GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE UNIVERSITY OF COLORADO AT BOULDER (UCB) CRITERIA AND STANDARDS AS WELL AS THE CITY OF BOULDER (COB) “DESIGN AND CONSTRUCTION STANDARDS” TO THE SATISFACTION OF THE UNIVERSITY OF COLORADO. IN THE EVENT THAT A DESIGN ELEMENT DOES NOT REFLECT UCB OR COB STANDARDS, THE MATTER MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER AND THE UNIVERSITY. THE ENGINEER SHALL BE RESPONSIBLE FOR RECOMMENDING A SOLUTION OR ALTERNATIVE SOLUTIONS TO THE UNIVERSITY FOR REVIEW AND APPROVAL.

2. THE APPROVAL OF A CONSTRUCTION PLAN DOES NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF CONSTRUCTING WORKABLE IMPROVEMENTS. THE CONTRACTOR SHALL NOT MAKE ANY CHANGES OR ALTERATIONS TO THE PLANS. ALL REVISIONS AND/OR CORRECTIONS REQUIRED SHALL BE SUBMITTED TO THE UCB PROJECT MANAGER AND SIGNED OF BY THE UCB ENGINEER.

3. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY UCB. UCB RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS.

4. THE TYPE, SIZE, LOCATION AND NUMBER OF ALL KNOWN UNDERGROUND UTILITIES IN THE AREA OF CONSTRUCTION HAVE/HAVE NOT BEEN SHOWN PER FIELD INVESTIGATION AND THE BEST AVAILABLE UTILITY RECORDS PROVIDED AND ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 1-800-922-1987 A MINIMUM OF 24 HOURS BEFORE PUTTING A TOOL TO EARTH. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF WORK AND TO COORDINATE CONSTRUCTION SCHEDULES WITH THE UTILITY OWNERS AND TO SCHEDULE UTILITY ADJUSTMENTS TO ELIMINATE CONFLICT WITH PROGRESS OF THE WORK. THE CONTRACTOR SHALL NOTE ALL UTILITIES MAY NOT APPEAR ON THESE PLANS AND THAT THE POTENTIAL CONFLICT WITH UTILITIES SHALL BE CONSIDERED IN THE PREPARATION OF ANY BIDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT AND SHALL HOLD THE OWNERS AND THE ENGINEER HARMLESS FOR DAMAGE ARISING FROM FAILURE TO ADEQUATELY PROTECT UTILITIES.

5. CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE APPROVED PLANS AND CONSTRUCTION STANDARDS AT THE JOB SITE AT ALL TIMES. THE CONTRACTOR SHALL MAINTAIN AN AS BUILT REDLINE SET OF PLANS ON THE SITE AT ALL TIMES. THESE DRAWINGS, AND ANY REQUIRED PERMITS, SHALL BE MADE AVAILABLE TO THE UNIVERSITY STAFF UPON REQUEST. IF CONSTRUCTION PLANS ARE NOT READILY AVAILABE AT THE PROJECT SITE, THE UNIVERSITY MAY ISSUE A STOP WORK ORDER AND HALT CONSTRUCTION ACTIVITIES PENDING COMPLAINCE BY THE CONTRACTOR.

6. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF PROJECT CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS FROM ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK, ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE ENGINEER OR UCB.

7. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY FIELD CONDITION NOT CONSISTENT WITH THE CONTRACT DOCUMENTS.

8. CONTRACTOR SHALL USE EXTREME CAUTION AROUND ELECTRICAL DUCTS, TELECOMMUNICATION LINES, DITCH IRRIGATION LATERALS AND WATER MAINS TO INSURE THAT THESE AND ALL UTILITIES ARE PROTECTED FROM DAMAGE DURING CONSTRUCTION.

9. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN EXCAVATION UNDER AND AROUND ELECTRICAL AND TELECOMMUNICATIONS DUCTBANKS. THE CONTRACTOR SHALL SUBMIT PLANS FOR SUPPORTING DUCTBANKS, STEAM TUNNELS AND ALL OTHER AFFECTED UTILITIES FOR APPROVAL BY UTILITY OWNER PRIOR TO WORK. THE CONTRACTOR IS REQUIRED TO SUBMIT SHOP DRAWINGS FOR REVIEW BY OWNER ON SUPPORT METHODS FOR PROTECTION OF ALL EXISTING UTILITIES TO BE ENCOUNTERED DURING CONSTRUCTION OF THE PROJECT. SUBMITTAL INFORMATION IS INTENDED TO DESCRIBE THE ANTICIPATED MEASURES TO BE EMPLOYED AT EACH UTILITY CROSSING. THE OWNER WILL REVIEW THIS INFORMATION AND FORWARD TO AFFECTED UTILITY OWNERS FOR THEIR RECORDS. REVIEW OF SUBMITTAL DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MAINTAIN UNINTERRUPTED SERVICE OF EXISTING UTILITIES AT ALL TIMES.

10. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF IRRIGATION LINES AND SPRINKLERS DAMAGED DURING CONSTRUCTION. IRRIGATION MAIN LINES ARE SCHEDULE 40 PVC PIPE WITH CONTROL WIRING AND OTHER PARALLEL UTILITIES. LATERALS ARE SCHEDULE 200 PVC PIPE. THE CONTRACTOR SHALL CONTACT AND COORDINATE WORK WITHIN IRRIGATED AREAS WITH THE UNIVERSITY'S PROJECT MANAGER AND RYAN HEILAND (303) 492-4955. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE TEMPORARY CAPPING, SPRINKLER HEAD REMOVAL AND RESTORATION OF DISTURBED IRRIGATION FACILITIES WITHIN WORK AREAS AT NO ADDITIONAL EXPENSE TO THE UNIVERSITY. THE CONTRACTOR SHALL COORDINATE SURFACE RESTORATION, INCLUDING LANDSCAPE REPLACEMENT WITH UNIVERSITY'S DESIGNATED LANDSCAPE AND IRRIGATION CONTRACTOR.

11. ANY EXISTING MONITORING WELLS, CLEANOUTS, VALVE BOXES, MANHOLES, ETC. ARE TO BE PROTECTED AND TO REMAIN IN SERVICE. IF FEATURES EXIST, EXTEND OR LOWER TO THE FINAL SURFACE WITH LIKE KIND CAP WITH STANDARD CAST ACCESS LID WITH SAME MARKINGS.

12. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ANY EXISTING SIGNS, STRUCTURES, FENCES, ETC. ENCOUNTERED ON THE PROJECT AND RESTORING THEM TO THEIR PRE-CONSTRUCTION CONDITION.

13. STAGING AREAS FOR MATERIALS AND/OR EQUIPMENT ARE NOT SHOWN. CONTRACTOR SHALL ACQUIRE APPROVAL OF STAGING AREAS FROM UCB PROJECT MANAGER.

14. FINAL LIMITS OF REQUIRED ASPHALT AND/OR CONCRETE SAWCUT AND PATCHING MAY VARY FROM LIMITS SHOWN ON THE PLANS. THE CONTRACTOR IS TO PROVIDE SAWCUT AND PATCH WORK TO ACHIEVE POSITIVE DRAINAGE AND A SMOOTH TRANSITION TO EXISTING WITHIN ACCEPTABLE DRIVE SLOPE STANDARDS PER THE ENGINEER WITHOUT ADDITIONAL COST TO THE UNIVERSITY. THE CONTRACTOR SHALL PROVIDE ADDITIONAL SAW CUTTING AND PATCHING AS REQUIRED TO FACILITATE UTILITY WORK, ETC. THAT MAY NOT BE DELINEATED ON THE PLANS.

15. LANDSCAPING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL LANDSCAPING IN THE AREA OF THE PROJECT. THE CONTRACTOR SHALL KEEP TO A MINIMUM THE DISTURBANCE OF ANY AND ALL LANDSCAPING. ANY LANDSCAPING (OTHER THAN TREES) AND IRRIGATION LINES OR VALVES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AND/OR REPLACED TO ITS ORIGINAL CONDITION WITHOUT ADDITIONAL COST TO THE OWNER. TREES SHALL BE PROTECTED AT THE DRIP LINE BY CONSTRUCTION FENCING AND NO VEHICLE, MATERIAL OR EQUIPMENT SHALL BE STORED WITHIN THIS FENCED AREA. (DRIP LINE - AFTER A RAIN STORM, THE SURFACE AREA UNDERNEATH THE TREE WHERE WATER DRIPS OFF.) DAMAGE TO TREES WILL REQUIRE PAYMENT TO THE OWNER IN ACCORDANCE WITH THE TREE VALUES TO BE ASSIGNED.

16. CONTRACTOR SHALL PROVIDE A PLAN FOR TRAFFIC CONTROL (VEHICULAR AND PEDESTRIAN) DURING CONSTRUCTION TO THE ENGINEER FOR APPROVAL BY UCB. NO CONSTRUCTION MAY COMMENCE WITHOUT SUCH APPROVAL.

17. CONTRACTOR SHALL PROVIDE SAFETY FENCING AS NECESSARY AROUND ENTIRE ACTIVE CONSTRUCTION SITE FOR ALL PHASES OF CONSTRUCTION DURING NON-WORKING HOURS. SAFETY FENCING SHALL BE A MINIMUM 5 FOOT HIGH CHAIN LINK FENCE OR APPROVED EQUIVALENT. CONTRACTOR SHALL ALSO PROVIDE PLATING ACROSS OPEN TRENCHES FOR ALL PHASES OF CONSTRUCTION DURING WEEKEND AND HOLIDAY NON-WORKING HOURS.

18. WRITTEN DIMENSIONS ON THE PLANS AND DETAILS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.

19. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION OR BETTER AS DESIGNATED BY THE OWNER/ENGINEER. THE CONTRACTOR SHALL INCLUDE THIS WORK IN HIS/HER BID.

20. FOR ALL FACILITIES NOT SPECIFICALLY DESCRIBED ON THE DRAWINGS, CONTRACTOR SHALL RESTORE ANY AND ALL DISTURBED SURFACE FEATURES TO THEIR ORIGINAL LOCATION AND CONDITION PRIOR TO PROJECT COMPLETION.

21. ALL SURPLUS MATERIALS, TOOLS AND TEMPORARY STRUCTURES, FURNISHED BY THE CONTRACTOR, SHALL BE REMOVED FROM THE PROJECT BY THE CONTRACTOR. ALL DEBRIS AND RUBBISH CAUSED BY THE OPERATIONS OF THE CONTRACTOR SHALL BE REMOVED, AND THE AREA OCCUPIED DURING CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION, WITHIN 48 HOURS OF PROJECT COMPLETION, UNLESS OTHERWISE DIRECTED BY THE UNIVERSITY.

22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACCEPTANCE AND CONTROL OF ALL FLOWS INCLUDING SURFACE WATERS, STORM SEWER FLOWS, AND GROUNDWATER FLOWS DURING CONSTRUCTION.

23. STORMWATER: THE CONTRACTOR IS NOT TO DISCHARGE ANY CONSTRUCTION WATER, WASTE OR DEBRIS INTO THE STORM WATER SYSTEM.

24. THE CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT "URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3" AND THE M STANDARD PLANS OF THE COLORADO DEPARTMENT OF TRANSPORTATION. THE UNIVERSITY MAY REQUIRE THE CONTRACTOR TO PROVIDE ADDITIONAL EROSION CONTROL MEASURES DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE MEASURES DO NOT FUNCTION AS INTENDED

25. STREET LIGHTS REQUIRING REMOVAL DURING CONSTRUCTION SHALL BE RESET BY CONTRACTOR UPON COMPLETION TO EXISTING CONDITION.

26. ACCESS BY BOULDER FIRE DEPARTMENT AND OTHER EMERGENCY RESPONDERS TO ALL BUILDINGS MUST REMAIN UNOBSTRUCTED AT ALL TIMES. CONTRACTOR SHALL COORDINATE WITH THE BOULDER FIRE DEPARTMENT FIRE MARSHALL DAVE LOWREY AT 303-441-4356 IN ORDER TO ENSURE ACCESS TO ALL BUILDINGS IN THE VICINITY OF THE PROJECT WILL BE MAINTAINED TO AN ACCEPTABLE LEVEL. THE RESULTS OF ANY CONVERSATIONS, CORRESPONDENCE OR MEETING SHALL BE SUBMITTED TO THE CAMPUS PROJECT MANAGER FOR REVIEW BY CU PERSONNEL.

27. HOTWORK DURING CONSTRUCTION: ANY HOT WORK ACTIVITIES DURING CONSTRUCTION SUCH AS USING HEAT GUNS, SOLDERING, BRAZING, WELDING, GRINDING, POWER DRIVEN STUDS, METAL CUTTING USING POWER TOOLS OR OTHER ACTIVITIES INVOLVING FLAMES OR SPARKS ARE PRECEDED BY AN APPROVED HOT WORK PERMIT. HOT WORK PERMIT FORMS ARE AVAILABLE FROM CU PROJECT MANAGERS, FM OFFICE OF PLANNING, DESIGN, AND CONSTRUCTION AND THE FIRE AND LIFE-SAFETY GROUP (FLS) WEB SITE: (HTTP://FM.COLORADO.EDU/FIRESAFETY/).

**28. PROTECTION OF PROPERTY:**

a. PRESERVE AND PROTECT ALL TREES, PLANTS, MONUMENTS, STRUCTURES, AND PAVED AREAS FROM DAMAGE DUE TO WORK OF THIS SECTION. IN THE EVENT DAMAGE DOES OCCUR, ALL DAMAGE SHALL BE COMPLETELY REPAIRED OR REPLACED TO SATISFACTION OF OWNER. AND ALL INJURY TO LIVING PLANTS SHALL BE REPAIRED BY OWNER. ALL COSTS OF SUCH REPAIRS SHALL BE CHARGED TO AND PAID BY CONTRACTOR.

b. PROTECT BUILDINGS, WALKS, WALLS, AND OTHER PROPERTY FROM DAMAGE. FLARE AND BARRICADE OPEN DITCHES. DAMAGE CAUSED TO ASPHALT, CONCRETE, OR OTHER BUILDING MATERIAL SURFACES SHALL BE REPAIRED OR REPLACED AT NO COST TO OWNER. RESTORE DISTURBED AREAS TO ORIGINAL CONDITION.

**29. EXISTING TREES:**

a. ALL TREES WITHIN PROJECT WILL BE PROTECTED AT DRIPLINE WITH FENCING. NO STAGING OF MATERIALS OR PARKING WILL BE ALLOWED IN TREE PROTECTION AREAS. DAMAGE OF TREES WILL REQUIRE PAYMENT TO THE OWNER IN ACCORDANCE WITH THE TREE VALUES ASSIGNED PER UCB STANDARDS SECTION O2111.

b. NO TRENCHING OR OTHER WORK UNDER LIMB SPREAD (DRIPLINE) WILL BE DONE WITHOUT THE WRITTEN CONSENT OF THE CAMPUS LANDSCAPE ARCHITECT. ALL APPROVED WORK WITHIN TREE DRIPLINE WILL BE DONE BY HAND. ANY AND ALL EVERGREENS OR DECIDUOUS MATERAL SHALL BE DONE BY HAND OR BY OTHER METHODS SO AS TO PREVENT DAMAGE TO ROOT SYSTEM.

c. ANY PRUNING NECESSARY TO TREES THAT MAY BE DAMAGED BY CONSTRUCTION WILL BE DONE BY A LICENSED ARBORIST UNDER THE SUPERVISION OF THE CAMPUS ARBORIST.

d. CAMPUS LANDSCAPE ARCHITECT WILL BE CONSULTED PRIOR TO ANY EXCAVATION ADJACENT TO EXISTING TREES. ALL AREAS WHERE 2 INCH AND LARGER ROOTS OCCUR SHALL BE DONE BY HAND. ROOTS 2 INCHES OR LARGER IN DIAMETER, EXCEPT DIRECTLY IN THE PATH OF A PIPE OR CONDUIT, SHALL BE TUNNELED UNDER AND SHALL BE HEAVILY WRAPPED WITH BURLAP TO PREVENT SCARRING OR EXCESSIVE DRYING. WHERE A TRENCHING MACHINE IS OPERATED CLOSE TO TREES HAVING ROOTS SMALLER THAN 2 INCHES IN DIAMETER, ALL ROOTS SHALL BE HAND TRIMMED, MAKING CLEAN CUTS BEHIND SOIL (JULY 2012 UCB STANDARDS 02810). TRENCHES ADJACENT TO TREES SHALL BE CLOSED WITHIN 24 HOURS, AND WHEN THIS IS NOT POSSIBLE, SIDE OF TRENCH ADJACENT TO TREE SHALL BE KEPT SHADED WITH MOISTENED BURLAP OR CANVAS.

**GENERAL SUBMITTALS**

1. TRAFFIC CONTROL PLAN
2. EXISTING CONDITIONS: PHOTOGRAPHS
3. PRODUCT DATA: FOR EACH TYPE OF PRODUCT USED ON SITE, INCLUDE TECHNICAL DATA AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES.
4. WEED CONTROL PRODUCTS: SUBMIT COMPLETE MANUFACTURER'S DATA FOR EACH TYPE OF PRODUCT TO BE USED, INCLUDING:
5. MANUFACTURER'S SAFETY DATA SHEETS
6. METHOD OF APPLICATION
7. LOCATION OF APPLICATION
8. BLUE GRASS SOD:
	1. CERTIFICATES: STATE, FEDERAL AND OTHER INSPECTION CERTIFICATES FOR BLUE GRASS SOD SHALL ACCOMPANY THE INVOICE FOR MATERIALS SHOWING SOURCE OR ORIGIN. SUBMIT TO UCB LANDSCAPE ARCHITECT PRIOR TO ACCEPTANCE OF MATERIAL.
	2. WARRANTY: AT COMPLETION OF WORK, FURNISH WRITTEN WARRANTY TO OWNER BASED ON REQUIREMENTS AS SPECIFIED.
9. RECORD (RED-LINE) DOCUMENTS:CLOSE OUT RECORDS
10. CONFINED SPACES: PLANS AND SCHEDULES
11. PROGRESS: WEEKLY MEETING
12. PRE-CONSTRUCTION MEETING: PRE-WORK MEETING
13. CONSTRUCTION SCHEDULE: PLANS AND SCHEDULES
14. EXCAVATION SUPPORT SYSTEM: SHOP DRAWINGS
15. UTILITY LOCATES: NOTIFICATION
16. PARKING/SIDEWALK OUTAGE: NOTIFICATION
17. TEMPORARY BARRIERS AND PARTITIONS: SHOP DRAWINGS
18. INLET PROTECTION AND EROSION CONTROL PLAN
19. SWMP IS REQUIRED FOR PROJECTS WITH L.O.D. GREATER THAN 1 ACRE IN SIZE OR AS REQUIRED PER UCB CIVIL ENGINEER OR PROJECT MANAGER.

CONCRETE NOTES:

1. ALL SIDEWALK REPLACED SHALL CONFORM TO UCB STANDARDS SECTION 02520, 03100 AND 03200 AND THIS REPORT.

2. CONFORM TO ACI 301, LATEST EDITION, UNLESS OTHERWISE NOTED.

3. ALL CONCRETE SHALL CONTAIN A SULFATE RESISTANT CEMENT, TYPE V.

 4. CONCRETE SHALL HAVE A 28-DAY TEST STRENGTH OF 4,000 PSI AND A W/C RATIO OF 0.40. SLUMP BETWEEN 4"-6” WITH AIR CONTENT OF 6%+/- ½%.

5. FOLLOW THE COB STANDARD DETAILS FOR DRIVEWAY, CURBS, AND SIDEWALKS.

6. EXISTING CONCRETE MAY ONLY BE SAWCUT AT EXISTING JOINTS.

**CONCRETE SUBMITTALS**

1. JOB-MIX DESIGNS: FOR EACH JOB MIX PROPOSED FOR THE WORK

2. MATERIALS TEST REPORTS: FOR EACH PAVING MATERIAL

3. MATERIAL CERTIFICATES: FOR EACH PAVING MATERIAL, SIGNED BY

 PROVIDERS.

1. PROVIDE 2 COPIES OF MATERIALS CERTIFICATED SIGNED BY THE MATERIAL PROVIDER AND THE CONTRACTOR, CERTIFYING THAT EACH MATERIAL ITEM COMPLIES WITH, OR EXCEEDS, SPECIFIED REQUIREMENTS.

**CONCRETE INSPECTIONS:**

1. INSPECTIONS ARE REQUIRED AT THE FOLLOWING TIMES:

a. SUBGRADE PREPARATION

b. REINFORCEMENT

c. FORM WORK

d. CONCRETE PLACEMENT

e. CONCRETE FINISH

f. CONCRETE CURING

g. MATERIAL TESTING

h. FINAL WALK-THROUGH INSPECITON

b.

c.

**GRADING NOTES:**

1. DURING CONSTRUCTION IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT EXISTING UTILITY LINES, WHETHER SHOWN ON THE PLANS OR NOT.
2. CONTRACTOR SHALL PROTECT ALL ADJACENT IMPROVEMENTS (BUILDINGS, ROADWAYS, FENCES, PARKING LOTS, UTILITIES, LANDSCAPING ETC.) FROM DAMAGE AND EROSION. ALL DISTURBED AREAS OFF-SITE SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
3. THE CONTRACTOR SHALL NOTIFY APPROPRIATE PERSONNEL FOR UTILITY LOCATIONS AND NOTICE OF CONSTRUCTION COMMENCEMENT 48 HOURS PRIOR TO START OF CONSTRUCTION.
4. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
5. EXISTING CONTOURS SHOWN ARE BASED ON THE SITE SURVEY BY \_\_\_\_\_\_\_\_\_\_\_\_\_ MAKE NO WARRANTY TO THE ACCURACY OF THIS INFORMATION. CONTRACTOR'S SURVEYOR SHALL VERIFY ALL PERTINENT PROPERTY BOUNDARY INFORMATION PRIOR TO CONSTRUCTION.
6. ALL FINISHED GRADE SPOT ELEVATIONS ARE ABBREVIATED FOR CLARITY. FULL ELEVATION DEFINITION IS RELATIVE TO THE ASSOCIATED CONTOURS.
7. MAXIMUM SLOPES OF ALL CUTS AND FILLS SHALL BE 4: 1 UNLESS NOTED OTHERWISE.
8. THE CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL PERMITS THAT ARE NECESSARY TO COMPLETE THE CONSTRUCTION GRADING AND INSTALLATION OF EROSION CONTROL MEASURES. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
9. ALL PROPOSED GRADING IS TO FINISHED GRADE UNLESS NOTED OTHERWISE.

**GRADING INSPECTIONS:**

1. FINAL GRADING INSPECTION

STORM AND SANITARY SEWER NOTES:

1. CONTRACTOR ASSUMES ALL LIABILITY FOR FLOODING DURING ALL PHASES OF CONSTRUCTION.

2. LENGTH OF PIPE IS THE HORIZONTAL DISTANCE BETWEEN THE CENTER OF MANHOLE TO CENTER OF MANHOLE. DISTANCES SHOWN ON THE PLANS ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AND MANHOLE DIMENSIONS.

3. TRENCH COMPACTION SHALL BE OPTIMIZED TO 95% DENSITY UNDER PAVEMENT AND 90% DENSITY IN LANDSCAPED AREAS (STANDARD PROCTOR DENSITY PER ASTM D-695). FLOWFILL MAY BE REQUIRED UNDER PAVEMENT AT THE OWNERS REQUEST.

4. LIMIT LENGTH OF OPEN TRENCH TO 150 LINEAL FEET UNLESS ADDITIONAL LENGTH APPROVED IN ADVANCE BY THE UNIVERSITY.

5. CONTRACTOR TO CLOSE ALL OPEN ENDS OF ABANDONED UNDERGROUND UTILITIES WHICH ARE INDICATED TO REMAIN IN PLACE. PROVIDE CONCRETE PLUG (1' MINIMUM/ 2' MAXIMUM IN DEPTH) TO WITHSTAND ANY HYDROSTATIC OR EARTH PRESSURE WHICH MAY RESULT AFTER ENDS OF ABANDONED UTILITIES HAVE BEEN CLOSED. WOOD PLUGS ARE NOT ACCEPTABLE. SUBMIT METHOD OF PLUGGING TO ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

6. CONTRACTOR SHALL PROVIDE TO THE ENGINEER FOR APPROVAL ALL EXISTING PIPE CONNECTIONS TO PROPOSED MANHOLES/INLETS AND PROPOSED PIPE CONNECTIONS TO EXISTING MANHOLES/INLETS.

7. FOLLOW ALL SEPARATION OF UTILITY REQUIREMENTS OUTLINED IN UCB STANDARD SECTION 02400

**STORM AND SANITARY SEWER SUBMITTALS**

1. PRODUCT DATA: FOR EACH PRODUCT USED ON SITE, INCLUDE TECHNICAL DATA AND TESTED PHYSICAL PERFORMANCE PROPERTIES.
2. PLASTIC WARNING TAPE: PRODUCT DETAILS
3. METHOD OF APPLICATION: INSTRUCTION
4. PRECAST MANHOLE SECTIONS: PRODUCT DATA
5. PRIOR TO COVERING PIPE: OBSERVANCE NOTIFICATION

**STORM SEWER INSPECTIONS**

1. STORM SEWER INSPECTIONS ARE REQUIRED AT THE FOLLOWING TIMES:
	1. ALIGNMENT
	2. GRADING AND TRENCHING
	3. SEWER PIPELINE
	4. PIPE BEDDING AND COMPACTION
	5. BACKFILL MATERIAL AND COMPACTION
	6. MANHOLE/ CLEANOUT CONSTRUCTION
	7. AIR TEST
	8. TV CAMERA INSPECTION
	9. SEWER PIPE DEFLECTION INSPECTION
	10. PAVEMENT REPLACEMENT
	11. FINAL GRADING INSPECTION

POTABLE WATER NOTES:

1. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS TO COMPLETE THE PROPOSED WORK AND SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

2. PROVIDE CONCRETE THRUST BLOCKING AT ALL BENDS, TEES, PLUGS AND HYDRANTS. ALL TEES FOR CONNECTIONS WITH 4 INCH SERVICES OR GREATER SHALL HAVE 3 VALVES INSTALLED.

3. WATER PIPE SHALL BE BEDDED IN ACCORDANCE WITH UNIVERSITY OF COLORADO STANDARD TECHNICAL DRAWING C.03.

4. ALL WATER LINES SHALL HAVE A MINIMUM FOUR AND A HALF (4--1/2) FEET OF COVER BELOW FINISHED GRADE, ALL NEW CONSTRUCTION SHALL HAVE FIVE (5) FEET OF COVER BELOW FINISHED GRADE. THE CONTRACTOR SHALL VERIFY THE DEPTH OF EXISTING PIPE, PARTICULARLY AT SERVICE CONNECTIONS PRIOR TO THE START OF CONSTRUCTION. THE NEW PIPE SHALL BE CONSTRUCTED AT AN APPROPRIATE DEPTH TO FACILITATE SERVICE CONNECTIONS WITHOUT THE USE OF SPECIALS WHERE POSSIBLE.

5. CONTRACTOR SHALL COORDINATE DRY UTILITY LOCATIONS WITH UNIVERSITY REPRESENTATIVE AND PROVIDER AGENCY.

6. WATER LINES SHALL BE EITHER A.W.W.A. C-151 CLASS 52 DUCTILE IRON PIPE OR A.W.W.A. C-900 CLASS 305 (DR14) PVC PRESSURE PIPE. ALL D.I.P. SHALL BE POLYETHYLENE WRAPPED. ALL WATER SERVICES WITH PIPE DIAMETERS LESS THAN 2 INCHES SHALL BE TYPE K COPPER IN ACCORDANCE WITH ASTM B88.

7. WATERLINE FITTINGS SHALL BE FUSION EPOXY LINED AND COATED DUCTILE-IRON OR CAST-IRON CONFORMING TO THE REQUIREMENTS SET FORTH IN ANSI A21.11-90, GASKETED PER AWWA C111 OR ANSI 21.53-88, AND CASTING PER AWWA C153. CAST-IRON FITTINGS 12-INCH SIZE AND SMALLER SHALL BE CLASS 250, AND FITTINGS LARGER THAN 12 INCHES SHALL BE CLASS 150. THE INTERIOR OF THE FITTINGS SHALL BE EPOXY COATED. THE FITTINGS SHALL HAVE MECHANICAL JOINT ENDS IN ACCORDANCE WITH ANSI A21.11, UNLESS OTHERWISE SPECIFIED. TEE HEAD BOLTS, HEXAGON NUTS AND WASHERS SHALL BE CORROSION RESISTANT ASTM A-276 TYPE 316L STAINLESS STEEL COATED WITH AN ANTI-GALLING COMPOUND, OR FLOUROCARBON COATED 'NSS INDUSLRIES" COR-BLUE, "STAR PIPE PRODUCTS" CORE BLUE, OR EQUIVALENT. THE GASKETS FOR THE JOINTS SHALL BE SUITABLE FOR POTABLE WATER SERVICES.

8. CONTRACTOR SHALL INSPECT ALL EXISTING VALVES AND FITTINGS FOR CLEANING AND RE-INSTALLATION WHERE APPROPRIATE.

9. CONTRACTOR SHALL MAINTAIN PEDESTRIAN, EMERGENCY AND MAINTENANCE ACCESS AT ALL TIMES. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT UNLESS A SMALL AREA IS COVERED WITH HEAVY STEEL PLATES. ALL CONSTRUCTION FENCING, WARNING LIGHTS, CONES AND OTHER RESTRICTIONS AND WARNING DEVICES SHALL BE MAINTAINED AND UPDATED AS NECESSARY ON A DAILY BASIS.

10. FIELD LOCATES AND CU RECORDS MAY DIFFER IN SOME AREAS. CONTRACTOR SHALL VERIFY LOCATION AND SIZE OF ALL EXISTING SERVICES OR CONNECTION POINTS PRIOR TO INSTALLATION OF NEW PIPELINE

11. THE CONTRACTOR SHALL NOT OPERATE ANY WATER VALVES, HYDRANTS OR OTHER APPARATUSES WITHOUT PRIOR COORDINATION WITH THE UCB PIPE TRADES SHOP.

12. DISTANCES FOR WATER ARE THE HORIZONTAL DISTANCES BETWEEN CENTER OF FITTING TO CENTER OF VALVE, METER, ETC. THEREFORE, DISTANCES SHOWN ON THE PLANS ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AND FITTING DIMENSIONS.

13. ALL VALVES AND FITTING SHALL BE POLY-WRAPPED

14. THE CONTRACTOR SHALL VERIFY DEPTH OF EXISTING WATER MAINS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

15. CONTRACTOR SHALL NOTIFY ALL AFFECTED PARTIES, CITY AND UNIVERSITY UTILITY AND ENGINEERING DIVISIONS, A MINIMUM OF 72 HOURS PRIOR OR ANY WATER OR SEWER SERVICE INTERRUPTION.

16. CONTRACTOR SHALL CONTACT CITY OF BOULDER AT LEAST 24 HOURS PRIOR TO CONNECTING TO CITY WATER MAINS.

17. CONTRACTOR SHALL NOTIFY THE CITY OF BOULDER AT LEAST 24 HOURS PRIOR TO CONSTRUCTION OF ANY CONNECTIONS TO PUBLIC MAIN AND/OR METER VAULT INSTALLATION.

**POTABLE WATER SUBMITTALS**

1. PRODUCT DATA: FOR EACH PRODUCT USED ON SITE, INCLUDE TECHNICAL DATA AND TESTED PHYSICAL PERFORMANCE PROPERTIES.

2. PLASTIC WARNING TAPE: PRODUCT DETAILS

3. METHOD OF APPLICATION: INSTRUCTIONS

4. VALVES, FITTINGS AND METERS: PRODUCT DATA

5. PRIOR TO COVERING PIPE: OBSERVANCE NOTIFICATION

**POTABLE WATER INSPECTIONS**

1. ALIGNMENT INSPECTION

2. GRADING AND TRENCHING INSPECTION

3. WATER PIPELINE INSPECTION

4. PIPE BEDDING AND COMPACTION INSPECTION

5. BACKFILL MATERIAL AND COMPACTION INSPECTION

6. PRESSURE/LEAKAGE TEST INSPECTION

7. LINE DISINFECTION INSPECTION

8. FINAL GRADING INSPECTION

 **REQUIRED WHEN APPLICABLE:**

1. THRUST BLOCK INSPECTION

2. FIRE HYDRANT AND VALVE INSPECTION

3. FIRE LINES

4. PAVEMENT REPLACEMENT

5. POST STREET PAVING INSPECTION

IRRIGATION NOTES:

1. ALL CONNECTIONS TO PLUMBING SYSTEM TO BE BY LICENSED PLUMBER.

2. WORK INVOLVING SUBSTANTIAL PLUMBING FOR INSTALLATION OF COPPER PIPING, BACKFLOW PREVENTER(S), AND RELATED WORK SHALL BE EXECUTED BY LICENSED AND BONDED PLUMBER(S). SECURE A PERMIT AT LEAST 48 HOURS PRIOR TO START OF INSTALLATION.

3. DAMAGE TO OTHER IMPROVEMENTS - CONTRACTOR SHALL REPLACE OR REPAIR DAMAGE TO GRADING, SOIL PREPARATION, SEEDING, SODDING, OR PLANTING DONE UNDER OTHER SECTIONS DURING WORK ASSOCIATED WITH INSTALLATION OF IRRIGATION SYSTEM AT NO ADDITIONAL COST TO OWNER.

4. PRE-CONSTRUCTION CONFERENCE - CONTRACTOR SHALL SCHEDULE AND CONDUCT A CONFERENCE TO REVIEW IN DETAIL QUALITY CONTROL AND CONSTRUCTION REQUIREMENTS FOR EQUIPMENT, MATERIALS, AND SYSTEMS USED TO PERFORM THE WORK. CONFERENCE SHALL BE SCHEDULED NOT LESS THAN 10 DAYS PRIOR TO COMMENCEMENT OF WORK. ALL PARTIES REQUIRED TO BE IN ATTENDANCE SHALL BE NOTIFIED NO LATER THAN 7 DAYS PRIOR TO DATE OF CONFERENCE. CONTRACTOR SHALL NOTIFY QUALIFIED REPRESENTATIVES OF EACH PARTY CONCERNED WITH THAT PORTION OF WORK TO ATTEND CONFERENCE, INCLUDING BUT NOT LIMITED TO ARCHITECT, CONSULTANT, CONTRACTOR'S SUPERINTENDENT, AND INSTALLER.

a. MINUTES OF CONFERENCE SHALL BE RECORDED AND DISTRIBUTED BY CONTRACTOR TO ALL PARTIES IN ATTENDANCE WITHIN FIVE DAYS OF CONFERENCE.

5. DELIVERY, STORAGE, AND HANDLING - DELIVER, UNLOAD, STORE, AND HANDLE MATERIALS, PACKAGING, BUNDLING, PRODUCTS IN DRY, WEATHERPROOF, CONDITION IN MANNER TO PREVENT DAMAGE, BREAKAGE, DETERIORATION, INTRUSION, IGNITION, AND VANDALISM. DELIVER IN ORIGINAL UNOPENED PACKAGING CONTAINERS PROMINENTLY DISPLAYING MANUFACTURER'S NAME, VOLUME, QUANTITY, CONTENTS, INSTRUCTIONS, AND CONFORMANCE TO LOCAL, STATE, AND FEDERAL LAW. REMOVE AND REPLACE CRACKED, BROKEN, OR CONTAMINATED ITEMS OR ELEMENTS PREMATURELY EXPOSED TO MOISTURE, INCLEMENT WEATHER, SNOW, ICE, TEMPERATURE EXTREMES, FIRE, OR JOBSITE DAMAGE.

a. HANDLING OF PVC PIPE - EXERCISE CARE IN HANDLING, LOADING AND STORING, OF PVC PIPE. ALL PVC PIPE SHALL BE TRANSPORTED IN A VEHICLE WHICH ALLOWS LENGTH OF PIPE TO LIE FLAT SO AS NOT TO SUBJECT IT TO UNDUE BENDING OR CONCENTRATED EXTERNAL LOADS. ALL SECTIONS OF PIPE THAT HAVE BEEN DENTED OR DAMAGED SHALL BE DISCARDED, AND IF INSTALLED, SHALL BE REPLACED WITH NEW PIPING.

**IRRIGATION INSPECTIONS ARE REQUIRED AT THE FOLLOWING TIMES:**

1. SITE VISITS - CONDUCTED BY UCB TURF MANAGER AT RANDOM INTERVALS

2. THRUST BLOCKS

3. VALVES

4. TAPS AND UNIONS

5. SPRINKLER HEAD PLACEMENT AND INSTALLATION

6. WIRE SPLICING

7. BACKFILL

FOUNDATION DRAINAGE NOTES:

1. CONTRACTOR ASSUMES ALL LIABILITY FOR FLOODING DURING ALL PHASES OF CONSTRUCTION

2. LENGTH OF PIPE IS THE HORIZONTAL DISTANCE BETWEEN THE CENTER OF A FITTING/JOINT TO CENTER OF A FITTING/JOINT. DISTANCES SHOWN ON THE PLANS ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AND FITTING DIMENSIONS.

3. TRENCH COMPACTION SHALL BE OPTIMIZED TO 95% DENSITY UNDER PAVEMENT AND 90% DENSITY IN LANDSCAPED AREAS (STANDARD PROCTOR DENSITY PER ASTM D-695).

4. LIMIT LENGTH OF OPEN TRENCH TO 150 LINEAL FEET UNLESS ADDITIONAL LENGTH APPROVED IN ADVANCE BY THE UNIVERSITY.

5. CONTRACTOR SHALL PROVIDE TO THE ENGINEER FOR APPROVAL ALL EXISTING PIPE CONNECTIONS TO PROPOSED MANHOLES/INLETS AND PROPOSED PIPE CONNECTIONS TO EXISTING MANHOLES/INLETS.

6. CONTRACTOR SHALL COMPLY TO UCB CIVIL STANDARD 02711 FOUNDATION DRAINAGE

**FOUNDATION DRAINAGE INSPECTIONS:**

INSPECTIONS ARE REQUIRED AT THE FOLLOWING TIMES:

1. ALIGNMENT

2. GRADING AND TRENCHING

3. FOUNDATION DRAIN LINE

4. FOUNDATION DRAIN LINE BEDDING

5. BACKFILL MATERIAL AND COMPACTION

6. TV CAMERA INSPECTION

7. PAVEMENT REPLACEMENT

8. FINAL GRADING INSPECTION

ASPHALT NOTES:

1. ALL NEW AND REPLACED ASPHALT SURFACES SHALL CONFORM TO UCB STANDARDS SECTION 01400, 02513, AND 02580 AND THIS REPORT.

2. ASPHALT CEMENT SHALL BE FOR ALL AREAS CONFORMING TO SECTION 702 OF THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) SPECIFICATIONS.

3. ASPHALT CONCRETE AGGREGATE SHALL BE A MINIMUM THICKNESS OF 4.5" AND CONFORM TO SECTION 703.04 OF THE CDOT SPECIFICATIONS.

4. HOT MIX ASPHALT SURFACE COURSE SHALL BE SX GRADATION

5. AGGREGATE BASE COURSE (ABC) SHALL BE A MIN OF 6" FOR PARKING LOTS AND DRIVES AND A MIN OF 12" FOR CAMPUS STREETS AND CONFORM TO SECTION 703.03, CLASS 6 OF THE CDOT SPECIFICATIONS.

6. ASPHALT COURSE SHALL BE S OR SX GRADATION.

7. ASPHALT BINDER SHALL BE PG 64-22 FOR PARKING LOTS AND PG 58-28 FOR ALL OTHER LOCATIONS.

8. ALL TESTING SHALL BE PERFORMED BY AND INDEPENDENT TESTING AND INSPECTION AGENCY EMPLOYED BY THE CONTRACTOR.

9. TOP FINISH SHALL BE 20% RECYCLED ASPHALT PRODUCT. BASE ASPHALT SHALL BE 25% RECYCLED ASPHALT PRODUCT.

10. SURFACE COURSE, BASE COURSE, AND BINDER ALTERNATE TO THOSE SPECIFIED MUST BE APPROVED BY UCB CIVIL ENGINEER.

**ASPHALT SUBMITTALS:**

1. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED (SURFACE COURSE, BASE COURSE, BINDER, ETC.), INCLUDE TECHNICAL DATA AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES.

2. MATERIAL CERTIFICATES:

a. PROVIDE 2 COPIES OF MATERIALS CERTIFICATES SIGNED BY THE MATERIAL PRODUCER AND THE CONTRACTOR, CERTIFYING THAT EACH MATERIAL ITEM COMPLIES WITH, OR EXCEEDS, SPECIFIED REQUIREMENTS.

b. PROVIDE INDEPENDENT TESTING LABORATORY REPORTS ON AGGREGATES AND ASPHALT FOR SIEVE ANALYSIS, WEAR ABRASION AND OTHER CHARACTERISTICS.

3. DESIGN MIX: FOR EACH JOB MIX TO BE USED

4. MATERIALS TEST REPORTS: FOR EACH PAVING MATERIAL SUBMITTED TO THE OWNER

**ASPHALT INSPECTIONS**

INSPECTIONS ARE REQUIRED AT THE FOLLOWING TIMES:

1. SUBGRADE PREP AND BLUE TOPPING

2. ABC INSTALLATION AND BLUE TOPPING

3. ASPHALT PAVING AND GRADES

4. FIELD DENSITY AND TEMPERATURE TESTING

5. VALVE AND MANHOLE ADJUSTMENTS

6. FINAL WALK-THROUGH

UTILITY TUNNEL NOTES:

1. ALL CONCRETE WORK SHALL COMPLY TO UCB STANDARDS SECTION 02520, 3100, AND 3200.

2. TUNNEL DESIGN SHALL COMPLY TO UCB STANDARDS SECTION 02300. ALL UTILITIES INCORPORATED (CHILLED WATER SYSTEMS, STEAM DISTRIBUTION SYSTEMS, ELECTRIC POWER TRANSMISSION, COMMUNICATION TRANSMISSION, COMPRESSED AIR SYSTEM) IN TUNNEL SHALL ADHERE TO SECTION 02667, 02695, 02785, 02790, 02795.

3. ALL WORK IN AND AROUND TUNNEL SHALL BE APPROVED BY UCB CIVIL AND UTILITIES ENGINEERS.

**UTILITY TUNNEL SUBMITTALS:**

1. PRODUCT DATA: FOR EACH PRODUCT USED ON SITE, INCLUDE TECHNICAL DATA AND TESTED PHYSICAL PERFORMANCE PROPERTIES.

2. APPLICABLE CONCRETE JOB MIX DESIGNS

3. APPLICABLE MATERIALS TEST REPORTS

4. APPLICABLE MATERIALS CERTIFICATES

5. APPLICABLE UTILITY SUBMITTALS

**UTILITY TUNNEL INSPECTION:**

 INSPECTIONS ARE REQUIRED AT THE FOLLOWING TIMES:

1. REINFORCING

2. FORMWORK

3. CONDUITS

4. STANCHIONS

5. CORE HOLES

6. BACKFILL AND COMPACTION

7. UTILITY PLACEMENT

8. FINAL WALK-THROUGH INSPECTION

MASONRY NOTES:

**MORTAR AND GROUT:**

 MASONRY AND GROUT MATERIALS AND PROPORTIONS SHALL COMPLY TO UCB STANDARD 04100 AND ASTM C270

1. PORTLAND CEMENT FOR UNIT MASONRY SHALL BE ASTM C150, TYPE I EXCEPT TYPE III MAY BE USED FOR COLD WEATHER CONSTRUCTION.

2. HYDRATED LIME SHALL BE ASTM C207 TYPE S

3. AGGREGATES FOR MORTAR SHALL BE ASTM C144

4. AGGREGATES FOR GROUT SHALL BE ASTM C404, SIZE 1 FOR FINE AGGREGATE, SIZE 8 OR 89 FOR COURSE

5. MORTAR COLOR FOR BRICK AND BLOCK SHALL BE PRE-PACKAGED, FACTORY MIXED MINERAL OXIDE PIGMENTS

6. CALCIUM CHLORIDE OR OTHER ANTIFREEZE AGENT ARE NOT ALLOWED

7. ACCELERATORS SHALL NOT BE USED

8. ACRYLIC TYPE LATEX ADDITIVE CONTAINING RETARDERS SHALL NOT BE USED

**ACCESSORIES:**

1. HORIZONTAL REINFORCEMENT

a. GENERAL FOR CMU SHALL BE WELDED WIRE UNITS OF ASTM A82 COLD-DRAWN STEEL WIRE, NO. 9 GAGE, DEFORMED CONTINUOUS SIDE RODS AND NO. 9 GAGE PLAIN CROSS RODS. CONTRACTOR SHALL PROVIDE PREFABRICATED CORNER, TEES, AND STRAIGHT LENGTHS NOT LESS THAN 10'. CONTRACTOR SHALL FURNISH GALVANIZED FINISH, ASTM A641, CLASS 1 FOR INTERIOR WALLS AND A153, CLASS B-2 FOR EXTERIOR WALLS

b. BRICK AND STONE VENEER ON CMU BACK-UP SHALL BE THE SAME AS ABOVE FOR CMU EXCEPT ADJUSTABLE VENEER ANCHORS ON VERTICAL ROD SHALL BE USED.

2. BRICK AND STONE VENEER ANCHORS ON METAL STUD BACK-UP SHALL BE ADJUSTABLE TRIANGULAR WIRE TIES ANCHORED THROUGH SHEATHING TO METAL STUDS WITH SHEET METAL SCREWS WITH HOT-DIPPED GALVANIZED FINISH.

3. BRICK AND STONE VENEER ANCHORS ON CONCRETE BACK-UP SHALL BE DOVETAIL ANCHOR SLOTS, 20 GAGE, WITH ADJUSTABLE TRIANGULAR WIRE TIES WITH HOT-DIPPED GALVANIZED FINISH.

4. FLASHING:

a. FLEXIBLE FLASHING: HARD OR VIRGIN POLYVINYL CHLORIDE WITH PLASTICIZERS AND OTHER MODIFIERS FORMED INTO FLEXIBLE SHEETS NOT LESS THAN 20-MILS THICK, BLACK COLOR.

b. STAINLESS STEEL FLASHING: AISI TYPE 302/304, 2D FINISH, FULLY ANNEALED OR DEAD-SOFT TEMPER, 0.12" THICK.

5. WEEP HOLES:

a. DUR-O-WAL NO. D/A 1006 POLYPROPYLENE CELL VENT IN COLOR AS SELECTED BY ARCHITECT.

b. 1/4" ROUND MEDIUM DENSITY POLYETHYLENE PLASTIC TUBE WEEP HOLES.

**MASONRY UNITS:**

 MASONRY UNITS SHALL COMPLY TO UCB STANDARDS SECTION 04200

**STONE:**

1. LIMESTONE:

a. INDIANA OOLITIC LIMESTONE COMPLYING WITH ASTM C568, CATEGORY II (MEDIUM DENSITY):

b. MINIMUM COMPRESSIVE STRENGTH: 4000 PSI PER ASTM C170.

c. MAXIMUM ABSORPTION: 7.5% PER ASTM C97.

2. SANDSTONE

a. LYONS SANDSTONE CONFORMING TO ASTM C616, CLASS II, QUARTZITIC SANDSTONE

**MASONRY SUBMITTALS:**

1. SAMPLES: SUBMIT COLORED MORTAR SAMPLES AND PROVIDE COLORING FOR MASONRY SAMPLE WALL MOCK-UP.

2. GROUT MIX DESIGN: PRIOR TO ANY MASONRY WORK, SUBMIT GROUT MIX DESIGN IN ACCORDANCE WITH SECTION 01400.

3. TEST REPORTS: REPORTS OF TESTS SHALL BE DISTRIBUTED IN ACCORDANCE WITH SECTION 01400. SUBMIT MORTAR AND GROUT TESTS FOR PROPOSED MATERIALS AND MIXES IN ACCORDANCE WITH CODE REQUIREMENTS.

4. PRODUCT DATA: SUBMIT MANUFACTURER'S PRODUCT DATA FOR EACH TYPE OF MASONRY ACCESSORY REQUIRED.

5. TESTS: SUBMIT COMPRESSION TESTS OF COMPOSITE MASONRY UNIT SYSTEM AND CURRENT PRISM TESTS. TESTING METHOD AND REQUIREMENTS SHOULD CONFORM TO BUILDING CODE REQUIREMENTS.

6. LEED MRC5: REGIONAL MATERIALS: PROVIDE A STATEMENT FROM THE MANUFACTURER STATING THAT MATERIALS PROVIDED WERE HARVESTED AND MANUFACTURED WITHIN A 500 MILE RADIUS OF THE PROJECT. INCLUDE THE LOCATION

**MASONRY INSPECTIONS:**

 THE FOLLOWING INSPECTIONS ARE REQUIRED:

1. COMPLIANCE

2. SELF-CONSOLIDATION GROUT

3. PREMIXED OR PREBLENDED MORTAR OR GROUT

4. COMPRESSIVE STRENGTH

5. AT THE START OF MASONRY CONSTRUCTION

6. DURING MASONRY CONSTRUCTION

7. PRIOR TO GROUTING

8. GROUT PLACEMENT

9. SPECIMENS

10. BONDED TENDONS

11. PLACEMENT

12. ANCHORS

13. REINFORCEMENT

14. WEATHER

STRUCTURAL DESIGN NOTES:

1. ALL STRUCTURAL CONCRETE CONSTRUCTION SHALL BE IN COMPLIANCE TO THE MOST RECENT EDITIONS OF THE FOLLOWING:

a. ACI 301: “SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS”

b. ACI 303: “ GUIDE TO CAST-IN-PLACE ARCHITECTURAL CONCRETE PRACTICE”

c. ACI 347: “RECOMMENDED PRACTICE FOR CONCRETE FORMWORK”

d. PS 1: “CONSTRUCTION AND INDUSTRIAL PLYWOOD” ACI 301 \_ SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.

e. ACI 315 \_ DETAILS AND DETAILING OF CONCRETE REINFORCEMENT.

f. ASTM A82 \_ COLD DRAWN STEEL WIRE FOR CONCRETE REINFORCEMENT.

g. ASTM A185 \_ WELDED STEEL WIRE FABRIC FOR CONCRETE REINFORCEMENT.

h. ASTM A615 \_ DEFORMED AND PLAIN BILLET\_STEEL BARS FOR CONCRETE REINFORCEMENT.

i. ASTM A706 \_ LOW\_ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT.

j. AWS D1.4 \_ STRUCTURAL WELDING CODE REINFORCING STEEL.

k. CRSI \_ MANUAL OF PRACTICE

l. CRSI 63 \_ RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS.

m. CRSI 65 \_ RECOMMENDED PRACTICE FOR PLACING BAR SUPPORTS, SPECIFICATIONS AND NOMENCLATURE.

2. ALL STRUCTURAL STEEL CONSTRUCTION SHALL BE IN COMPLIANCE TO THE MOST RECENT EDITIONS OF THE FOLLOWING:

a. AISC “ CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES”

b. AISC SECTION 3.4 LEGIBILITY OF PLANS

c. AISC “SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS”

d. AISC “SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS

e. AWS D1.1. “STRUCTURAL WELDING CODE-STEEL”

f. ASTM A6 “GENERAL REQUIREMENTS FOR DELIVERY OF ROLLED STEEL PLATES, SHAPES, SHEET PILING AND BARS FOR STRUCTURAL USE”

**STRUCTURAL DESIGN SUBMITTALS:**

1. PRODUCT DATA: FOR EACH PRODUCT USED ON SITE, INCLUDE TECHNICAL DATA AND TESTED PHYSICAL PERFORMANCE PROPERTIES.

2. MATERIAL CERTIFICATES:

a. PROVIDE 2 COPIES OF MATERIALS CERTIFICATES SIGNED BY THE MATERIAL PRODUCER AND THE CONTRACTOR, CERTIFYING THAT EACH MATERIAL ITEM COMPLIES WITH, OR EXCEEDS, SPECIFIED REQUIREMENTS.

3. PROVIDE INDEPENDENT TESTING LABORATORY REPORTS ON AGGREGATES AND CONCRETE FOR SIEVE ANALYSIS, WEAR ABRASION AND OTHER CHARACTERISTICS.

4. DESIGN MIX: FOR EACH JOB MIX TO BE USED

5. MATERIALS TEST REPORTS: FOR EACH COMPOSITE MATERIAL SUBMITTED TO THE OWNER

**STRUCTURAL DESIGN INSPECTIONS:**

 THE FOLLOWING INSPECTIONS ARE REQUIRED (IF APPLICABLE):

**CONCRETE CONSTRUCTION INSPECTIONS:**

1. REINFORCING STEEL

2. REINFORCING STEEL WELDING

3. BOLTS

4. ANCHORS

5. DESIGN MIX

6. FORMWORK

7. TESTING OF CONCRETE

8. PLACEMENT

9. CURING

10. PRE-STRESSED CONCRETE

11. PRECAST CONCRETE ERECTION

12. POST-TENSIONED CONCRETE

13. BEANS AND STRUCTURAL SLABS

14. CORE HOLE LOCATIONS

**STEEL CONSTRUCTION:**

1. MATERIAL VERIFICATIONS OF HIGH-HIGH STRENGTH BOLTS, NUTS AND WASHERS

2. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK

3. MATERIAL VERIFICATION OF WELD FILLER MATERIALS

4. INSPECTION OF WELDING FOR STRUCTURAL STEEL AND COLD-FORMED STEEL DECKS

5. INSPECTION OF WELDING FOR REINFORCING STEEL

6. INSPECTION OF STEEL FRAME JOINT DETAILS

STANDARD EROSION AND SEDIMENT CONTROL NOTES:

1. ALL GRADING, EROSION AND SEDIMENT CONTROL MUST CONFORM WITH APPROVED PLANS. REVISIONS TO DISTURBANCE AREAS, SLOPES, AND/OR EROSION AND SEDIMENT CONTROL MEASURES ARE NOT PERMITTED WITHOUT PRIOR APPROVAL FROM THE UCB CIVIL ENGINEER.

2. ALL EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS) MUST BE INSTALLED, MAINTAINED AND REPAIRED AS NEEDED ACCORDING WITH THE STORMWATER MANAGEMENT PLAN (SWMP) TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. FOR EXAMPLE, EROSION CONTROL BLANKETS, STRAW BALE DIKES OR SILT FENCES MAY REQUIRE PERIODIC REPLACEMENT. SEDIMENT TRAPS AND BASINS WILL REQUIRE PERIODIC SEDIMENT REMOVAL. EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED PRIOR TO GRADING OR LAND DISTURBING ACTIVITIES.

3. THE CONTRACTOR MUST PERFORM INSPECTIONS OF ALL BMPS EVERY 14 DAYS OR AFTER MAJOR STORM EVENTS (RAIN OR SNOWMELT) TO ENSURE THAT THE EROSION AND SEDIMENT CONTROL BMPS ARE FUNCTIONING PROPERLY. INSPECTION REPORTS MUST BE KEPT WITH THE SWMP BOOK. ALL NECESSARY MAINTENANCE AND REPAIR SHALL BE COMPLETED IN A TIMELY MANNER, WITHIN 7 CALENDAR DAYS

4. RUNOFF FROM STOCKPILE AREAS MUST BE CONTROLLED TO PREVENT EROSION AND SEDIMENTATION ON RECEIVING WATERS. SOILS THAT WILL BE STOCKPILED FOR MORE THAN 30 DAYS SHALL BE PROTECTED FROM WIND AND WATER EROSION WITHIN 14 DAYS OF STOCKPILE CONSTRUCTION BY ANY OF THE FOLLOWING: MULCHING, TEMPORARY/PERMANENT REVEGETATION, EROSION CONTROL BLANKETS/MATTING/GEOTEXTILES. ANY STOCKPILE LOCATED NEAR A DRAINWAY, MUST BE PROVIDED WITH ADDITIONAL BMPS PROTECTION SUCH AS TEMPORARY DIKES OR SILT FENCE.

5. THE CONTRACTOR SHALL INSURE THAT ALL LOADS OF CUT AND FILL MATERIAL IMPORTED TO OR EXPORTED FROM THE SITE SHALL BE PROPERLY COVERED TO PREVENT LOSS OF THE MATERIAL DURING TRANSPORT ON PUBLIC ROW.

6. THE CONTRACTOR MUST PROTECT ALL STORM SEWER FACILITIES ADJACENT AND ANY WITHIN 100 FT DOWN GRADE TO ANY LOCATION WHERE PAVEMENT CUTTING OPERATIONS INVOLVING ROAD/CONCRETE CUTTING ARE TO TAKE PLACE. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL WASTE PRODUCTS GENERATED DURING CUTTING ACTIVITIES ON A DAILY BASIS. THE DISCHARGE OF ANY WATER CONTAMINATED BY WASTE PRODUCTS FROM CUTTING OPERATIONS TO THE STORM SEWER SYSTEM IS STRICTLY PROHIBITED.

7. THE CONTRACTOR MUST TAKE REASONABLE PRECAUTIONS TO ENSURE THAT VEHICLES DO NOT TRACK EARTH MATERIALS ON TO STREETS AND MUST IMMEDIATELY REMOVE SUCH MATERIALS IF THIS OCCURS. EITHER SWEEPING BY HAND OR THE USE OF STREET SWEEPERS IS ACCEPTABLE. FLUSHING OFF PAVED SURFACES WITH WATER IS PROHIBITED.

8. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING WASTE SUCH AS DISCARDING BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE, AS APPLICABLE. IN ADDITION, SPILL PREVENTION AND CONTAINMENT BMP'S FOR CONSTRUCTION MATERIALS, WASTE AND FUEL MUST BE PROVIDED.

9. WASTE COLLECTION AREAS SHOULD BE LOCATED AWAY FROM THE STORM DRAINAGE SYSTEM. CONSIDERATION SHOULD BE GIVEN TO COVERING WASTE STORAGE DUMPSTERS/ROLLOFF, TO BE ABLE TO CONTAIN WINDBLOWN MATERIALS.

10. WATER USED IN THE CLEANING OF CEMENT/CONCRETE TRUCKS SHALL BE DISCHARGED INTO A PREDEFINED, BERMED CONTAINMENT AREA. THE CONCRETE WASHOUT AREA MUST BE IDENTIFIED WITH A SIGN, AND SHALL ALLOW THE LIQUIDS TO INFILTRATE, EVAPORATE OR DRY OUT. DRIED CONCRETE WASTE SHALL BE REMOVED AND PROPERLY DISPOSED OF.

11. THE DISCHARGE OF SANITARY WASTE TO THE STORM SEWER SYSTEM IS PROHIBITED. PORTABLE TOILETS MUST BE PLACED ON PERMEABLE SURFACES, 6 FEET AWAY FROM THE CURBSIDE AND A MINIMUM OF 50 FEET FROM STORM INLETS AND/OR DRAINAGE WAYS.

12. NATURAL VEGETATION SHALL BE PRESERVED AND PROTECTED WHENEVER POSSIBLE. REMOVAL OR DISTURBANCE OF EXISTING VEGETATION SHALL BE LIMITED TO THE AREA/S REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS. DISTURBED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS SHOULD BE STABILIZED WITHIN 14 DAYS.

13. A VIABLE VEGETATIVE COVER SHOULD BE ESTABLISHED WITHIN ONE YEAR ON ALL DISTURBED AREAS AND SOIL STOCKPILES NOT OTHERWISE PERMANENTLY STABILIZED. TEMPORARY REVEGETATION IS REQUIRED ON ALL DISTURBED AREAS HAVING A PERIOD OF EXPOSURE PRIOR TO FINAL STABILIZATION OF ONE YEAR TO TWO YEARS. PERMANENT REVEGETATION IS REQUIRED ON ALL DISTURBED AREAS HAVING A PERIOD OF EXPOSURE GREATER THAN TWO YEARS, OR FOR AN INDETERMINATE LENGTH OF TIME.

14. EXISTING CURB OR DROP STORM INLETS WITHIN AND ADJACENT TO THE CONSTRUCTION SITE SHOULD BE PROTECTED TO REDUCE SEDIMENT DISCHARGE. ANY RESULTANT PONDING OF STORMWATER AROUND STORM INLET PROTECTION MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.

15. THE USE OF DIRT RAMPS IS PROHIBITED. A ROCK PAD ENTRANCE SHOULD BE INSTALLED WHERE CONSTRUCTION VEHICLES NEED TO ENTER OR EXIT FROM AN UNPAVED AREA ONTO A PAVED ROAD (PUBLIC RIGHT-OF-WAY, STREET, ALLEY, SIDEWALK, MEDIAN OR PARKING AREA).

16. FUGITIVE DUST EMISSIONS RESULTING FROM GRADING ACTIVITIES AND/OR WIND SHALL BE CONTROLLED USING THE BEST AVAILABLE CONTROL TECHNOLOGY, AS DEFINED BY THE COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT.

17. THE USE OF REBAR, STEEL STAKES, OR STEEL FENCE POSTS TO STAKE DOWN STRAW OR HAY BALES; OR TO SUPPORT SILT FENCING USED AS BMP MEASURE; IS PROHIBITED. THE USE OF OSHA APPROVED COLORED WARNING CAPS ON REBAR OR FENCE POST USED WITH EROSION CONTROL MEASURES IS NOT ACCEPTABLE.

18. NO EROSION OR SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN SUCH A WAY AS TO CAUSE FLOODING INTO ADJACENT AREAS OR BUILDINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONSTRUCT EROSION AND SEDIMENT CONTROL MEASURES WITH OVERFLOWS OR OTHER PATHS TO MITIGATE FLOODING. ANY FLOODING CAUSED BY EROSION OR SEDIMENT CONTROL, OR ANY OTHER ACTIVITY UNDERTAKEN BY THE CONTRACTOR OR SUBCONTRACTORS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

19. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER THE SITE HAS ACHIEVED FINAL STABILIZATION AND THE PERMIT HAS BEEN INACTIVATED; OR AS APPROVED BY THE ENVIRONMENTAL INSPECTOR.

20. CONDITIONS IN THE FIELD MAY WARRANT EROSION AND SEDIMENT CONTROL MEASURES IN ADDITION TO WHAT IS SHOWN ON THE STORMWATER MANAGEMENT PLAN. THE LANDOWNER OR CONTRACTOR SHALL IMPLEMENT WHATEVER MEASURES ARE DETERMINED NECESSARY, AS DIRECTED BY THE CITY.

**STANDARD EROSION AND SEDIMENT CONTROL INSPECTIONS:**

1. INLET PROTECTION INSPECTION

2. EROSION CONTROL INSPECTION

ENCLOSURE/ PADS/ ACCESS AREA NOTES:

**STRUCTURE NOTES:**

1. ENCLOSURE APRON SURFACE SHALL BE THE SAME ELEVATION AS THE PAD THRESHOLD AND SURROUNDING SURFACES. APRON MUST EXTEND 13' FROM THE PAD AND BE AT LEAST THE SAME WIDTH OF THE ENCLOSURE OPENING. THIS WILL ACCOMMODATE THE FRONT WHEELS OF THE VEHICLE WHILE DUMPING, WHICH IS WHEN THE HEAVIEST WEIGHT OCCURS.

2. SURFACE SHOULD BE MADE OF 8” THICK CONCRETE, REINFORCED WITH REBAR TO SUPPORT A 30-TON LOAD-BEARING CAPACITY.

3. ACCESS AREA, APPROACH AND PAD SHOULD BE LEVEL AND FREE OF DIPS AND BUMPS (IF AT ALL POSSIBLE).

4. ENCLOSURE SHOULD BE ALL STEEL CONSTRUCTION OR A COMBO OF STONE AND STEEL.

5. IF STRUCTURE IS ALL METAL, INSTALL INTERIOR CURBS AROUND 3 SIDES OF ENCLOSURE FOR METAL FENCE/PANELS TO REST ON. PREVENTS DAMAGE TO PANELS AND PREVENTS DEBRIS FROM ESCAPING. CURB MAY NEED DRAINAGE HOLES FOR STORM RUN-OFF.

6. HEIGHT OF ENCLOSURE WILL BE DEPENDENT ON HEIGHT OF TRASH DUMPSTER TO BE USED. MINIMUM OF 7'.

7. ALL METAL TO RECEIVE ONE COAT OF ZINC CHROMATE PRIMER AND TWO COATS OF MEDIUM ALKYD PAINT (OR SIMILAR EXISTING STANDARD FOR COLORADO).

8. STRUCTURAL DESIGN TO WITHSTAND 90 MPH MINIMUM WIND LOAD (WITH OVER 130 MPH WIND GUSTS).

9. ALL ENCLOSURE HARDWARE (INCLUDING ACCESS GATES/DOORS) MUST BE OF SUFFICIENT DESIGN AND STRENGTH TO ACCOMMODATE THE REPETITIVE USE

**GATE NOTES:**

1. MAIN ACCESS GATES/DOORS MUST BE A MINIMUM OF 12' WIDE (INTERNAL CLEARANCE BETWEEN JAM TUBES/HINGES).

2. ALL GATES SHALL BE CONSTRUCTED IN A MANNER TO INSURE THAT GATE CAN SUPPORT ITS OWN WEIGHT, IN A FREE SWINGING POSITION. HARDWARE SHOULD BE SUFFICIENT DESIGN AND STRENGTH TO ACCOMMODATE REPETITIVE USE.

3. GATES SHOULD BE ALL STEEL CONSTRUCTION (INCLUDING A CROSS MEMBER FOR BRACING). AND SHOULD STRUCTURALLY WITHSTAND 90 MPH MINIMUM WIND LOAD.

4. 4” SQUARE 3/16” THICK STEEL JAMB TUBES, CONCRETE FILLED. 2” CLEARANCE BETWEEN TUBE AND WALLS (IF WALLS ARE STONE). STEEL TO BE SET A MINIMUM OF 2' BELOW GRADE WITH 16” DIAMETER CONCRETE FOOTING.

5. 16 GAUGE RIBBED METAL GATES WITH 2” X 2” X ¼” STEEL ANGLE IRON FRAME AND DIAGONAL BRACING WITH CONTINUOUS WELD ALL JOINTS.

6. GATE STOPS AND LATCHES MUST BE INSTALLED ON ALL GATES TO SECURE GATE IN CLOSED AND OPENED POSITION. SURFACE MOUNT DROP CANE BOLT FOR SWING GATES WITH GATE STOP HOLE DRILLED INTO CONCRETE IS RECOMMENDED.

7. GATES SHOULD BE 2” OFF THE GROUND AND HUNG ON THE OUTSIDE SO THAT, WHEN OPEN, GATES ARE OUT OF THE CONTAINERS WAY. IF GATES HUNG ON INSIDE, GATE OPENING MAY NEED TO BE WIDER (MUST MEET 12' INTERNAL CLEARANCE). GATES SHOULD BE ABLE TO BE OPEN MORE THAN 90° (120° PREFERABLE) AND SHOULD BE CAPABLE OF BEING SECURED IN BOTH THE OPEN AND CLOSED POSITIONS.

8. HARDWARE SHOULD BE OF SUFFICIENT STRENGTH TO ACCOMMODATE REPETITIVE SWINGING, AND INDIVIDUALS WITH GLOVES SHOULD BE ABLE TO OPEN THEM.

9. A PEDESTRIAN ACCESS OPENING AT LEAST 55” WIDE IS RECOMMENDED IN ADDITION TO THE SERVICE GATES (ALLOWS ALTERNATIVE SERVICE OPENING IF MAIN GATES ARE NOT FUNCTIONING OR BLOCKED).

**CLEARANCE NOTES:**

1. A 14' WIDE BY 40' LONG (MINIMUM) STRAIGHT AND CLEAR ACCESS APPROACH TO EACH TRASH DUMPSTER FOR THE TRUCK IS RECOMMENDED.

2. THE COLLECTION TRUCK SHALL NOT BE REQUIRED TO BACK-UP FOR NO MORE THAN 50 FEET.

3. MAXIMUM ROLL-OUT BY COLLECTOR IS 25' FROM ENCLOSURE TO TRUCK.

4. ALLOW A MINIMUM OF 30” OR 2'6” CLEARANCE ON EACH SIDE OF EACH TRASH DUMPSTER (INCLUDING THE WIDTH OF THE DUMPSTER POCKETS).

5. ADDITIONAL EQUIPMENT, CONTAINERS, OR OTHER ITEMS STORED INSIDE THE ENCLOSURE MUST BE KEPT A MINIMUM OF 2 FEET AWAY FROM EACH SIDE, AND 3 FEET AWAY FROM THE REAR OF THE DUMPSTER CONTAINER.

6. IN ORDER TO SERVICE THE DUMPSTER, THE TRUCK NEEDS 45' OF ACCESS AND SHOULD NOT HAVE ANY OVERHEAD HAZARDS (I.E. WIRES AND TREE BRANCHES - MINIMUM 25' CLEARANCE OVERHEAD).

**CONTAINER NOTES:**

1. A MINIMUM OF ONE 3, 6 OR 8 YARD TRASH DUMPSTER; ONE 3 YARD CARDBOARD DUMPSTER; ONE 3 YARD COMPOST DUMPSTER; AND SIX TO EIGHT 98 GALLON POLYCARTS SHOULD BE ALLOCATED FOR EACH ENCLOSURE OR SERVICE PAD.

2. A PLATFORM WITH STEPS AND A HANDRAIL SHOULD BE PROVIDED TO ACCESS TRASH DUMPSTER THAT ARE OVER 68” IN HEIGHT. THIS ALLOWS TRASH BAGS TO BE EASILY TOSSED INTO THE DUMPSTER ON A LEVEL PLAIN AND PREVENTS ANY SAFETY CONCERNS WITH EXCESSIVE OVERHEAD LIFTING.