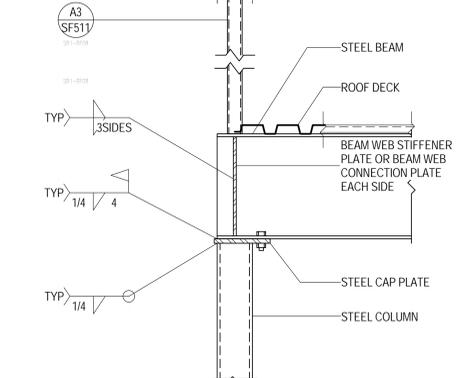
B2 TYPICAL ROOF OPENING W/ ANGLE FRAME  
NO SCALE



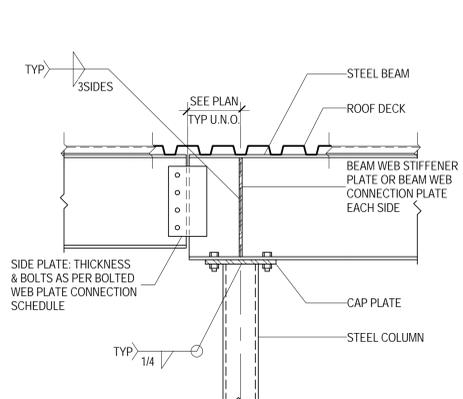
B3 TYPICAL STEEL BEAM TO STEEL COLUMN  
NO SCALE



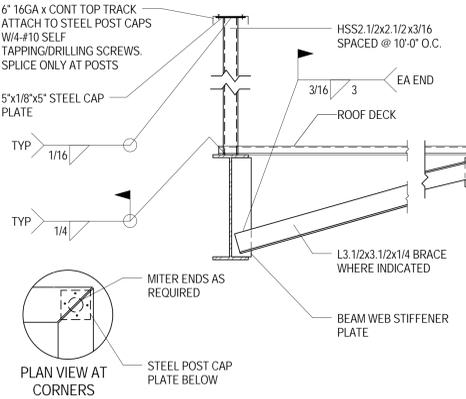
B4 TYPICAL STEEL BEAM TO STEEL COLUMN  
NO SCALE



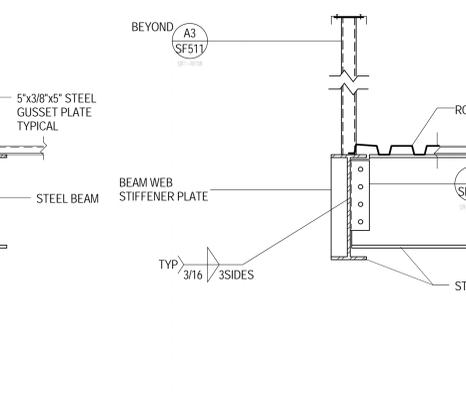
B5 TYPICAL STEEL BEAM TO STEEL COLUMN  
NO SCALE



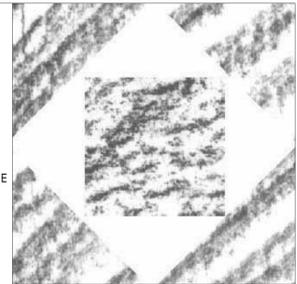
A1 TYPICAL STEEL BEAM TO STEEL COLUMN AT DROP-IN BEAM  
NO SCALE



A2 TYPICAL ROOF EDGE DETAIL WITH PARAPET SUPPORT FRAMING  
NO SCALE



A3 TYPICAL ROOF EDGE DETAIL WITH PARAPET SUPPORT FRAMING  
NO SCALE



**HFS Architects**  
ARCHITECTURE  
INTERIORS  
PLANNING

1484 South State Street Salt Lake City, Utah 84115 801-596-0691 F: 596-0693 www.hfsa.com

CONSULTANT

**REAVELEY**  
ENGINEERS + ASSOCIATES  
Consulting Structural Engineers



NORTHERN UTAH COUNTY BUILDING

MOUNTAINLAND APPLIED TECHNOLOGY COLLEGE

UTAH COLLEGE OF APPLIED TECHNOLOGY

2300 WEST & ASHTON BLVD. LEHI, UT 84043

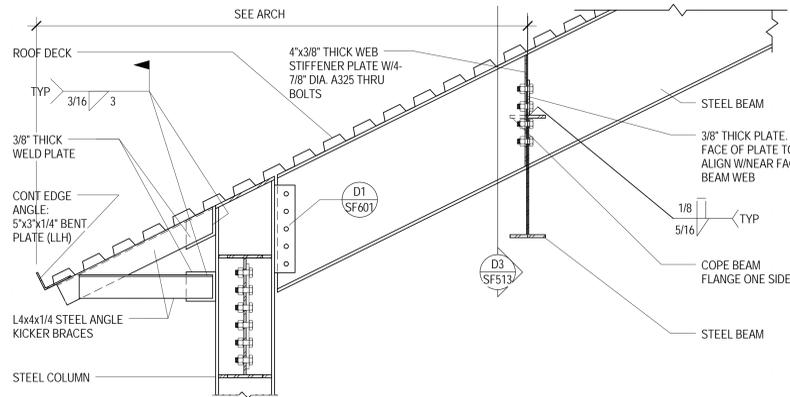
MARK	DATE	DESCRIPTION

DATE:	MAY 29, 2009
DCM PROJECT NO:	07039260
HESA PROJECT NO:	0813.01
CAD DRAWING FILE NO:	
DRAWN BY:	CEB
CHECKED BY:	MRH
DESIGNED BY:	RMM
DRW TYPE:	STRUCTURAL
ARCHITECTURAL PHASE:	BID SET

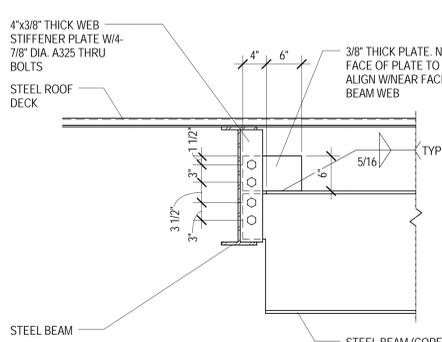
SHEET TITLE  
**Roof Framing Details**

**SF511**  
SHEET OF

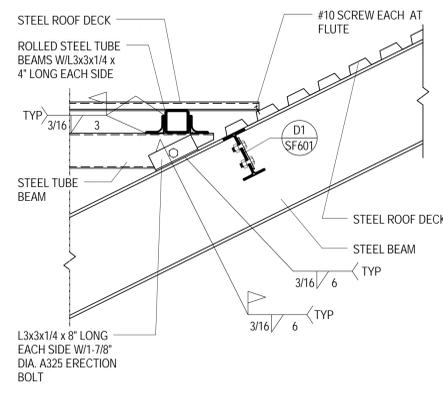




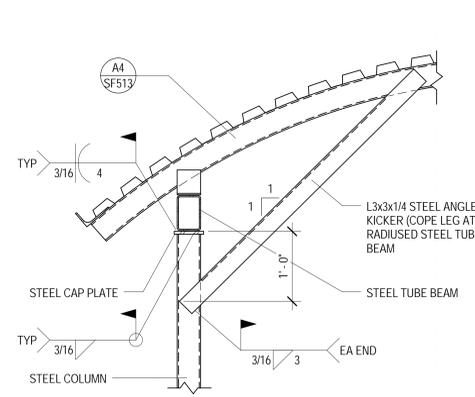
**D1** TYPICAL STEEL JOIST BEARING AT STEEL COLUMN  
 SF513 SCALE: 1" = 1'-0"



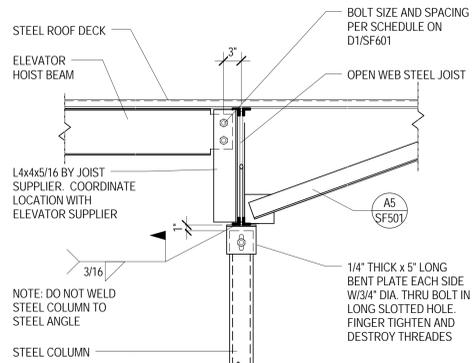
**D3** OFFSET BEAM CONNECTION DETAIL  
 SF513 NO SCALE



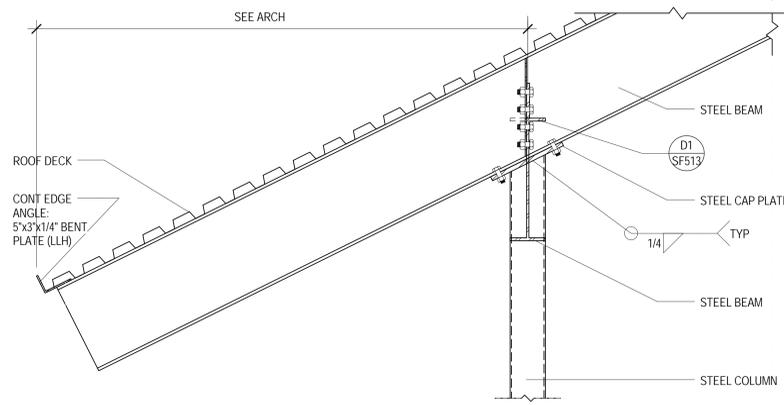
**D4** DORMER BEAM CONNECTION DETAIL  
 SF513 NO SCALE



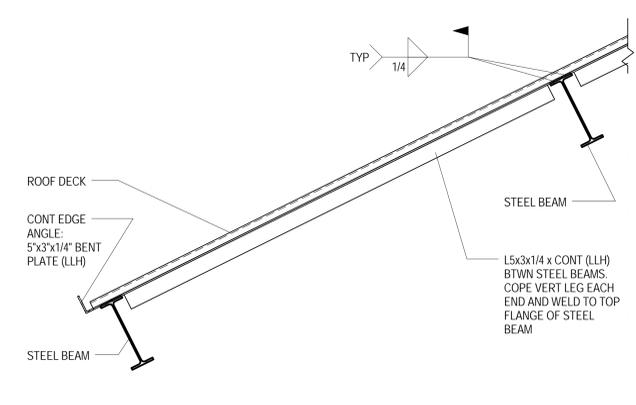
**D5** DORMER COLUMN BRACE DETAIL  
 SF513 NO SCALE



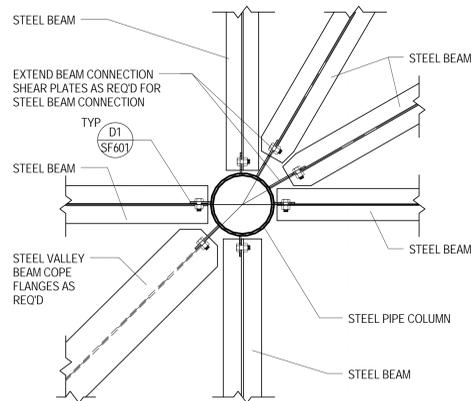
**C1** ELEVATOR GUIDE RAIL SUPPORT COLUMN/HOIST BEAM CONNECTION AT ROOF  
 SF513 NO SCALE



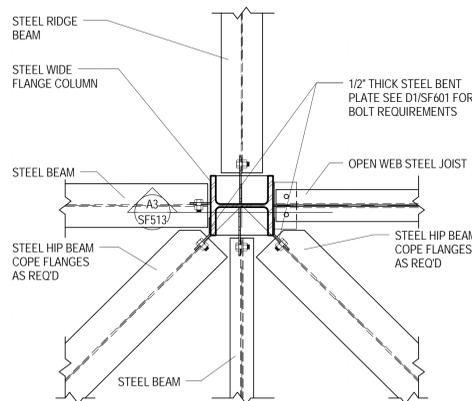
**C3** CANTILEVERED STEEL BEAM BEARING AT STEEL COLUMN  
 SF513 NO SCALE



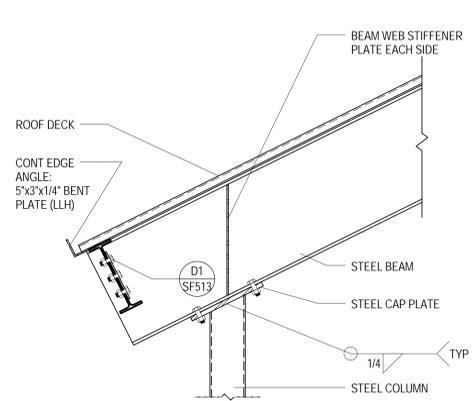
**C5** DECK SUPPORT ANGLE FRAMING CONNECTION TO STEEL BEAMS  
 SF513 NO SCALE



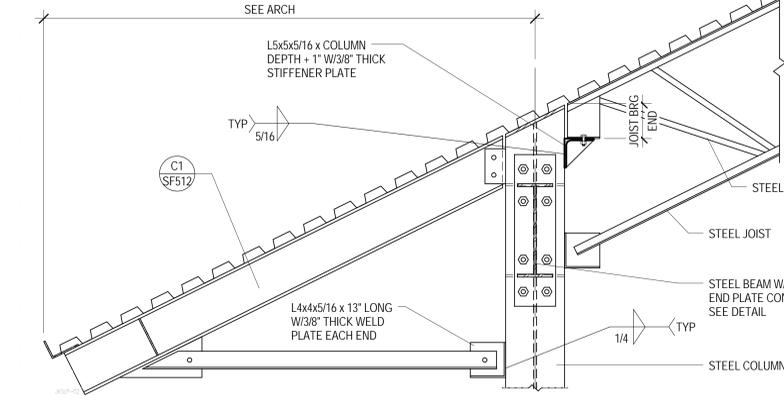
**B1** STEEL BEAM BEARING AT STEEL COLUMN  
 SF513 NO SCALE



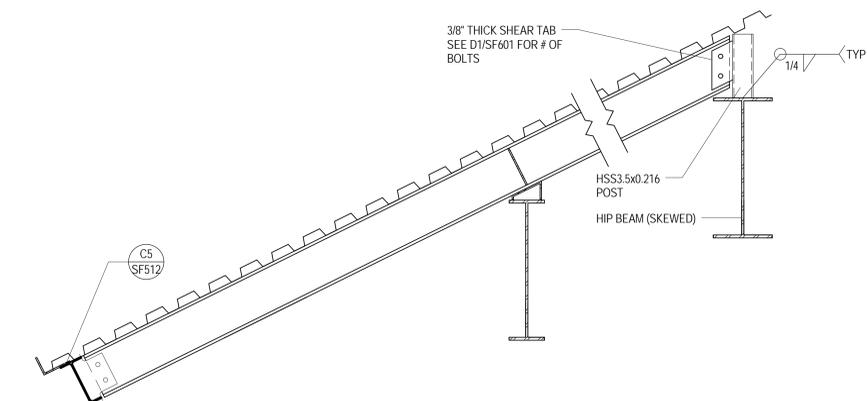
**B2** STEEL BEAM BEARING AT STEEL COLUMN  
 SF513 NO SCALE



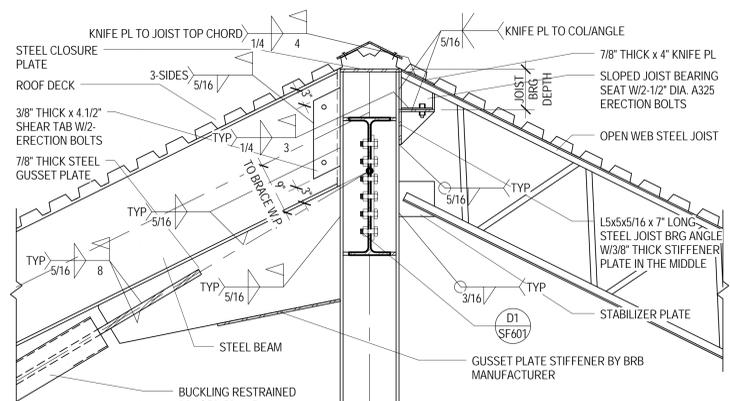
**B3** CANTILEVERED STEEL BEAM BEARING AT STEEL COLUMN  
 SF513 NO SCALE



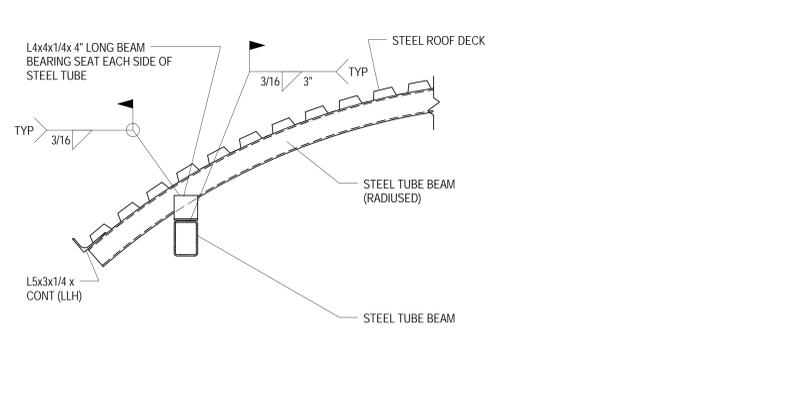
**B4** STEEL BEAM BEARING AT STEEL COLUMN  
 SF513 SCALE: 1" = 1'-0"



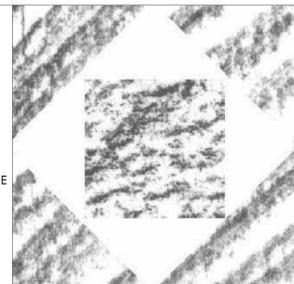
**A1** STEEL BEAM BEARING ON STEEL BEAM  
 SF513 SCALE: 1" = 1'-0"



**A3** SLOPED STEEL JOIST/BEAM CONNECTION TO STEEL COLUMN  
 SF513 SCALE: 1" = 1'-0"



**A4** DORMER DETAIL  
 SF513 NO SCALE



**HFS Architects**  
 ARCHITECTURE  
 INTERIORS  
 PLANNING  
 1484 South State Street Salt  
 Lake City, Utah 84115 801-  
 596-0691 F: 596-0693  
 www.hfsa.com

CONSULTANT

**REAVELEY**  
 ENGINEERS + ASSOCIATES  
 Consulting Structural Engineers



NORTHERN UTAH  
 COUNTY BUILDING

MOUNTAINLAND APPLIED  
 TECHNOLOGY COLLEGE

UTAH COLLEGE  
 OF APPLIED  
 TECHNOLOGY

2300 WEST & ASHTON BLVD.  
 LEHI, UT 84043

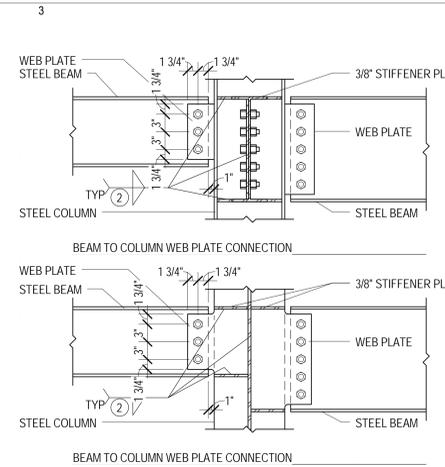
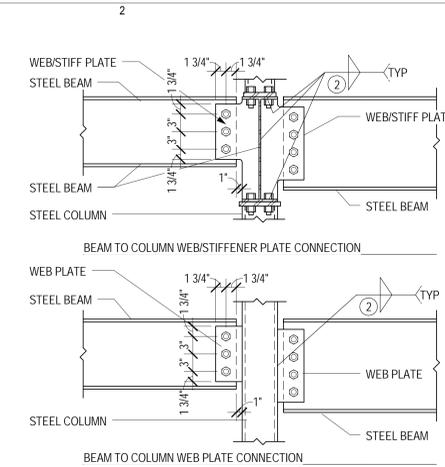
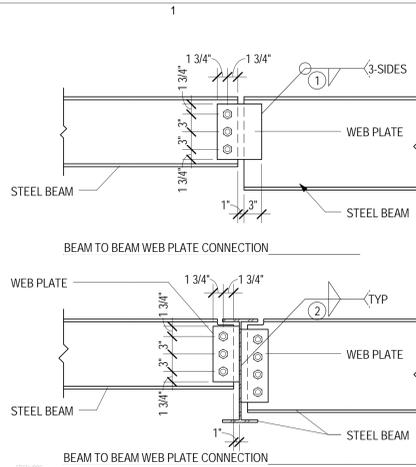
MARK	DATE	DESCRIPTION

DATE: MAY 29, 2009  
 DFCM PROJECT NO: 07039260  
 HFSA PROJECT NO: 0813.01  
 CAD DRAWING FILE NO:  
 DRAWN BY: CEB  
 CHECKED BY: MRH  
 DESIGNED BY: RMM  
 DRW TYPE: STRUCTURAL  
 ARCHITECTURAL PHASE: BID SET

SHEET TITLE  
**Roof Framing Details**

**SF513**  
 SHEET OF





### A325 BOLT SCHEDULE

MAXIMUM BEAM SIZE IN EACH BEAM DEPTH GROUP	WEB PLATE THICKNESS	A325X BOLTS	
		NUMBER	SIZE
W8, W10	3/8"	2	7/8"
W12, W14	3/8"	3	7/8"
W16	3/8"	4	7/8"
W18	3/8"	5	7/8"
W21	1/2"	6	7/8"
W24, W27	1/2"	7	7/8"
W30	1/2"	8	7/8"

NOTES:  
 ① FILLET WELDS ONE SIDE SHALL EQUAL THE PLATE THICKNESS MINUS 1/16" (1/4" MIN.)  
 ② FILLET WELDS TWO SIDES SHALL BE 1/4" FOR 3/8" THICK PLATE & 5/16" FOR 1/2" THICK PLATE  
 ③ BOLT EDGE DISTANCE SHALL BE 1 1/2" MIN. AT ALL EDGES. BOLT SPACING SHALL BE 3" MIN.

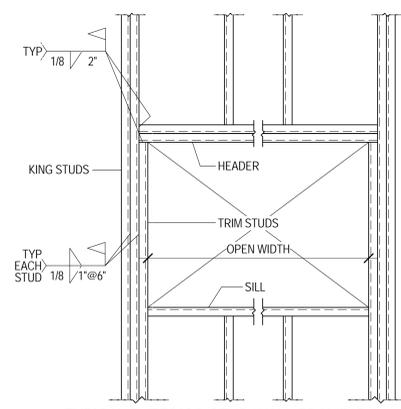
D1 TYP BOLTED WEB PLATE CONN. W/ BOLT SCHED. (SINGLE SHEAR)  
 SF601 SCALE: 1" = 1'-0"

### STEEL ANGLE LINTEL SCHEDULE

BEARING EQUALS 1" PER FOOT OF OPENING OR 6" MINIMUM TYPICAL

OPENING SIZE	ANGLE SIZE	NOTES:
0'-0" - 7'-0"	L3.1/2x3.1/2x1/4	LINTELS ARE DESIGNED TO SUPPORT UNIFORM LOADS CONSISTING ONLY OF WEIGHT OF WALL WITHIN A 60 DEGREE ISOSCELES TRIANGLE AREA ABOVE OPENING. ALL STEEL LINTELS ARE TO HAVE LONG LEG VERTICAL. LINTEL SCHEDULE FOR 4" VENEER ALL ANGLE LINTELS SHALL BE GALVANIZED.
7'-0" - 9'-0"	L4x3.1/2x1/4	
9'-0" - 10'-0"	L5x3.1/2x1/4	

C1 STEEL ANGLE LINTEL SCHEDULE  
 SF601 SCALE: 1" = 1'-0"



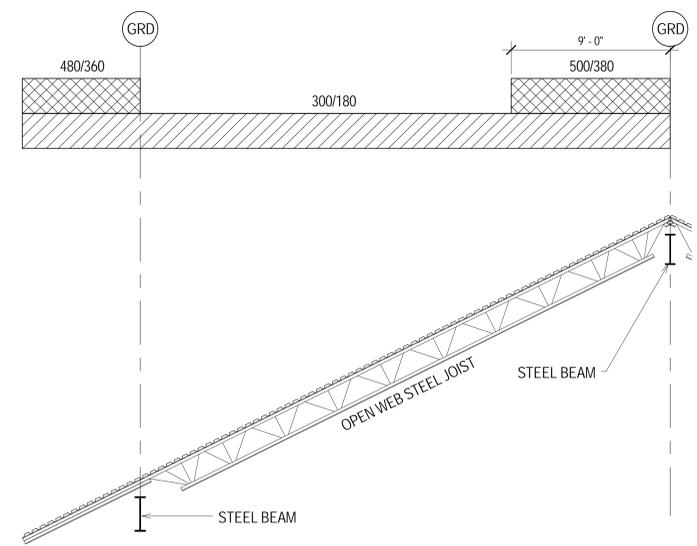
WIDTH OF OPENING	JAMB		SILL		HEADER	
	SIZE	NO. OF TRIM STUDS	NO. OF KING STUDS	SIZE	SIZE	TYPE
UP TO 4'-0"	600S137-54	1	2	600T125-54	(2)600S137-54	1 or 2
4'-1" TO 6'-8"	600S137-54	1	3	600T125-54	(2)600S137-54	1 or 2
6'-9" TO 8'-0"	600S137-54	1	4	--	(2)600S137-54	1 or 2
8'-1" TO 11'-0"	600S137-54	1	5	--	(2)600S137-54	1

NOTES:  
 1. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL OPENINGS IN STUD WALLS.  
 2. ALL STUD SIZE DESIGNATIONS ARE PER THE STANDARD ESTABLISHED BY THE STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA) AND THE NORTH AMERICAN STEEL FRAMING ALLIANCE (NASFA).

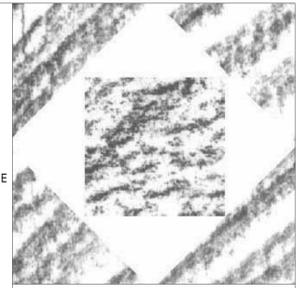
### TYPICAL STUD WALL CONSTRUCTION

6" STUD WALLS W VENEER	600S137-54 @ 16" O.C.
------------------------	-----------------------

C2 TYPICAL EXTERIOR STUD WALL FRAMING SCHEDULE WITH FRAMED OPENING DETAIL  
 SF601 NO SCALE



C4 SPECIAL JOIST DIAGRAM (SPJ-1)  
 SF601 NO SCALE



**HFS Architects**  
 ARCHITECTURE  
 INTERIORS  
 PLANNING

1484 South State Street Salt Lake City, Utah 84115 801-596-0691 F: 596-0693 www.hfsa.com

CONSULTANT



NORTHERN UTAH COUNTY BUILDING

MOUNTAINLAND APPLIED TECHNOLOGY COLLEGE

UTAH COLLEGE OF APPLIED TECHNOLOGY

2300 WEST & ASHTON BLVD. LEHI, UT 84043

MARK	DATE	DESCRIPTION

DATE: MAY 29, 2009  
 DFCM PROJECT NO: 07039260  
 HFS PROJECT NO: 0813.01  
 CAD DRAWING FILE NO:  
 DRAWN BY: CEB  
 CHECKED BY: MRH  
 DESIGNED BY: RMM  
 DRW TYPE: STRUCTURAL  
 ARCHITECTURAL PHASE: BID SET

SHEET TITLE  
 Schedule Sheet

SHEET SF601 OF