

**EROSION AND SEDIMENT CONTROL NOTES**

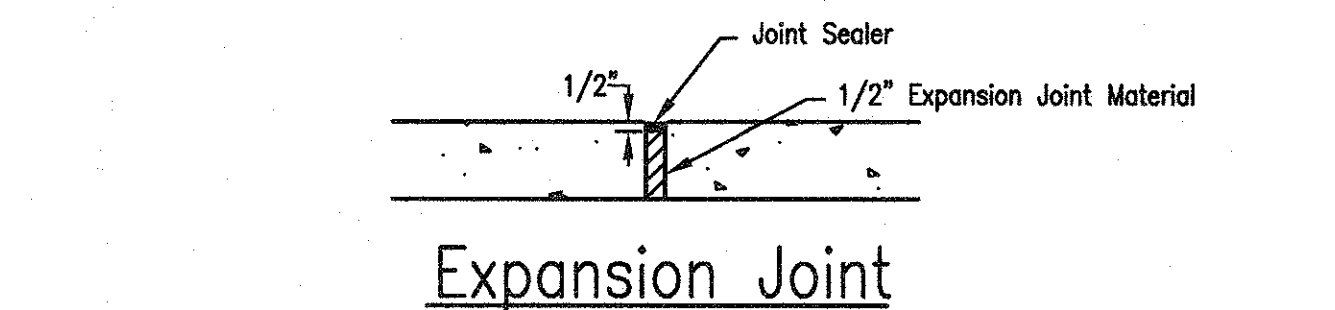
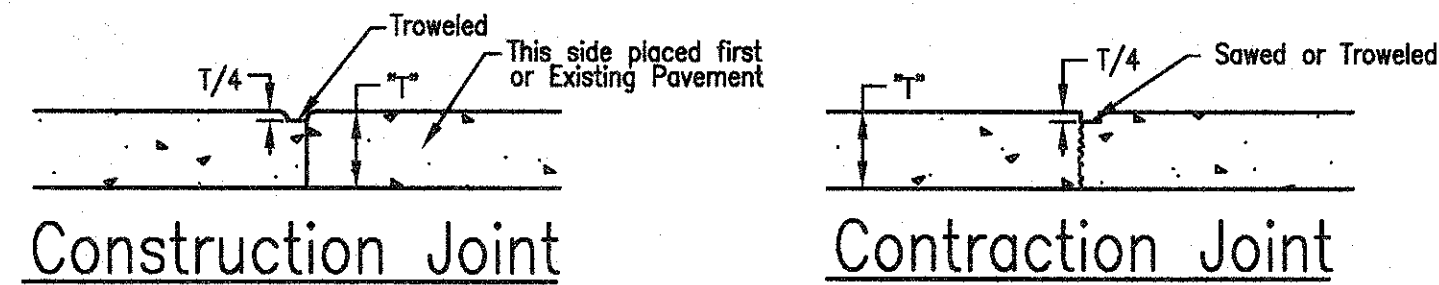
This Site is greater than 1 acre and therefore requires a Missouri DNR Land Disturbance Permit. Land disturbance activities on this site are currently permitted under Missouri State Operating Permit #MORA12735, which expires on February 7, 2022. A Stormwater Pollution Prevention Plan (SWPPP) has been developed for this property. An abridged SWPPP is outlined below. Please refer to the SWPPP document for complete requirements. The contractor shall be required to submit an application for a Grading Permit to the City of Jefferson, Public Works Department, prior to commencing work.

The Erosion Control Items and details are not intended to dictate construction phasing but are intended to indicate Best Management Practices that should be in place during various phases of construction. The contractor shall be responsible for updating and modifying the Erosion Control Plan based on his construction sequence, and to address field conditions.

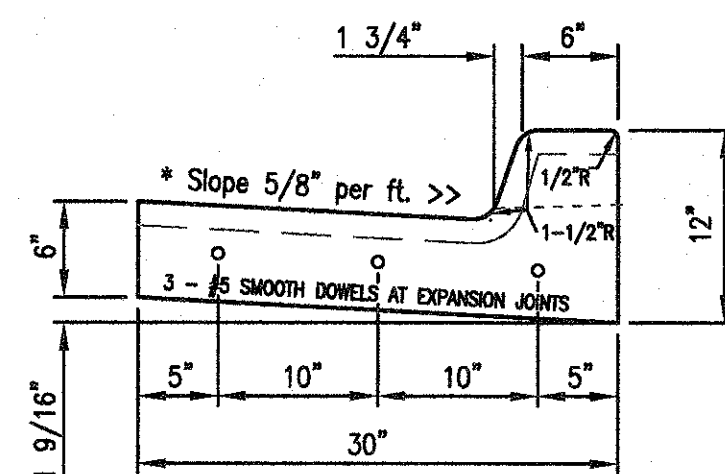
This site will be constructed in two phases, phase 1 will be grading, removal of vegetation and topsoil. Phase 2 will be construction of the building, stormwater infrastructure, parking lot and finish grading. Phase 1 and 2 shall utilize a sedimentation barrier (mulch berm or silt fence) as shown on the plan and be used in place until pavement base and grading areas are stabilized. Straw wattles may be used in areas where stormwater flow is not concentrated and used to minimize sediment movement across site. A construction staging area shall be chosen by the contractor at the time of construction. All concrete trucks shall utilize a concrete wash out area as detailed on the plan or return to the plant of origin to perform washout and cleanup activities. No fuel or chemicals shall be stored on site, unless a containment procedure is detailed and submitted to the city.

In addition, the contractor is encouraged to reference the document "Protecting Water Quality", January 2011 edition, as Prepared by the Missouri Department of Natural Resources for further guidance on installation and maintenance of construction site erosion, sediment and stormwater control practices.

- Contractor shall provide all materials, tools, equipment and labor as necessary to install and maintain adequate erosion and siltation controls required to prevent soil erosion from leaving the project site. It shall be the Contractor's sole responsibility to ensure that methods utilized are adequate and comply with requirements of the specifications and other governmental agencies having jurisdiction over the work.
- The Contractor shall have the responsibility for resolving complaints in the event that complaints or damage claims are filed due to damages occurring adjacent to or downstream from property by sediment resulting from erosion on the project site.
- The Contractor shall install erosion control measures as shown on the drawings prior to beginning earthwork operations.
- The Contractor shall maintain and inspect all sediment control measures during construction as required by all applicable permits.
- All sediment shall remain on site and surrounding streets shall be kept clear of all mud and debris.
- The contractor shall phase grading operations to minimize the amount of disturbed area.
- Sediment Barrier Fence, is to be installed as shown on the plans. The barrier shall be constructed of either: (a) A continuous line of silt fence securely staked to prevent movement. (b) A continuous line of mulch.
- Accumulated sediment shall be removed and the sedimentation barriers maintained as needed to prevent sedimentation bypass of the barrier. Removed sediment shall be disposed of in a location where sediment will not again erode into the construction area or into natural waterways.
- Slopes shall be left in a rough condition during grading operations.
- Stormwater Inlet Sedimentation Barriers are to be installed around inlets upon their installation at locations shown on the plans. Inlet barriers shall be block and gravel, secured straw bales, silt fence, or an approved pre-manufactured system.
- Erosion control measures are to remain in place until 70% ground cover has been established.
- Sediment shall be removed from storm water drainage systems. Removed sediment shall be captured and disposed of in a location where sediment will not again erode into the construction area or into natural waterways.
- Contractor shall be responsible for installing any additional erosion control measures as they, the City, the engineer, or consultants deem necessary. Upon installing additional erosion control measures, or making modifications to the erosion control plan, the contractor shall update Erosion Control Plan.
- Temporary seeding shall be used to stabilize disturbed areas that will not be brought to final grade within 30 days, or when the season is not suitable for permanent seeding. A qualified professional shall be consulted to recommend necessary soil amendments, and seeding mixtures.
- At completion of site grading and other related construction activities, all disturbed areas within the project site shall be seeded, sodded, or landscaped as shown on the Landscaping Plans.
- The Contractor shall be responsible for conducting regular site inspections to assure proper function of soil erosion, sedimentation and stormwater control measures. Inspections should be conducted every seven calendar days and within 48 hours of a rainfall event resulting in runoff from the site or per the requirements of the DNR Land Disturbance Permit. Inspections should be documented using documents available in the SWPPP and be done in accordance with the DNR Land Disturbance Permit requirements.
- Fuels, oils and other petroleum products or any other hazardous or toxic compounds should be stored under cover and not allowed to come in contact with stormwater on site. On-site storage should meet all local, state and federal secondary containment rules and regulations. Do not store hazardous chemicals, drums, or bagged materials directly on the ground. Place these items on a pallet and under cover in secondary containment.

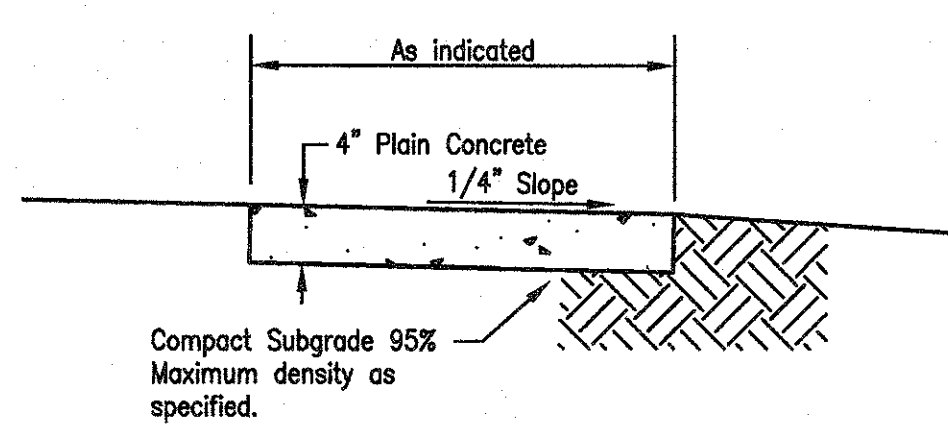


**TYPICAL CONCRETE JOINT DETAILS**  
NOT TO SCALE



- NOTES:
- 3/4" expansion joints with 2" dowels to be placed at radius points, drive approaches, and 300' minimum intervals. These dowels shall be greased and wrapped on one end with expansion lube.
  - 1-1/2" deep contraction joints shall be installed at approx. 10' intervals. These joints shall pass through the entire curb section.
  - Fix dowels with bar chairs or equivalent.
  - \* If the pavement slopes away from the curb the slope of the curb should match that of the pavement not 5/8" per ft. toward the curb.

**CURB AND GUTTER SECTION**  
NOT TO SCALE



**TYPICAL SIDEWALK SECTION**  
NOT TO SCALE

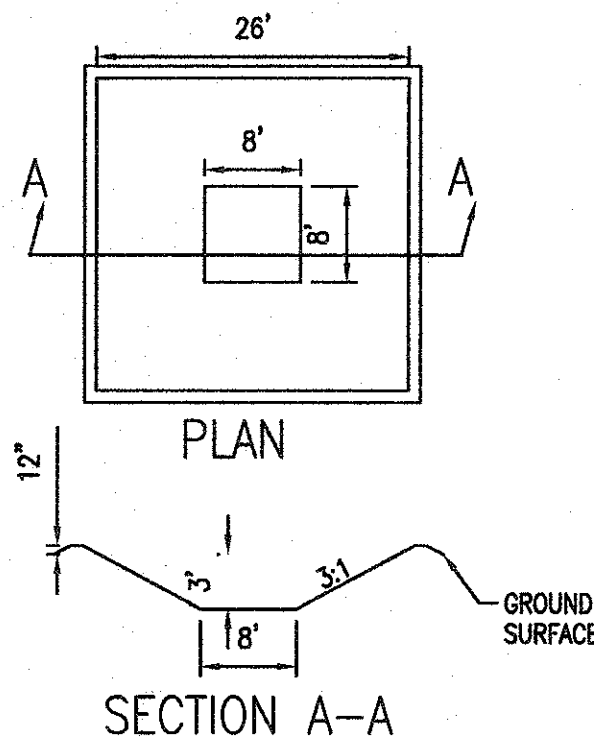
- CONTRACTION JOINTS ON 6' CENTERS.
- FOR LONG RUNS, INSTALL EXPANSION JOINTS AT A MINIMUM SPACING OF 120'.
- INSTALL EXPANSION JOINTS WHERE SIDEWALK ABUTS A CURB, ANOTHER SIDEWALK OR A SOLID STRUCTURE.

PARKING LOT AREA: 32,421 SF  
REQUIRED SHADING (35%): 11,347 SF

TREE COUNT: 15 TREES @ 795 SF = 11,925 SF  
HALF SHADE: TOTAL SHADE AREA = 11,925 SF

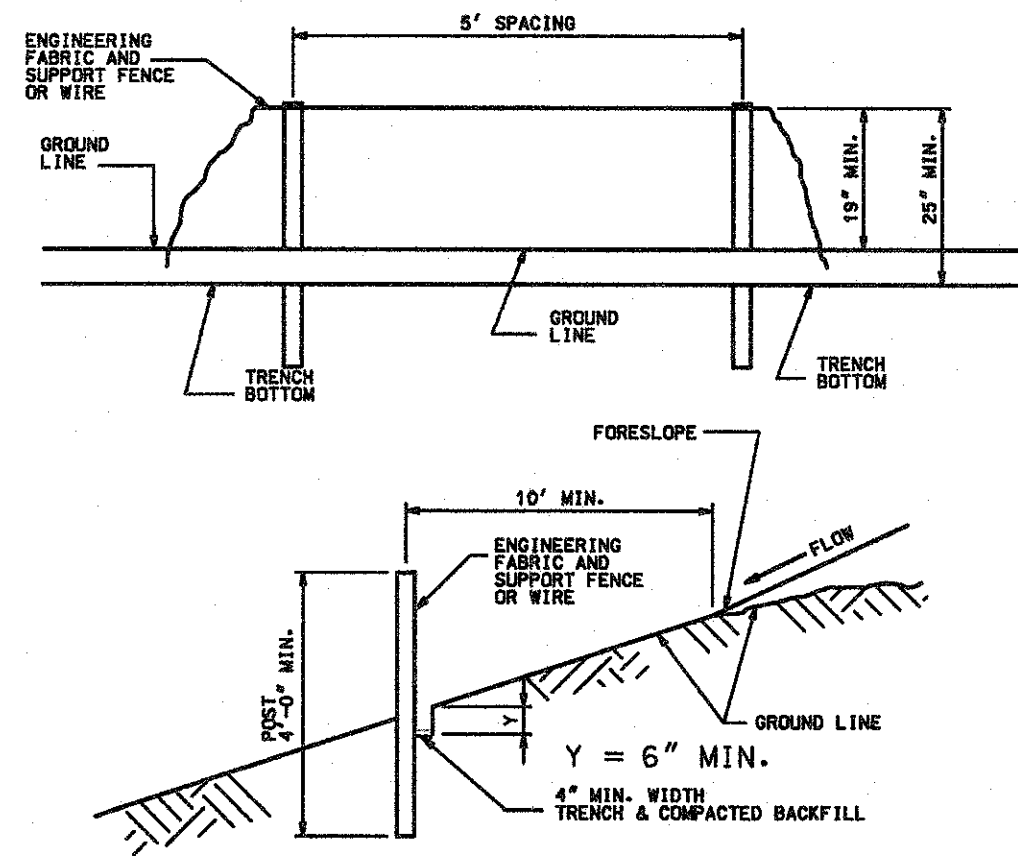
SHADE AREA CALCULATIONS ARE BASED ON 45' MATURE SPREAD. THE TREE SPECIES SHALL BE SELECTED FROM THE CITY OF JEFFERSON LIST OF APPROVED TREE SPECIES FOUND IN APPENDIX A.3 OF THE CITY OF JEFFERSON ZONING CODE. THE NUMBER OF TREES SHALL BE ADJUSTED FOR TREE SPECIES WITH LESS THAN 45' MATURE SPREAD.

**PARKING LOT SHADING CALCULATION**



- NOTES:
- CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
  - AGGREGATE CONSTRUCTION ENTRANCE IS REQUIRED AT CONCRETE WASHOUT ENTRANCE IF ACCESS TO WASHOUT AREA IS OFF PAVEMENT.
  - THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND/OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR WASTE CONCRETE.
  - WASTE MATERIAL FROM CONCRETE WASHOUT OPERATIONS MUST BE REMOVED AND LEGALLY DISPOSED OF WHEN IT HAS ACCUMULATED 2/3 OF THE CAPACITY OF THE STRUCTURE.
  - AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED AND LEGALLY DISPOSED OF. THE DISTURBED AREA SHALL BE GRADED, SEEDED AND MULCHED.
  - THE CONTRACTOR MAY ELECT TO USE AN ALTERNATE CONCRETE WASHOUT CONFIGURATION OR LOCATION WITH PRIOR APPROVAL FROM THE ENGINEER.

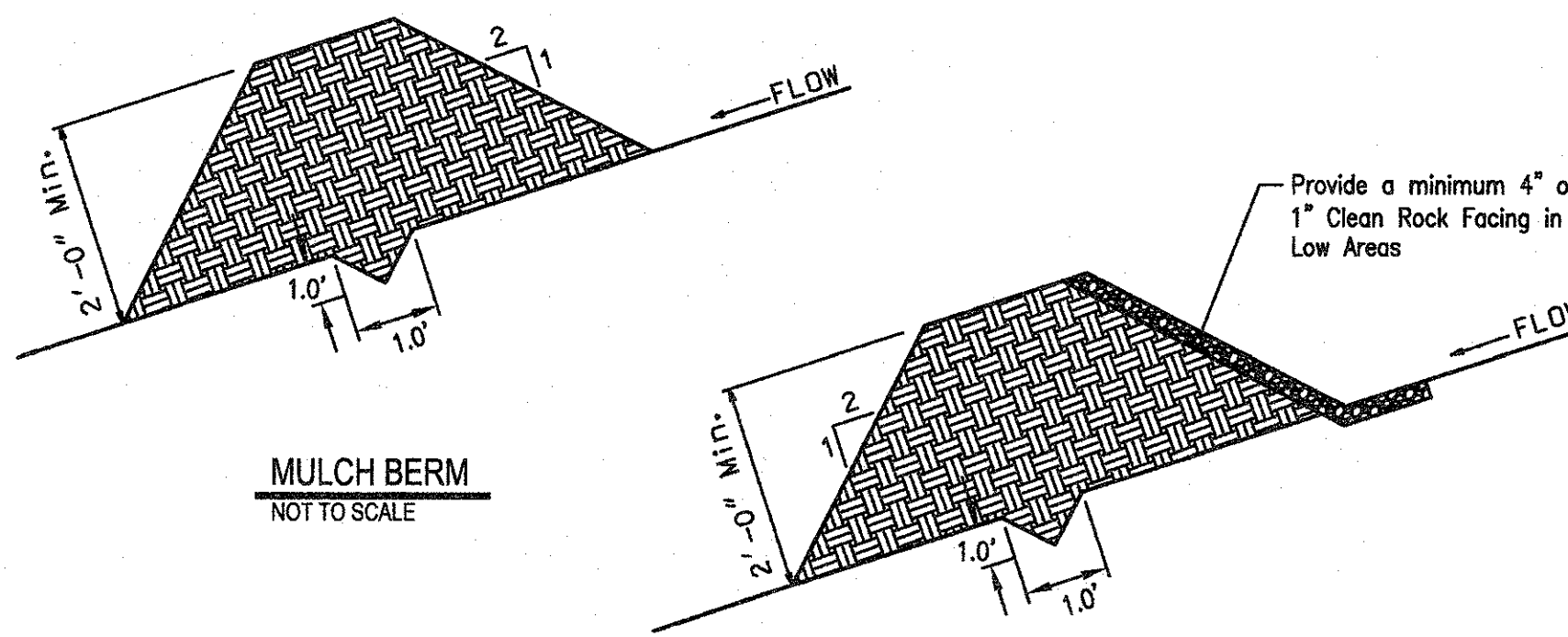
**CONCRETE WASHOUT AREA**  
NOT TO SCALE



**TYPICAL SECTION**

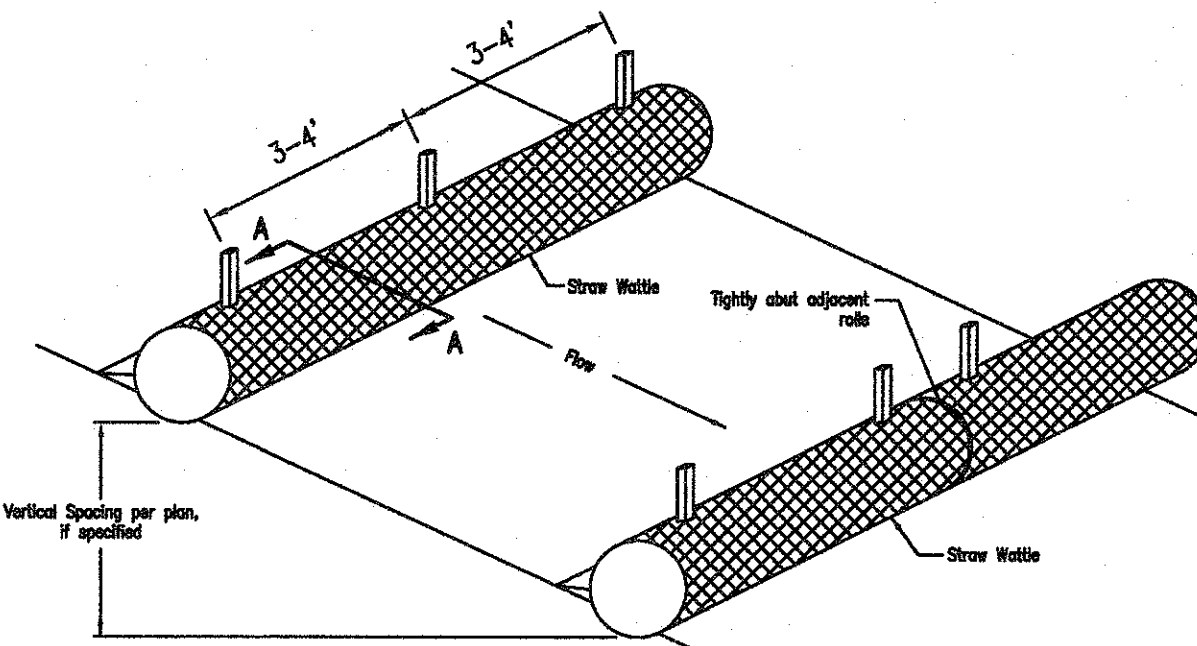
**SEDIMENT BARRIER-SILT FENCE DETAIL**  
NOT TO SCALE

Note: For Reinforced Silt Fencing attach Filter Fabric to a 6-inch (max) Mesh Wire Screen which has been Fastened to the Post.



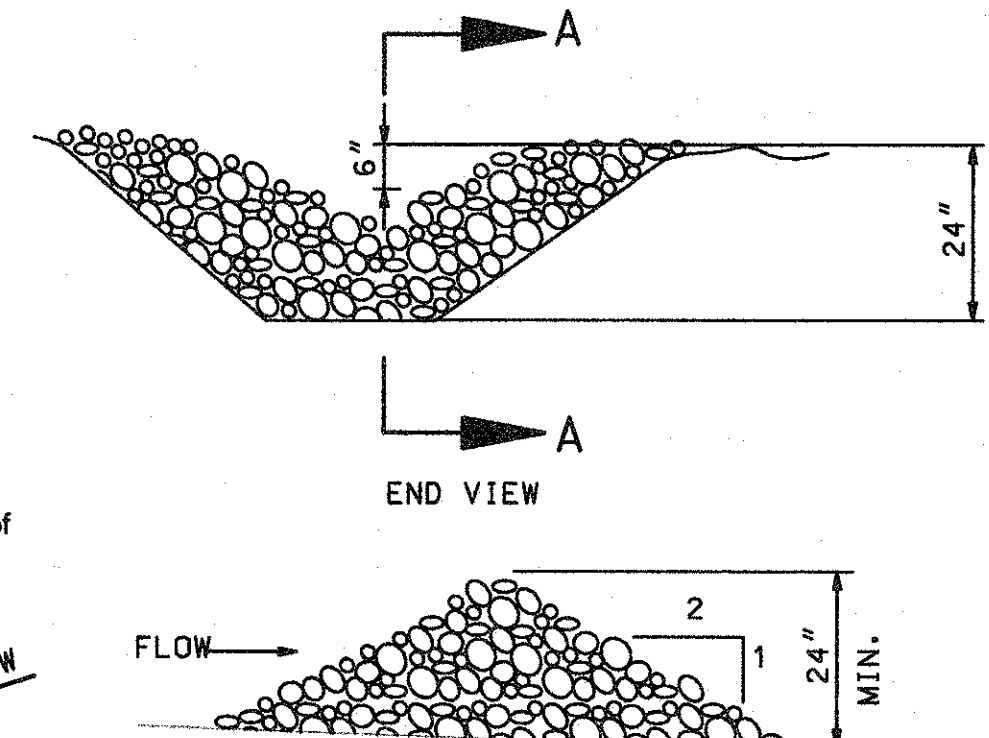
**MULCH BERM**  
NOT TO SCALE

**MULCH BERM AT LOW AREAS**  
NOT TO SCALE



**Section A-A**

**STRAW WATTLE**  
NOT TO SCALE



**Section A-A**

**ROCK DITCH CHECK**  
NOT TO SCALE

**CALL BEFORE YOU DIG - DRILL - BLAST**  
1-800-344-7483 (TOLL FREE)

MISSOURI ONE CALL SYSTEM, INC.

NOTE: The Contractor will be responsible to call the Missouri One Call System 1-800-344-7483 and have the underground utilities marked or remarked prior to any construction.

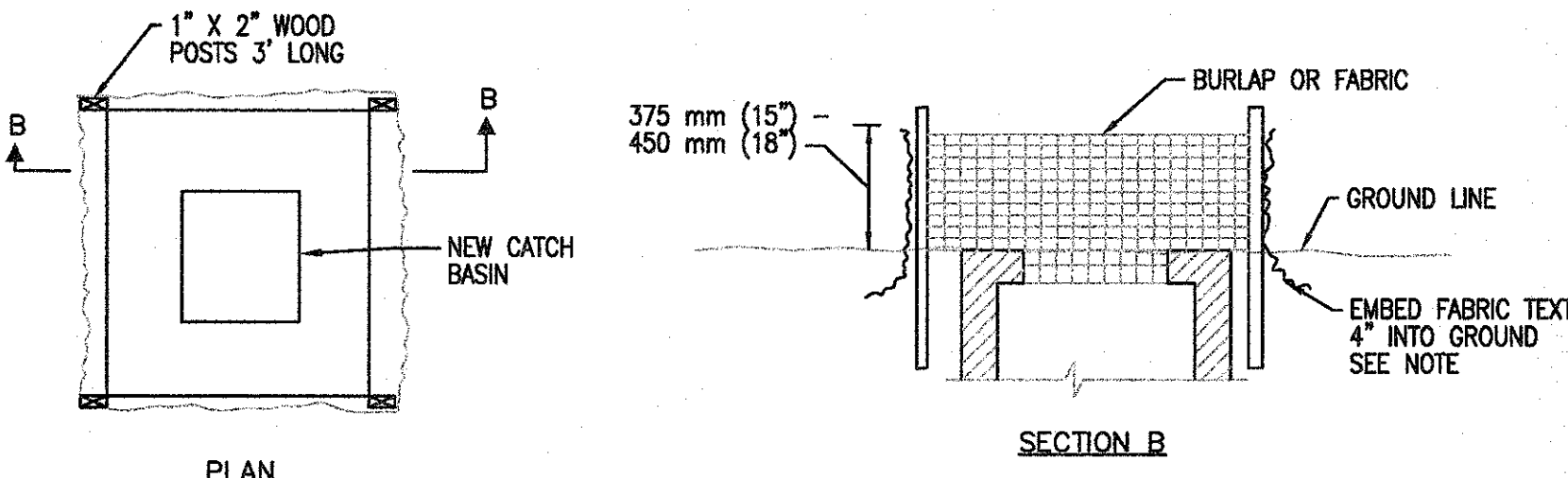
NOTE: UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES, HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN.

Space Reserved for Approving Authority

**CONSTRUCTION ENTRANCE NOTES**

- An aggregate construction entrance shall be constructed as shown on the plans.
- Aggregate size - Use 3" minus crushed limestone.
- Length - 50 feet minimum.
- Thickness - Not less than six (6) inches.
- Width - Twenty five (25) foot minimum, but not less than the full width at points where ingress or egress occurs.
- Filter Cloth - Shall be placed over the entire area prior to placing of stone.
- Surface Water - Construction entrance surface shall be graded to drain away from the entrance. Any surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 3:1 slopes shall be permitted.
- Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanup of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
- Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
- Periodic inspection as needed maintenance shall be provided after each rain.

**AGGREGATE CONSTRUCTION ENTRANCE**  
NOT TO SCALE



**PLAN**

**SECTION B**

- NOTE:
- STRAW BALES MAY BE USED IN LIEU OF FABRIC AROUND CATCH BASINS. BALES SHALL BE EMBEDDED 4" INTO GROUND AND SECURELY STAKED IN PLACE.
  - THE ABOVE DRAWING REPRESENTS A GRATE INLET. USE STRAW BALES, STRAW WATTLES OR EQUIVALENT EROSION CONTROL DEVICE AROUND CURB INLETS AND OTHER INLET DEVICES.
  - WEIGH DOWN STRAW BALES, WATTLES OR OTHER EROSION CONTROL DEVICES WITH SAND BAGS AS NECESSARY TO ALLOW PROPER FUNCTION.

**INLET PROTECTION DETAIL**  
NOT TO SCALE



CENTRAL MISSOURI PROFESSIONAL SERVICES  
CIVIL ENGINEER & MO STATE AUTHORITY #001668  
SSC ENGINEERING, INC.  
STRUCTURAL ENGINEER, MO# 001244  
SSC ENGINEERING, INC.  
MECH / ELEC / PLUMB ENGINEERING, MO# 001244



MISSOURI SOYBEAN INNOVATION CENTER  
NEW OFFICE BUILDING  
734 S. COUNTRY CLUB DRIVE  
JEFFERSON CITY, MISSOURI

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PROJECT NO. 1018  
DATE: 9/12/2018  
**C-502**  
SHEET 8 OF 8