

SITE CLEARING

- A. PROJECT CONDITIONS: Traffic: Conduct site-clearing operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from the governing City. Protection of Existing Improvements: Provide protection necessary to prevent damage to existing improvements indicated to remain in place. Protect improvements on adjoining properties and on Owner's property. Restore damaged improvements to their original condition, as acceptable to property owners. Dust Control: Contractor shall contain particulate debris generated by his work activities from polluting the atmosphere or waterways. Blasting will not be permitted.
- B. EXISTING SERVICES: General: Indicated locations are approximate; determine exact locations before commencing Work. Arrange and pay for disconnecting, removing, capping, and plugging utility services. Notify affected utility companies in advance and obtain approval before starting this Work. Place markers to indicate location of disconnected services. Identify service lines and capping locations on Project Record Documents. Protect all existing utilities shown to remain and those not shown.
- C. SITE CLEARING: General: Except as otherwise indicated on the plans, remove trees, shrubs, grass, and other vegetation, bollards, retaining walls, fences, other improvements, or obstructions, as required, to permit installation of new construction. Removal includes digging out and off-site disposal of stumps and roots. Cut minor limbs and branches in a careful manner where such roots and branches obstruct installation of new construction. Topsoil: Topsoil is defined as friable clay loam surface soil found in a depth of not less than 4 inches (100 mm). Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones, and other objects over 2 inches (50 mm) in diameter, and without weeds, roots, and other objectionable material. Strip topsoil and remove from site the excess that will not be used for landscaping. Clearing and Grubbing: Clear site of trees, shrubs, and other vegetation, except for those indicated to be left standing. Completely remove stumps, roots, and other debris protruding through ground surface. Fill depressions caused by clearing and grubbing operations with satisfactory soil material, unless further excavation or earthwork is indicated. Place fill material in horizontal layers not exceeding 8 inches loose depth, and thoroughly compact each layer according to Section "EARTHWORK." All organic or other deleterious materials shall be removed from the project site prior to construction. Areas containing such material shall be over-excavated and reconstructed with engineered fill according to the requirements of Section "EARTHWORK." Removal of Improvements: Remove existing below-grade improvements, as indicated, as necessary and as necessary to facilitate new construction. Removing abandoned underground piping or conduits interfering with construction is included under this Section. Remove sections of concrete pavement, concrete sidewalks, concrete aprons, or granite curb to the nearest joint when they are adjacent to those to remain.
- D. DISPOSAL OF WASTE MATERIALS: Burning on Owner's Property: Burning is not permitted on Owner's property. Removal from Owner's Property: Remove waste materials from Owner's property and dispose of legally.
- E. ENVIRONMENTAL PROTECTION: Prevent debris, soil erosion, pollutants and all other unacceptable material from entering the storm / sanitary sewer system. Prevent dust, smoke or other air borne material from polluting the atmosphere.
- F. MONUMENT PROTECTION: Monuments, benchmarks and other reference features bounding this project shall be protected. Should these be disturbed in any manner, the Contractor shall have them replaced as approved by the Owner with no additional cost to the Owner.

EARTHWORK

- A. DEFINITIONS: Excavation consists of the removal of material encountered to subgrade elevations and the reuse or disposal of materials removed. Subgrade: The uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials. Borrow: Soil material obtainable for use in the subgrade or subbase. Subbase Course: The layer immediately below the drainage fill. The layer placed between the subgrade and base course in a paving system or the layer placed between the subgrade and surface of a pavement or walk. Base Course: The layer placed between the subbase and surface pavement in a paving system. Drainage Fill: Course of washed granular material supporting slab-on-grade placed to cut off upward capillary flow of pore water. Unauthorized excavation consists of removing materials beyond indicated subgrade elevations or dimensions without direction by the Engineer. Unauthorized excavation, as well as remedial work directed by the Engineer, shall be at the Contractor's expense. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below ground surface. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground systems within building lines.
- B. QUALITY ASSURANCE: Codes and Standards: Perform earthwork complying with requirements of the current IDOT Standard Specifications. Testing and Inspection Service: Coordinate timing and scheduling of all earthwork activity with Owner's geotechnical consultant who will perform soil testing and inspection service for quality control testing during earthwork operations. Preinstallation Conference: Before commencing earthwork, meet with representatives of the governing authorities, Owner, Engineer, independent testing agency, and other concerned entities to discuss the project, the testing procedures, and responsibilities including testing and inspection procedures and requirements. Notify participants at least 3 working days prior to convening conference. Record discussions and agreements and furnish a copy to each participant.
- C. PROJECT CONDITIONS: Existing Utilities: Do not interrupt existing utilities serving adjacent buildings except when permitted in writing by the Owner and Engineer and then only after acceptable temporary utility services have been provided. Provide a minimum 48-hours' notice to the Engineer and Owner, and receive written notice to proceed before interrupting any utility. Contact utility-locator service for area where Project is located before excavating.
- D. SOIL MATERIALS: Provide approved borrow soil materials, free of contaminants, from off-site when sufficient soil materials on-site are not available from excavations. Satisfactory Soil Materials: ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, and SM; free of rock or gravel larger than 2 inches in any dimension, debris, waste, frozen materials, vegetation and other deleterious matter. Unsatisfactory Soil Materials: ASTM D 2487 soil classification groups GC, SC, ML, MH, CL, CH, OH, OL, and PT. Subbase and Base Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand, ASTM D 2940, with at least 95 percent passing a 1-1/2 inch sieve and not more than 8 percent passing a No. 200 sieve. Bedding Material: Subbase or base materials with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve. Drainage Fill: Washed, evenly graded mixture of crushed stone, or crushed gravel, ASTM D 448, coarse aggregate grading size 57, with 100 percent passing a 1-1/2 inch sieve and not more than 5 percent passing a No. 8 sieve. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2 inch (38-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.
- E. ACCESSORIES: Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6-inches wide and 4 mils thick minimum, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30-inches deep. Tape Colors: Provide tape colors to utilities as follows: Red: Electric; Yellow: Gas, oil, steam, and dangerous materials. Orange: Telephone and other communications. Blue: Water systems. Green: Sewer systems.
- F. PREPARATION: Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary. Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties, walkways, and sewer systems.
- G. DEWATERING: Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.
- H. EXCAVATION: Do not use explosives. Unclassified Excavation: Excavation to subgrade elevations regardless of the character of surface and subsurface conditions encountered, including rock, soil materials, and obstructions. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials, at no additional cost to the Owner.
- I. STABILITY OF EXCAVATIONS: Comply with local codes, ordinances, and requirements of authorities having jurisdiction to maintain stable excavations.
- J. EXCAVATION FOR STRUCTURES: Excavate to indicated elevations and dimensions within a tolerance of plus or minus 0.1 feet. Extend excavations a sufficient distance from structures for placing and removing concrete formwork, installing services and other construction, and for inspections. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
- K. EXCAVATION FOR WALKS AND PAVEMENTS: Excavate surfaces under walks and pavements to indicated cross sections, elevations, and grades.
- L. EXCAVATION FOR UTILITY TRENCHES: Excavate trenches to indicated slopes, lines, depths, and invert elevations. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line. Excavate trenches to uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and corbels of pipes and for joints, fittings, and bodies of conduits and sharp angles and sharp objects and sharp objects and sharp angles and sharp objects. For pipes or conduits less than 6 inches in nominal diameter and flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade. For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped sand backfill. Where encountering rock or another yielding bearing surface, carry trench excavation 6 inches below invert elevation to receive bedding course.
- M. APPROVAL OF SUBGRADE: Notify Engineer and Owner's Geotechnical consultant when excavations have reached required subgrade. When Owner's Geotechnical Engineer determines that underlying unsatisfactory soil beneath subgrade is present, continue excavation and replace with compacted backfill or fill material as directed. Unforeseen additional excavation and replacement material will be paid according to the Contract provisions for changes in Work. Proof roll subgrade with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof roll wet or saturated subgrades. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by the Engineer.
- N. UNAUTHORIZED EXCAVATION: Fill unauthorized excavation under footings by extending indicated bottom elevation of concrete foundation or footing to excavation bottom, without altering required top elevation. Lean concrete fill may be used to bring elevations to proper position when acceptable to the Engineer. Fill unauthorized excavations under other construction as directed by the Engineer. Where indicated widths of utility trenches are exceeded, provide stronger pipe, or special installation procedures, as required by the Engineer.
- O. STORAGE OF SOIL MATERIALS: Stockpile excavated materials acceptable for backfill and fill soil materials, including acceptable borrow materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent wind-blown dust. Stockpile soil materials away from edge of excavations.
- P. BACKFILL: Backfill excavations promptly, but not before completing the following: Acceptance of construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation. Surveying locations of underground utilities for record documents. Testing, inspecting, and approval of underground utilities. Concrete formwork removal. Removal of trash and debris from excavation.
- Q. UTILITY TRENCH BACKFILL: Place and compact bedding course on rock and other unyielding bearing surfaces and to fill unauthorized excavations. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Concrete backfill trenches that carry below or pass under footings and that are excavated within 18 inches of footings. Place concrete to level of bottom of footings. Place and compact initial backfill of satisfactory soil material or subbase material, free of particles larger than 1 inch, to a height of 12 inches over the utility pipe or conduit. Backfill trenches beneath pavement with granular backfill to pavement base course. Carefully compact material under pipe haunches and bring backfill evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system. Coordinate backfilling with utilities testing. Place and compact final backfill of satisfactory soil material to final subgrade. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.
- R. FILL: Preparation: Remove vegetation, topsoil, debris, wet, and unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placing fills. Plow strip or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing surface. When subgrade or existing ground surface to receive fill has a density less than that required for fill, break up ground surface to depth required, pulverize, moisture-condition, or aerate soil and recompact to required density. Place fill material in layers to required elevations for each location listed below: Under grass, use satisfactory excavated or borrow soil material. Under walks and pavements, use subbase material, base material, satisfactory excavated material, or borrow soil material. Under steps and ramps, use subbase material. Under footings, use engineered fill.
- S. MOISTURE CONTROL: Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice. Remove and replace, or scarify and air-dry satisfactory soil material that is too wet to compact to specified density. Stockpile or spread and dry removed wet satisfactory soil material.
- T. COMPACTION: Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers. Place backfill and fill materials evenly on all sides of structures to required elevations. Place backfill and fill uniformly along the full length of each structure. Percentage of Maximum Dry Density Requirements: Compact soil to not less than the following percentages of maximum dry density according to ASTM D 1557: Under structures and pavements, compact the top 12 inches below subgrade and each layer of backfill or fill material at 95 percent maximum dry density. Under walkways, compact the top 6 inches below subgrade and each layer of backfill or fill material at 92 percent maximum dry density. Under lawn or unpaved areas, compact the top 6 inches below subgrade and each layer of backfill or fill material at 90 percent maximum dry density.
- U. GRADING: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated. Provide a smooth transition between existing adjacent grades and new grades. Cut out soft spots, fill low spots, and trim high spots to conform to required surface tolerances. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances: Lawn or Unpaved Areas: Plus or minus 1.2 inches. Walks: Plus or minus 1.2 inches. Pavements: Plus or minus 1/2 inch.

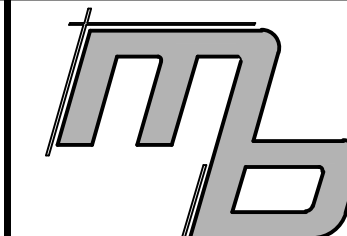
- V. FIELD QUALITY CONTROL: Testing Agency Services: Allow Owner's testing agency to inspect and test each subgrade and each fill or backfill layer. Do not proceed until test results are received and previously completed work is verified compliance with requirements. Owner's testing agency may perform the following tests: Perform field in-place density tests according to ASTM D 1556 (sand cone method), ASTM D 2167 (rubber balloon method), or ASTM D 2937 (drive cylinder method), as applicable. Field in-place density tests may also be performed by the nuclear method according to ASTM D 2922, provided that calibration curves are periodically checked and adjusted to correlate to tests performed using ASTM D 1556. With each density calibration check, check the calibration curves furnished with the moisture gauges according to ASTM D 3017. When field in-place density tests are performed using nuclear methods, make calibration checks of both density and moisture gauges at beginning of work, on each different type of material encountered, and at intervals as directed by the Engineer. Footing Subgrade: At footing subgrades, perform at least one test of each soil stratum to verify design-bearing capacities. Subsequent verification and approval of footing subgrades may be based on visual comparison of each subgrade with related tested strata when acceptable to the Engineer. Paved Areas: At subgrade and at each compacted fill and backfill layer, perform at least one field in-place density test for every 2000 sq. ft. or less of paved area or building slab, but in no case fewer than three tests. Trench Backfill: In each compacted initial and final backfill layer, perform at least one field in-place density test for each 150 feet or less of trench, but no fewer than two tests. When testing agency reports that subgrades, fills, or backfills are below specified density, scarify and moisten or aerate, or remove and replace soil to the depth required, recompact and retest until required density is obtained.
- W. PROTECTION: Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris. Repair and re-establish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or lose compaction due to subsequent construction operations or weather conditions. Scarify or remove and replace material to depth directed by the Engineer; reshore and recompact at optimum moisture content to the required density. Settling: Where settling occurs during the Project correction period, remove finished surfacing, backfill with additional approved material, compact, and reconstruct surfacing. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.
- X. DISPOSAL OF SURPLUS AND WASTE MATERIALS: Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

STORM AND SANITARY SEWERAGE

- A. DEFINITIONS: PVC: Polyvinyl chloride plastic.
- B. PERFORMANCE REQUIREMENTS: Gravity-Flow, Nonpressure-Piping Pressure Ratings equal to air system test pressure.
- C. SUBMITTALS: Product Data: For the following: Pipe. Trench Drains. Shop Drawings: Include details and attachments for the following: Precast concrete manholes, including frames and covers.
- D. DELIVERY, STORAGE, AND HANDLING: Do not store plastic pipe, and fittings in direct sunlight. Protect pipe, pipefittings, and seals from dirt and damage. Handle precast concrete manholes and other structures according to manufacturer's written rigging instructions.
- E. PROJECT CONDITIONS: Site Information: Notify local utility location service and verify existing utility locations. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated: Notify Owner not less than two days in advance of proposed utility interruptions. Do not proceed with utility interruptions without Owner's written permission.
- F. MANUFACTURERS: Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following: Any manufacturer providing products that conform to these specifications and drawings.
- G. PIPING MATERIALS: See drawings for piping materials and locations.
- H. PIPES AND FITTINGS:
- PVC Sewer Pipe and Fittings: According to the following: PVC Sewer Pipe and Fittings, PVC Sewer Pipe and Fittings, NPS 15 (DN375) and Smaller: ASTM D 3034, SDR 35, for solvent-cemented or gasketed joints. PVC Sewer Pipe and Fittings, NPS 18 (DN450) and Larger: ASTM F 679, 1-1 wall thickness, bell and spigot for gasketed joints. Gaskets: ASTM F 477, elastomeric seals.
 - PVC Pressure Pipe: AWWA C900, Class 150, for gasketed joints. PVC Pressure Fittings: AWWA C907, for gasketed joints. Gaskets for PVC Piping: ASTM F 477, elastomeric seals.
 - Reinforced-Concrete Sewer Pipe and Fittings: ASTM C 76 (ASTM C 76M), Class III, Wall B, for gasketed joints. Gaskets: ASTM C 443 (ASTM C 443M), rubber.
- A. SPECIAL PIPE COUPLINGS AND FITTINGS: See drawings for locations and type, if any.
- B. MANHOLES: Heavy-Traffic Precast Concrete Manholes: ASTM C 913; designed according to ASTM C 890 for A-16, heavy-traffic, structural loading; of depth, shape, and dimensions indicated, with provision for rubber gasketed joints. Ballast: See drawings. Gaskets: Rubber. Grade Rings: See Drawings. Steps: See Drawings. Pipe Connectors: ASTM C 923, resilient, of size required, for each pipe connecting to base section. Cast-in-Place Concrete Manholes: Construct of reinforced-concrete bottom, walls, and top; designed according to ASTM C 890 for A-16, heavy-traffic, structural loading; of depth, shape, dimensions, and appurtenances indicated. Manhole Frames and Covers: In accordance with Governing Authorities requirements. Manhole Joint Sealing System: In accordance with Governing Authorities requirements.
- C. EARTHWORK: Excavating, trenching, and backfilling are specified in "Earthwork".
- D. IDENTIFICATION: Materials and their installation are specified in "Earthwork".
- LAWN SEEDING
- A. Provide all equipment, materials, and labor to prepare seed bed and plant seeded bed in new and existing disturbed lawn areas as shown on drawings.
- B. Submittals: Seeding schedule: Submit seeding schedule before beginning of construction. Show coordination of normal planting times with construction schedule, and other related work.
- C. The seasons for seeding of lawn areas shall be from March 1 to May 15 and August 15 to October 15. The actual seeding of lawns shall be done, however, only during periods within this season for which are normally accepted practice for the project and which are approved by the Architect. Only upon written instructions by the Architect may planting begin earlier or continue later than the dates specified.
- D. Dormant season seeding of slope areas is acceptable in areas designated by the Owner or Architect. Dormant season seeding to be done in conjunction with installation of erosion control blankets.
- E. The preparation of lawn areas to be seeded may begin as soon as the area is designated by the Owner or Architect.
- F. Commercial Fertilizer: shall meet the following requirements:
- Shall be a complete fertilizer containing in available form by weight a minimum of 10% nitrogen, 10% phosphoric acid and 10% potash; a minimum of 50 of the nitrogen to be derived from natural organic material in a slow release form, and a neutral character.
 - The fertilizer shall be delivered to the site in the original unopened containers which shall bear the manufacturer's guaranteed statement of analysis. Fertilizer shall be stored in a weatherproof place in such a manner that it shall be kept dry and its effectiveness will not be impaired.
- G. Grass seed shall be fresh, clean, new-crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide seed mixture composed of grass species and proportions as specified. Mixture cannot contain more than .05% weed or crop seed, nor more than 3% inert matter. Seed must be furnished and delivered premixed in the proportions specified below.
- H. Grass seed shall be composed of the following varieties which shall be mixed in the proportions and shall test at the minimum percentage of purity and germination specified:
- | Scientific Name and Common Name | Proportion By Weight | Purity | Germination |
|---|----------------------|--------|-------------|
| Festuca elatior "Kentucky 31" | 85% | 98% | 90% |
| Kentucky 31 Fescue | | | |
| Lolium perenne "Manhattan" | 10% | 98% | 90% |
| Manhattan Ryegrass | | | |
| Poa pratensis Kentucky Bluegrass V.M.S. | 5% | 98% | 85% |
2. Weed seed content shall not exceed 0.25 of 1%.
- I. Straw: Shall be threshed straw of hay, oats, wheat, barley, or rye, not chopped in short lengths.
- J. Repair any eroded areas and make minor grading adjustments to provide good drainage and to meet all walks and paved surfaces.
- K. Spread agricultural limestone over all areas to be seeded at the rate of 50 lbs. per 1000 s.f. (2178 lbs. per acre.) with an approved vehicular spreader.
- L. Spread fertilizer over all areas to be seeded at the rate of 15 lbs. per 1000 s.f. (654 lbs. per acre) with an approved spreader. Do not apply fertilizer in dormant season seeding areas.
- M. Disc and harrow or otherwise cultivate all areas thoroughly in at least two directions to thoroughly mix the above fertilizers into the soil to a depth of four (4) inches.
- N. After cultivating, hard rake area to remove clods, rocks (over 1" in largest dimension), weeds roots and debris. Perform grading and shaping refinements to bring surface to true uniform planes free from irregularities and to provide drainage and proper slope to catch basins.
- O. With topsoil in semi-dry condition, roll lawn planting areas in two directions at approximately right angles with water ballast roller weighing 100 to 300 lbs. according to soil type.
- P. Sow grass seed by mechanical spreaders of approved type, doing the work in two operations at right angles to each other.
- Q. Seeding shall be at the following rate:
1. Kentucky 31 Fescue mix shall be seeded at the rate of 12 lbs. per 1000 sq.ft. (523 lbs. per acre).
- R. Roll the seeded areas to firmly bed the seed and then spread straw on the seeded areas at the rate of two and a half (2 1/2) tons (dry weight) per acre. It shall be spread evenly and without damage to the seeded area.
- S. During seeding work, keep pavements clean and work area in an orderly condition. Upon completion of work, clean area of all debris, superfluous materials and equipment and remove them from the premises.
- T. Protect seeding work. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged seeding work as directed.
- U. Maintenance shall begin immediately after seeding. Water regularly to keep lawn areas moist to maximize germination and maintain optimum growth and survival. Contractor is responsible to obtain necessary permits and pay fees associated with watering.
- V. Maintain seeded areas by watering, fertilizing, removing weeds, mowing, trimming and reseeding as necessary, for a smooth, uniform, acceptable stand of re-established lawn, free of eroded or bare areas. Maintain lawn areas until final acceptance, but not less than 60 calendar days. Mowing of seeded lawn is the responsibility of the Contractor until final acceptance. The first mowing will not be attempted until the lawn is 4 inches high and thick enough to receive its first mowing.
- W. The Contractor shall guarantee the production of a close stand of the specified species of lawn grass. After grass has started, repeatedly reseed areas and part of areas which fail to show uniform stands of grass until all areas are covered with a satisfactory growth of grass. All repairs and reseeding are to be done as part of this Contract and at no extra cost to the Owners.
- X. When seed work is completed, including maintenance, Architect will, upon request, make an on-site evaluation to determine acceptability.

CAST-IN-PLACE CONCRETE

- A. SUBMITTALS: In addition to the following, comply with submittal requirements in ACI 301. Product Data: For each type of manufactured material and product indicated. Design Mixes: For each concrete mix.
- B. QUALITY ASSURANCE: Installer Qualifications: An experienced installer who has completed concrete work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment. Source Limitations: Obtain each type of cement of the same brand from the same manufacturer's plant; each aggregate from one source, and each admixture from the same manufacturer. Comply with ACI 301, "Specification for Structural Concrete," including the following, unless modified by the requirements of the Contract Documents. General requirements, including submittals, quality assurance, acceptance of structure, and protection of in-place concrete. Formwork and form accessories. Steel reinforcement and supports. Concrete mixtures. Handling, placing, and constructing concrete.
- C. FORMWORK: Furnish formwork and form accessories according to ACI 301.
- D. STEEL REINFORCEMENT: Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed. Plain-Steel Wire: ASTM A 82, as drawn. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- E. CONCRETE MATERIALS: Portland Cement: ASTM C 150, Type I or II. Normal-Weight Aggregate: ASTM C 33, uniformly graded, not exceeding 1-1/2-inch nominal size. Water: Potable and complying with ASTM C 94.
- F. ADMIXTURES: Admixtures certified by manufacturer to contain not more than 0.1 percent water-soluble chloride ions by mass of cement and to be compatible with other admixtures. Do not use admixtures containing calcium chloride. Air-Entraining Admixture: ASTM C 260. Water-Reducing Admixture: ASTM C 494, Type A.
- G. RELATED MATERIALS: Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.
- H. CURING MATERIALS: Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd dry. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet. Water: Potable. Clear, Solvent-Borne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.
- I. CONCRETE MIXES: Comply with ACI 301 requirements for concrete mixtures. Prepare design mixes, proportioned according to ACI 301, for normal-weight concrete determined by other laboratory trial mix or field test data bases, as follows: Compressive Strength (28 Day): 4000 psi. Slump: 3 inches. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content of 5.0 percent within a tolerance of plus 1.0 or minus 1.5 percent.
- J. CONCRETE MIXING: Ready-Mixed Concrete: Comply with ASTM C 94. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
- K. FORMWORK: Design, construct, erect, shore, brace, and maintain formwork according to ACI 301.
- L. STEEL REINFORCEMENT: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- M. JOINTS: Construct joints true to line with faces perpendicular to surface plane of concrete. Construction Joints: Locate and install so as not to impair strength or appearance of concrete, at locations indicated or as approved by Engineer. Isolation Joints: Install joint-filler strips at junctions with slabs-on-grade and vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated. Extend joint fillers full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.
- N. CONCRETE PLACEMENT: Comply with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete. Do not add water to concrete during delivery, at Project site, or during placement. Consolidate concrete with mechanical vibrating equipment.
- O. FINISHING FORMED SURFACES: Smooth-Formed Finish: As-cast concrete texture produced by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Completely remove fins and other projections. See Drawings for areas of concrete to receive smooth rubbed finish.
- P. FINISHING UNFORMED SURFACES: Comply with ACI 302-1R for screeding, restraining, and finishing operations for concrete surfaces. Do not wet concrete surfaces. Smooth Rubbed Finish: See Drawings for areas of concrete to receive smooth rubbed finish.
- Q. TOLERANCES: Comply with ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- R. CONCRETE PROTECTION AND CURING: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection, and follow recommendations in ACI 305R for hot-weather protection during curing. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and backfilling or darning concrete, but before float finishing. Begin curing after finishing concrete, but not before free water has disappeared from concrete surface. Curing Methods: Cure formed and unformed concrete for at least seven days by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows: Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials: Water. Continuous water-fog spray. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
- S. FIELD QUALITY CONTROL: Testing Agency: Owner will engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement. Tests will be performed according to ACI 301. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mix exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
- T. REPAIRS: Remove and replace concrete that does not comply with requirements in this Section.



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MB Engineering, Inc. Missouri Authority No. E-2015041468

The Professional Engineer's seal affixed to this sheet certifies that the named Engineer has prepared, directed the preparation of the material shown only on this sheet. Other drawings and documents prepared by this firm and not signed by the Engineer, while exhibiting this seal shall not be considered prepared by or the responsibility of the undersigned.

PROJECT REVISION:

NO.	DATE	DESCRIPTION:
1	11-21-22	FOR REVIEW
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5		

3601 SW Hollywood Dr.
Lee's Summit, MO 64082

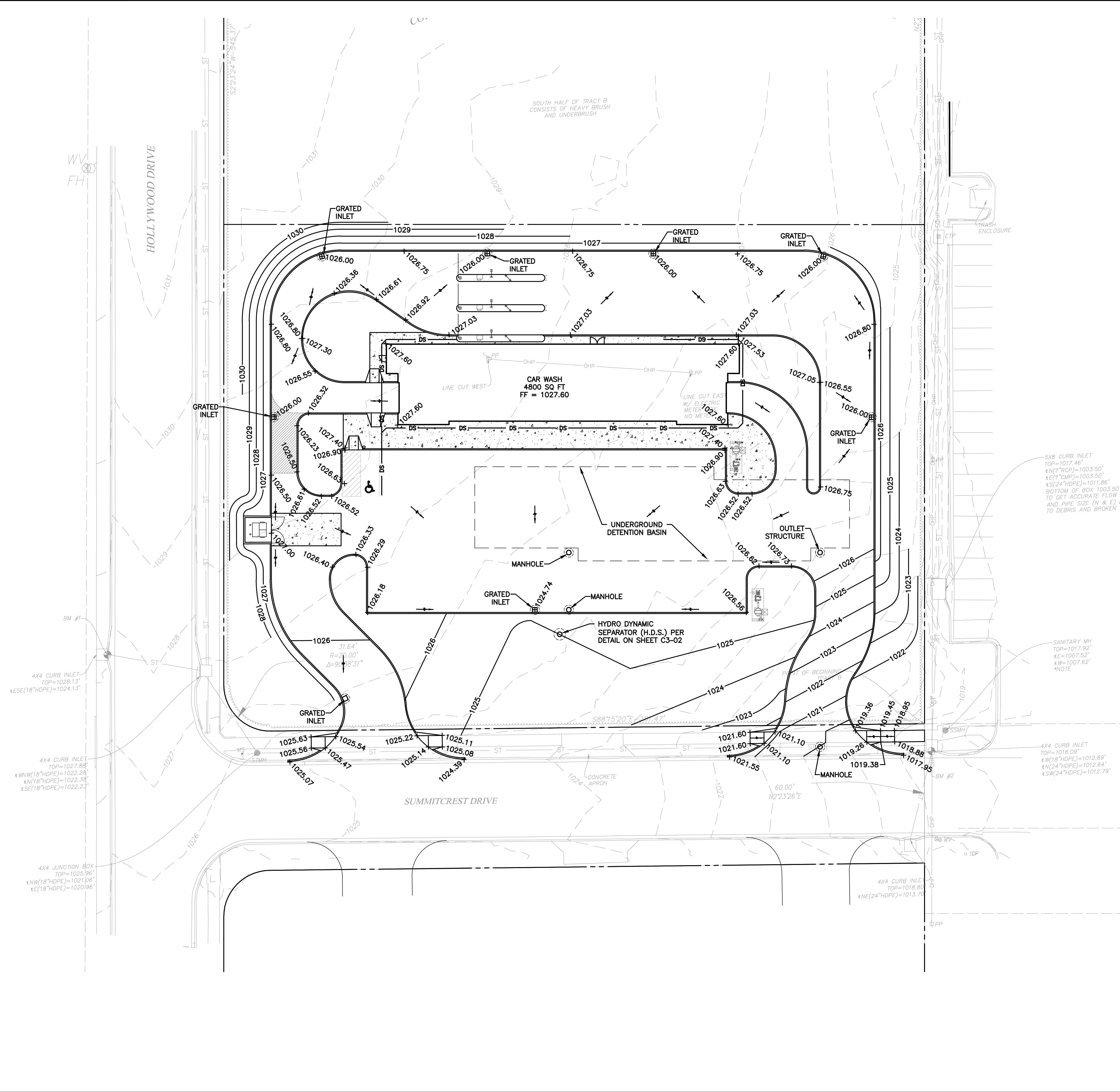
DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
Specifications

SHEET NUMBER:

C1-01

PROJECT NO: 22-752



+ 679.00 PROPOSED SPOT ELEVATION
— 679 — PROPOSED CONTOUR
— 679 — EXISTING CONTOUR

EARTHWORK QUANTITY ESTIMATE
TOTAL CUT REQUIRED = 3185 CY

EARTHWORK QUANTITY ESTIMATES ARE FOR REFERENCE ONLY. NO SHRINK OR FILL HAS BEEN INCORPORATED, NO UTILITY CUTS HAVE BEEN INCORPORATED. CONTRACTOR SHALL CALCULATE THEIR OWN EARTHWORK QUANTITIES. MB ENGINEERING, INC. ASSUMES NO LIABILITY FOR THESE ESTIMATES

GRADING NOTES:

1. TOP SOIL SHALL BE STRIPPED FROM ALL CUT AND FILL AREAS, STOCKPILED AND REDISTRIBUTED OVER GRADED AREAS. PROVIDE EROSION AND SEDIMENTATION CONTROLS AROUND STOCKPILES DURING CONSTRUCTION.
2. TILL SOIL TO A DEPTH OF 4" MINIMUM.
3. REMOVE ALL ROCKS LARGER THAN 1" MEASURED IN LARGEST DIRECTION.
4. GRADE ALL AREAS TO MAINTAIN POSITIVE SLOPE AWAY FROM BUILDING.
5. ALL GRADED AREAS TO RECEIVE SEED OR SOD, TOP SOIL, STRAW AND WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.

LAWN SEEDING & SODDING NOTES

1. ALL LAWNS FROM FACE OF THE BUILDING AND ON THE SIDE WHERE THERE IS PARKING OR A STREET ARE REQUIRED TO BE FULLY SODDED. ALL OTHER LANDSCAPE AREAS TO RECEIVE SEED.
2. AREAS TO RECEIVE SEED OR SOD SHALL BE CLEAN OF DEBRIS AND FREE OF WEEDS.
3. SEED MIX TO BE DROUGHT TOLERANCE FESCUE OR REGIONAL SPECIFIC BLEND. 1/4 TO 1/3 OF THE SEED MIXTURE TO BE ANNUAL RYE TO AIDE IN LIMITING EROSION OF PERENNIAL SEED DURING GERMINATION
4. STRAW SHALL BE THRESHED STRAW OF HAY, OATS, WHEAT, BARLEY, OR RYE. SPREAD AT A RATE OF 2 1/2 TONS PER ACRE. STRAW, NETTING, AND OTHER ANTI-EROSION MATERIALS TO BE REMOVED AFTER ESTABLISHED LAWN.
5. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER SEEDING. WATER REGULARLY TO KEEP LAWN AREAS MOIST TO MAXIMIZE GERMINATION AND MAINTAIN OPTIMUM GROWTH AND SURVIVAL TO ACHIEVE AN ACCEPTABLE STAND OF ESTABLISHED LAWN PRIOR TO THE STORE POSSESSION DATE, FREE OF ERODED OR BARE AREAS.

NOTES:

1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THAT THERE MAY BE OTHER, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION BEFORE EXCAVATION OR TRENCHING TO AVOID DAMAGE THERETO.
2. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS NOT TO DAMAGE ANY EXISTING SITE FEATURES TO REMAIN. IF ANY DAMAGE OCCURS, THE CONTRACTOR SHALL CONTACT THE OWNERS REPRESENTATIVE IMMEDIATELY. THE CONTRACTOR SHALL REPAIR ALL DAMAGED ITEMS TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST.
3. THE CONTRACTOR WILL PROVIDE SEDIMENTATION AND EROSION CONTROL DEVICES SUCH AS STRAW BALE, SILT FENCES, ETC. AT ALL DOWNSLOPE LOCATIONS AND AROUND ALL STORM WATER INLETS. CONTRACTOR SHALL INSPECT SUCH CONTROLS AFTER EACH RAINFALL EVENT AND REPLACED AS REQUIRED.
4. SILTATION CONTROL DEVICES TO REMAIN IN PLACE UNTIL ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL.
5. ALL ELEVATION ARE BASED ON U.S.G.S. DATUM
6. PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS.
7. SEE SHEET C2-03 FOR UTILITY PLAN

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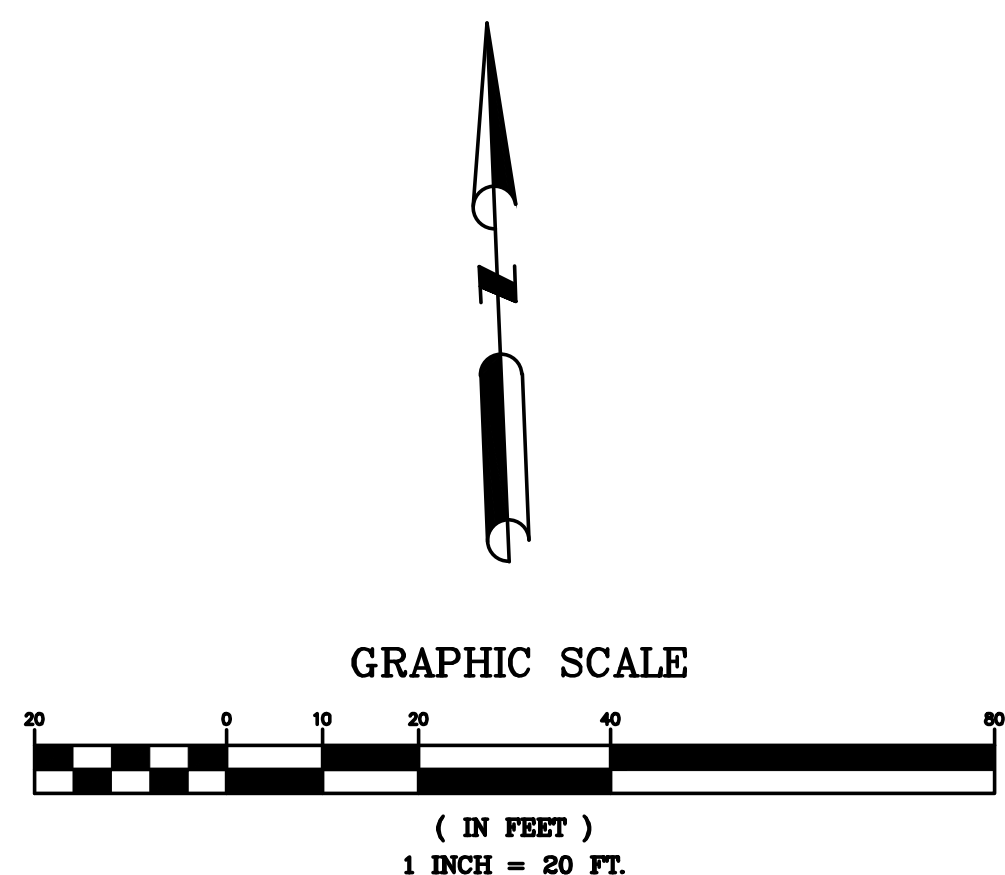
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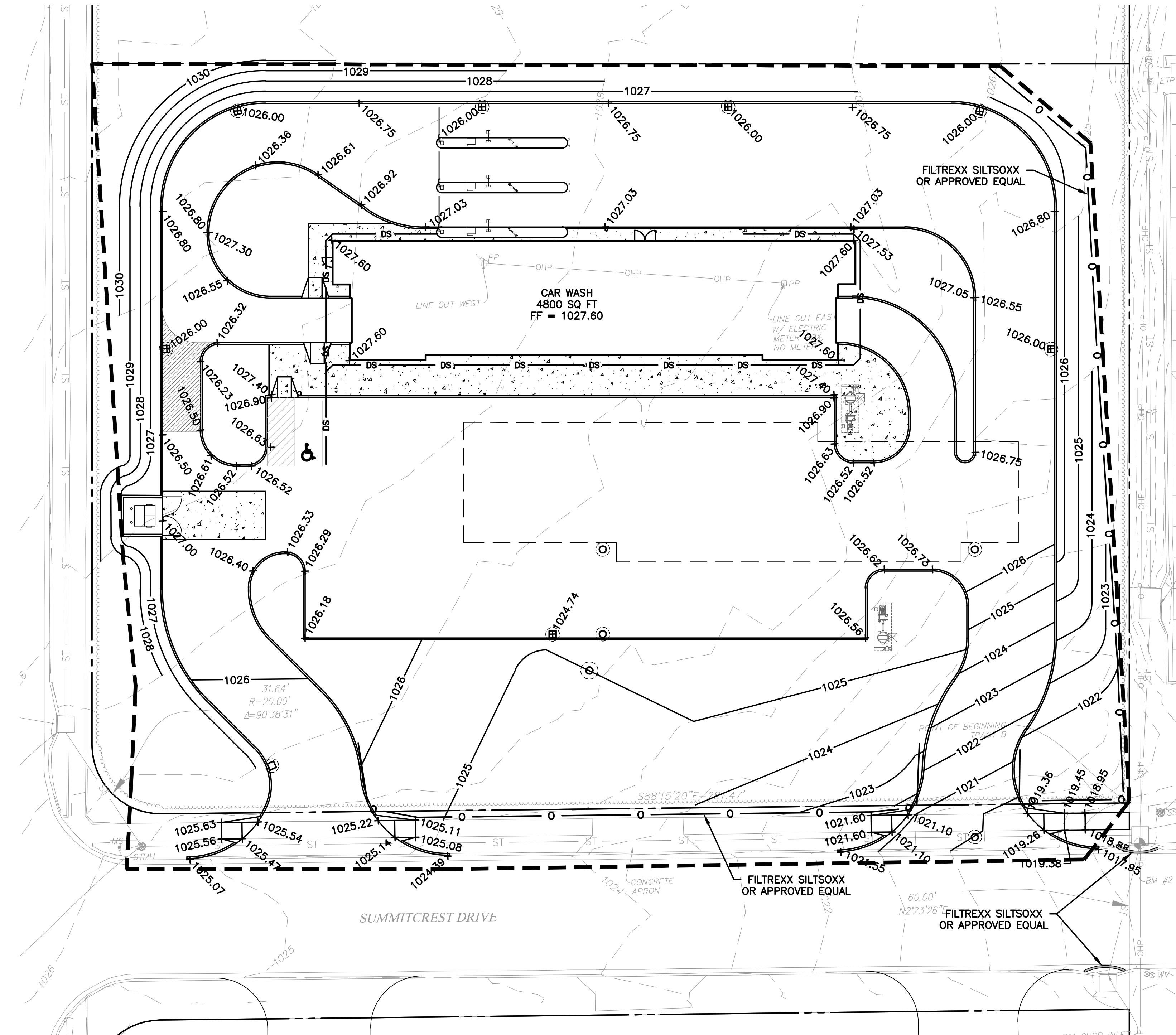
SHEET TITLE:
GRADING PLAN

SHEET NUMBER:

C2-02

PROJECT NO: 22-752





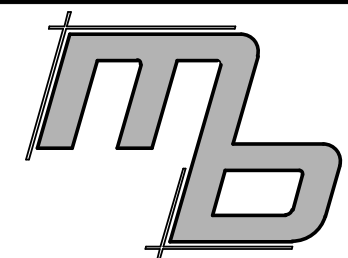
SWPPP NOTES

- SITE OWNER:
KC COWBOY PROPERTIES, LLC
4640 E FM 1187
BURLESON, TX 76028
CONTACT: JIMMY PURSELLEY
PH: (817) 205-8676
- TOTAL LAND ESTIMATED TO BE DISTURBED = 1.54 ACRES ±
- THE PERMIT HOLDER SHALL ENSURE AND/OR CONDUCT REGULAR INSPECTIONS OF LAND DISTURBANCE SITES, INCLUDING ALL EROSION AND SEDIMENT AND OTHER POLLUTANT CONTROL MEASURES, OUTFALL, AND OFFSITE RECEIVING WATERS OR SEWER SYSTEMS.
- REGULAR INSPECTIONS MUST BE CONDUCTED AT LEAST ONCE PER WEEK. IN ADDITION, INSPECTIONS MUST BE CONDUCTED AND REPORTED WITHIN 24 HOURS OF A 1/2" RAINFALL EVENT THAT CAUSES STORM WATER RUNOFF ON SITE, AND AS RELATED TO OTHER SPECIAL LAND DISTURBANCE CONCERNS. THE PERMIT HOLDER / SITE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY BMP DEFICIENCIES. BMP DEFICIENCIES MUST BE CORRECTED WITHIN SEVEN (7) CALENDAR DAYS.
- LOCATE STATE AND COUNTY LAND DISTURBANCE PERMITS, BMP INSPECTION REPORTS, ETC. WITH THE ONSITE WITH THE SWPPP.
- ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR COMPLIANCE WITH THE LOCAL LAND DISTURBANCE CODE AND THE APPROVED STORM WATER POLLUTION PLAN AT THE SITE OF THE PERMITTED ACTIVITY.
- PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES IS REQUIRED.
- SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH DOWN STATION PRIOR TO LEAVING THE SITE. NOT TRACKING OF MUD ONTO ANY ROADS SHALL BE ALLOWED.
- DESCRIPTION OF BMP'S (INTERIM AND PERMANENT STABILIZATION PRACTICES/SCHEDULE)
 - CONTRACTOR SHALL ESTABLISH PERIMETER SILTATION CONTROL PRIOR TO ANY CONSTRUCTION ACTIVITIES. AREAS REQUIRING MINOR CLEARING AND/OR GRADING PRIOR TO INSTALLATION OF SILTATION CONTROL SHALL BE COMPLETED IN A TIMELY MANNER AND SILTATION CONTROL ESTABLISHED IMMEDIATELY FOLLOWING.
 - TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED WHERE THE ACCESS AREAS INTERSECT WITH PUBLIC ACCESS WAYS. DRIVERS OF VEHICLES WILL BE REQUIRED TO WASH THEIR WHEELS BEFORE ENTERING THE ROADWAY. WHERE SEDIMENT IS TRANSPORTED ONTO PUBLIC ACCESS WAYS, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROAD BY SHOVELING OR SWEEPING, OR OTHER APPROVED MEASURES. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
 - UPON COMMENCEMENT OF INITIAL CLEARING AND GRUBBING OPERATIONS, AS WELL AS FUTURE GRADING OPERATIONS, TOPSOIL MUST BE STRIPPED FROM GRADED AREAS AND STOCKPILED FOR USE IN FINAL GRADING AND/OR EXCESS REMOVAL. THE STOCKPILES WILL BE KEPT ON SITE BUT MUST STAY CLEAR OF ALL CONSTRUCTION ACTIVITY. THE STOCKPILES WILL BE STABILIZED WITH TEMPORARY VEGETATION TO PREVENT SOIL LOSS AND SEDIMENT TRANSPORT FROM THE STOCKPILE ITSELF UNTIL NEEDED. KDOT REQUIRES THAT ONE THE SITE OR A STOCKPILE IS "INACTIVE", THE SITE OR STOCKPILE WILL BE STABILIZED WITHIN 7 CALENDAR DAYS FROM DEEMING SITE OR STOCKPILE "INACTIVE".
 - TEMPORARY ROADS SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT POSSIBLE. SLOPES SHALL NOT EXCEED 10 PERCENT SLOPE.
 - CONTRACTOR SHALL CLEAR AND GRUB THOSE AREAS OF THE SITE SCHEDULED FOR CONSTRUCTION. AREAS NOT SCHEDULED FOR IMMEDIATE CONSTRUCTION SHALL NOT BE CLEARED OF ESTABLISHED VEGETATION UNTIL REQUIRED. REMAINDER OF SITE SHALL BE GRADED, AS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF SILTATION CONTROL THROUGHOUT THE DURATION OF THE PROJECT.
 - ALL PROPOSED TURF AREAS, ONCE CONSTRUCTED TO FINAL GRADES SHALL BE SEED/SODDED WITHIN FIVE (5) DAYS AFTER FINAL GRADING. SHOULD WEATHER CAUSE DELAYS IN EARTHWORK OPERATIONS, ADDITIONAL SILTATION CONTROL MEASURES MAY BE REQUIRED.
 - ANY DISTURBED AREAS WHICH WILL REMAIN UNWORKED FOR 30 DAYS OR MORE SHALL BE STABILIZED WITH SEEDING AND MULCHING PER SPECIFICATIONS WITHIN FIVE (5) DAYS. IF SEASONAL CONDITIONS PROHIBIT SEEDING, MULCHING OR MATTING SHALL BE USED.
 - INSPECTION OF SILTATION CONTROL DEVICES SHALL TAKE PLACE EVERY SEVEN DAYS AND WITHIN 24 HOURS OF ANY HEAVY RAIN EVENT. ANY SILTATION CONTROL IN NEED OF REPAIR OR REPLACEMENT SHALL OCCUR IMMEDIATELY.
 - ALL GRADING OPERATIONS ARE SUBJECT TO THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING REPORT IF ONE HAS BEEN PREPARED.
 - SEDIMENTATION CONTROLS SHALL ONLY BE REMOVED AFTER THE SITE IS COMPLETELY STABILIZED, VEGETATION IS WELL ESTABLISHED, AND ALL PAVEMENT AREAS ARE INSTALLED.
- PLANNED RESPONSE TO LOSS OF CONTAINED SEDIMENT
 - BMP'S SHALL BE REPAIRED AND/OR REPLACED IMMEDIATELY, AS REQUIRED, TO STABILIZE SITE AND CONTAIN SEDIMENT LADEN RUNOFF. OFFSITE AREAS SHALL BE REVIEWED FOR EXTENT OF IMPACT FROM BMP FAILURE. PERMIT HOLDER SHALL BE REQUIRED TO PROVIDE DOCUMENTATION OF THE BMP MEASURES INSTALLED AND SCHEDULED MAINTENANCE AND REPAIRS. DOCUMENTATION OF ACTIONS AND REPORTING ARE REQUIRED TO BE PROVIDED TO THE CITY IF REQUESTED.
 - CONTRACTOR IS RESPONSIBLE FOR INSTALLING ADDITIONAL BMP MEASURES BEYOND THOSE SHOWN IF CONDITIONS DICTATE OR CURRENT MEASURES ARE INSUFFICIENT.
- DESCRIPTION OF PERMANENT BMP'S TO REMAIN AFTER CONSTRUCTION
 - STORM DRAINS - THE FACILITY WILL BE SERVED BY A STORM WATER SYSTEM CONSISTING OF INLETS, MANHOLES, AND PVC PIPE. THE STORM SYSTEM WILL CONVEY STORM WATER TO AN EXISTING STORM WATER SYSTEM LOCATED AT THE NORTH OF THE PROPERTY WITHIN KDOT RIGHT-OF-WAY. THE STORM WATER SYSTEM DESIGNATED AS "PRIVATE" SHALL BE OPERATED AND MAINTAINED BY THE OWNER.
 - TURF AREAS - TURF AREAS SHALL BE MAINTAINED TO INSURE SITE AREAS REMAIN STABILIZED UPON COMPLETION OF CONSTRUCTION ACTIVITIES.
 - PAVED AREAS - AREAS SUBJECT TO VEHICULAR AND PEDESTRIAN TRAFFIC SHALL BE PAVED AND KEPT IN GOOD REPAIR FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES. MAINTENANCE SHALL BE THE OWNER'S RESPONSIBILITY.
- DESCRIPTION OF BMP'S TO PREVENT POTENTIAL POLLUTANTS (CONSTRUCTION WASTES, TOXIC OR HAZARDOUS SUBSTANCES, PETROLEUM PRODUCTS, PESTICIDES, HERBICIDES, SITE LITTER, SANITARY WASTES, ETC.)
 - SOLID NON-HAZARDOUS CONSTRUCTION WASTE - DISPOSE OF IN TRASH DUMPSTERS OR APPROVED EQUIVALENT IN A LOCATION APPROVED BY THE OWNER. POTENTIALLY SOLUBLE OR LEACHABLE SOLID WASTE SHALL BE STORED OFF THE GROUND AND IN COVERED LEAK-PROOF CONTAINERS. SOLID WASTE SHALL BE PROPERLY DISPOSED OF OFF-SITE ON A REGULAR BASIS.
 - HAZARDOUS WASTE - HAZARDOUS WASTE SHALL BE SEGREGATED FROM NON-HAZARDOUS CONSTRUCTION SITE DEBRIS. LIQUID OR SEMI-LIQUID HAZARDOUS WASTE SHALL BE STORED IN APPROPRIATE CONTAINERS (CLOSED DRUMS OR SIMILAR) AND SHALL BE KEPT UNDER COVER, GRANULAR, SOLUBLE OR LEACHABLE HAZARDOUS WASTE MATERIALS SHALL BE STORED OFF THE GROUND AND IN COVERED LEAK-PROOF CONTAINERS. THE OWNER SHALL APPROVE ANY HAZARDOUS WASTE STORAGE AREAS.
 - HAZARDOUS WASTE SHALL BE PROPERLY DISPOSED OF OFFSITE ON A REGULAR BASIS BY A REPUTABLE, LICENSED HAZARDOUS WASTE HAULER.
 - IT IS NOT THE INTENT OF THIS SWPPP TO SUPERSEDE OR REPLACE NORMAL SITE ASSESSMENT AND REMEDIATION PROCEDURES CONCERNING HAZARDOUS MATERIALS. SIGNIFICANT SPILLS AND/OR CONTAMINATION WARRANT AN IMMEDIATE RESPONSE BY TRAINED PROFESSIONALS. SUSPECTED JOB SITE CONTAMINATION SHOULD IMMEDIATELY BE REPORTED TO REGULATORY AUTHORITIES AND PROTECTIVE MEASURES TAKEN.
 - FRESH CONCRETE WASTE AND CONCRETE EQUIPMENT WASHDOWNS SHALL BE CONTAINED AND SHALL BE STORED AWAY FROM DRAINAGE DITCHES, SWALES AND DRAINAGE STRUCTURES. WHERE APPROPRIATE, CONTAINMENT BERMS SHALL BE PLACED AROUND WASTE STORAGE AREAS.
 - ONSITE FUELING FACILITIES ARE REQUIRED TO ADHERE TO ALL APPLICABLE FEDERAL AND STATE REGULATIONS CONCERNING STORAGE AND DISPENSERS.
 - PROVISIONS SHALL BE MADE SO THAT A SUFFICIENT NUMBER OF TEMPORARY TOILET FACILITIES ARE AVAILABLE TO SERVE THE NUMBER OF WORKERS ON-SITE.
- THE FOLLOWING NON-STORM WATER DISCHARGES ARE AUTHORIZED BY THE EPA, PROVIDED IT HAS BEEN DETERMINED BY THE PERMITEE THAT THEY ARE NOT SIGNIFICANT CONTRIBUTORS OF POLLUTANTS TO THE MUNICIPAL SEPARATE STORM SEWER SYSTEM. IMPLEMENTATION OF POLLUTION PREVENTION MEASURES FOR NON-STORM DISCHARGES IS REQUIRED FOR SIGNIFICANT CONTRIBUTORS:
 - WATER LINE FLUSHING
 - LANDSCAPE IRRIGATION
 - DIVERTED STREAM FLOWS
 - RISING GROUND WATERS
 - UNCONTAMINATED GROUND WATER INFILTRATION (AS DEFINED AT 40CFR 35.2005(20))
 - UNCONTAMINATED PUMPED GROUND WATER
 - DISCHARGE FROM POTABLE WATER SOURCES
 - FOUNDATION DRAINS
 - AIR CONDITIONING CONDENSATION
 - WATER FROM CRAWL SPACE PUMPS
 - FOOTING DRAINS
 - LAWN WATERING
 - INDIVIDUAL RESIDENT CAR WASHING
 - FLOW FROM RIPARIAN HABITATS & WETLANDS
 - DECHLORINATED SWIMMING POOL DISCHARGE
 - STREET WASH WATER
 - RESIDENTIAL BUILDING WASH WATERS (WITHOUT DETERGENTS)
- ANTICIPATED DEWATERING METHODS, SUBJECT TO CONTRACTOR'S ANTICIPATED MEANS & METHODS:
 - CONTRACTOR TO USE CARE WHEN PUMPING WATER FROM CONSTRUCTION EXCAVATIONS AND ATTENTION MUST BE PAID TO THE FINAL DESTINATION OF THIS WATER. SEDIMENT CONTAINED IN THE WATER MUST FIRST BE REMOVED. ONCE IT IS PUMPED OUT OF THE EXCAVATION, THIS WATER MUST THEN BE PREVENTED FROM ERODING SOIL.
 - AN OIL/WATER SEPARATOR OR OTHER SUITABLE FILTRATION METHOD WILL BE REQUIRED PRIOR TO DISCHARGE IF THE COLLECTED WATER HAS BEEN CONTAMINATED WITH PETROLEUM PRODUCTS, OIL OR GREASE. A LICENSED TRANSPORTER WILL BE REQUIRED TO BOTH CONTAIN AND TO TRANSPORT THE COLLECTED WATER AWAY FROM THE CONSTRUCTION SITE IF IT HAS BEEN CONTAMINATED BY HAZARDOUS OR TOXIC CHEMICALS. IN THE CASE OF CONTAMINATED WATER BEING TRUCKED FROM THE CONSTRUCTION SITE, THE REQUIREMENTS OF FEDERAL, STATE AND LOCAL AGENCIES MUST BE ADHERED TO.
 - THE DEWATERING METHODS OF EXCAVATED AREAS ANTICIPATED TO BE USED TO REMOVE WATER FROM THE CONSTRUCTION SITE ARE THE FOLLOWING:
 - BUCKET CONNECTED TO SPECIFIC PIECES OF CONSTRUCTION EQUIPMENT TO MECHANICALLY SCOOP THE WATER FROM THE EXCAVATIONS
 - PUMPING OR SIPHONING WATER FROM THE COLLECTION SITES
 - THE USE OF A GRAVITY DRAIN THROUGH CHANNELS

SWPPP CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS AND REGULATIONS OF THE LOCAL GOVERNING AUTHORITY AND THE MISSOURI DEPARTMENT OF NATURAL RESOURCES. TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION CONTAINED IN THIS PLAN IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWN VIOLATIONS.

SIGNATURE: *M. Buescher* DATE: 7/4/23



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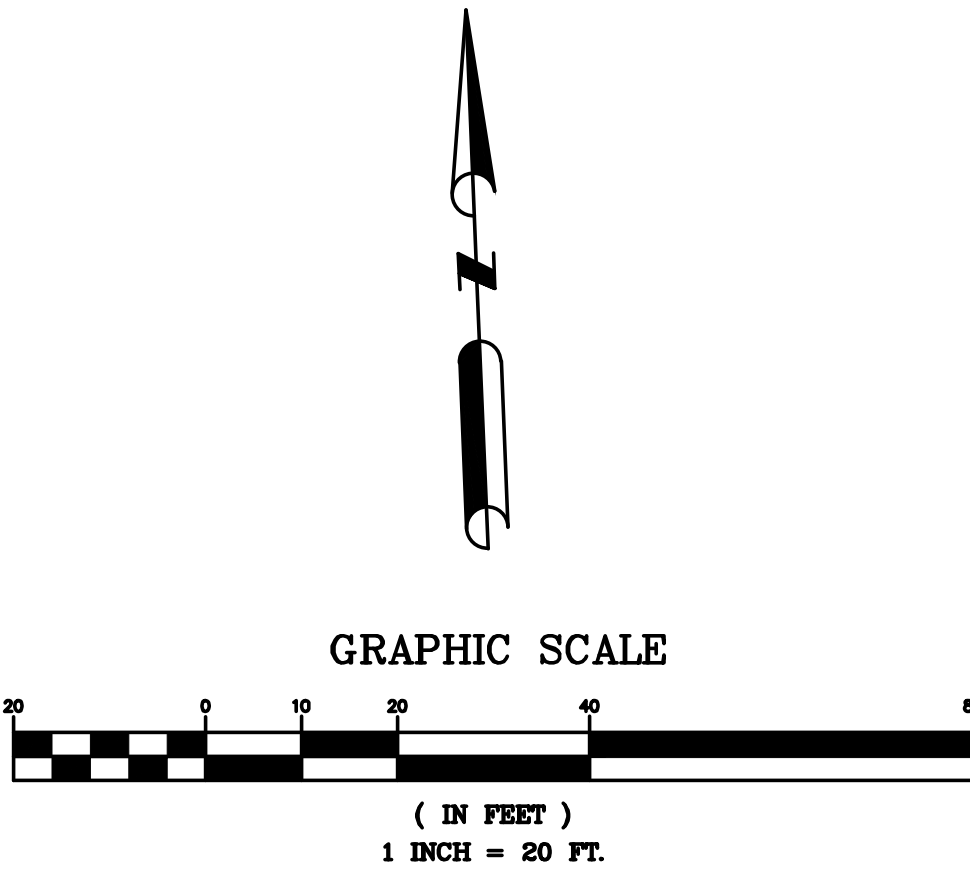
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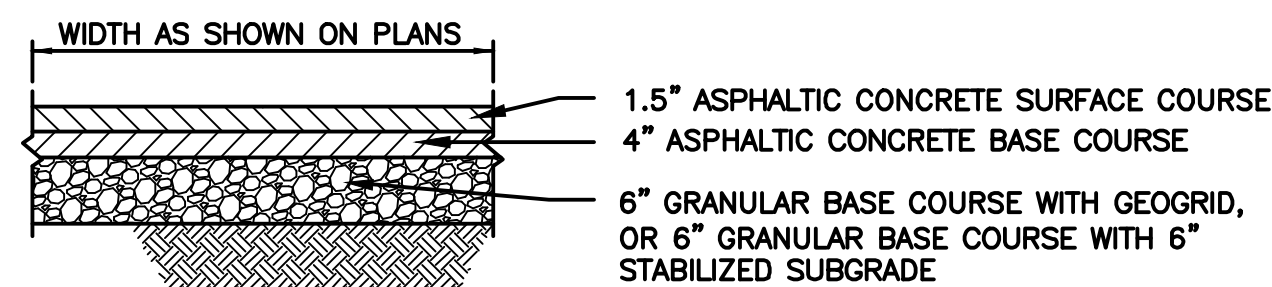
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SHEET NUMBER:

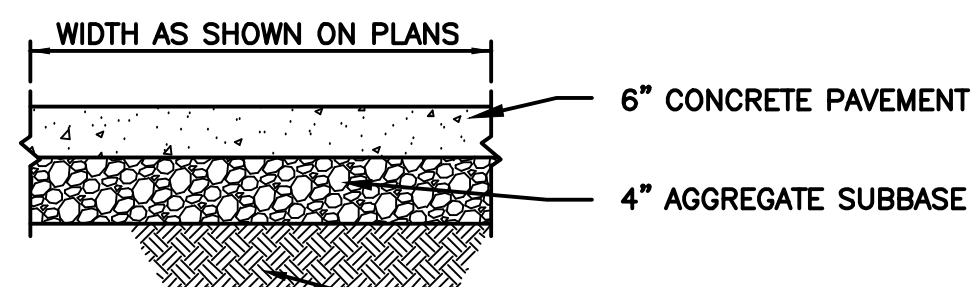
C2-04

PROJECT NO: 22-752





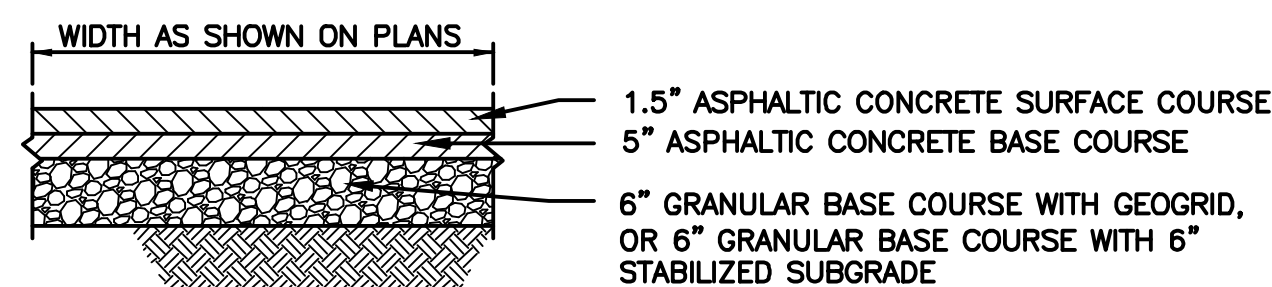
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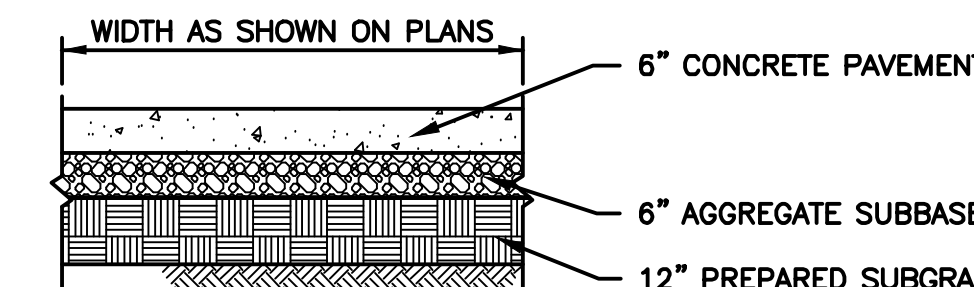
CONCRETE ALTERNATE

A LIGHT DUTY PAVEMENT

NOT TO SCALE



ASPHALT

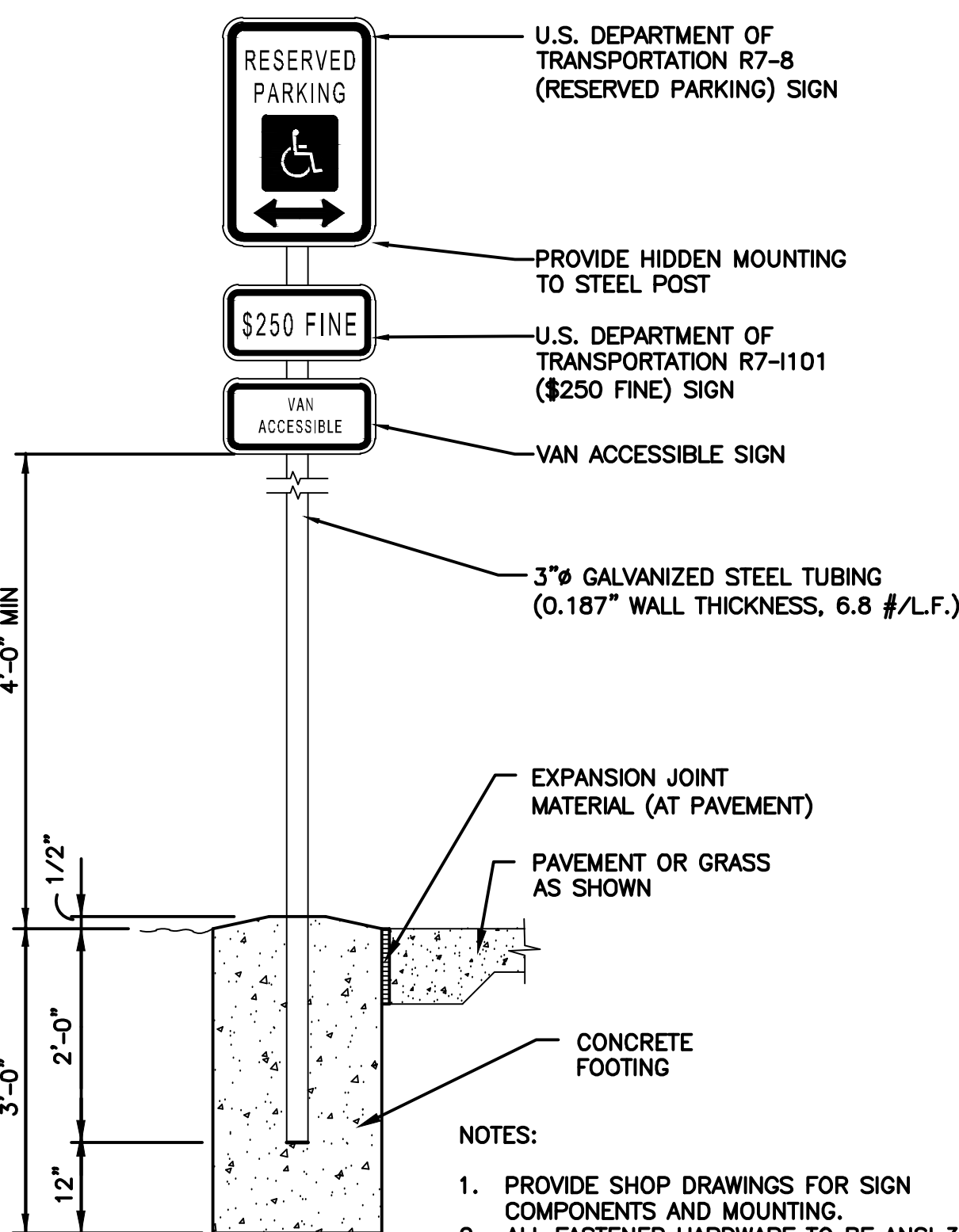


CONCRETE ALTERNATE

B HEAVY DUTY PAVEMENT

NOT TO SCALE

** CONTRACTOR TO VERIFY PAVEMENT SECTION IS CAPABLE OF SUPPORTING 75,000-POUND IMPOSED LOADS OF A FIRE APPARATUS

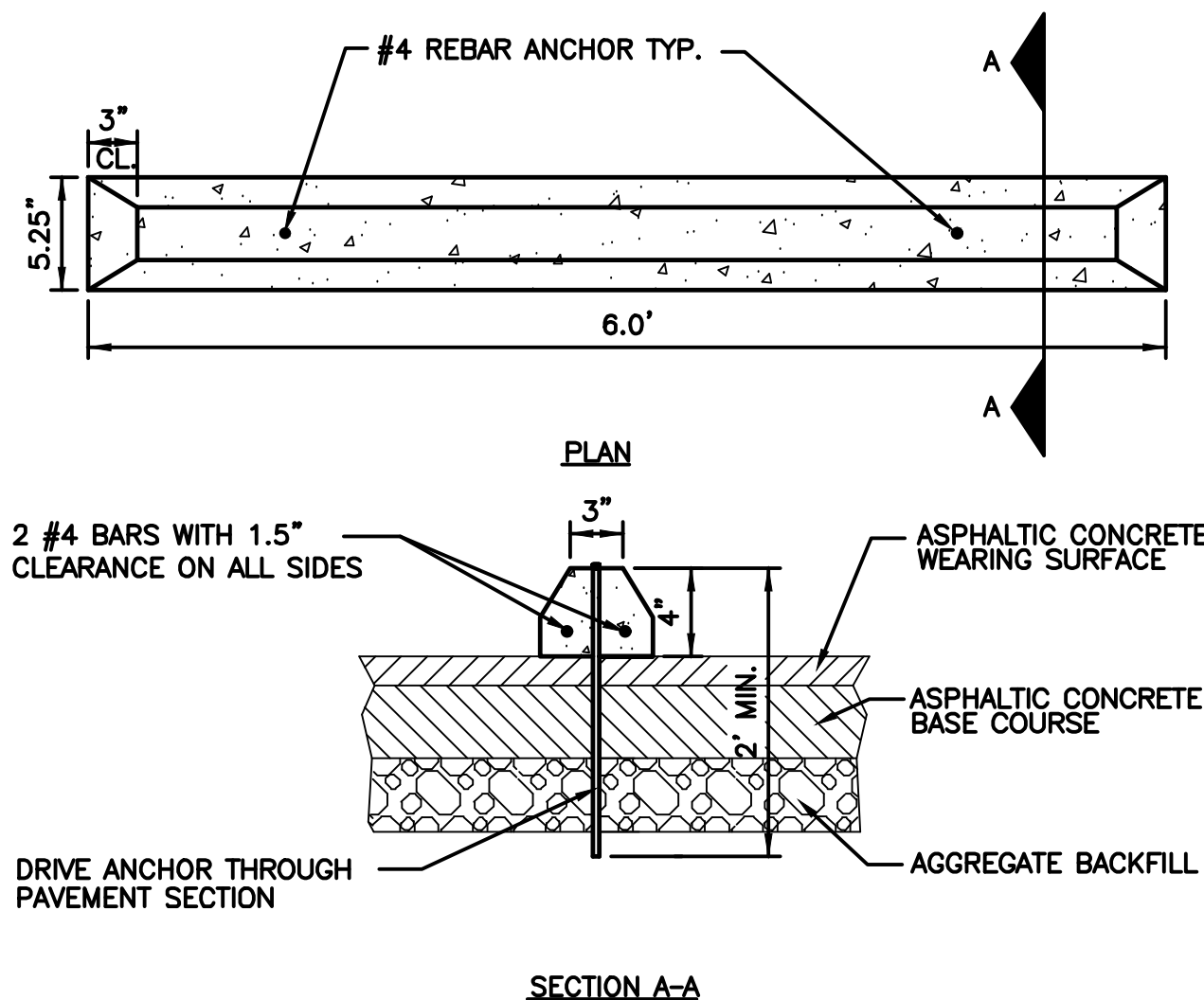


NOTES:

1. PROVIDE SHOP DRAWINGS FOR SIGN COMPONENTS AND MOUNTING.
2. ALL FASTENER HARDWARE TO BE ANSI 316 STAINLESS STEEL.
3. ALL SIGNS TO BE 18 GAUGE PRIMED AND PAINTED WITH BAKED ENAMEL AND SCREEN PRINTED.

F ACCESSIBLE PARKING SIGN

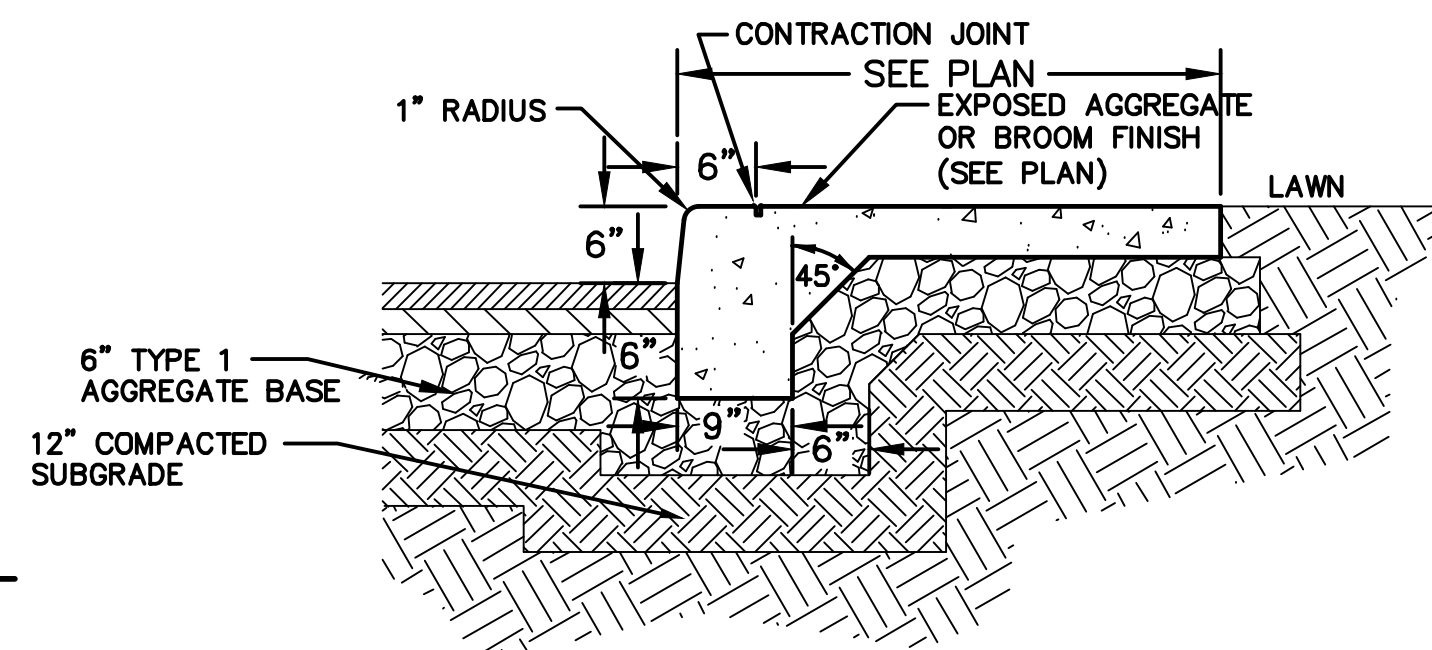
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SECTION A-A

G WHEEL STOP DETAIL

NOT TO SCALE

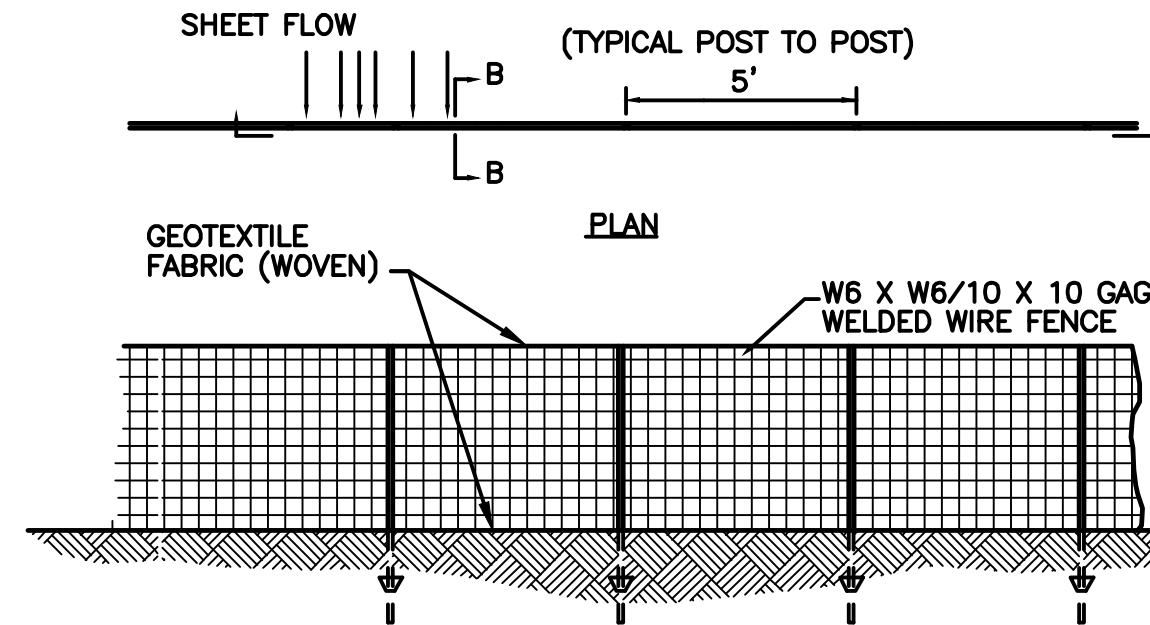


NOTES:

1. EXPANSION JOINTS SHALL BE PLACED AT 30' SPACING, TANGENT POINTS AT RADII, AND OTHER LOCATIONS AS INDICATED.
2. CONTRACTION JOINTS SHALL BE SPACED AT $\pm 5'$ OR THE WIDTH OF THE WALK. CONTRACTION JOINTS SHALL BE TOOLED.

C MONOLITHIC CURB AND SIDEWALK DETAIL

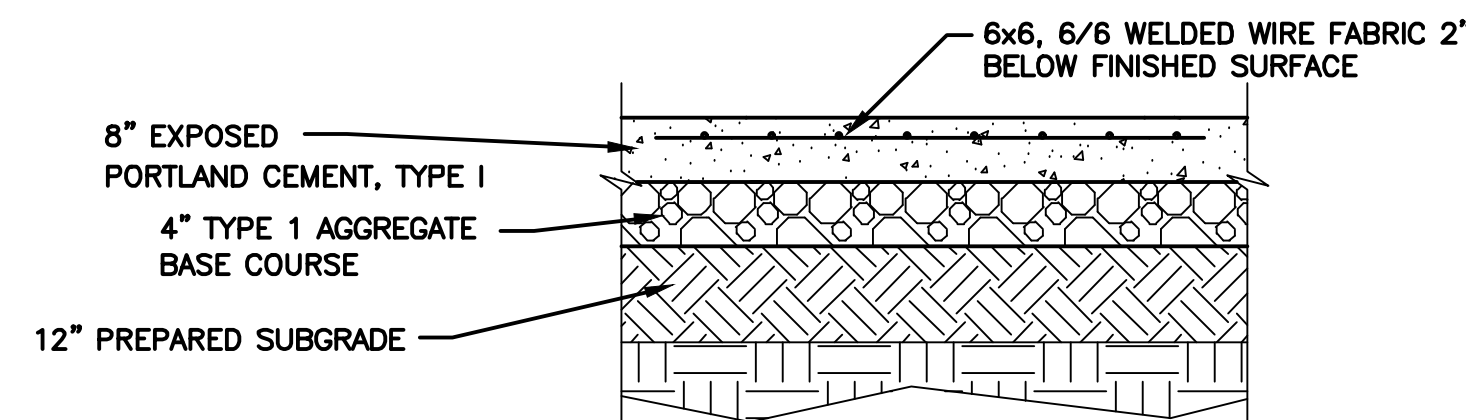
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SECTION A-A

D SILTATION FENCE

NOT TO SCALE



E CONCRETE PAD DETAIL

NOT TO SCALE

NOTES:

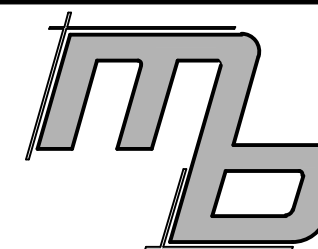
1. 1/2" EXPANSION JOINTS WITH 2' DOWELS SHALL BE PLACED AT RADIUS POINTS AND 150' INTERVALS. THESE DOWELS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 1" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. FIX DOWELS WITH BAR SUPPORTS.
4. CONCRETE SHALL CONFORM TO SECTION 2200 UNLESS OTHERWISE SPECIFIED IN PLANS PROJECT MANUAL. FOR CBD OF K.C.M.O. SEE SECTION 2300 OF STANDARD SPECIFICATIONS AND DESIGN CRITERIA.
5. USE 5/8" DIAMETER BY SMOOTH DOWELS AT LOCATIONS SHOWN ON EACH TYPICAL SECTION.
6. DEPTH OF GUTTER SHALL BE A MINIMUM OF 8" THRU THE HANDICAP ACCESS RAMP.
7. ONLY WITH CURING MEMBRANES SHALL BE PERMITTED AND SHALL CONFORM TO STANDARD SPECIFICATION SECTION 2200.

H STRAIGHT BACK CURB & GUTTER

NOT TO SCALE

GENERAL NOTES

1. DO NOT SCALE DRAWING. FOLLOW DIMENSIONS.
2. SILTATION CONTROL DEVICES TO REMAIN IN PLACE FURTHER EROSION OF THE SOIL.
3. SILTATION FENCES SHALL BE INSPECTED PERIODICALLY FOR DAMAGE AND FOR THE AMOUNT OF SEDIMENTATION WHICH HAS ACCUMULATED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 OF THE HEIGHT OF THE SILTATION FENCE.
4. ATTACHMENT OF WELDED WIRE FENCE AND GEOTEXTILE FABRIC TO BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.



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The Professional Engineer's seal affixed to this sheet indicates that the named Engineer has prepared or directed the preparation of the material shown only on this sheet. Other drawings and documents not exhibiting this seal shall not be considered prepared by or the responsibility of the undersigned.

PROJECT REVISION:

NO.	DATE	DESCRIPTION
1	11-21-22	FOR REVIEW
2	05-16-23	CITY COMMENTS
3	07-11-23	CITY COMMENTS
4	07-25-23	CITY COMMENTS

3601 SW Hollywood Dr.
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
TYPICAL DETAILS

SHEET NUMBER:
C3-01

PROJECT NO: 22-752